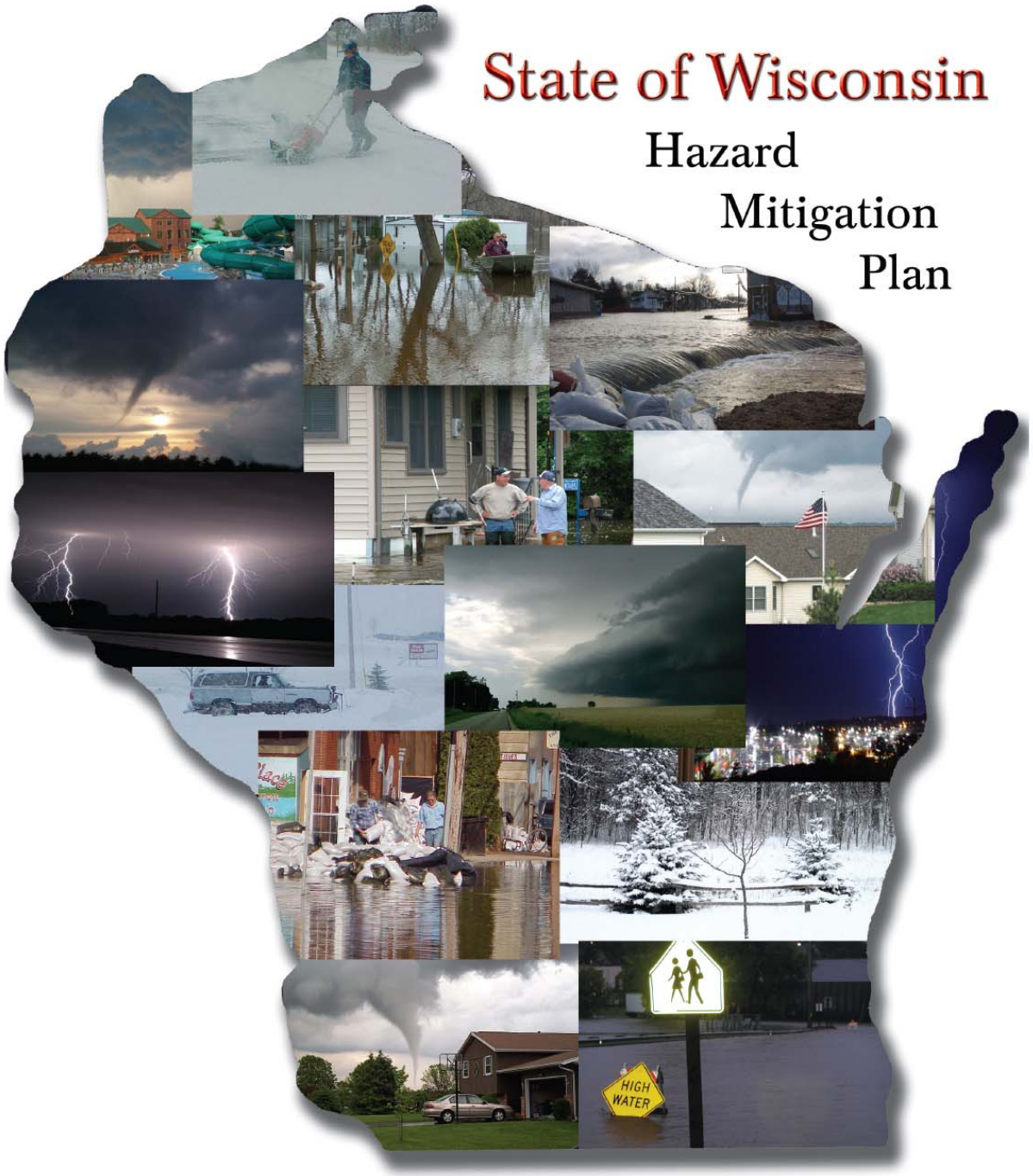



# State of Wisconsin
# Hazard Mitigation Plan

## Wisconsin Emergency Management
Department of Military Affairs

December 2008

## TABLE OF CONTENTS

# SECTION 1
# INTRODUCTION

## TABLE OF CONTENTS





Document TOC

# SECTION 1
# INTRODUCTION

Natural disasters threaten communities and citizens throughout the United States, with many communities vulnerable to multiple hazards such as tornadoes, floods, earthquakes and hurricanes. In the last 25 years, $140 billion has been spent in responding to disasters, with flood damages averaging $6 billion a year. Tornadoes, hurricanes, blizzards, earthquakes, drought and especially flooding have caused an increase in property damage, and interruption of business and government services during the last 15 years. Natural disasters have a tremendous economic and emotional impact on government, businesses and individuals. It is estimated that after a natural disaster, 20 to 40% of the businesses impacted do not reopen and many more close within the first two years.

Wisconsin is not immune to disasters. The state has incurred disaster-related damages totaling nearly $4 billion in the last three decades, with almost half of that occurring in the '90's alone. As a result, the state has received over $980 million in disaster relief for local governments and individuals. The state was granted twelve Presidential Disaster Declarations in the 90's compared to only six in the 80's. For this decade, the State has received seven Major and three Emergency Presidential Disaster Declarations. Up until the June 2008 flooding, the 1993 Midwest Flood was the largest and most expensive natural disaster for the state. Flood damages were estimated at $930 million with 47 of the 72 counties declared a federal disaster area. There were 4,700 homes damaged, 3,000 people evacuated, 5,000 disaster claims, and 800,000 acres flooded. $300 million in disaster relief funds were provided to local governments and flood victims. That meant that nearly $630 million in damages was not covered by disaster assistance. Beginning June 5 and continuing through July 25, 2008 massing flooding occurred in the State. Interstates and hundreds of roads were closed making transportation very difficult. Wisconsin Emergency Management provided over 700,000 sandbags to local governments; 35 shelters were opened; over 77,000 meals were served; 2,500 wells tested with 28% found contaminated; 161 waste water treatment plans were affected with 70 diverting raw sewage or 90 million gallons; and high-water records were set on 38 river gauges. Thirty-one counties were declared a federal disaster area. Fourteen of the counties were included in a federal disaster declaration in August 2007. This second flood within ten months of the first was devastating to many communities particularly in the southwest part of the State. Nearly 41,000 individuals registered for Individual Assistance for nearly $54 million in assistance provided to this point in time. Assistance to be provided through the Public Assistance Program is estimated at $88 million for 843 communities, and $34 million for the Hazard Mitigation Grant Program. Another $13 million has been disbursed in flood insurance proceeds for repairs. Forty-five communities are interested in acquisition and demolition of flood damaged properties, many of which are substantially damaged and uninhabitable. It is estimated that there are nearly 400 substantially damaged structures that will require elevation or demolition. It is estimated that there will be $1.22 billion in unmet needs. Based on past history, it is clear that the state is vulnerable to natural disasters. Every time a natural disaster occurs it costs the state

and its taxpayer's money, directly and indirectly. Many disasters in the state do not warrant a federal disaster designation, which then means that the local governments, businesses and citizens must bear the total costs.

It is clear that the state cannot leave so many people vulnerable to such hazards and neither can the government or the insurance industry continue to pay such staggering costs. In recovering from disasters, not only do communities, businesses and individuals need to repair the damages; but we also need to take the necessary steps to reduce the impact of natural disasters before the next event occurs.

In order to reduce the impact of natural disasters, the state must find ways to minimize disaster losses through the implementation of mitigation programs and activities. Hazard mitigation activities are actions taken to eliminate or reduce the long-term risk to human life and property from natural hazards. Hazard mitigation is one of the four phases of emergency management along with preparedness, response and recovery. Mitigation can occur during any phase of emergency management – before, during or after a disaster. However, hazard mitigation is the one phase of emergency management that can break the repeated cycle of damage and repair. It is now estimated that for every dollar spent on mitigation, $4 can be saved in future damages ($5 in flood damages.) The primary purpose of hazard mitigation is to help communities become more disaster resistant, significantly reducing the loss of lives, property damage and economic disruption.

## 1.1 PURPOSE

The purpose of the State of Wisconsin Hazard Mitigation Plan for Wisconsin is to identify the State's major natural hazards, assess the vulnerability to those hazards, and take steps to reduce that vulnerability using the technical and program resources of Wisconsin State agencies. The Plan includes a mitigation strategy that identifies goals and recommended actions and initiatives for State government that will reduce or prevent injury and damage from natural hazards.

## 1.2 SCOPE

The State of Wisconsin Hazard Mitigation Plan is a natural hazard mitigation plan. Technological hazards are not assessed at this time. However, technological hazards are an important part of emergency management and will be addressed in future updates of the Plan. The Plan assesses hazard risk, reviews current state and local hazard mitigation capabilities, develops mitigation strategies and identifies state agency actions to address mitigation needs. The Plan does not attempt to develop local mitigation projects. As a home rule state, the state respects the right of communities to implement specific mitigation actions that best serve them. The Plan identifies existing resources and develops tools to assist communities to help them succeed in their mitigation efforts. This is accomplished by establishing statewide mitigation policies, providing technical resources through state agency staff expertise and support, providing financial assistance through various programs, training and education and

other agency initiatives. To this end the State of Wisconsin Hazard Mitigation Plan is the foundation for implementing a viable mitigation program statewide.

## 1.3 PREREQUISITES

Hazard mitigation has become an increasingly important component of disaster recovery since 1988 when the Disaster Relief Act of 1974, P.L. 93-288, was amended by P.L. 100-707, the Robert T. Stafford Disaster Relief and Emergency Assistance Act. An even greater emphasis was placed on hazard mitigation and pre-disaster mitigation with the enactment of the Disaster Mitigation Act of 2000. This updated State of Wisconsin Hazard Mitigation Plan is a direct result of that amendment to the Stafford Act.

Section 404 of the Stafford Act allows the President to contribute up to 75% of the cost of hazard mitigation measures which the President has determined are cost-effective and which reduce the risk of future damage, hardship, loss, or suffering in any area affected by a major disaster. Such mitigation measures shall be identified following the evaluation of natural hazards under Section 322 of the Disaster Mitigation Act. Total contributions for hazard mitigation measures under Section 404 shall not exceed 15% of the estimated federal assistance provided as a result of a presidential disaster declaration. Section 404 funds can be used anywhere in the state and is not limited to just the counties in the declared area.

Section 322 of the Disaster Mitigation Act establishes a requirement for a State Hazard Mitigation Plan. To receive federal mitigation funds and certain other disaster assistance, States must develop and submit for approval to the Federal Emergency Management Agency (FEMA) a Standard Hazard Mitigation Plan that includes details of the planning process, state's natural hazards, a risk assessment for the identified natural hazards, a mitigation strategy and a plan maintenance process. Section 322 of the Act also allows the President to increase the mitigation contributions to 20% of the federal assistance if the approved State Hazard Mitigation Plan contains additional enhanced mitigation program management information.

This Plan meets the requirements for a Standard State and Enhanced Plan under Interim Final Rule 44 CFR 201.4 and 201.5, published by the Federal Emergency Management Agency on February 26, 2002. A completed Standard and Enhanced State Hazard Mitigation Plan Review Crosswalks can be found in Appendix M and N.

Meeting the requirements of the regulations keeps the State of Wisconsin qualified to obtain all disaster assistance including hazard mitigation grants available through the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

## 1.4 PLAN ORGANIZATION

The State of Wisconsin Hazard Mitigation Plan for Wisconsin contains several sections:

- Executive Summary
- Introduction
- Planning Process
- Mitigation in Wisconsin – A History
- Risk Assessment
- Mitigation Strategy
- Coordination of Local Mitigation Planning
- Plan Maintenance
- Comprehensive State Hazard Mitigation Program
- Conclusion
- Appendices

## 1.5 ASSURANCES

The State of Wisconsin will comply with all applicable federal statutes and regulations in effect with respect to the periods which it receives grant funding, in compliance with 44 CFR 13.11(c). The State of Wisconsin Hazard Mitigation Plan will be amended according to the process described in the Plan Maintenance Section whenever necessary to reflect changes in State and Federal statutes as required in 44 CFR 13.11 (d). The Plan complies with State and federal regulations, as cited in the Authorities appendix and other portions of this plan.

## 1.6 ACKNOWLEDGEMENTS

The mitigation staff of the Wisconsin Emergency Management would like to acknowledge and thank the members of the Wisconsin Hazard Mitigation Team for their involvement in the development of the State of Wisconsin Hazard Mitigation Plan. The development of the plan was a multi-agency effort with the Wisconsin Emergency Management (WEM) serving as the lead agency for the planning process.

The Wisconsin Hazard Mitigation Team is comprised of representatives from the following agencies:

- Department of Administration, Division of Intergovernmental Relations, Comprehensive Planning Program
- Department of Administration, Division of Intergovernmental Relations, Coastal Management Program
- Department of Administration, Division of State Facilities
- Department of Agriculture, Trade and Consumer Protection
- Department of Commerce, Division of Community Development
- Department of Commerce, Division of Safety and Buildings
- Office of the Commissioner of Insurance
- Department of Natural Resources
- Department of Public Health
- Public Service Commission of Wisconsin
- State Historical Society

- Department of Transportation
- University of Wisconsin-Cooperative Extension
- Wisconsin Emergency Management
- US Department of Agriculture, Rural Development
- US Department of Agriculture, Natural Resources Conservation Service
- US Economic Development Administration
- Federal Emergency Management Agency
- US Department of Housing and Urban Development
- National Weather Service
- Mississippi River Regional Planning Commission
- Volunteer Organizations Active in Disasters (VOAD)
- Wisconsin Emergency Management Association
- Wisconsin Association of Floodplain, Stormwater and Coastal Managers

## 1.7 AGENCY CONCURRENCE

The State agency heads of those agencies represented on the Wisconsin Hazard Mitigation Team have reviewed and concurred that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve the State's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health and safety, and economy of its citizens (see Appendix L.) They further agree to continue to implement the mitigation actions identified in the Mitigation Strategy and provide support and participate in plan updates as outlined in Section 7.

## 1.8 STATE OF WISCONSIN BACKGROUND INFORMATION

Wisconsin is the 23rd largest state of the United States (54,314 square miles) and has the 18th greatest population (5,617,744 as of 2006). The state's name is an English version of a French adaptation of an Indian name said to mean "the place where we live." Another account of the origin of the name is that the state was named after the Wisconsin River. Wisconsin means "grassy place" in the Chippewa language. Wisconsin's nickname is "The badger state", and the Wisconsin Motto is "Forward".

Wisconsin's natural beauty has made the state a favorite playground of the nation. Vacationers enjoy the state's clean lakes, rolling hills, quiet valleys, deep forests and cool, pine-scented breezes. The winters are ideal for skating, skiing, snowmobiling and tobogganing. Many communities' stage curling matches during the winter and others hold snowmobile derbies. Many annual events celebrate the state's rich ethnic heritage and diversity.


Known as "The Dairy State", Wisconsin is also known for beer, cheese, and many festivals, such as Summerfest (also known as “The Big Gig” is a yearly festival on the Milwaukee Lakefront. Started in 1968, the fest runs for 11 days from late June through early July and attracts almost 1 million people from all over the USA. It is also the biggest music festival in the world), and the EAA Oshkosh Air Show.

The flag of Wisconsin consists of the Wisconsin state coat of arms on a dark blue background. The current flag was adopted in 1913, and the name "Wisconsin" and the date of statehood, "1848," were added in 1980.

Wisconsin's political history encompasses, on the one hand, Fighting Bob La Follette and the Progressive movement; and on the other, Joe McCarthy, the anti-communist "witch-hunter" of the 1950s. The first Socialist mayor of a large city in the United States was Emil Seidel, elected mayor of Milwaukee in 1910; another Socialist, Daniel Hoan, was mayor of Milwaukee from 1916 to 1940.

| *Badger State* | |
|---|---|
| State Animal: | Badger |
| State Domesticated Animal: | Dairy Cow |
| State Beverage: | Milk |
| State Bird: | Robin |
| State Capital: | Madison |
| State Fish: | Muskellunge |
| State Flower: | Wood Violet |
| State Insect: | Honeybee |
| State Motto: | *Forward* |
| State Song: | "On Wisconsin" |
| State Tree: | Sugar Maple |
| State Mineral: | Galena (Lead sulphide) |
| State Rock: | Red Granite |
| State Soil: | Antigo Silt Loam |
| State Dance: | Polka |

### 1.8.1 History

In 1634, Frenchman Jean Nicolet became Wisconsin's first European explorer. The French controlled the area until 1763, when it was ceded to the British. After the American Revolutionary War, Wisconsin was a part of the U.S.Northwest Territory.

It was then governed as part of Indiana Territory, Illinois Territory, and Michigan Territory. Wisconsin Territory was organized on July 3, 1836 and became the 30th state on May 29, 1848.

### 1.8.2 State Capitol

The Wisconsin State Capitol, located in Madison, Wisconsin, houses both arms of the Wisconsin legislature, the state Supreme Court, and the Office of the Governor. The current building, completed in 1917, is actually the fourth building to serve as state capitol since Wisconsin was granted statehood in 1848 and the third located in Madison.

The building is modeled after the dome of the United States Capital building in

Washington, DC, except that it is several inches shorter than the national capitol. The dome is constructed from White Bethel Granite from Vermont, and is the only granite dome in the United States and is topped with the 15' 5" 22-carat gold-guilded statue "Wisconsin". The statue is commonly misidentified as "Lady Forward" or "Miss Forward", which is actually another statue on the capitol grounds.

On the night of February 26, 1904, a gas jet ignited a newly-varnished ceiling in the third capitol building. A nearby University reservoir was empty, so water had to be brought in from Milwaukee to fight the blaze. The situation was further complicated by the bitter cold temperatures; by the time the water reached Madison, it had started to freeze. As a result, the entire structure except the north wing burned to the ground.

In 1906, the state building commission approved plans by architect George Browne Post for the new state capitol building. Due to financial limitations and the need for immediate office space to house state government employees, the construction of the new building was extended over several years and focused on building one wing at a time.

### 1.8.3 Geography

Wisconsin is bordered by Lake Superior and Michigan to the north, by Lake Michigan to the east, by Illinois to the south, and by Iowa and Minnesota to the west. Part of the state's boundaries includes the Mississippi River and St. Croix River.

Thousands of years ago, most of Wisconsin was visited by glaciers, scraping the tops off hills, leaving rich earth deposits and leaving a land of beautiful lakes (15,000 of them) resting in fertile plains and valleys arranged between rolling hills and ridges. This state can be divided into five geographical land areas; the Lake Superior Lowland, the Eastern Ridges and Lowlands (Great Lakes Plains), the Northern Highland, or Superior Upland, the Central Plain and the Western Upland.

**Lake Superior Lowland:** In northern Wisconsin, the Lake Superior Lowland slopes gradually upwards toward the south from the shores of Lake Superior. This small area of flat plain extends about 5 to 20 miles inland.



Section TOC

**Northern Highland:** Most of northern Wisconsin is characterized by Northern Highland geography. This area, lying south of the Lake Superior Lowland, expands into about 1/3 of the state. The Northern Highland reaches its highest elevations in the north, sloping downward to the south. The Northern Highland supports hundreds of small lakes and heavily forested hills. Timms Hill, the highest point in Wisconsin, is located in the Northern Highland.

**Central Plain:** South of the Northern Highland and curving across the central part of the state is an area of Central Plain. In the southern portion of the Central Plain, the Wisconsin River has carved the beautiful scenic gorge, Wisconsin Dells. This is an area of buttes and mesas; an unexpected landscape for central Wisconsin.

Wisconsin Land Areas

**Eastern Ridges and Lowlands:** To the east of the Central Plain, the gently rolling hills of the Eastern Ridges and Lowlands area extends from Green Bay south to Illinois. This is the richest agricultural region of Wisconsin where ice-age glaciers deposited earth over limestone ridges.

**Western Upland:** To the west of the Central Plain the Western Upland is characterized by limestone and sandstone bluffs along the Mississippi River. The Western Upland extends along the Mississippi River to the border of Illinois. The southwestern portion of the Western Upland was not touched by glaciers and is an area that supports steeply sloped ravines and winding ridges.

### 1.8.4 Water and the Great Lakes Shoreline

Wisconsin values its water resources! With almost 15,080 lakes, 33,000 miles of rivers and streams and 5.3 million acres of wetlands within its borders, Wisconsinites enjoy a peaceful atmosphere and are learning that increasing use of the multitude of shorelines, demands hard work to accomplish watershed restoration and lake protection goals.

Wisconsin is making investments to protect and restore its Lakes Michigan and Superior shorelines. Governor Doyle says, "… the lakes are used in manufacturing, transportation and energy and draw thousand of tourists to its shores." With many agencies partnering, recommendations have been made to improve land use and forestry management.

The Wisconsin Demographic Services Center in 2004 completed a set of long-range projections for Wisconsin including the state's fifteen coastal counties. These projects from 2000-2030, help public officials and others anticipate and plan for future growth and decline.

As a group, Wisconsin's fifteen coastal counties are projected to increase by 14.9 % in population through 2030. This change is less than the projected statewide growth of 19.6%. Numerically, the coastal counties population is projected to increase by 296,000 persons, from 1.99 million in 2000 to 2.29 million in 2030.

### 1.8.5 Climate

| | |
|---|---|
| Highest Temperature | The highest temperature recorded in Wisconsin is 114°, Fahrenheit. This record high was recorded on July 13, 1936 at Wisconsin Dells. |
| Lowest Temperature | The lowest temperature in Wisconsin, -54°, was recorded on January 24, 1922 at Danbury. |
| Average Temperature | Monthly average temperatures range from a high of 82.8 degrees to a low of 5.4 degrees. |

The state lies between 42° 30' and 47° north latitude. Although free from the extreme conditions of the tropics, the state is far enough south to escape the polar extremes and to have a year divided into four seasons. It receives sufficient heat from the sun to give a temperate climate. The position of the state, 900 to 1000 miles from the Atlantic Ocean and the Gulf of Mexico, results in its having a continental climate — that is, in having very cold winters and rather hot summers. Modifying this is the influence of the water in Lake Superior and Lake Michigan. Wisconsin lies in the belt of prevailing westerly winds.

### 1.8.6 Conservation and Recreation in Wisconsin

Wisconsin's recreational assets include more than 14,000 lakes, 2,000 miles of trout streams, almost 6,000 state-owned campsites, and 6 million acres of hunting land. Wisconsin currently operates 47 state parks, 13 state forests, and 5 recreation areas. The parks range in size from Devil's Lake with 18,275 acres to Copper Culture with 42 acres. The largest single state recreational facility is the Northern Highland-American Legion Forest with 223,283 acres. A total of 36 state trails are open to the public, covering more than 1,700 miles. Visitors to Wisconsin's state parks, forests, trails, and recreation areas numbered over 13.1 million in 2006.

Hunting and fishing are major recreational activities. Recently, approximately 30.2 million fish and 2.8 million game animals of various species have been taken annually. Over 652,000 resident annual fishing licenses were sold in 2005. In addition, resident husband and wife fishing licenses totaled over 213,000, and nonresident annual and family annual fishing licenses totaled approximately 165,000. Over 628,000 boats were registered in 2005, and 175,354 annual and 321,974 daily vehicle admission stickers were sold at the parks that year.

Three land acquisition programs have been established to acquire land for recreational purposes. From 1961 through 1992, the Outdoor Recreation Act Program (ORAP) acquired 555,816 acres for the state's conservation and recreation programs at a cost of almost $172 million. From 1989, when the legislature created the current Warren

Knowles-Gaylord Nelson Stewardship Program, to 1999-2000, the stewardship fund has spent over $124 million to acquire an additional 167,000 acres. From 2000-01 to 2005-06, the Stewardship 2000 Fund acquired over 180,000 acres and spent over $199 million.

The Department of Natural Resources spent almost $519 million dollars on conservation and recreation programs in fiscal year 2005-06, down from $494 million in fiscal year 2004-05. Funding comes from the state's general fund and segregated funds, including registration and licensing fees, park stickers, and federal aids.

## Conservation and Recreation Land in Wisconsin

## Acres by Ownership, June 31, 2006

### CONSERVATION AND RECREATION LAND IN WISCONSIN
### Acres By Ownership

| | Wisconsin Department of Natural Resources – 2006 | | | | | | |
|---|---|---|---|---|---|---|---|
| County[1] | Forests and Wild Rivers | Natural and Park Areas | Fisheries and Wildlife | Total DNR | County Parks and Forests[2] | Federal Government 2006[3] | Total |
| Adams | -- | 6,735 | 8,819 | 15,554 | 813 | -- | 16,367 |
| Ashland | 756 | 5,797 | 7,044 | 13,597 | 43,041 | 182,025 | 238,663 |
| Barron | 60 | 343 | 7,343 | 7,745 | 16,468 | -- | 24,213 |
| Bayfield | 49 | 10,889 | 11,326 | 22,264 | 169,353 | 272,770 | 464,387 |
| Brown | -- | 656 | 2,497 | 3,153 | 5,807 | -- | 8,960 |
| Buffalo | -- | 815 | 13,061 | 13,877 | 535 | -- | 14,412 |
| Burnett | 15,207 | 239 | 54,941 | 70,386 | 108,918 | -- | 179,304 |
| Calumet | -- | 1,272 | 10,592 | 11,865 | 1,131 | -- | 12,996 |
| Chippewa | -- | 6,705 | 4,400 | 11,105 | 33,416 | -- | 44,521 |
| Clark | 224 | -- | 658 | 882 | 133,660 | -- | 134,542 |
| Columbia | 116 | 920 | 20,766 | 21,802 | 815 | -- | 22,617 |
| Crawford | 7,628 | 2,744 | 8,088 | 18,461 | 579 | -- | 19,040 |
| Dane | 4,308 | 3,251 | 15,175 | 22,733 | 3,205 | 39 | 25,977 |
| Dodge | -- | 220 | 24,831 | 25,051 | 1,131 | -- | 26,182 |
| Door | -- | 12,066 | 3,648 | 15,714 | 1,281 | -- | 16,995 |
| Douglas | 41,012 | 4,192 | 7,797 | 53,001 | 270,813 | -- | 323,814 |
| Dunn | -- | 2,910 | 12,473 | 15,382 | 1,183 | -- | 16,565 |
| Eau Claire | -- | 140 | 2,578 | 2,719 | 54,714 | -- | 57,433 |
| Florence | 5,437 | 7,676 | 46 | 13,160 | 39,973 | 85,178 | 138,311 |
| Fond du Lac | 10,697 | 507 | 16,939 | 28,142 | 1,691 | -- | 29,833 |
| Forest | 25 | 457 | 4,038 | 4,520 | 30,877 | 345,822 | 376,699 |
| Grant | 14,121 | 3,814 | 1,569 | 19,504 | 1,070 | -- | 20,574 |
| Green | -- | 1,483 | 3,914 | 5,397 | 487 | -- | 5,884 |
| Green Lake | -- | 389 | 18,146 | 18,536 | 747 | -- | 19,283 |
| Iowa | 9,881 | 7,052 | 4,514 | 21,447 | 381 | -- | 21,828 |
| Iron | 69,722 | 2,991 | 11,662 | 84,376 | 182,015 | -- | 266,391 |
| Jackson | 67,633 | 519 | 7,938 | 76,090 | 122,868 | -- | 198,958 |
| Jefferson | 3,553 | 549 | 14,506 | 18,607 | 661 | -- | 19,268 |
| Juneau | -- | 5,034 | 6,220 | 11,255 | 16,240 | -- | 27,495 |
| Kenosha | -- | 4,969 | 1,991 | 6,960 | 2,700 | -- | 9,660 |
| Kewaunee | -- | 409 | 2,430 | 2,839 | 273 | -- | 3,112 |
| La Crosse | 2,972 | 371 | 4,307 | 7,649 | 3,096 | -- | 10,745 |
| Lafayette | -- | 1,605 | 4,535 | 6,139 | 278 | -- | 6,417 |
| Langlade | 18,515 | 633 | 16,850 | 35,997 | 131,654 | 32,727 | 200,378 |
| Lincoln | 22,543 | 2,893 | 7,567 | 33,004 | 102,664 | -- | 135,668 |
| Manitowoc | 2,903 | 631 | 6,575 | 10,109 | 1,052 | -- | 11,161 |
| Marathon | 1,724 | 1,725 | 23,994 | 27,444 | 34,149 | -- | 61,593 |
| Marinette | 17,289 | 4,430 | 10,178 | 31,897 | 238,730 | -- | 270,627 |
| Marquette | -- | 1,293 | 10,990 | 12,283 | 359 | -- | 12,642 |
| Milwaukee | 304 | 52 | -- | 356 | 16,359 | -- | 16,715 |
| Monroe | -- | 1,551 | 4,354 | 5,905 | 7,317 | -- | 13,222 |
| Oconto | 633 | 819 | 5,340 | 6,792 | 44,974 | 141,705 | 193,471 |
| Oneida | 90,601 | 6,694 | 8,397 | 105,692 | 105,227 | 11,219 | 222,138 |
| Outagamie | -- | 1,747 | 7,878 | 9,625 | 2,631 | -- | 12,256 |
| Ozaukee | -- | 2,351 | 412 | 2,763 | 1,243 | -- | 4,006 |
| Pepin | -- | 1,815 | 3,671 | 5,485 | 243 | -- | 5,485 |
| Pierce | -- | 1,810 | 1,519 | 3,330 | 1,223 | -- | 4,553 |
| Polk | 5,050 | 4,819 | 13,730 | 23,599 | 21,799 | -- | 45,398 |
| Portage | -- | 1,102 | 29,137 | 30,239 | 3,349 | -- | 33,588 |
| Price | 9,066 | 263 | 9,933 | 19,262 | 103,403 | 151,585 | 274,250 |
| Racine | -- | 109 | 3,286 | 3,395 | 5,484 | -- | 8,879 |
| Richland | 6,699 | -- | 5,281 | 11,980 | 98 | -- | 12,078 |
| Rock | -- | 461 | 7,239 | 7,700 | 3,188 | -- | 10,888 |
| Rusk | 15,289 | -- | 3,435 | 18,724 | 91,382 | -- | 110,106 |
| St. Croix | -- | 3,004 | 7,507 | 10,511 | 8,688 | -- | 19,199 |
| Sauk | 5,360 | 18,790 | 4,488 | 28,638 | 1,498 | -- | 30,136 |
| Sawyer | 79,258 | 657 | 9,218 | 89,134 | 2,534 | 126,770 | 218,438 |
| Shawano | -- | 1,037 | 14,133 | 15,170 | 117,927 | -- | 133,097 |
| Sheboygan | 15,813 | 977 | 4,631 | 21,421 | 1,159 | -- | 22,580 |
| Taylor | -- | 266 | 8,128 | 8,394 | 18,534 | 124,796 | 151,724 |
| Trempealeau | 58 | 1,618 | 5,483 | 7,160 | 362 | -- | 7,522 |
| Vernon | 52 | 4,037 | 2,253 | 6,342 | 1,538 | -- | 7,880 |
| Vilas | 140,109 | 3,308 | 7,730 | 151,147 | 49,054 | 54,568 | 254,769 |
| Walworth | 6,989 | 2,093 | 5,909 | 14,992 | 766 | -- | 15,758 |
| Washburn | 155 | 943 | 5,785 | 6,884 | 149,585 | -- | 156,469 |
| Washington | 4,770 | 519 | 7,410 | 12,699 | 1,524 | -- | 14,223 |
| Waukesha | 11,694 | 643 | 5,137 | 17,473 | 9,905 | -- | 27,378 |
| Waupaca | -- | 1,928 | 8,612 | 10,540 | 1,080 | -- | 11,620 |
| Waushara | -- | 1,123 | 17,791 | 18,914 | 1,990 | -- | 20,904 |
| Winnebago | -- | 406 | 12,237 | 12,644 | 1,784 | -- | 14,428 |
| Wood | 173 | 14 | 15,462 | 15,476 | 59,949 | -- | 75,425 |
| STATE | 708,448 | 174,282 | 640,474 | 1,523,203 | 2,594,625 | 1,529,204 | 5,647,032 |

[1]Land in Menominee County that is not privately owned is held by the Menominee Nation.
[2]Includes lands designated as public areas and trust lands not listed separately as of June 30, 2002.
[3]Federal lands controlled by the U.S. Forest Service as of September 30, 2006.
Sources: U.S. Forest Service, "Land Areas as of September 30, 2005", February 2007; Wisconsin Department of Natural Resources, departmental data, February 2007.

Source: State of Wisconsin Blue Book 2007 - 2008



Section TOC

### 1.8.7 Transportation

As of January 1, 2006, there were 114,141 miles of roads in Wisconsin. The total included 11,782 miles of state trunk highways, 19,873 miles of county trunk highways, 80,751 miles of local roads, and 1,901 miles of parks and forests roads. Eighty two percent (106,565 miles) of state road system is surfaced at bituminous grade or higher, wit the remaining 18% being gravel or soil-surfaced, graded and drained, or unimproved.

There are 706 airports in the State with 97 publicly owned and 403 privately owned. The remaining 206 specialized facilities included but not limited to heliports (139), seaplane bases (26), and military/police fields (7). The remaining 34 airports are not included.

Since 1920 the number of railroads operating in the State has decreased from 35 to 12, and railroad mileage declined by 3,432 miles. Rail freight traffic rose from 9.1 billon ton-miles in 1920 to 28.0 billion ton-miles in 2006.

There are 10 active lake harbors on Lake Michigan and Lake Superior, which handled 52.2 million short tons of commodities. The Duluth-Superior harbor reported the greatest amount of commerce at 44.7 million tons.

### 1.8.8 Population

Estimated population in Wisconsin as of 2006 is 5,617,744, a 4.7% increase from the 2000 census. The State continued to experience steady growth between April 1, 2000 and January 1; 2007.The population increase is the second largest between two censuses since statehood in the middle of the 19$^{th}$ century. Population growth in the Fox Valley, far Western Wisconsin bordering the Twin Cities in Minnesota, Dane County, and Southeastern Wisconsin areas experienced the largest gains.

Of the largest municipalities, those with 10,000 or more residents, the City of Madison had the largest numeric change with 15,226 additional residents and the City of Stanley had the fastest rate of growth – 78.8 %. During the same period, the City of Milwaukee is estimated to decline by 4,875 persons or -1.1 %.

Listed below are some additional interesting statistics about Wisconsin:

- Median age is 37.1 years.
- 25% of population were under 18 years and 12% were 65 years and older.
- In 2007 there were 2.5 million households in Wisconsin and the average household size was 2.46 people.
- 74% were born in Wisconsin.
- 13% of Wisconsin reported a disability of which 36% are at least 65 years.
- Median Incomes of households was $44,084
- 27% of households receive Social Security

- 11% of people were in poverty with 7%, 65 years old and over.

With respect to population change in rural and urban areas, the course of Wisconsin's demographic history largely parallels that of the country, generally. Urban population is roughly defined as persons living in and around large cities over 50,000 population, in addition to those who reside in smaller cities and villages down to 2,500 population. The remainder of the population is considered to be rural. The 2000 Census found that 68% of Wisconsin's population lives in cities and larger villages (this contrasts with 79% nationally).

Present-day Wisconsin is an uneven blend of urban and rural people living in relatively close contact, but not always in immediate residential proximity. Fifty-eight of the state's 72 counties have at least a portion of their populations categorized as urban. And even highly urban Milwaukee County has a very small rural population.

In order of size, the population of the top 13 Wisconsin cities: (January 2008 estimate). The last column indicates the projected percentage change from the 2000 census.

## Municipal Estimates

### Largest Municipalities (above 50,000 population)

| Place Name | Prelim 2008 | Final 2007 | 1yr NumChg | 1 yr PctChg | Census 2000 | C2000 NumChg | C2000 PctChg |
|---|---|---|---|---|---|---|---|
| C Milwaukee | 590,870 | 590,190 | 680 | 0.1% | 596,974 | -6,104 | -1.0% |
| C Madison | 226,650 | 224,810 | 1,840 | 0.8% | 208,054 | 18,596 | 8.9% |
| C Green Bay | 103,950 | 104,020 | -70 | -0.1% | 102,767 | 1,183 | 1.2% |
| C Kenosha | 95,910 | 95,530 | 380 | 0.4% | 90,352 | 5,558 | 6.2% |
| C Racine | 80,320 | 80,060 | 260 | 0.3% | 81,855 | -1,535 | -1.9% |
| C Appleton | 72,300 | 72,158 | 142 | 0.2% | 70,087 | 2,213 | 3.2% |
| C Waukesha | 68,030 | 67,880 | 150 | 0.2% | 64,825 | 3,205 | 4.9% |
| C Oshkosh | 65,920 | 65,810 | 110 | 0.2% | 62,916 | 3,004 | 4.8% |
| C Eau Claire | 65,360 | 65,202 | 158 | 0.2% | 61,704 | 3,656 | 5.9% |
| C Janesville | 63,540 | 62,720 | 820 | 1.3% | 60,200 | 3,340 | 5.5% |
| C West Allis | 60,370 | 60,410 | -40 | -0.1% | 61,254 | -884 | -1.4% |
| C La Crosse | 51,840 | 51,580 | 260 | 0.5% | 51,818 | 22 | 0.0% |
| C Sheboygan | 50,580 | 50,600 | -20 | 0.0% | 50,792 | -212 | -0.4% |

Source: Wisconsin Department of Administration, Demographic Services Center

Wisconsin population race according to the 2005 census estimate::

| | |
|---|---|
| White | 4,734,357 |
| Black | 307,950 |
| American Indian | 45,516 |



Section TOC

| | |
|---|---|
| Asian | 108,362 |
| Hispanic | 242,287 |
| Other races | 117,156 |
| 2 or more | 62,410 |

**Top 15 Ancestry Groups, Wisconsin: 2000**

| Rank | Ancestry | Population |
|---|---|---|
| 1 | German | 2,289,585 |
| 2 | Irish | 582,316 |
| 3 | Polish | 497,726 |
| 4 | Norwegian | 454,831 |
| 5 | English | 347,854 |
| 6 | Black or African American | 323,442 |
| 7 | French (except Basque) | 205,975 |
| 8 | Italian | 172,567 |
| 9 | Swedish | 149,977 |
| 10 | Dutch | 149,777 |
| 11 | Mexican | 126,719 |
| 12 | Czech | 97,220 |
| 13 | Native American | 66,651 |
| 14 | Swiss | 59,090 |
| 15 | Belgian | 57,808 |

Source: U.S. Census Bureau, Decennial Census of Population, 2000

### 1.8.9 Important Cities and Villages

There are 72 counties in the State. There are 1,851 local jurisdictions (592 cities and villages and 1,259 towns.) Cities and villages are incorporated urban areas in Wisconsin. Towns are unincorporated minor civil divisions of counties.

Cities in Wisconsin with population of 50,000 or more as of 2006 include:

- Milwaukee, pop. 590,370 (1,500,741 in metropolitan area)
- Madison - pop. 223,280, state capital, flagship campus of University of Wisconsin
- Green Bay, pop. 104,230, home of Green Bay Packers football team
- Kenosha, pop. 94,450,
- Racine, pop. 80,340
- Appleton, pop. 72,004
- Waukesha, pop. 67,750
- Oshkosh, pop. 65,510

- Eau Claire, pop. 65,056
- Janesville, pop. 62,540
- West Allis, pop. 60,300
- La Crosse, pop. 51,380
- Sheboygan, pop. 50,650

Other items of interest to note:

- Baraboo, pop. 11,505, home of Circus World Museum
- Ripon, pop. 7,567, Wisconsin was the birthplace of the Republican Party, 1854
- Stevens Point, pop. 25,190, home of the Wisconsin Conservation Hall of Fame, commemorating Aldo Leopold, John Muir, and others
- Superior, pop. 27,180
- Watertown, Jefferson County, Wisconsin was the site of the first kindergarten in the US
- Wausau, pop. 39,740
- Wisconsin Dells, pop. 2464 (approx. 5000 including Lake Delton) Popular resort area, home of Tommy Bartlett's thrill shows

### 1.8.10 Wisconsin American Indians

American Indians have been a vital and significant population throughout Wisconsin's history and certainly for hundreds of years prior to statehood. Geographically, American Indians have a strong presence not only in those counties that have reservations or tribal lands but also in a number of urban counties. In 2000, the largest populations were in Milwaukee County (7,000), Brown County (5,000) and Menominee County (4,000).

When considered as a percentage of the total population, northern Wisconsin counties have the highest percentage of American Indian residents. Four counties have populations that are more than 10% American Indian: Menominee (87%), Sawyer (16%), Forest (11%), and Ashland (10%).

**Wisconsin Indian Reservations: Population and Acreage**

| Reservation Total/ County Detail | Tribe | 2000 Reservation Population | | | June 2006 Acreage Ownership Status[1] | | |
|---|---|---|---|---|---|---|---|
| | | Total | Indian | % Indian | Total | Tribal | Individual |
| Bad River | Chippewa | 1,411 | 1,096 | 77.68% | 58,432.93 | 24,493.03 | 33,938.90 |
| Ho-Chunk Nation | Ho-Chunk Nation | 960 | 827 | 86.15 | 6,018.19 | 2,749.67 | 3,268.52 |
| Lac Courte Oreilles | Chippewa | 2,900 | 2,150 | 74.14 | 47,998.25 | 24,243.78 | 23,754.47 |
| Lac du Flambeau | Chippewa | 2,995 | 1,778 | 59.37 | 44,995.37 | 31,298.42 | 13,681.89 |
| Menominee[2] | Menominee | 3,225 | 3,070 | 95.19 | 238,073.00 | 235,078.00 | 2,995.00 |
| Oneida (West) | Oneida | 21,321 | 3,288 | 15.42 | 6,645.94 | 6,216.35 | 429.59 |
| Potawatomi (Wisconsin) | Potawatomi | 531 | 482 | 90.77 | 12,280.18 | 11,560.18 | 400.00 |
| Red Cliff | Chippewa | 1,078 | 928 | 86.09 | 8,112.35 | 6,330.62 | 1,767.08 |
| St. Croix | Chippewa | 641 | 561 | 87.52 | 2,159.55 | 2,159.55 | 0.00 |
| Sokaogon | Chippewa | 392 | 332 | 84.69 | 3,072.01 | 3,072.01 | 0.00 |
| Stockbridge-Munsee | Mahican/Munsee | 1,527 | 769 | 50.36 | 16,560.29 | 16,404.67 | 155.62 |
| TOTAL | | 37,276 | 15,567 | 41.73% | 444,348.06 | 363,606.28 | 80,391.07 |

[1]Figures do not include off-reservation public domain acreage.
[2]Public Law 93-107, the Menominee Restoration Act, effective on December 22, 1973, repealed the Menominee Termination Act of June 17, 1954 (P.L. 83-399) and acknowledged the Menominee Indian Tribe of Wisconsin as a federally recognized Indian tribe.
Sources: U.S. Census Bureau, *Profiles of General Demographic Characteristics, 2000 Census of Population and Housing, Wisconsin*, 2001; U.S. Bureau of Indian Affairs, departmental data, June 2006; Menominee Indian Tribe of Wisconsin, tribal data, May 2007. Acreage ownership totals calculated by the Wisconsin Legislative Reference Bureau.

Source: State of Wisconsin Blue Book 2007 – 2008



Section TOC

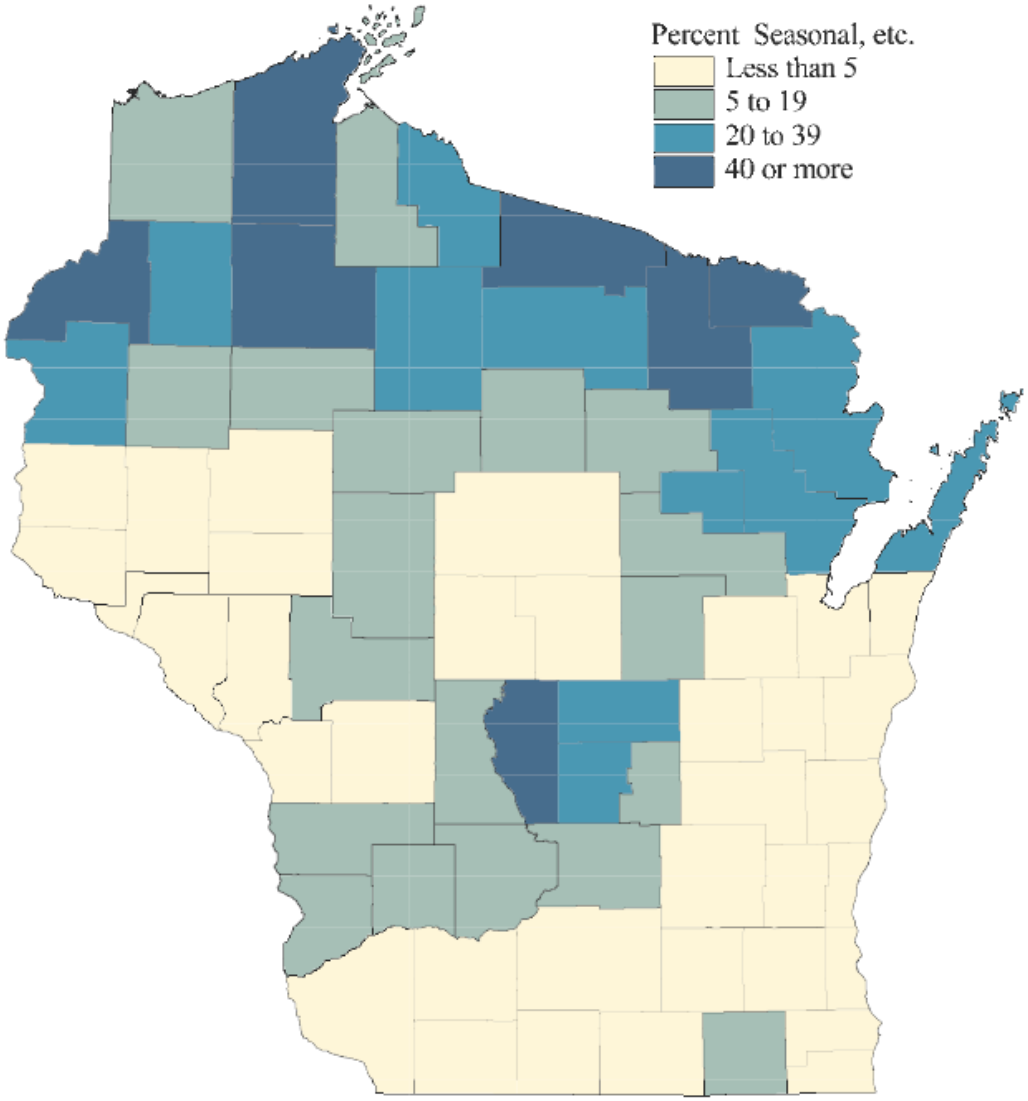
### 1.8.11 Wisconsin Housing

The total number of housing units in Wisconsin in 2000 was 2.3 million. Roughly 69% of Wisconsin's housing stock was comprised of single unit (detached or attached) housing units. The high was 90% (Vilas County) and the low was under 51% (Milwaukee County). Dane County had the highest proportion of housing units that are part of large multi-unit structures (10 or more units in structure) as a percentage of its total housing stock (20%), while Menominee County had the lowest percentage (1%).

Fewer than 2% of housing units statewide lacked complete plumbing facilities in 2000, but this figure ranged from a low of 0.2% in Outagamie County, to a high of 20% in Florence County. Almost 17% of Wisconsin's housing units are relatively new (built between 1990 and 2000), while over 23% were built prior to 1939. The county with the newest housing stock was Menominee County, with just under 30% built between 1990 and 2000. Milwaukee County had the lowest proportion of new housing, with only 6% of its entire housing stock built in the preceding decade. Over 44% of Lafayette County's housing stock was built prior to 1939, while only 6% of Menominee County's housing is of that age.

About 68% of the total housing units in Wisconsin in 2000 were owner-occupied, with a median value of $112,200, compared to a national median value of$119,600. In Wisconsin, the median value varied from a low of $58,000 for Menominee County to a high of $177,000 for Ozaukee County. Almost 32% of housing units were renter-occupied, with the median rent in 2000 being $540, ranging from a low of $245 in Menominee County to a high of $726 per month in Waukesha County. The national median rent was $602 in 2000.

**Percent of All Housing Units Identified as Seasonal, Recreational, or Occasional Use, Wisconsin Counties: 2000**

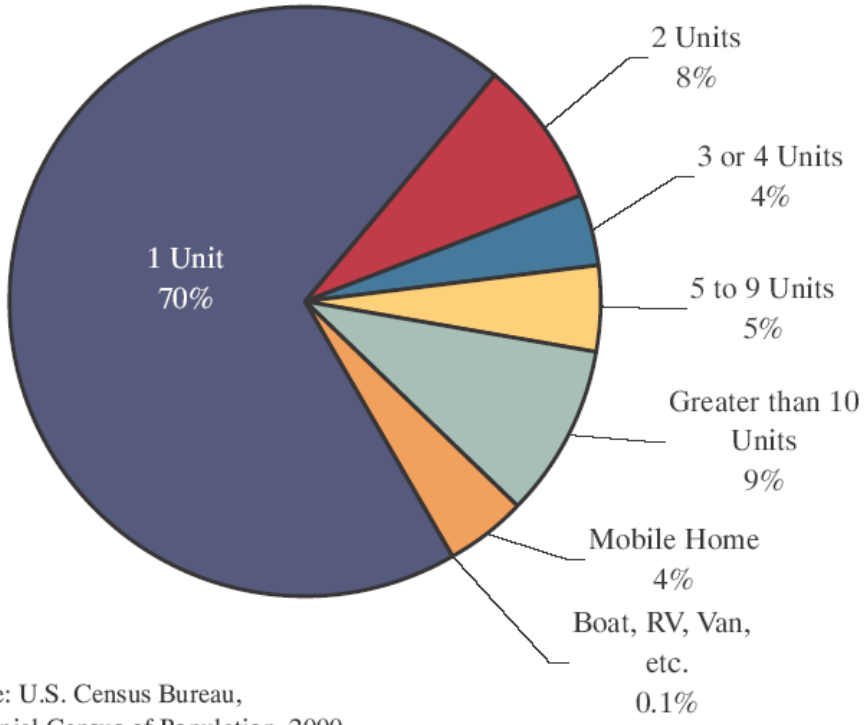



Source: U.S. Census Bureau, Decennial Census of Population, 2000



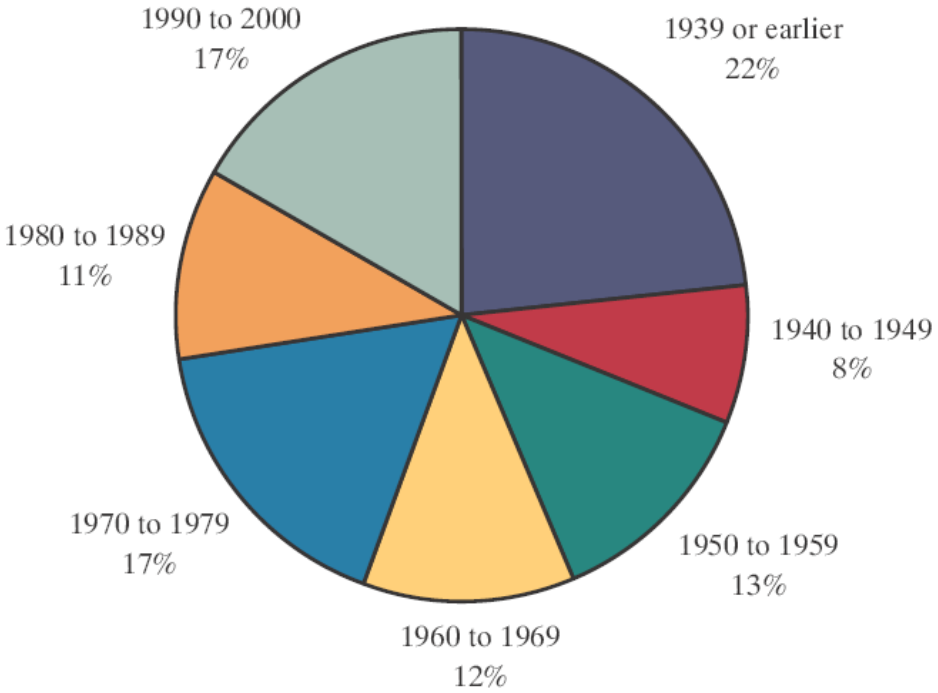
Section TOC

## Housing Units by Type of Structure, Wisconsin: 2000




Source: U.S. Census Bureau,
Decennial Census of Population, 2000

## Housing Units by Year Built, Wisconsin: 2000

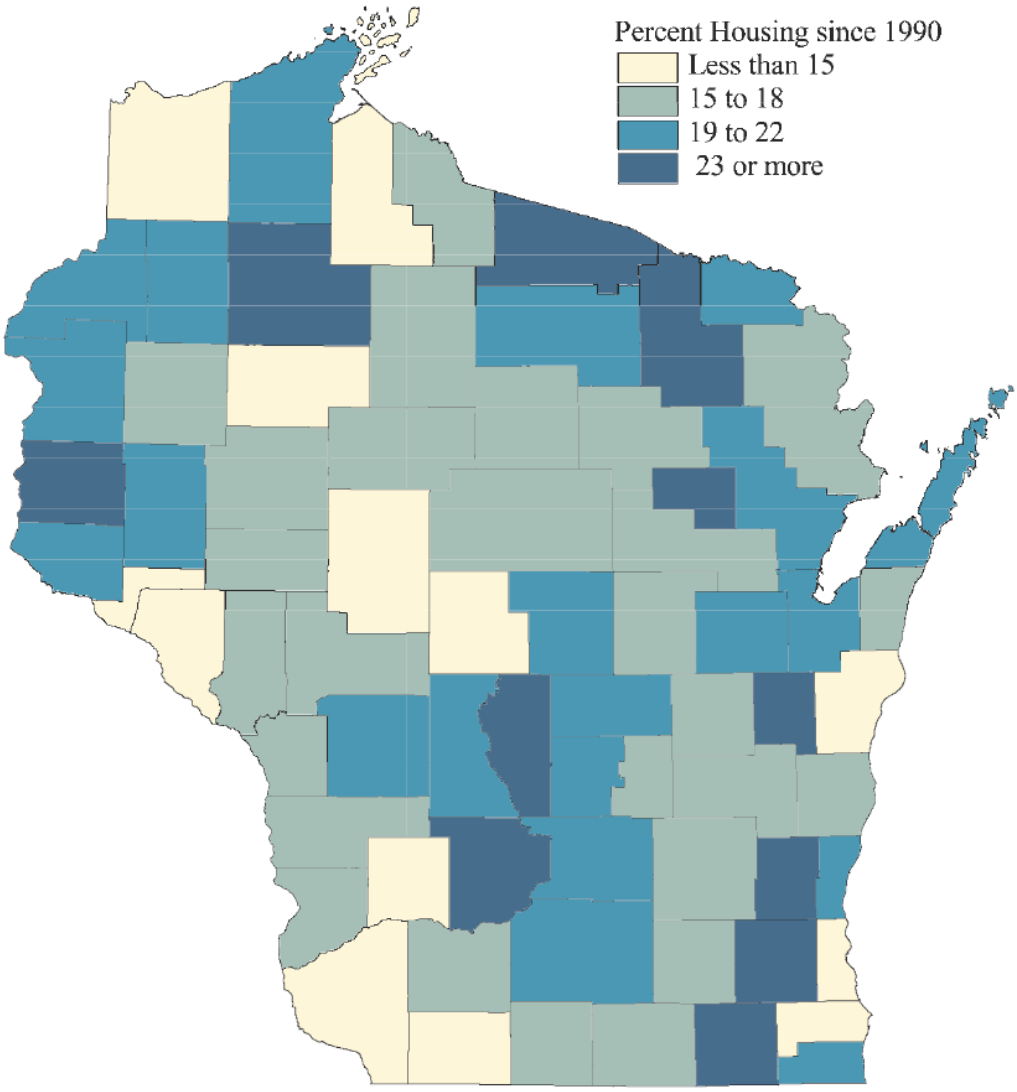



Source: U.S. Census Bureau, Decennial Census of Population, 2000



Section TOC

**Percent of Housing Units Built Since 1990, Wisconsin Counties: 2000**

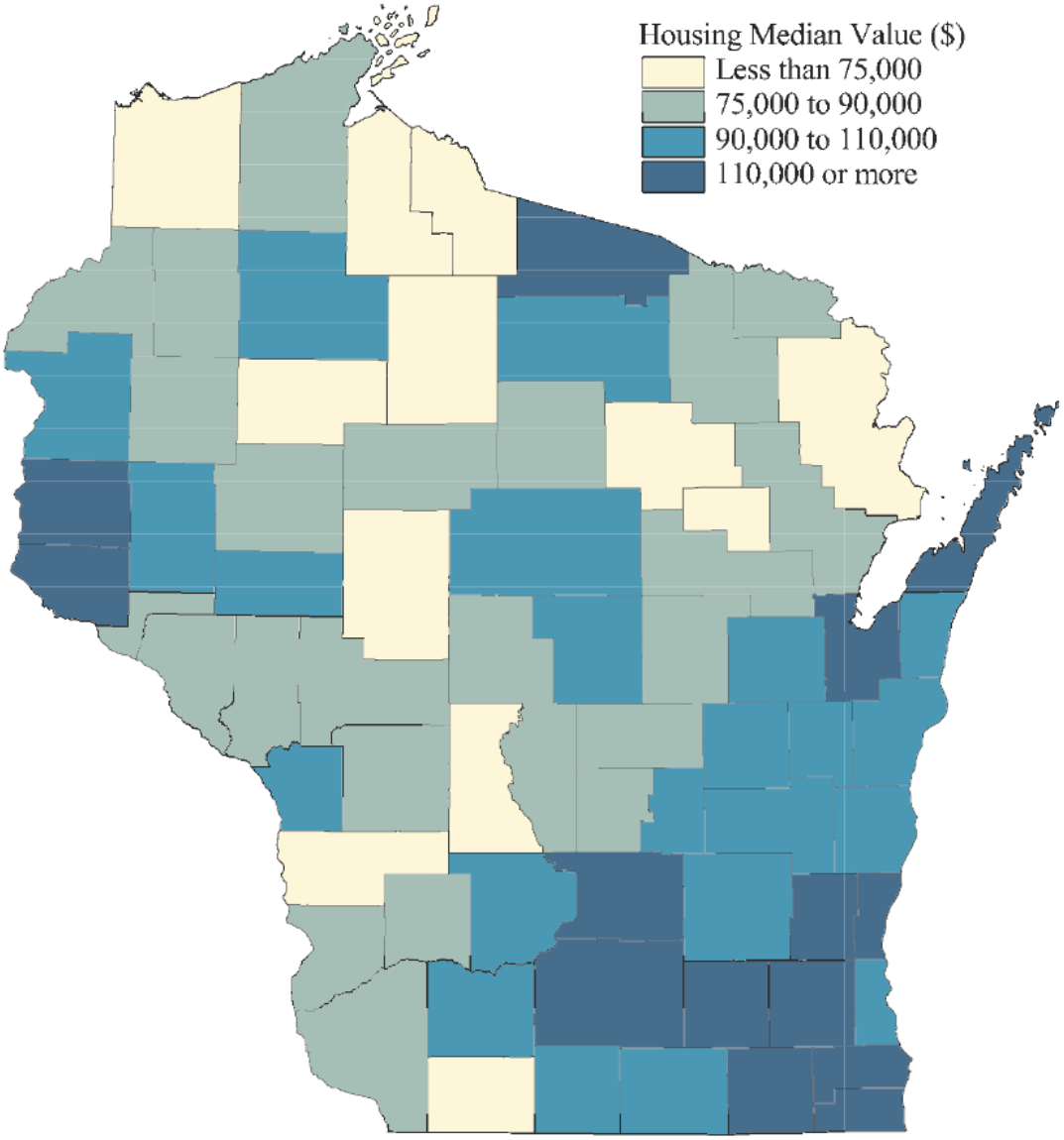



Source: U.S. Census Bureau, Decennial Census of Population, 2000



Section TOC

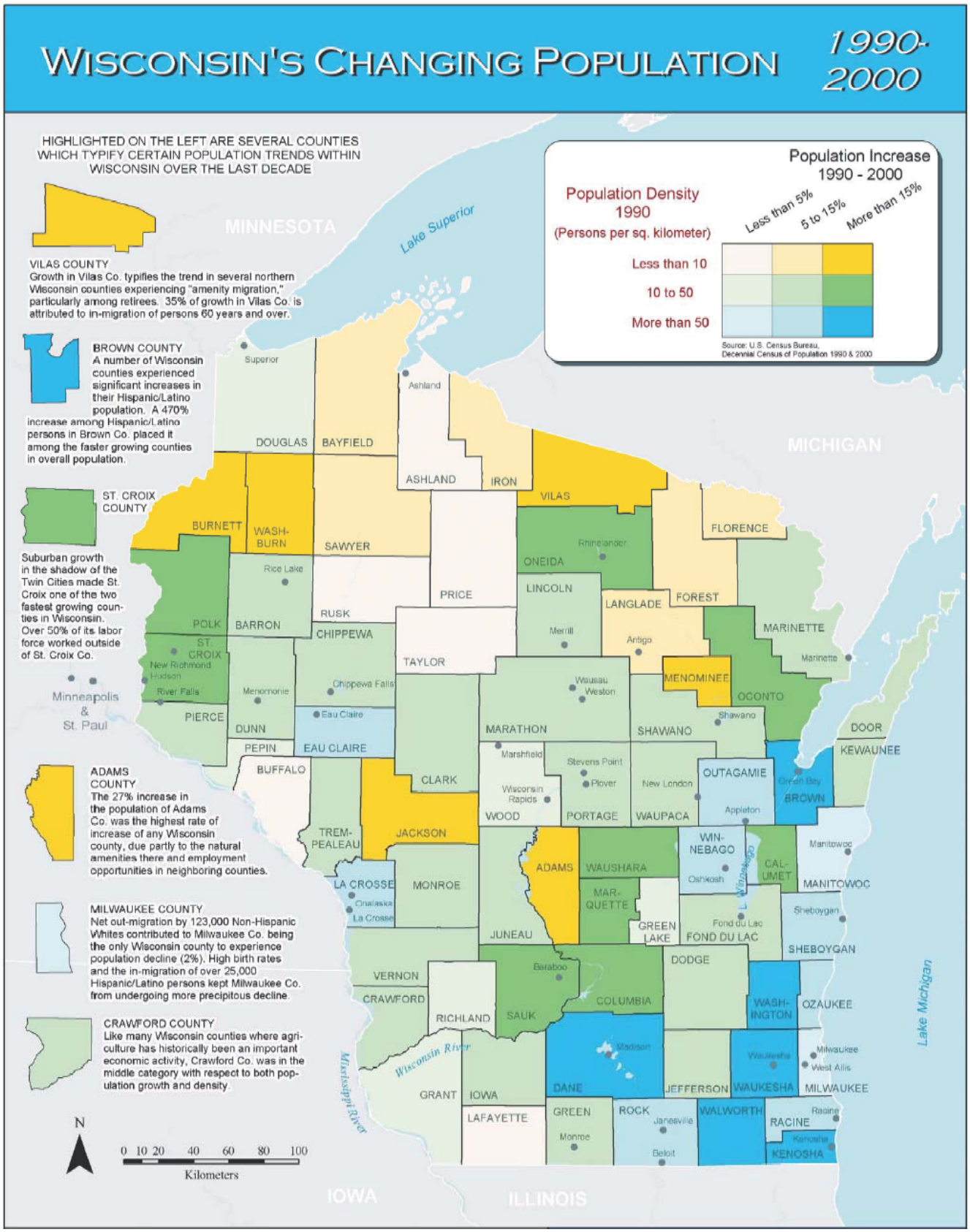
## Median Housing Unit Value, Wisconsin Counties: 2000




Source: U.S. Census Bureau, Decennial Census of Population, 2000

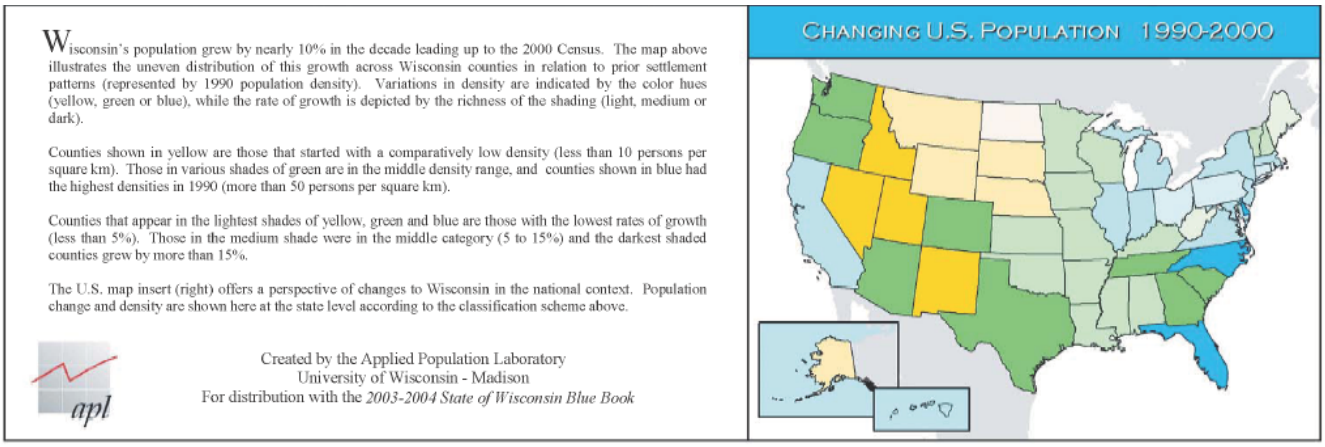


Section TOC


WISCONSIN'S CHANGING POPULATION
1990-2000
HIGHLIGHTED ON THE LEFT ARE SEVERAL COUNTIES WHICH TYPIFY CERTAIN POPULATION TRENDS WITHIN WISCONSIN OVER THE LAST DECADE
Population Increase 1990 - 2000
Less than 5%
5 to 15%
More than 15%
Population Density 1990
(Persons per sq. kilometer)
Less than 10
10 to 50
More than 50
Source: U.S. Census Bureau, Decennial Census of Population 1990 & 2000
VILAS COUNTY
Growth in Vilas Co. typifies the trend in several northern Wisconsin counties experiencing "amenity migration," particularly among retirees. 35% of growth in Vilas Co. is attributed to in-migration of persons 60 years and over.
BROWN COUNTY
A number of Wisconsin counties experienced significant increases in their Hispanic/Latino population. A 470% increase among Hispanic/Latino persons in Brown Co. placed it among the faster growing counties in overall population.
ST. CROIX COUNTY
Suburban growth in the shadow of the Twin Cities made St. Croix one of the two fastest growing counties in Wisconsin. Over 50% of its labor force worked outside of St. Croix Co.
ADAMS COUNTY
The 27% increase in the population of Adams Co. was the highest rate of increase of any Wisconsin county, due partly to the natural amenities there and employment opportunities in neighboring counties.
MILWAUKEE COUNTY
Net out-migration by 123,000 Non-Hispanic Whites contributed to Milwaukee Co. being the only Wisconsin county to experience population decline (2%). High birth rates and the in-migration of over 25,000 Hispanic/Latino persons kept Milwaukee Co. from undergoing more precipitous decline.
CRAWFORD COUNTY
Like many Wisconsin counties where agriculture has historically been an important economic activity, Crawford Co. was in the middle category with respect to both population growth and density.
MINNESOTA
MICHIGAN
IOWA
ILLINOIS
Lake Superior
Lake Michigan
Wisconsin River
Mississippi River
Minneapolis & St. Paul
Superior
Ashland
DOUGLAS
BAYFIELD
ASHLAND
IRON
VILAS
FLORENCE
BURNETT
WASH-BURN
SAWYER
Rhinelander
ONEIDA
Rice Lake
PRICE
LINCOLN
LANGLADE
FOREST
POLK
BARRON
RUSK
CHIPPEWA
Merrill
Antigo
MARINETTE
ST. CROIX
New Richmond
Hudson
River Falls
Menomonie
Chippewa Falls
TAYLOR
Wausau
Weston
MENOMINEE
Marinette
OCONTO
PIERCE
DUNN
Eau Claire
MARATHON
Shawano
SHAWANO
DOOR
PEPIN
EAU CLAIRE
Marshfield
KEWAUNEE
BUFFALO
CLARK
Stevens Point
Plover
Wisconsin Rapids
New London
OUTAGAMIE
Green Bay
BROWN
WOOD
PORTAGE
WAUPACA
Appleton
TREM-PEALEAU
JACKSON
WIN-NEBAGO
Oshkosh
Manitowoc
ADAMS
WAUSHARA
CAL-UMET
LA CROSSE
MONROE
Onalaska
La Crosse
MAR-QUETTE
MANITOWOC
Fond du Lac
Sheboygan
GREEN LAKE
JUNEAU
FOND DU LAC
SHEBOYGAN
DODGE
VERNON
Baraboo
CRAWFORD
COLUMBIA
WASH-INGTON
OZAUKEE
RICHLAND
SAUK
Madison
Waukesha
Milwaukee
West Allis
GRANT
IOWA
DANE
JEFFERSON
WAUKESHA
MILWAUKEE
LAFAYETTE
GREEN
ROCK
Janesville
WALWORTH
Racine
RACINE
Monroe
Beloit
Kenosha
KENOSHA
N
0 10 20 40 60 80 100
Kilometers



Section TOC




### 1.8.12 Economy

| Leading industries | Employment by Industry |
|---|---|
| Education, health & social services | 20 % |
| Manufacturing | 19% |
| Retail Trade | 11 % |
| Leisure & hospitality | 8% |
| Professional & business services | 7% |
| Construction | 7% |
| Finance, insurance, real estate, rental/leasing | 6% |
| Transportation & warehousing and Utilities | 5% |
| Other services (except public admin) | 5% |
| Public administration | 4% |
| Wholesale Trade | 4% |
| Information | 2% |
| Agriculture, forestry, fishing and hunting, and mining | 2% |

Wisconsin's economy has shown signs of both strength and weakness over the last three years. The primary sources of revenue for Wisconsin governmental operations are Individual Income tax ($5 billion), Corporate Income tax ($503 million), and Sales and Excise tax ($4 billion). These three sources make up more than 85 percent of the $11 billion state General Purpose Revenue fund.

A majority of state tax revenue is transferred to local government. General purpose state taxes are combined with locally collected revenues to fund local government in Wisconsin. In addition to the state's general purpose tax collection, local governments rely heavily on property taxes to fund their programs and services.

Total outstanding state government debt in Wisconsin, as of May 31, 2003, amounted to $4.29 billion, of which $3.16 billion was tax-supported and $1.13 billion was revenue-supported. Total state indebtedness at the end of 2001 constituted 1.42% of state assessed valuation and amounted to $824.26 per capita. Local debt in 2001 totaled



Section TOC

more than $10.7 billion. Among state political subdivisions, school district debt ($4.75 billion) was largest, followed by city debt ($3 billion).

The Wisconsin outlook for 2004 has improved since the June forecast. The manufacturing sector is experiencing a rebirth. Non-farm employment is now expected to increase by 1.4%, slightly higher that the growth rate. Wisconsin's total personal income is now projected to increase 5.9%. Wisconsin's estimated average per capita income is $23,110 compared to the national average of $22,178. The gap between Wisconsin and the U.S. per capita income is narrowing. Wisconsin per capita income as a percent of the U.S. has increased from 96% in 2001 to over 98% for 2004.

The economic outlook continues to remain positive for 2005 and beyond. Employment growth in Wisconsin is forecast to average in excess of 1.5% annually over the next several years. Nominal income growth should average over 5% per year, and with inflation remaining in the 2% range, real incomes are expected to increase steadily.

Although Wisconsin is seeing growth in employment, and per capita income, the debt of some $4 billion has forced the State to cut back on programs and services. Because the state's economic recovery will most likely be slow, and the long term GPR budget appears to be difficult.

In Governor Doyle's 2003-2005 budget, he has proposed that costs will be reduced, duplicative programs eliminated and priorities met. State government will be downsized through attrition and retirement incentives. With this "Grow Wisconsin" plan, the State has seen the business climate continue to improve and the economy grow.

### 1.8.13 Employment and Income

2,918,200 workers were employed in Wisconsin in 2006. Another 144,800 were part of the available work force but were unemployed, resulting in an average unemployment rate of 4.7% for 2006.

2.84 million Wisconsin workers were engaged in non-farm employment in 2005. The greatest number worked in trade, transportation and utilities (540,000); and manufacturing (507,000).

Earned income, which consists of wages and salaries, labor income, and proprietor's income, totaled $145.8 billion in Wisconsin in 2006. In 2006, service industries provided the greatest percentage of Wisconsin's earned income, about 29.6%, with manufacturing at 22.4%.

Personal income in Wisconsin totaled $192.8 billion in 2006. Wisconsin's per capita personal income of $34,701 lags behind the national average of $36,276, ranking Wisconsin 22nd among the states. In an average month in 2006, Wisconsin reported that 72,000 persons (about 50% of the 145,500 unemployed) received unemployment compensation.

# BASIC DATA ON WISCONSIN COUNTIES

| County (year created)[1] | County Seat | Full Value 2005 Assessment (in millions)[2] | Population 2006 Estimate | Pct. Change[3] | 2005 Rank[4] | Land Area in Sq. Miles[5] | 2006 Density per Sq. Mile[6] |
|---|---|---|---|---|---|---|---|
| Adams (1848) | Friendship | $2,060,707 | 21,548 | 8.2% | 51 | 647.7 | 33.3 |
| Ashland (1860) | Ashland | 1,106,896 | 16,906 | 0.2 | 59 | 1,043.8 | 16.2 |
| Barron (1859) | Barron | 3,359,186 | 47,247 | 5.1 | 29 | 862.8 | 54.8 |
| Bayfield (1845) | Washburn | 2,214,094 | 15,828 | 5.4 | 66 | 1,476.3 | 10.7 |
| Brown (1818) | Green Bay | 16,731,988 | 242,733 | 7.1 | 4 | 528.7 | 459.1 |
| Buffalo (1853) | Alma | 819,782 | 14,142 | 2.4 | 67 | 684.5 | 20.7 |
| Burnett (1856) | Meenon[7] | 2,486,636 | 16,614 | 6.0 | 61 | 821.5 | 20.2 |
| Calumet (1836) | Chilton | 2,858,767 | 45,711 | 12.5 | 32 | 319.8 | 142.9 |
| Chippewa (1845) | Chippewa Falls | 3,736,093 | 60,893 | 10.3 | 24 | 1,010.4 | 60.3 |
| Clark (1853) | Neillsville | 1,497,559 | 34,501 | 2.8 | 41 | 1,215.6 | 28.4 |
| Columbia (1846) | Portage | 4,372,715 | 55,272 | 5.3 | 26 | 773.8 | 71.4 |
| Crawford (1818) | Prairie du Chien | 896,269 | 17,461 | 1.3 | 57 | 572.7 | 30.5 |
| Dane (1836) | Madison | 42,799,729 | 464,513 | 8.9 | 2 | 1,201.9 | 386.5 |
| Dodge (1836) | Juneau | 5,196,293 | 89,063 | 3.7 | 17 | 882.3 | 100.9 |
| Door (1851) | Sturgeon Bay | 6,233,636 | 29,720 | 6.3 | 44 | 482.7 | 61.6 |
| Douglas (1854) | Superior | 2,826,117 | 43,932 | 1.5 | 31 | 1,309.1 | 33.6 |
| Dunn (1854) | Menomonie | 2,487,866 | 42,752 | 7.3 | 35 | 852.0 | 50.2 |
| Eau Claire (1856) | Eau Claire | 5,856,977 | 97,760 | 5.0 | 16 | 637.6 | 153.3 |
| Florence (1881) | Florence | 463,198 | 5,258 | 3.3 | 71 | 488.0 | 10.8 |
| Fond du Lac (1836) | Fond du Lac | 5,895,138 | 100,716 | 3.5 | 15 | 722.9 | 139.3 |
| Forest (1885) | Crandon | 967,474 | 10,276 | 2.5 | 68 | 1,014.1 | 10.1 |
| Grant (1836) | Lancaster | 2,307,849 | 50,529 | 1.9 | 28 | 1,147.9 | 44.0 |
| Green (1836) | Monroe | 2,220,664 | 36,054 | 7.2 | 40 | 584.0 | 61.7 |
| Green Lake (1858) | Green Lake | 1,948,363 | 19,353 | 1.3 | 55 | 354.3 | 54.6 |
| Iowa (1829) | Dodgeville | 1,597,405 | 23,964 | 5.2 | 48 | 762.7 | 31.4 |
| Iron (1893) | Hurley | 780,159 | 6,983 | 1.8 | 70 | 757.2 | 9.2 |
| Jackson (1853) | Black River Falls | 1,063,900 | 19,969 | 4.5 | 54 | 987.3 | 20.2 |
| Jefferson (1836) | Jefferson | 5,581,654 | 80,092 | 5.7 | 20 | 557.0 | 143.8 |
| Juneau (1856) | Mauston | 1,620,881 | 26,903 | 10.6 | 46 | 767.6 | 35.0 |
| Kenosha (1850) | Kenosha | 12,373,410 | 159,638 | 6.7 | 7 | 272.8 | 585.2 |
| Kewaunee (1852) | Kewaunee | 1,267,477 | 21,157 | 4.8 | 50 | 342.6 | 61.8 |
| La Crosse (1851) | La Crosse | 6,557,675 | 110,743 | 3.4 | 13 | 452.7 | 244.6 |
| Lafayette (1846) | Darlington | 775,592 | 16,311 | 1.1 | 62 | 633.6 | 25.7 |
| Langlade (1879) | Antigo | 1,477,775 | 21,471 | 3.5 | 52 | 872.7 | 24.6 |
| Lincoln (1874) | Merrill | 2,072,694 | 30,565 | 3.1 | 42 | 883.3 | 34.6 |
| Manitowoc (1836) | Manitowoc | 4,600,012 | 84,640 | 2.1 | 19 | 591.5 | 143.1 |
| Marathon (1850) | Wausau | 8,147,381 | 132,697 | 5.5 | 10 | 1,545.0 | 85.9 |
| Marinette (1879) | Marinette | 3,193,621 | 44,543 | 2.7 | 33 | 1,401.8 | 31.8 |
| Marquette (1836) | Montello | 1,319,725 | 15,252 | 4.8 | 63 | 455.5 | 33.5 |
| Menominee (1961) | Keshena | 253,351 | 4,633 | 1.6 | 72 | 358.0 | 12.9 |
| Milwaukee (1834) | Milwaukee | 56,680,686 | 936,892 | –0.3 | 1 | 241.6 | 3,877.9 |
| Monroe (1854) | Sparta | 2,056,241 | 43,555 | 6.5 | 34 | 900.8 | 48.4 |
| Oconto (1851) | Oconto | 3,077,201 | 38,690 | 8.5 | 38 | 998.0 | 38.8 |
| Oneida (1885) | Rhinelander | 5,983,754 | 38,313 | 4.2 | 39 | 1,124.5 | 34.1 |
| Outagamie (1851) | Appleton | 11,381,993 | 172,618 | 7.2 | 6 | 640.3 | 269.6 |
| Ozaukee (1853) | Port Washington | 9,880,219 | 86,389 | 4.9 | 18 | 232.0 | 372.4 |
| Pepin (1858) | Durand | 475,259 | 7,634 | 5.8 | 69 | 232.3 | 32.9 |
| Pierce (1853) | Ellsworth | 2,820,061 | 39,805 | 8.2 | 37 | 576.5 | 69.0 |
| Polk (1853) | Balsam Lake | 4,274,027 | 45,139 | 9.2 | 30 | 917.3 | 49.2 |
| Portage (1836) | Stevens Point | 4,230,105 | 69,591 | 3.6 | 23 | 806.3 | 86.3 |
| Price (1879) | Phillips | 1,294,033 | 16,066 | 1.5 | 64 | 1,252.6 | 12.8 |
| Racine (1836) | Racine | 13,298,078 | 194,580 | 3.0 | 5 | 333.1 | 584.1 |
| Richland (1842) | Richland Center | 917,219 | 18,125 | 1.1 | 56 | 586.2 | 30.9 |
| Rock (1836) | Janesville | 8,832,256 | 158,525 | 4.1 | 9 | 720.5 | 220.0 |
| Rusk (1901) | Ladysmith | 989,947 | 15,572 | 1.5 | 65 | 913.1 | 17.1 |
| St. Croix (1840) | Hudson | 7,482,000 | 78,028 | 23.5 | 21 | 721.8 | 108.1 |
| Sauk (1840) | Baraboo | 5,630,432 | 60,054 | 8.7 | 25 | 837.6 | 71.7 |
| Sawyer (1883) | Hayward | 3,186,931 | 17,411 | 7.5 | 58 | 1,256.4 | 13.9 |
| Shawano (1853) | Shawano | 2,503,111 | 42,304 | 4.0 | 36 | 892.5 | 47.4 |
| Sheboygan (1836) | Sheboygan | 7,759,894 | 116,348 | 3.3 | 12 | 513.6 | 226.5 |
| Taylor (1875) | Medford | 1,114,957 | 19,917 | 1.2 | 53 | 974.9 | 20.4 |
| Trempealeau (1854) | Whitehall | 1,363,763 | 28,126 | 4.1 | 45 | 734.1 | 38.3 |
| Vernon (1851) | Viroqua | 1,356,023 | 29,400 | 4.8 | 43 | 794.9 | 37.0 |
| Vilas (1893) | Eagle River | 6,224,518 | 22,412 | 6.6 | 49 | 873.7 | 25.7 |
| Walworth (1836) | Elkhorn | 11,565,233 | 99,761 | 8.4 | 14 | 555.3 | 179.7 |
| Washburn (1883) | Shell Lake | 2,234,111 | 17,236 | 7.5 | 60 | 809.7 | 21.3 |
| Washington (1836) | West Bend | 11,769,181 | 127,871 | 8.8 | 11 | 430.8 | 296.8 |
| Waukesha (1846) | Waukesha | 45,451,031 | 379,577 | 5.2 | 3 | 555.6 | 683.2 |
| Waupaca (1851) | Waupaca | 3,378,115 | 53,575 | 3.4 | 27 | 751.1 | 71.3 |
| Waushara (1851) | Wautoma | 2,151,704 | 25,083 | 8.7 | 47 | 626.0 | 40.1 |
| Winnebago (1840) | Oshkosh | 10,452,704 | 163,867 | 4.5 | 8 | 438.6 | 373.6 |
| Wood (1856) | Wisconsin Rapids | 4,092,074 | 76,937 | 1.8 | 22 | 792.8 | 97.0 |
| State Total | | $427,933,562 | 5,617,744 | 4.7% | | 54,310.1 | 103.4 |

[1]Counties are created by legislative act. Depending on the date, Wisconsin counties were created by the Michigan Territorial Legislature (1818-1836), the Wisconsin Territorial Legislature (1836-1848), or the Wisconsin State Legislature (after 1848).
[2]Reflects actual market value of all taxable general property, including personal property and real estate, as determined by the Wisconsin Department of Revenue. [3]Change from 2000 U.S. Census. [4]U.S. Census Bureau, *Annual Estimates of the Population for Counties of Wisconsin*, March 2006. [5]Determined by 2000 Census. [6]2006 density calculated by Wisconsin Legislative Reference Bureau. [7]Town of Siren is used as a mailing address for county offices.

Sources: Wisconsin Department of Revenue, Division of State and Local Finance, *Town, Village, and City Taxes 2005: Taxes Levied 2005 – Collected 2006*, 2006; Wisconsin Department of Administration, *Final Population Estimates for Wisconsin Counties*, October 2006.

Source: State of Wisconsin Blue Book 2007 - 2008



Section TOC

***Every effort has been made to use the best available data for this update. However, some demographic information may be dated due to the last census taken in 2000. The 2011 Update will provide more up-to-date demographics and data if available.*

**Sources:**

www.doa.state.wi.us/dir/documents/2004 Wisconsin Great Lakes Chronicle.pdf

Wisconsin State Blue Book, 2007-2008 www.wisgov.state.wi.us

http://www.netstate.com/

http://encyclopedia.thefreedictionary.com/Wisconsin

The World Almanac of the U.S.A. by Allan Carpenter and Carl Provorse, Copyright 1998

Benjamin D. Rhodes and Gary C. Meyer, "Wisconsin," World Book Online Americas Edition

http://www.uwsp.edu/cnr/uwexlakes/

The United States Geological Survey

NANPA: North American Numbering Plan Administration

http://www.dor.state.wi.us/ra/0405/0405okwi.pdf

http://factfinder.census.gov/

U.S. Bureau of Indian Affairs, departmental data, May 2003.

Wisconsin Legislator Briefing Book 2003-04
http://www.legis.state.wi.us/lc/02brief/revenue.pdf

www.state.wi.us/index.asp?locid=

# SECTION 2
# PLANNING PROCESS

## TABLE OF CONTENTS

# SECTION 2
# THE PLANNING PROCESS

## 2.1 OVERVIEW OF THE PLANNING PROCESS

Wisconsin Emergency Management (WEM) developed the State Hazard Mitigation Plan over a period of several years. Subsequently, WEM has updated the plan over the last three years. The Plan is a multi-agency effort with WEM serving as the lead agency for the planning process. Mitigation staff from WEM led the development effort and conducted the bulk of the research and writing of plan drafts, worked with state and federal agencies, reviewed local plans for information to include in the State Plan, convened meetings of the Wisconsin Hazard Mitigation Team (WHMT), managed the plan review process, and facilitated adoption by the State agency heads and the Governor.

In response to the 1993 Midwest Flood, WEM formed the Interagency Disaster Recovery Group (IDRG) that was an informal group with the responsibility to coordinate recovery and mitigation efforts and included both state and federal agencies. The purpose and goal of the IDRG was to assist the local governments during the disaster recovery phase by providing technical assistance when possible, prevent duplication of efforts and funding among the participating agencies, identify and prioritize mitigation projects, and identify funding options for implementing long-term mitigation projects whether through the individual agencies or by “packaging” funding among the different programs. As a result of the success of the ad-hoc group, the IDRG continued to meet in response to subsequent major disasters in the State up until late 2003.

The successes of the IDRG made it clear the need to formalize a group and designate a permanent Wisconsin Hazard Mitigation Team which was an expansion of the IDRG with policy-making authority. To that end, The Adjutant General sent letters in March 2000 to ten state agencies requesting them to attend a meeting to discuss the formation of the Wisconsin Hazard Mitigation Team (WHMT) and development of the State Hazard Mitigation Plan and each agency’s roles and responsibilities in these efforts. The original agencies invited to participate on the WHMT were those that were identified with responsibilities in the areas of natural resources, environmental regulation, planning and zoning, building codes, infrastructure regulation and construction, insurance, public information/education, economic development, and historic preservation.

An overview of Wisconsin’s disaster history and hazard mitigation programs was provided along with an introduction to hazard mitigation planning at a meeting held on April 12, 2000. At the meeting agencies were requested to designate a representative from their agency as a member of the WHMT. The team member would act as a liaison between the Team and their respective agency and have access to technical expertise within the agency and be able to facilitate decision making and policy interpretation related to the agency in the areas of planning, regulations, programs, policies, and

functions. Agency representatives were designated and the first official meeting of the WHMT was held on May 17, 2000. Several agencies that had multiple facets that needed to be included in the plan had more than one representative on the Team. Many of the members of the IDRG were also members of the WHMT. Agencies represented on the Team included:

| |
|---|
| Department of Administration<br>Office of Land Information Services |
| Department of Health and Family Services |
| Wisconsin State Historical Society |
| Department of Transportation<br>Division of Transportation Infrastructure Development<br>Bureau of Highway Operations |
| Department of Commerce<br>Division of Safety and Buildings<br>Bureau of Field Operations |
| Wisconsin Emergency Management |
| Department of Administration<br>Division of Housing and Inter-Governmental Relations<br>Bureau of Program Development and Management |
| University of Wisconsin-Extension<br>Local Government Center |
| Office of the Commissioner of Insurance |
| Public Service Commission<br>Division of Administrative Services |
| Department of Agriculture, Trade and Consumer Protection<br>Division of Agricultural Resource Management |
| Department of Natural Resources |

The WHMT team met frequently during the development of the State Hazard Mitigation Plan. Meeting agendas, attendance sheets, meeting summaries and handout materials are all on file at WEM. A summary was prepared after each meeting and distributed to Team members with any items that needed follow-up or action noted. A brief summary of the WHMT meetings follows:

**May 17, 2000:** Team responsibilities were discussed. Plan elements were presented along with a schedule for completing the planning activities. The development of the State Capability Assessment (SCA) was discussed and forms distributed to be completed by the individual agencies and returned by June 30th.

**July 10, 2000:** Status of the SCA was discussed. Draft purpose statement, goals and objectives were presented to the Team. Development of Team and agency specific mitigation recommendations or action items was discussed. Discussed draft State Hazard Analysis that was distributed in June.

**August 15, 2000:** Reviewed the SCA summary. Reviewed the second draft of the purpose statement and mitigation goals. Reviewed the first draft of the mitigation objectives and action items. Discussed and identified the link between agency capabilities, state vulnerabilities and mitigation objectives. Requested additional information on specific objectives and action items.

**September 11, 2000:** Reviewed the draft narrative for the State Capability Assessment, and revised the Plan's goals/objectives. The Team further discussed agency action items and how they relate to the goals of the Plan.

**October 4, 2000:** Discussed agency action items and determined final selection of those actions to be included in the Plan. The members were requested to provide background information for the action items pertaining to their agency.

**December 7, 2000:** Discussed changes to the draft plan that was distributed in November to the Team members. Agencies were requested to provide an implementation schedule for their agency action items. Upon submittal of the information the plan was finalized.

Over the next several months changes were made to the plan. The Plan was finalized in July 2001, and was submitted to the State agency heads in August for agency concurrence. The head of each agency represented on the WHMT signed a State Agency Concurrence acknowledging that they had reviewed and concurred with the State Hazard Mitigation Plan. By signing the concurrence they agreed to continue to support and participate in the plan updates, and implement the actions identified in the plan. The Plan was placed on WEM's website along with the State Hazard Analysis. The State of Wisconsin Hazard Mitigation Plan was formally submitted to FEMA Region V on October 26, 2001. A letter dated January 21, 2002, from FEMA advised that the plan met Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act and the requirements of 44 CFR Part 206.405. The letter also included recommendations for the next update of the plan.

On February 26, 2002, 44 CFR Part 201 established criteria for state and local hazard mitigation planning as authorized by Section 322 of the Stafford Act, as amended by Section 104 of the Disaster Mitigation Act of 2000. Beginning November 1, 2004, states are required to have an approved Standard State mitigation plan in order to be eligible to receive FEMA mitigation funds through the Hazard Mitigation Grant (HMGP) and the Pre-Disaster Mitigation (PDM) Programs as well as other disaster assistance. The regulations also included criteria for an Enhanced State mitigation plan. With the approval of an Enhanced Plan, the amount of assistance provided through the HMGP would increase from 7.5% (now 15%) to 20%. Failing to meet this requirement will have a significant financial impact on both the state and local governments following a disaster.

The regulations and planning requirements were discussed extensively at the next regularly scheduled WHMT quarterly meeting held on May 10, 2002. It was obvious

that changes would be required to the State Plan in order to meet the new requirements, and that WEM would need the assistance of the Team members in meeting the requirements.

In July 2002 WEM requested FEMA Region V to review the State Hazard Mitigation Plan for compliance with the new planning requirements. FEMA provided specific comments in a letter dated November 4, 2002. Based on those comments, mitigation staff developed a strategy and timeline for completing the major components of the plan. The review comments were discussed with the WHMT at a quarterly meeting held on March 5, 2003. Each Team member was requested to update the State Capability Assessment as it pertained to their agency. They were asked to work with other divisions, sections and bureaus within their departments to identify all capabilities that may exist. A new requirement was an evaluation of the agency capabilities, the weaknesses and strengths of their programs and policies with respect to mitigation as well as funding discussions.

In April 2003, WEM forwarded a letter to FEMA Region V requesting HMTAP (Hazard Mitigation Technical Assistance Program) assistance in completing the State Risk Assessment in meeting the planning criteria 44 CFR 201.4(c)(2). The request was approved in August 2003 and FEMA hired a contractor to update the State Hazard Analysis and complete a State Risk Assessment. WEM, FEMA and the contractor met in January 2004 to finalize the work plan for the contract. Based on the meeting and the work plan, the Risk Assessment was to be completed by April 30th with final report May 28, 2004. The final State Risk Assessment was not completed and finalized until December 8, 2004. The State Risk Assessment, Section 4, was a result of the HMTAP assistance provided by FEMA.

The 2004 Wisconsin All-Hazard Mitigation Plan was submitted to FEMA for review and comment on October 19, 2004. After completion of the Risk Assessment by a contractor, FEMA completed their review and on December 9, 2004, WEM received a letter advising that the state plan met the required criteria for a Standard State mitigation plan. The Plan would be approved upon formal adoption by the State. The head of each state agency represented on the WHMT signed a State Agency Concurrence acknowledging that they had reviewed and concurred with the State of Wisconsin Hazard Mitigation Plan. By signing the concurrence they agreed to continue to support and participate in the plan updates, and implement the actions identified in the plan. The concurrence signed by each agency represented on the Team including the WEM Administrator represents formal adoption of the plan. The State of Wisconsin Hazard Mitigation Plan is published on WEM's website.

On February 16, 2006, the WHMT met and discussed the strategy for the three year update. WEM reported that the Enhanced Hazard Mitigation Plan for Wisconsin was approved December 14, 2005. This will increase the HMGP to 20% from 7.5% (now 15%) in future declarations.

For the 2008 plan update, numerous meetings were held with the WHMT and documentation of the planning process includes meeting agendas, meeting summaries, handout packets, follow-up letters and e-mails. Copies of the documentation are on file at WEM and can be provided upon request. Meetings with individual agencies were conducted as needed to get the required input. The WHMT discussed and reviewed each of the Plan's sections for the update. For instance, the Team provided input for the hazard risk profiles and assessment, mitigation goals, and mitigation strategies. In addition, the State of Wisconsin Hazard Mitigation Plan is published on WEM's website with the opportunity for public comment provided. A brief summary of the WHMT meetings follows:

**April 3, 2007:** The update of the State Hazard Mitigation Plan was discussed. A handout on pending major work tasks and items was distributed along with assignments. This included the update of the State Capability Assessment and Mitigation Action Items.

**February 21, 2008:** Discussed the draft guidance for state management capability for "enhanced plans." The update of the Risk Assessment (Section 4), Mitigation Strategy (Section 5) and Enhanced Plan (Section 8) were discussed. A project of statewide HAZUS flood risk assessment was discussed as well as the State structure inventory. The goals of the plan were discussed and two changes were agreed to. A handout identifying team responsibilities, assignments and timeline was distributed. Agency progress reports were also discussed.

**September 12, 2008:** The status of the plan was discussed. The Risk Assessment (Section 4) is almost complete. Input from team members was discussed for updating the Mitigation Action items including additional new items. The updated State Capability Assessment was discussed and requested verification of changes.

**October 17, 2008:** The entire meeting was devoted to the recovery effort for federal declaration FEMA-1768-DR-WI. Although the State Plan was on the agenda, due to the length of discussion regarding recovery efforts, the Plan was not discussed. Follow-up regarding the plan was done via many e-mails.

The State of Wisconsin Hazard Mitigation Plan 2008 update was developed by Wisconsin Emergency Management with the assistance and use of information provided by other state and federal agencies. As hazard mitigation planning continuously involves multiple government agencies and other organizations, it is assumed the role of other entities will increase in the future. The Plan will be adjusted accordingly during the three-year update cycle.

## 2.2 WISCONSIN HAZARD MITIGATION TEAM

In December 2003, the Interagency Disaster Recovery Group and the State Hazard Mitigation Team, which up to this point were functioning as two separate groups yet some members were on both teams, was merged to form the Wisconsin Hazard

Mitigation Team (WHMT). Two additional members from State agencies were added to the team; the Department of Administration, Intergovernmental Relations, Comprehensive Planning Program; and Department of Commerce, Division of Safety and Buildings. Also several new people were added to the team to replace members who had left their agencies. In addition, the Chairman of the Wisconsin Association of Floodplain, Stormwater, and Coastal Managers (WAFSCM) joined the Team. This member also works for the Milwaukee Metropolitan Sewage District (MMSD), the largest district in the state. The MMSD has been implementing flood mitigation measures throughout the Milwaukee urban area. Earlier in the year the Executive Director from the Mississippi River Regional Planning Commission representing the Council of Regional Planning Organizations joined the Team. In January of 2005, three additional members were added to team that included a representative from the Great Lakes Tribal Council, Wisconsin Emergency Management Association, and the National Weather Service. Later that year, individuals representing the Department of Administration, Division of State Facilities and the Volunteer Organizations Active in Disasters joined the Team. This brings the total of the Team to 37 members representing 11 state agencies and 5 federal agencies along with the WAFSCM, Council of Regional Planning Organizations, WEMA and VOAD. Team members provide a variety of expertise and perspective to the planning process, including emergency management, natural hazards, land-use planning, agriculture, building codes, transportation, and infrastructure (see Appendix F for a full list.) Agencies and their area of expertise are listed below:

**Wisconsin Hazard Mitigation Team**

| EXPERTISE | ORGANIZATION |
|---|---|
| State Comprehensive Planning | Department of Administration/ Intergovernmental Relations/Comprehensive Planning Program |
| Coastal Management | Department of Administration, Intergovernmental Relations/Coastal Management Program<br>Wisconsin Association for Floodplain, Stormwater, and Coastal Managers |
| State Owned Buildings | Department of Administration, Division of State Facilities |
| Public Health | Department of Public Health |
| Historic Preservation | Wisconsin State Historical Society |
| Transportation Infrastructure | Department of Transportation, Division of Transportation Infrastructure Development, Bureau of Highway Operations |
| Building Codes | Department of Commerce, Division of Safety and Buildings, Bureau of Field Operations |
| Hazard Mitigation | Wisconsin Emergency Management<br>Federal Emergency Management Agency<br>Wisconsin Emergency Management Association |
| Disaster Response | Wisconsin Emergency Management<br>Federal Emergency Management Agency |

| | |
|---|---|
| | Wisconsin Emergency Management Association<br>Volunteer Organizations Active in Disasters |
| Community Development Block Grants/Housing and Public Facilities | Department of Commerce, Division of Community Development |
| Education/Planning/Local Government Resources | University of Wisconsin Extension<br>Council of Regional Planning Organizations |
| Insurance | Office of the Commissioner of Insurance |
| Lifelines | Public Service Commission, Division of Administrative Services |
| Agriculture | Department of Agriculture, Trade and Consumer Protection, Division of Agricultural Resource Management, Bureau of Land & Water Resources, Conservation Management Section<br>US Department of Agriculture, Natural Resources Conservation Service |
| Floodplain Management, Stormwater, Dam Safety | Department of Natural Resources<br>Wisconsin Association for Floodplain, Stormwater and Coastal Managers |
| Forestry | Department of Natural Resources |
| Housing | Department of Commerce, Division of Community Development<br>US Department of Housing and Urban Development<br>Us Department of Agriculture, Rural Development |
| Conservation | US Department of Agriculture, Natural Resources Conservation Service<br>Department of Natural Resources |
| Business Recovery | Department of Commerce, Division of Community Development<br>Economic Development Administration<br>Council of Regional Planning Organizations |
| Wisconsin Tribal Organizations | Great Lakes Inter-Tribal Council |
| Climate and weather information, Storm data information center. | National Weather Service |
| Volunteer organizations-Red Cross, Salvation Army, etc. | Volunteer Organizations Active in Disasters |

The purpose of the WHMT is to:

- Assist with the revision and update of the Wisconsin State Hazard Mitigation Plan
    - Review previous hazard mitigation planning, and identify progress made on actions recommended in the 2001 and 2005 Plans
    - Develop updated goals, objectives and strategies for the update of the Plan

  - Assist with development of plan maintenance process

- Provide ongoing monitoring of state hazard mitigation efforts after adoption and FEMA approval of the State Plan.

- Assist in the review of the State Plan, and in revising the plan every three years.

## 2.3 THE WISCONSIN RECOVERY TASK FORCE (WRTF)

Beginning June 5 and continuing until July 25, 2008 severe weather in the form of heavy rain, hail, and damaging winds affected 31 southern Wisconsin counties resulting in the State's largest disaster to date. It was obvious early in the event that additional outside resources would be required to assist the State and its communities in the recovery. Upon direction of Governor Doyle, WEM created the Wisconsin Recovery Task Force (WRTF) to assist individuals, businesses, and communities to recover quickly, safely, and with more resistance to future disasters. Six subcommittees were formed with a focus on mitigation, agriculture, business, housing, human needs, and infrastructure. The Task Force is comprised of many state and federal agencies. The primary goal of the WRTF is to identify the unmet needs of the communities and citizens of Wisconsin. The Task Force met bi-weekly. One of the outcomes from the report submitted to the Governor was that the Task Force be a standing task force and meet semi-annually to ensure preparedness and facilitate effective operational readiness following a disaster.

The Wisconsin Hazard Mitigation Team (WHMT) played an integral part in identifying the key players that comprise the Wisconsin Recovery Task Force. Many of the WHMT members are actively participating and leading WRTF subgroups. Without the Wisconsin Hazard Mitigation Team, it is very likely that the Wisconsin Recovery Task Force would not have been created and activated as quickly as it was.

The State Hazard Mitigation Officer was assigned as Chair of the Mitigation Committee. The Committee consisted of 11 State agencies (all which are members of the WHMT); 7 federal agencies (5 of which are members of the WHMT); and 5 other organizations (4 of which are members of the WHMT.) The mission of the committee is to "Assist communities during the recovery process to make their communities more disaster resistant." The goals of the committee are based on the goals of the State of Wisconsin Hazard Mitigation Plan and were identified as:

1. Minimize human, economic, and environmental disruption from natural hazards.

2. Improve the disaster resistance of buildings, structures, and infrastructure, whether new construction, expansion or renovation.

3. Support and assist the intergovernmental coordination and cooperation among the federal, state, and local agencies regarding hazard mitigation activities.

The Committee identified challenges, issues and roadblocks that the State and communities are facing during the recovery process. They included:

1. Communities lack capability (resources and staff) to develop and implement long-term mitigation solutions to reduce future flooding.

2. Sanctioned and non-participating communities are not eligible for FEMA mitigation funding.

3. Lack of funding to complete identified mitigation and recovery needs particularly funds for local match required for various grants.

4. Lack of resources to develop good, well-thought out project applications to obtain federal and state funding to implement viable and necessary mitigation and recovery projects.

5. Potential contamination of project sites will delay the actual implementation and funding of projects.

Mitigation addresses long-term recovery. At the time of this update, communities were in the early stages of identifying long-term permanent solutions to problems and applying for funding to address those issues. The Committee is working together to identify the needs and match the needs with the appropriate agency and funding source/s. In addition, it will work together to try and package funding where possible.

## 2.4 COORDINATION AMONG AGENCIES

As the lead agency in the development of the State of Wisconsin Hazard Mitigation Plan, WEM works with other state, federal and local agencies to develop and implement the strategies outlined in this document and obtain interagency feedback on the success or failures of those strategies and use that information in updating the Plan. The State of Wisconsin Hazard Mitigation Plan was developed with the support and assistance of WHMT as described previously in this section.

In addition to working with the agencies on the WHMT, for the past several years WEM staff provided information on hazard mitigation programs and the planning process to groups and individuals through a variety of means. This included making presentations to certain groups such as the Wisconsin Emergency Management Association, Wisconsin Manufactured Housing Association, Wisconsin Land Information Association, American Planners Association, Wisconsin Utilities Association, Council of Regional Planning Organizations, UW Student Planning Association, Great Lakes Inter-Tribal Council, State Bar of Wisconsin, Wisconsin Claims Council, Wisconsin Association for

Floodplain, Stormwater, and Coastal Managers, and the Association of State Floodplain Managers. In addition, information was provided to communities receiving Community Development Block Grants and how they can incorporate mitigation into rehabilitation of housing stock. Presentations on hazard mitigation planning and its link to comprehensive planning and smart growth were made to the State Agency Resource Working Group of the Wisconsin Land Council, at a workshop for local officials on Complying with Comprehensive Planning and State Agency Resources, and to a Department of Administration and several members of the Wisconsin Land Council.

Hazard mitigation and mitigation planning are included in WEM's training curriculum and are addressed in the New Directors Series, Introduction to Emergency Management, Disaster Response and Recovery, Local Damage Assessment, Municipal Planning, in addition to the Hazard Mitigation Planning Workshop. The one-day planning workshops have been held December 3, 2002; December 10, 2002; December 12, 2002; September 30, 2003; July 27, 2004; April 20, 2005; April 26, 2006; April 25, 2007, and April 30, 2008. In addition, a planning workshop was held for the Great Lakes Tribal Council which consists of the Wisconsin tribes on November 18, 2004. Workshop attendees receive a binder with all information presented and referenced at the workshop along with a CD. In addition, they are provided a set of the FEMA "How-to-Guides." WEM hosted a four-day HAZUS class in 2006 and Benefit-Cost Analysis Training in 2007 conducted by FEMA contractors. Also in 2007, WEM hazard mitigation staff presented a 1.5 hour topical seminar at the 2007 Governor's Conference on Homeland Security and Emergency Management on how to prepare a successful mitigation application. This was followed up with a half-day training on mitigation planning and project development at the 2008 Governor's Conference. Again a binder and CD with all referenced material were provided to attendees. Workshop materials are also available on WEM's website.

In the fall of 2004, the University of Green Bay started a certificate program in Emergency Management Planning and Administration. Mitigation planning is included in the curriculum. This is the only emergency management certification program in the State that awards university upper division undergraduate and graduate credit.

Other avenues of providing information to other agencies, organizations and the public were through articles printed in the WEM Digest, the Department of Natural Resources' newsletter Floodplain and Shoreland Management Notes, and "Water Matters", the newsletter of the Wisconsin Association of Floodplain, Stormwater and Coastal Managers. An extensive article on Mitigation Planning for Natural Hazards was published in the spring 2008 Center of Land Use Education's newsletter, "The Land Use Tracker." To provide public exposure to the State Hazard Mitigation Plan, the Plan is available on WEM's website along with other information regarding the State's mitigation program.

Success Stories and Best Practices have been developed and published on several communities that have implemented mitigation measures and have had subsequent

events giving them a chance to test those measures. The stories are published on both FEMA's and WEM's websites as well as distributed as part of WEM's mitigation display.

The mitigation staff developed a Household Natural Hazards Preparedness Questionnaire (Appendix I.) The questionnaire was developed from a survey developed by the Oregon Natural Hazards Workgroup at the University of Oregon's Community Service Center. The questionnaire also includes the State Plan's mitigation goals and asks the individual completing the questionnaire to provide their opinion of the goals as to their importance. The questionnaire has general questions designed to help gauge household preparedness and the individual's knowledge of mitigation tools that may be available. The questionnaire can be found on WEM's website. In addition, the survey is distributed at various WEM training sessions, speaking engagements that mitigation staff attends, as well as at the Annual Governor's Conference on Emergency Management. The mitigation staff also developed a mitigation display that is utilized at training functions and conferences. The questionnaire is also distributed at the display. Results of the survey regarding the State goals are as follows:

| GOAL | PERCENTAGE OF "VERY IMPORTANT" AND "SOMEWHAT IMPORTANT" | |
|---|---|---|
| | **2005** | **2008** |
| Minimize human, economic, and environmental disruption from natural hazards by encouraging agencies and citizens to use programs that strengthen disaster resistance. | 100% | 95% |
| Expand public awareness of natural hazards and conduct public education | 97% | 94% |
| Encourage hazard mitigation planning by funding the development of local plans. | 89% | 80% |
| Support intergovernmental cooperation among federal, state, and local authorities by working closely with them on hazard mitigation activities. | 97% | 89% |
| Improve disaster resistance by promoting mitigation techniques for buildings and structures. | 95% | 88% |

Since qualitative questions were not asked in the online survey, the decrease in favorable goal responses regarding is not known. In the next plan update, the survey will be modified to include a qualitative section to elaborate on any quantitative questions.

Another question asked that they provide their opinion of strategies to reduce risk and losses associated with natural disasters. The results are as follows:

| STRATEGY | PERCENTAGE "AGREEMENT" | |
|---|---|---|
| | **2005** | **2008** |
| Regulatory approach | 61% | 57% |
| Non-regulatory approach | 67% | 69% |
| Mixture of regulatory and non-regulatory | 72% | 72% |
| Prohibit development in areas subject to natural hazards | 84% | 79% |

| | | |
|---|---|---|
| Use tax dollars to reduce risk and losses from natural hazards | 62% | 64% |
| Protect historical and cultural structures | 61% | 64% |
| Willing to make home more resistant | 85% | 90% |
| Safeguard local economy after a disaster | 90% | 84% |
| Support improving disaster preparedness of local schools | 95% | 94% |
| Support local inventory of at-risk buildings and infrastructure | 82% | 85% |

It is interesting to note the increase in the percentage of "agreement" responses with regard to making homes more disaster resistant. The recent flooding in Wisconsin during 2007 and 2008 may contribute to the increase of support for mitigation; however, this is purely speculative.

On March 16, 2001, a planning meeting was held at WEM's office by a group of concerned professionals who felt it was time for the State to have a local organization that deals with issues involving floodplains, stormwater and coastal management. The meeting was called and conducted by Dave Fowler, of the Milwaukee Metropolitan Sewage District. Many more meetings followed this initial planning meeting with persons from both the public and private sector attending and providing support. Goals and objectives as well as by-laws were developed and the Wisconsin Association of Floodplain, Stormwater and Coastal Managers was born on January 2002. The Association's mission is dedicated to promoting sound floodplain, stormwater, and coastal management in the interest of the citizens of Wisconsin. The organizational group elected officers to guide the Association for the first year until elections could be held at the first annual conference that was held in November 2002. The first newsletter, "Water Matters," was published and distributed in March 2002. Included was a survey to find out what members would want from the Association. The newsletter includes articles on issues relating to floodplains, stormwater and coastal as well as articles relating to hazard mitigation. WEM provides support to WAFSCM in developing the newsletter from 2002 through 2007, with DNR producing and mailing it. The Association also holds an annual conference with registration including membership to the Association. WEM participates in the conference and provides annual updates on the State's mitigation programs including planning activities. In January 2004 the Association became a chapter of the Association of State Floodplain Managers, a national organization that promotes the common interest in flood damage abatement, enhance cooperation among agencies, and encourages and ensures new and innovative approaches to the nations floodplains. The Association was a sponsor for the ASFPM annual conference held in Madison, WI in June 2005. Staff from WEM and DNR also assisted with the Conference.

WEM participates on the Coastal Hazards Work Group. This group was formed to provide technical assistance and coordinate state resources addressing coastal hazards. The Work Group meets bimonthly or as needed. The group also meets with representatives of the three coastal regional planning commissions and representatives of local governments as needed. A multi-year strategy is being implemented to assist in

developing the coastal hazards policy. The overarching goal of the strategy is to develop and implement shoreline and bluff erosion policies. Elements of the coastal hazards strategy include:

- Expansion of technical tools and technology transfer
- Education and outreach
- Coordination with municipalities and agencies

The agencies represented on the group include University of Wisconsin – Sea Grant Institute, State Department of Natural Resources, Wisconsin Coastal Management Program as well as WEM. The representative from the Wisconsin Coastal Management Program is also on the Wisconsin Hazard Mitigation Team.

The State Agency Resource Working Group (SARWG) is a statutory funded group of the Wisconsin Land Council and is administered through the Department of Administration, Division of Intergovernmental Relations. The Division is responsible for administering the Comprehensive Planning Grant Program for the State. Representatives are from various state agencies and analyze and address land use issues and related policy issues including: 1) gathering information about land use plans of state agencies; 2) establishing procedures for distribution of information gathered to other state agencies, local governments and private parties; and 3) creating a system to facilitate and to provide training and technical assistance for the development of local intergovernmental land use planning. As a mitigation action, WEM now participates on the group to promote mitigation planning as part of the comprehensive planning process. WEM had made formal presentations to the group on mitigation planning as well as to a SARWG sponsored workshop for local officials and planners. The DOA representative on the SARWG also participates on the WHMT.

In March 2003, Governor Doyle created the Homeland Security Council to help coordinate the state's terrorism preparedness efforts. The Governor has named Major General Donald Dunbar, Adjutant General of the Wisconsin National Guard, as the Governor's Homeland Security Advisor. Other agencies on the Council are Wisconsin Emergency Management, the Division of Criminal Investigation of the Wisconsin Department of Justice, the Division of Public Health in the Wisconsin Department of Health and Family Services, the Wisconsin State Capitol Police, the Office of Justice Assistance, and the Wisconsin State Patrol.

Specifically, the Council is charged with the following responsibilities:

- Coordinate the efforts of state and local agencies that have responsibility over homeland security efforts.
- Coordinate state efforts with the U.S. Department of Homeland Security, FEMA, FBI and other local and federal agencies.
- Coordinate law enforcement and intelligence gathering efforts of local and state agencies.

- Advise local governments as the Council becomes aware of heightened threat assessments, and assist the public in understanding what these often complex security designations mean.
- Serve as a resource to assist local governments in developing plans to identify and protect critical assets in their communities.
- Make recommendations to the Governor and to local governments on what additional steps are necessary to further enhance Wisconsin's homeland security.

The Council meets regularly and in response to elevated threat levels.

The Interagency Working Group is chaired by Wisconsin Emergency Management and comprised of representatives of the Departments of Administration, Agriculture, Health and Family Services, Justice, Natural Resources, and Transportation, as well as the Office of Justice Assistance, National Guard and University of Wisconsin Police. The Group was formed in the late 90's with its original focus on terrorism preparedness. Since that time, its mission has evolved to cover all hazards and all phases of emergency management. The Group meets monthly or more often if dictated by current events and acts as a support group to the Governor's Homeland Security Council.

The Group has been instrumental in institutionalizing the use of the Incident Command System (ICS) by state agencies in disaster response and recovery efforts. It developed a strategy to deliver ICS training to appropriate personnel in each agency that would be involved in disaster operations. It also developed a State Agency Liaison Team that would be deployed in disasters to better support the efforts of local response agencies. This year it will be heavily involved in the conversion of the State Emergency Operations Plan to Emergency Support Functions, allowing us to be in conformance with the National Response Plan.

Mitigation staff works very closely with the Public Assistance staff during federal declared disasters to ensure that hazard mitigation measures are implemented to the fullest extent possible through the Section 406 program. Through the Public Assistance Program, cost-effective hazard mitigation measures can be included on damaged facilities and funded as part of a community's grant. Mitigation opportunities that are identified through the Preliminary Damage Assessment process or other means are documented and provided to Public Assistance staff at the Joint Field Office. Mitigation staff attends and participates in the Public Assistance Applicants briefings where the mitigation staff discusses the hazard mitigation program, mitigation planning requirements and 406 mitigation opportunities. 406 Mitigation is a high priority with the State in every federal disaster declaration and staff continue look for ways to promote and implement 406 Mitigation.

Wisconsin Voluntary Organizations Active in Disasters (WIVOAD) is a humanitarian association of independent voluntary organizations who may be active in all phases of disaster. Its mission is to foster efficient, streamlined service delivery to people affected by disaster, while eliminating unnecessary duplication of effort, through cooperation in

the four phases of disaster: preparation, response, recovery, and mitigation. Staff from WEM provides coordination and assistance to WIVOAD members. WIVOAD has taken a led role in long-term recovery and sponsors Long Term Recovery Committees. These committees, using WIVOAD's 501 c 3 tax exempt status, focus on fundraising, reaching out to individual/families with unmet disaster needs and providing services to them through a uniform case management process.

Through the above activities and mechanisms, WEM was able to help educate multiple stakeholders about Wisconsin's hazards, assist them in developing plans, and obtain mitigation ideas and suggestions for the state plan. In this manner, WEM received input from different levels of government, local officials, business representatives, private organizations and other interested parties including the public.

## 2.5 PROGRAM INTEGRATION

Implementation of the State of Wisconsin Hazard Mitigation Plan will be most effective if it is integrated with other planning efforts of other state planning programs and initiatives. The State has made efforts at integration by identifying opportunities where mitigation can be integrated into existing plans, reports, programs and/or initiatives.

The State of Wisconsin Hazard Mitigation Plan is a stand-alone plan; however, because of the importance that the State places on mitigation initiatives and activities, it is also included as an appendix to the Wisconsin Emergency Response Plan. This enables state agencies to reference the document when seeking information and guidance on the State's mitigation goals and actions.

The State's Long-Term Recovery strategy is outlined in ESF 14 which is a part of the State Emergency Response Plan. ESF 14 will be updated in early 2009 to include lessons learned in the recovery process for DR-1768. A key element of the ESF and long-term recovery is the Wisconsin Recovery Task Force, which is comprised of more than 20 state and federal agencies with recovery responsibilities. The WRTF will become a standing task force which will be active on a year-round basis and gear up when a disaster occurs. The WRTF is chaired by the WEM Administrator and consists of six subcommittees; agriculture, business, housing, human needs, infrastructure and mitigation. The State Hazard Mitigation Officer serves as the Chairman of the mitigation subcommittee. The subcommittees identify disaster impacts, challenges associated with those impacts and resources available to meet the challenges. Collectively, the agencies package funding for local housing, infrastructure, business repair and mitigation projects. ESF 14 will also describe the roles and responsibilities of Wisconsin VOAD and the regional Long Term Recovery Committees (LTRC) which they sponsor. The LTRCs are the primary mechanism for meeting the unmet needs of individuals.

Wisconsin Emergency Management's Strategic Plan 2004-2006, identified 7 goals. One of the goals is to develop and evaluate emergency management plans and processes to ensure that they reflect our hazards, risks, capabilities, resources, and mitigation opportunities. Along with the goal are 5 objectives. The goals and mitigation

actions in the State of Wisconsin Hazard Mitigation Plan will assist WEM in achieving the goals of the Strategic Plan.

Wisconsin's Comprehensive Planning Legislation was signed into law by the Governor in 1999 and amended in 2000-2001. The Law requires communities to develop a comprehensive plan by January 1, 2010, if it engages in zoning, shoreland/wetland zoning, subdivision regulation, or official mapping. This statutory requirement is known as "the 2010 consistency requirement." The comprehensive plan will guide those development and land use decisions. The local plan must address nine minimum planning elements and be created in a public forum (More information about the Smart Growth initiative is available at http://www.doa.state.wi.us/section_detail.asp?linkcatid=224.

Wisconsin Emergency Management (WEM) was not part of the discussion when the original legislation was developed. However, since the law was passed WEM has made efforts to find ways to integrate local comprehensive plans and local mitigation plans. These efforts include the following:

WEM mitigation staff attended the first Smart Growth presentation and public forum at the Monona Terrace Convention Center in Madison, WI in 2000, and publicly asked the question, "Why is there not a natural hazard element in the comprehensive plan requirements, given the nearly $1 billion of disaster related damages in Wisconsin since 1971?" Staff also had private conversations with program presenters and attendees about the need for hazard mapping and local hazard mitigation planning.

During 2001, WEM staff served on the advisory panel for the creation of the *Guide for Preparing an Intergovernmental Cooperation Element for a Local Comprehensive Plan*. Staff used this opportunity to suggest in which local communities might cooperate regionally to share emergency management resources, participate in watershed planning for resource preservation and flood prevention, and to cooperatively plan emergency response for hazardous materials.

WEM staff continued to attend meetings of the Wisconsin Land Information Council to learn more about the Smart Growth initiatives and to look for ways to integrate local hazard mitigation planning with local comprehensive planning.

The State Hazard Mitigation Officer made two presentations in March and December of 2001 to the Wisconsin Land Information Association regarding hazard mitigation planning and how hazards need to be addressed as part of any communities development and land use decisions, therefore, an integral part of a the comprehensive plan. A similar presentation was made to the American Planners Association Conference in Chicago in 2001.

In 2002 the State Hazard Mitigation Officer staff made a presentation on Wisconsin's disaster history and hazard mitigation programs to the Wisconsin Land Information Council during the group's brown bag lunch meeting. The presentation convinced the council's director to try to integrate hazard mitigation into the state comprehensive planning initiative. In addition, WEM mitigation staff recommended the addition of a hazard planning goal to the state comprehensive planning goals. However, no substantive hazard mitigation element has been added to comprehensive planning requirements at this time.

As a result of the above activities and additional discussions, a staff person from the Department of Administration's comprehensive planning section joined the Wisconsin Hazard Mitigation Team in 2003. In addition, the State Hazard Mitigation Officer now participates on the State Agency Resources Working Group (SARWG) as described previously in this section.

WEM staff used local comprehensive planning as one of the criteria for awarding points to PDM planning grant applicants in 2002 recognizing that there would be benefits from developing a comprehensive plan that would assist communities in developing all hazard mitigation plans. WEM reviewed the planning elements for similar or duplicate requirements of the all-hazards mitigation plan so that communities preparing a comprehensive plan and a mitigation plan could minimize the duplication of effort and better integrate the two plans. A list of the nine planning elements and some ideas on how to integrate all hazards mitigation planning concepts into them are included in the *Resource Guide to All Hazards Mitigation Planning in Wisconsin.* In addition, where to integrate the comprehensive planning elements into the all hazards mitigation plan are also described in the guidance and are discussed at the Hazard Mitigation Planning Workshops held at least once a year.

The Council of Regional Planning Organizations represents the nine Regional Planning Commissions in Wisconsin. For most communities in Wisconsin, Regional Planning Commissions serve as the only affordable local planning body available and are a source of planning expertise. The Commissions provide the mechanism by which multiple jurisdictions within a region may coordinate their plans. Most of Wisconsin's Commissions are engaged in assisting communities in developing their comprehensive plans as required by State Law. Recognizing the close relationship that the Commissions have with local governments and the resources that they can provide, and the link between comprehensive and hazard mitigation planning, a representative from the Council of Regional Planning Organizations joined the Wisconsin Hazard Mitigation Team in 2003. This member serves as a conduit between the Commissions and the Team. Having the Council participate on the Team will help the state share resources, combine planning requirements, avoid duplication, and provide additional local and regional assistance to communities that choose to plan. The Commissions have developed many of the local hazard mitigations plans either approved or presently underway as well as assisting the counties with the five-year update requirement.

As part of the State's mitigation planning efforts, local mitigation plans are being developed as planning grant funds are available. A countywide planning effort including both incorporated and unincorporated areas of the county is highly encouraged and receives priority for funding. This will ensure that as many jurisdictions as possible remain involved in the mitigation planning process. The county all hazard mitigation plan will normally be a separate stand-alone document, but it can be an annex to the County's Emergency Operations Plan as well as part of a comprehensive plan. Any jurisdiction within a county may prepare a mitigation plan specific to that jurisdiction; separate from the county all hazards mitigation plan.

Local governments and Regional Planning Commissions as well as consultants are using information contained in the State of Wisconsin Hazard Mitigation Plan to develop local all hazard mitigation plans. As the local plans are developed, the information

provided through those planning efforts will be available to WEM mitigation staff to incorporate into the State Plan. There will be continuous improvement of all the plans as they are reviewed and updated every three years for the State and five years for the local plans. For more information on the local hazard mitigation process, see Section 6.

WEM received a FFY05 Planning Grant to assist with the state structure inventory. WEM has successfully hired a staff member who has started this huge endeavor. In addition, WEM received a FFY07 PDM Planning Grant to assist in the three-year State plan update. However, most of the FFY07 Planning funds were used to do a statewide HAZUS analysis for all counties. WEM contracted with University of Wisconsin Land Information and Computer Graphics Facility (LICGF) and the Polis Center to complete a statewide flood risk assessment. The results of that risk assessment can be found in Section 4 of this plan. Each of the 72 Wisconsin counties will receive their flood risk assessment that they can incorporate into their own hazard mitigation plans.

Over the years, WEM has worked to identify partners interested in participating in the State's mitigation efforts. Integration of other federal, state, and local agencies, business and industry, and private non-profit organizations into the State mitigation program has been an ongoing process that also has helped to educate WEM's partners concerning the importance of mitigation. Another relationship that developed during the planning process was WEM working with Wisconsin's Rural (Electric) Cooperatives to develop the Rural Cooperative Hazard Mitigation Plan annex for the State of Wisconsin Hazard Mitigation Plan. When completed, the annex will examine all of the hazards and risks for the areas that rural electric cooperatives operate in. In addition, the annex identifies mitigation strategies and action items for rural cooperatives.

This educational process also has resulted in WEM's partners using mitigation in their programs and plans over time. These discussions and/or meetings have involved reviews of current programs and policies that promote or could potentially promote mitigation initiatives. Many of the mitigation successes since the 1993 floods have been as a direct result of these meetings and discussions. The lessons learned through these programs and activities have contributed to the development of the State Plan and have been integrated into their own plans, programs and procedures. The State Capability Assessment in the Section 5, Mitigation Strategy, includes a detailed description of where and how mitigation is integrated into specific agency plans, policy, programs and initiatives.

# SECTION 3
# MITIGATION IN WISCONSIN
# TABLE OF CONTENTS





Document TOC

# SECTION 3
# MITIGATION IN WISCONSIN

For years, Wisconsin Emergency Management and Wisconsin communities have focused on doing a good job in responding to disasters. However, the disaster events of the past 15 years have increased the need to address disaster prevention and hazard mitigation. This section describes the history of Wisconsin's mitigation programs and how they have matured through the 1990's and into the new millennium. The state continues to emphasize mitigation and the importance of its role in emergency management. Now is the time to place equal emphasis on being proactive and on making communities disaster resistant.

## 3.1 SECTION 404-HAZARD MITIGATION GRANT PROGRAM

The Section 404-Hazard Mitigation Grant Program (HMGP) is a critical component of the state's mitigation efforts. The program was created in November 1988 as a result of the Robert T. Stafford Disaster Relief and Emergency Assistance Act that amended PL 93-288, the Federal Disaster Relief Act of 1974. The HMGP is administered by Wisconsin Emergency Management and makes grants available to state and local governments as well as eligible private, non-profit organizations and Indian tribes to implement long-term mitigation measures following a major disaster declaration. Eligible projects must be environmentally sound, cost-effective, solve a problem and prevent future disaster damages. In order to receive HMGP funds, a community must be participating and in good standing with the National Flood Insurance Program (NFIP).

Under the terms of the original program a proposed project had to be in the designated disaster area or have a direct positive impact on the area. The amount of HMGP funds were allocated based on 10% of the federal share of the Public Assistance funds approved for the declaration. The grants were 50% federally funded and required a 50% match. In Wisconsin, the state split the local match and paid for 25% of total project costs. Based on this funding allocation, there were very limited funds available for mitigation activities. Wisconsin Emergency Management received four federal disaster declarations from 1988 until 1993 with only $915,000 ($475,500 federal share) in HMGP funds available for all four declarations. It was very difficult to identify and develop viable projects and to administer the program with these limited funds.

## 3.2 HAZARD MITIGATION AND RELOCATION ASSISTANCE ACT

A turning point for the HMGP was in 1993 during the Great Midwest Flood. Due to the magnitude of the flooding in the nine Midwest states, the President signed the Hazard Mitigation and Relocation Assistance Act that amended Section 404 of the Stafford Act on December 3, 1993. This amendment significantly increased the amount of funding available in the HMGP in two ways. First, it increased the federal share of grant funds from 50% to 75%. Second, the proportion of federal funds allotted to the HMGP was increased to 15% of the federal funds spent on the Individual and Public Assistance Programs for each disaster, whereas before it was based on 10% of the federal funds

spent in the Public Assistance Program only. The change of the funding formula raised the amount of HMGP funds available in the state for the 1993 Midwest Flood from $2 million to $14 million. Unfortunately, in 2003 the amount of federal funds allocated to each federal declaration was reduced from 15% to 7.5%. States including Wisconsin strongly supported restoring the federal share back to 15% of the Individual and Public Assistance Funds for each federal declaration. Subsequently the formula was changed back to 15%.

In addition, on August 6, 1993, Congress approved HR 2667 that provided $5.3 billion in supplemental disaster appropriations to federal agencies to assist state and local governments recover from the widespread flooding. Eleven federal agencies received supplemental funds including FEMA, the Department of Housing and Urban Development and the Economic Development Administration. These programs played an important role in the state's recovery from the devastating floods. These additional funds helped to rebuild homes, infrastructure, and businesses, as well as support implementation of community mitigation projects.

## 3.3 WISCONSIN INTERAGENCY DISASTER RECOVERY GROUP

Another important and significant outcome of the 1993 federal declaration was the formation of the Wisconsin Interagency Disaster Recovery Group (IDRG). As a result of the additional funding that was made available through HR 2667, there was a need to form a group of federal and state agencies to develop a mitigation strategy and coordinate long-term recovery efforts. This group, consisting of individuals from a core group of agencies, met on a weekly basis to act as a clearinghouse for communities proposing long-term recovery projects. The IDRG initially consisted of FEMA, WEM, the Economic Development Administration, the Department of Administration, the Department of Commerce (formerly Development), the Department of Natural Resources and the State Historical Society. The Farmers Home Administration, Natural Resources Conservation Service, and the State Departments of Workforce Development (formerly Industry, Labor and Human Relations) and Transportation would also join the group. In addition, there was an individual representing the Regional Planning Commissions. The IDRG's mission was: "To develop a cooperative federal and state disaster recovery effort that can assist communities and regional agencies in utilizing all available funding sources to recover from and mitigate the future effects associated with the damages from natural hazards."

The objectives of the IDRG to achieve the mission were to:

- Serve as a clearinghouse for tracking and status reporting of disaster recovery project applications;
- Encourage and assist funding submissions from communities for recovery and hazard mitigation projects;
- Assure full utilization of all available and applicable funding sources for recovery and mitigation projects;

- Encourage the enhancement of recovery projects with hazard mitigation measures; and
- Assist in the avoidance of funding duplication for recovery and mitigation efforts.

In addition to the IDRG, the Wisconsin Interagency Hazard Mitigation Recovery Office (WIHRO) was established by FEMA. This office was set up in WEM headquarters and was staffed with a full-time FEMA staff person who worked closely with WEM staff and supported the efforts of the core group of state and federal agencies. The WIHRO staff person monitored the status on all projects submitted to the agencies. The WIHRO staff grew to two in the following years and played a vital role in implementing mitigation projects within the state until 1996.

FEMA established the policy to fund projects that reduced future disaster losses through acquisition and relocation of properties that were most prone to flood damages. Although many other types of projects were funded through the various agencies, the IDRG also established priority funding for projects consisting of acquisition, demolition, relocation and/or floodproofing of floodprone properties.

In keeping with the objectives of the IDRG, the agencies worked together to identify and fund as many mitigation projects as possible. In many instances, several agencies provided funding on the same project to ensure that the project would be completed. The IDRG worked to "package" funding for communities so that even local match requirements would be funded. In addition to addressing funding issues, agencies on the IDRG often provided technical assistance in implementing projects. This included technical assistance in areas involving relocation assistance, floodplain management community compliance, environmental contamination, historical consultation, reviewing and expediting building review and permits and the Americans with Disabilities Act.

The success of the IDRG demonstrated the need to continue the group. Therefore, the IDRG continued to function after each disaster declaration to coordinate long-term recovery efforts until 2003 when the group was combined with the State Hazard Mitigation Team to form the Wisconsin Hazard Mitigation Team.

Another significant outcome of the 1993 declaration was the recognition of the need to hire a full-time State Hazard Mitigation Officer (SHMO) at WEM. The SHMO was hired in August 1994. A full-time Assistant SHMO was added in 1998. A Disaster Response and Recovery Planner and a Hazard Mitigation Planner were added in 2003 and 2007 bringing the total to four full-time staff.

Another positive change to the HMGP occurred in April 1997 when the regulations were changed to allow the use of HMGP funds statewide instead of limiting them to be used in the designated disaster area.

In October 2000, Wisconsin Emergency Management became a HMGP Managing State. FEMA has recognized the State as having certain capabilities in the area of performing benefit-cost analysis and environmental reviews for proposed projects.

Based on a Memorandum of Understanding signed between FEMA and WEM, the State prepares a project summary sheet for all HMGP applications submitted to FEMA. Instead of reviewing the entire application package, FEMA reviews the project summary sheet and approves the project and environmental documents. This greatly streamlined the approval process. With the passage of the Disaster Mitigation Act of 2000 (DMA2K,) 44 CFR 201 published February 26, 2002, stated, "Management State means a State to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA . . . ." Eight years after the passage of DMA2K, FEMA has not developed such criteria, therefore, on February 15, 2006, the MOU recognizing Wisconsin as a Managing State was terminated by FEMA, Region V. Although the MOU is not in effect, the State continues to perform all of the activities identified in the MOU.

## 3.4 DISASTER MITIGATION ACT OF 2000

On October 30, 2000, the Disaster Mitigation Act of 2000, was enacted and amended the Stafford Act. The purpose of the Act was to establish a national program for pre-disaster mitigation, streamline administration of disaster relief and control federal costs of disaster assistance. Section 322 of the act will have a great impact on the HMGP. This section increases HMGP funding from 15% to 20% for those states that have an approved "enhanced" State Hazard Mitigation Plan. In addition, it established a requirement for local and tribal mitigation plans and authorized 7% of the HMGP funds to be available to states to be used in developing such plans. Interim Final Rules (44 CFR Parts 201 and 206) were published on February 26, 2002, and contained the rules for hazard mitigation planning and the Hazard Mitigation Grant Program. The rules addressed state and local mitigation planning requirements. The Final Rule for 44 CFR Parts 201 and 206 were published on October 31, 2007, with several amendments. The final rule included information regarding repetitive flood claims, severe repetitive loss, and further defined federal, state and local responsibilities. Section 201.7 of the Rule included specific planning requirements for tribal mitigation plans. The major change to the rule was the requirement that all plans approved after October 1, 2008, must address participation in the NFIP and continued compliance with the NFIP requirements as well as NFIP insured properties that have been repetitively damaged by floods.

## 3.5 FLOOD MITIGATION ASSISTANCE PROGRAM

The HMGP is primarily a post-disaster assistance program. On September 23, 1994, the National Flood Insurance Reform Act (NFIRA) was signed into law. The purpose of the NFIRA is to improve the financial condition of the National Flood Insurance Program (NFIP) and reduce the federal expenditures for federal disaster assistance to flood damaged properties. One of the things that the NFIRA did was create a pre-disaster mitigation program called the Flood Mitigation Assistance (FMA) program. FMA is state-administered through WEM and is a cost-share program (75 % federal, 25% local match) through which states and communities can receive grants for flood mitigation planning, technical assistance and mitigation projects.

The overall goal of the FMA is to fund cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other NFIP-insured structures. Other goals are: Reduce the number of repetitively or substantially damaged structures and the associated claims on the NFIP; encourage long-term, comprehensive mitigation planning; respond to the needs of communities participating in the NFIP; and complement other federal and state mitigation programs with similar goals.

The program is subject to the availability of appropriation funding as well as any directive or restriction made with respect to the funds. Each state receives an allocation based on the number of flood insurance policies in force and the number of repetitive loss structures in the state. Repetitive loss structures are those structures that have had two or more flood insurance claims of at least $1,000 each in the last ten years. The minimum amount any state receives is $10,000 for mitigation planning grants and $100,000 for project grants to implement mitigation activities identified in approved mitigation plans. States may submit applications above the allocation to be considered through a national competition. In addition, up to 10% of the project funds are allowed for the state to use for management costs. Up until 2003, the state did not utilize the management cost (or previously known as technical assistance) funds and applied those funds to implement projects. The State utilized management cost funds again in 2005 and 2007, but not 2006. Subapplicants may also now request up to 5% of the grant for management costs. Although the state solicited FMA applications in 2008, no applications were received, therefore, the State did not apply for FMA funds. Below is the FMA funds (federal share) the State has received and implemented:

Table 3.5-1. Flood Mitigation Assistance Funding

| FFY | PLANNING | PROJECT | TECH ASST | TOTAL |
|---|---|---|---|---|
| 1996/1997 | $ 11,800 | $ 117,100 | | $ 128,900 |
| 1998* | $ 30,754 | $ 401,500 | | $ 432,254 |
| 1999 | $ 11,250 | $ 125,100 | | $ 136,350 |
| 2000 | $ 13,307 | $ 148,110 | | $ 161,417 |
| 2001 | $ 14,257 | $ 145,250 | | $ 159,507 |
| 2002 | $ 13,800 | $ 114,125 | | $ 127,925 |
| 2003 | $ 0 | $ 89,349 | $ 3,811 | $ 93,160 |
| 2004 | $ 0 | $ 0 | $ 0 | $ 0 |
| 2005 | $ 13,399 | $ 107,512 | $ 8,183 | $ 129,094 |
| 2006 | $ 10,364 | $ 0 | $ 0 | $ 10,364 |
| 2007 | | $ 180,441 | $ 5,360 | $ 185,801 |
| TOTAL | $118,931 | $1,428,487 | $17,354 | $1,564,772 |

Source: WEM, 2008

* Due to unspent funds of other states, Wisconsin was able to receive additional funds.

As with the HMGP, to receive FMA grant funds, the community must be participating and in good standing with the NFIP. Eligible projects and criteria are basically the same as for the HMGP. The biggest difference is that the projects must reduce the risk of flood damage to structures insured under the NFIP.

The FMA program is difficult to administer in the state due to the following: The small amount of funds received, funds can only be used to protect structures insured through the NFIP and a community must now have a FEMA approved all hazard mitigation plan that meets FMA requirements in order to receive FMA Project Grant funds with the project identified in the plan. Planning grant funds can only be used for flood mitigation planning or only that portion of the all hazard mitigation plan that addresses the flood hazard, not an all hazards approach. Due to this restriction, it is difficult to award planning grant funds. Planning grant funds awarded in 2005 and 2006 were utilized to enhance the flood risk assessments in existing all hazard mitigation plans. New requirements that went into affect October 1, 2007, require all hazard mitigation plans to include the FMA requirements. This should improve the ability to fund FMA projects as the plans will meet FMA requirements as well as requirements of the other mitigation programs. To date, the majority of Project Grant funds have been provided to the Cities of Darlington and Brookfield, and Kenosha and Jefferson Counties. There are eleven FMA approved plans.

In addition to the above requirements, in 2003 and 2004 FEMA issued guidance that required FMA Planning and Project Grant funds be used to mitigate repetitive loss properties identified in the FEMA's Repetitive Loss Report. The State sent 2003 Planning Grant applications on two different occasions to communities identified with one or more repetitive loss properties. The State submitted a Planning Grant application for the City of Alma, the only community to submit an application. The application was denied as there are no repetitive loss properties identified for the City. Since the State did not receive any eligible applications, the Planning Grant funds were returned to FEMA. The State solicited applications for the 2004 funds, with a similar outcome as in 2003. In 2005, emphasis was placed on utilizing funds for repetitive loss properties, but it was not a requirement. The State solicited FMA project grants from those communities with approved plans. A project grant was awarded to Jefferson County for the acquisition and demolition of one structure. A planning grant was awarded to the City of LaCrosse to further enhance the City's flood hazard risk assessment in the LaCrosse County's All Hazard Mitigation Plan. FMA funds in 2006 were awarded to Kenosha County for the acquisition and demolition of one structure and to Clark County to further enhance the flood risk assessment in the all hazard mitigation plan. Unfortunately the property owner declined the buyout offer, and Kenosha County's award was withdrawn. Kenosha County again received project grant funds in 2007 for the acquisition and demolition of one structure. The State did not receive any planning grant applications; therefore, those funds were not utilized. The State solicited FMA planning and project grant funds in 2008; however, no applications were submitted. Therefore, the State did not utilize its 2008 FMA allocation.

A NFIP report dated July 31, 2008, identified 508 properties among 90 communities that meet the repetitive loss definition. The report also indicated that 62 properties have been mitigated among bringing that number down to 446 properties among 84 communities. Of the 84 communities, 75 have five or less repetitive loss properties. Eight communities have over 5 but less than 20. The City of Milwaukee has the most

RLP at 212. The 2005 State Plan identified 320 repetitive loss properties. The increased number in repetitive loss properties from 2005 can be attributed to back to back flooding disasters in 2007 and 2008, that both resulted in federal declarations. Fourteen of the 31 counties included in the 2008 declaration were also impacted by the 2007 disaster. A summary of Wisconsin's Repetitive Loss Report dated April 2004 is presented in Appendix E. It was the State's intent to update this report for this Plan update, however, to due the fact that NFIP's SQAnet was basically unavailable for most of the summer, it was impossible to update this report. Further, State Mitigation staff is not allowed access to FEMA's Bureaunet. The state makes every attempt to mitigate repetitive loss properties through the HMGP, PDM, FMA, RFC and SRL programs. However, the state has had difficulty obtaining correct and timely data from FEMA/NFIP. Repetitive loss data is continuously changing after every event and as claims are processed.

## 3.6 REPETITIVE FLOOD CLAIMS PROGRAM

In 2006, Congress appropriated $10 million for the Repetitive Flood Claims (RFC) program to provide funding to reduce or eliminate the long-term risk of flood damage to structures insured through the NFIP that have had one or more claim payments for flood damages. RFC funds are made available to mitigate structures within a state or community that cannot meet the requirements of the FMA program for either cost share or capacity to manage the activities. RFC grants were 100% federally funded, and could be used to acquire, demolish or relocate NFIP insured properties that had at least one paid flood claim with priority given to those properties that met the SRL definition. Like the FMA program, state and local management costs are available. The State is required to have an approved Hazard Mitigation Plan; however, a local mitigation plan is not required. The applications are submitted to FEMA through a national competition. The projects with the most saving or benefits to the program receive priority. The State did not receive any RFC applications in 2006 and 2007. The 2008 and 2009 guidance in addition to acquisition, demolition or relocation identified eligible activities of elevation, dry floodproofing of non-residential structures and minor localized flood control projects with funding limited to $1 million per project. The State again did not receive any RFC applications in 2008. For 2009, the State is working with a community in Waukesha County on the potential acquisition and demolition of a property that was substantially damaged in the June 2008 floods.

## 3.7 SEVERE REPETITIVE LOSS PROGRAM

The NFIP pays out $200 million annually in flood insurance claims, but about 30% of the total claims go to property owners who hold only 1% of the 4.5 million policies issued. Congress worked on a bill for several years to address these Severe Repetitive Loss (SRL) properties. As a result of that work, the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 was signed into law on June 30, 2004. The Act includes measures to address those properties that result in a disproportionate amount of claims on to the NFIP. The Act creates a pilot program for mitigation of severe repetitive loss properties, and funding in the FMA Program will be increased from $20 to $40 million for

five years. “Severe repetitive loss properties” are defined as NFIP-insured residential properties that (a) have at least 4 or more NFIP claim payments over $5,000 each, when at least two such claims have occurred within any 10-year period, and the cumulative amount of such claims payments exceeds $20,000; or (b) for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.

The SRL Pilot Program was announced in 2008 with $80 million available to mitigate properties that met the SRL definition. The purpose of the program is to reduce or eliminate the long-term risk of flood damage to SRL residential properties and the associated drain on the NFIP from such properties. Eligible activities include acquisition, demolition or relocation; elevation; dry floodproofing of historic structures; minor physical localized flood control projects; and mitigation reconstruction (demolition and rebuilding of structures.) Like the FMA and RFC programs, state and local management costs are available. Both the State and community must have an approved hazard mitigation plan that meets the requirements of 44 CFR Part 201. Funding is 75% federal with a 25% local match. The match can be reduced to 10% for states with an approved State mitigation plan that includes a strategy for reducing the number of repetitive loss properties. The State of Wisconsin will support, through funding and technical assistance, the development of local mitigation plans in counties with severe repetitive loss properties. It is a priority of Wisconsin Emergency Management to provide a grant to those counties that currently do not have a local hazard mitigation planning grant and have severe repetitive loss properties. In addition, WEM will work one-on-one with the county to assist in the plan, as well as with the community to assist in the project application for SRL properties.

There were 17 states designated at "target states" meaning they had more than 51 identified SRL properties. Illinois was the only State in Region V that met this criteria. Target states received allocations based on the number of SRL properties in the state. Ten percent was set aside for non-target states. As of August 31, 2008, Wisconsin had four identified properties that met the SRL definition; one in Jefferson and Pierce Counties, and two in Washington County. Jefferson County has acquired and demolished the identified structure. Washington County does not have an approved hazard mitigation plan; therefore, they are ineligible for the SRL program. WEM offered a hazard mitigation planning grant under the 1768 declaration and Washington County said that they were not interested.

If the owner of a severe repetitive loss property refuses an offer made under the program, the flood insurance premium will increase to 150% upon renewal; and again increased another 150% subsequent to each future claim of more than $1,500.

## 3.8 PRE-DISASTER MITIGATION

The Disaster Mitigation Act of 2000 (DMA2K), Public Law 106-390, was signed into law on October 30, 2000, and established a national program for pre-disaster hazard mitigation. The purpose of the law was to create a significant opportunity to reduce disaster losses through pre-disaster mitigation planning; streamline recovery process

through planned, pre-identified, cost-effective mitigation; and link pre- and post-disaster mitigation planning and initiatives.

Section 203 of the Stafford Act, as amended by Section 102 of the DMA2K, created the Pre-Disaster Mitigation (PDM) program. The PDM makes funding available to state, local and Indian Tribal governments to implement cost-effective hazard mitigation activities that complement a comprehensive mitigation program. Funding may be awarded for the development of an all-hazards mitigation plan or for a cost-effective hazard mitigation project. Like the HMGP, FMA, RFC and SRL programs, applicants must be participating in the NFIP (if they have been identified as having special flood hazard area) and be in good standing.

Interim Final Rule, 44 CFR Part 201, Hazard Mitigation Planning, published February 26, 2002, and Final Rule published October 31, 2008, established criteria for State and local hazard mitigation planning authorized by Section 322 of the Stafford Act, as amended by Section 104 of the DMA2K. After November 1, 2003, local and tribal governments applying for PDM funds through the states have to have an approved local mitigation plan prior to the approval of local mitigation project grants. States are also required to have an approved Standard State mitigation plan in order to receive PDM funds for State or local mitigation projects after November 1, 2004. The development of this plan will meet that requirement. Therefore, the development of State and local hazard mitigation plans is the key to maintaining eligibility for PDM funding.

Successful grants receive 75% federal funding to total project costs. The applicant is responsible for 25%. Small impoverished communities may receive federal funding of 90%. The local share may be in the form of in-kind services as well as dollars; however, no other federal source of money may be used to fund the local share.

In 2002 FEMA provided a one-time grant in the amount of $50,000 to the states for developing a statewide strategy for PDM program implementation. The grants were to assist the states to prepare for and develop processes and procedures for implementing the program. The State used the funds to contract with the Council of Regional Planning Organizations to develop local mitigation planning guidance. Members of the Council are representatives from the Regional Planning Commissions throughout the State. The *Resource Guide to All Hazards Mitigation Planning* was completed and has been used to provide guidance to local and tribal governments developing mitigation plans. The Guide is utilized at planning workshops and distributed upon request. The Guide can be found on WEM's website at http://emergencymanagement.wi.gov.

In addition to the one-time $50,000 grant, each state was eligible for PDM funds based one one-percent of the 2002 PDM appropriation of $25 million. The remaining balance of the funding was based on each State's percentage of total US population. Based on this formula, the State received $476,883 in federal funds. The funds were used to award planning grants to thirteen counties and five jurisdictions for the development of all hazard mitigation plans. In addition, FEMA provided planning grants directly to three of the states Tribal governments.

The 2003 PDM budget provided $150 million. FEMA provided $248,375 in federal funds to each state. The funds were used to award planning grants to another seven counties in the State for the development of mitigation plans.

The remaining PDM appropriation of approximately $130 million was made available to initiate a national PDM competitive grant program for pre-disaster mitigation activities. The intent of the PDM-C is to provide a consistent source of funding to sate, tribal and local governments for pre-disaster mitigation planning and projects. The State submitted five Planning Grant applications (three counties and two Tribal governments), six Project Grant applications, as well as a State Management Cost grant for a total of $4,166,386 ($3,142,441 federal share.) One planning and one project subgrant were determined to be small and impoverished, therefore, eligible for 90% federal funding. The PDM-C applications were determined to be eligible were evaluated by a National Evaluation Panel in accordance with PDM-C Grant Guidance and Notice of Funds Availability, and subsequently were approved for funding. In addition, one tribal organization applied as a grantee to FEMA and received a planning grant.

PDM-C funds for 2004 and 2005 were combined and announced in FFY2005. The State's application included 19 planning and 5 project grants in addition to State Management Costs in the amount of $3,549,249. The State was awarded $1,464,463 for 17 planning grants, and one project for the acquisition and demolition of one structure, along with State Management Costs. An environmental assessment for a final project has been approved and the State and community are waiting for project approval and obligation of funds.

PDM-C funding in 2006 was reduced to $50 million nationwide. This limited the states applications to five subapplications plus management costs. The State submitted three planning, two project grants, and state management costs totaling $947,011. The planning grants and one project were funded in the amount of $243,553. The second project application for a storm shelter was determined to be eligible, but was not funded due to the lack of funds. The application was resubmitted in 2007.

The State submitted a PDM-C application in 2007 for $1,831,102. The application included a request for 11 planning grants and 1 project as well as state management costs. Nine of the 11 planning grants have been approved along with State Management Costs for a total of $1,119,177. The project grant for a community storm shelter from 2006 was resubmitted for funding in 2007. The project was found to be eligible and is presently undergoing an environmental assessment.

The 2008 PDM-C application included 7 planning grants and 1 project along with State Management Cost for a total of $2,167,758. The planning grants and State Management Costs were approved in the amount of $262,914. As a result of a Congressional Directive, the State submitted a LPDM (Legislative Pre-Disaster Mitigation) grant in the amount of $630,000. That request is pending.

| Table 3.8-1. Pre-Disaster Mitigation Program Funding | | | | |
|---|---|---|---|---|
| **FFY** | **PLANNING** | **PROJECT** | **MANAGEMENT** | **TOTAL** |
| 2002 | $ 620,324 | | $ 15,520 | $ 635,844 |
| 2003 | $ 298,333 | | $ 32,834 | $ 331,167 |
| 2003 PDM-C | $ 230,990 | $3,752,039 | $176,812 | $4,159,841 |
| 2005* | $1,064,142 | $ 250,000 | $150,321 | $1,464,463 |
| 2006 | $ 156,412 | $ 65,000 | $ 22,141 | $ 243,553 |
| 2007* | $1,049,085 | | $ 70,092 | $1,119,177 |
| 2008 | $ 159,017 | | $ 23,897 | $ 182,914 |
| **TOTAL** | **$3,578,303** | **$3,578,303** | **$491,617** | **$8,136,959.00** |

*Projects pending approval have not been included

Only those communities that have an approved all-hazards mitigation plan are eligible to apply for future PDM-C project funds.

As a result of the PDM funds that have been made available to the State, 64 all hazard mitigation plans are complete or under development (47 counties, 8 county plan updates, 5 jurisdictions, 3 Tribal governments, and 1 university). In addition, 5 Tribal governments have received PDM grants directly from FEMA. As stated previously, the DMA2K also authorized 7% of HMGP funds to be available to states to be used for developing mitigation plans. As a result of that authorization, another 18 plans (11 counties, 2 county plan updates, and 5 single jurisdictions) have been funded. Two (2) more countywide plans have been developed under the Project Impact initiative. Total planning efforts involves 60 counties, 10 county plan updates, 11 single jurisdictions, 8 Tribal governments, and 1 university for a total of 90 plans. The federal, state, and local or Tribal investment in this planning effort is over $4 million.

## 3.9 UNIFIED HAZARD MITIGATION ASSISTANCE PROGRAM

Beginning FFY 2009, FEMA has unified the PDM program with the FMA, RFC and SRL programs into a unified Hazard Mitigation Assistance (HMA) program application cycle. The statutory origins of the programs differ, but all share the common goals of reducing the loss of life and property due to natural hazards. It is said that 80% of the programs are similar with 20% in unique difference. FEMA has combined the guidance for the four programs into one comprehensive document. It consolidates program eligibility information under one cover and outlines both the common elements and spells out the unique requirements among the programs so that officials can easily identify key similarities and differences between the various programs. Ultimately the HMGP will be integrated into the HMA guidance, providing a single guidance and referenced documents for both pre and post disaster hazard mitigation assistance. The application period for the 2009 HMA program is due December 19, 2008. The State has sent information and the HMG Guidance to communities through the County Emergency Management Directors as well as posting it on WEM's website.

## 3.10 STATE PRIORITIES

As stated previously, the IDRG continued to meet to address long-term recovery issues after each disaster declaration. Since 1993, WEM and the IDRG (now WHMT) have established the priority of acquisition, demolition, relocation, and/or floodproofing of floodprone properties, and have approved projects for these activities. In administering the mitigation programs, WEM has established the following priorities based on funding availability and provided the projects meet all of the program criteria:

- Acquisition and demolition of properties substantially damaged;
- Acquisition and demolition of repetitive loss properties and severe repetitive loss properties;
- Acquisition and demolition of damaged properties in the floodplain;
- Acquisition and demolition of floodplain properties;
- Acquisition of flood damage properties not in the floodplain;
- Floodproofing or retrofitting flood damaged structures in the floodplain;
- Floodproofing or retrofitting flood damaged structures not in the floodplain; and
- Other hazard reduction projects (such as detention ponds, storm sewer improvements, protection of utilities, drainage, etc.).

Mitigation of RLP and SRL properties is a FEMA and state priority. Projects with such properties included receive higher funding priority. Educational or public awareness projects are funded under the 5% HMGP set-aside when it is felt there will be a positive outcome from the project. In addition, the State has utilized 7% of the HMGP funds available since 2001 to award Planning Grants to communities for the development of all hazard mitigation plans.

## 3.11 STATE FLOODPLAIN MANAGEMENT PROGRAM

The Wisconsin Department of Natural Resource's (DNR) Floodplain Management Program plays an important role in state mitigation. Program staff assists communities in administering their local floodplain management programs, make substantial damage determinations after a flood and ensure that communities are in compliance with their local ordinances. In addition, they work to provide assistance to non-participating communities that wish to enter the NFIP and provide technical assistance to participating communities interested in enrolling in the Community Rating System (CRS). Floodplain Management staff provides technical assistance to the Wisconsin Hazard Mitigation Team (WHMT) as well as WEM mitigation staff in administering the mitigation programs and developing a repetitive loss strategy for the state. Floodplain Management staff provides training to local government and emergency management officials on floodplain management and mitigation. In 1995 the Department of Natural Resources developed the "Wisconsin Community Flood Mitigation Planning Guidebook." In addition to the guidebook, WEM developed additional planning guidance to meet FMA planning requirements. The guidebook and guidance were provided to assist local governments in developing local flood mitigation plans and focused on a planning process.

As an accompanying tool, the Department of Natural Resources with some financial assistance from FEMA/WEM developed the video “Mitigation Revitalizes a Flood Community: The Darlington Story.” The video focused on the city and how repeated flooding forced them to look at implementing mitigation measures. The city used a mitigation planning process similar to the one described in the guidebook to find solutions to reduce the flooding and attack the underlying economic problems associated with it. The video discussed how the city brought civic leaders, business owners and citizens together through the planning process to identify solutions to the problems. The efforts of the city have been recognized in videos produced by FEMA and the Association of State Floodplain Managers (ASFPM). WEM and the Department of Natural Resources have sponsored and conducted flood mitigation planning workshops using both of the above as training tools.

The DNR has produced a brochure, "Living in the Floodplain: What You Need to Know – Who You Need to Know", which has been widely distributed after the 2007 and 2008 flooding events. The brochures are handed out at the Public Officials Briefings, training workshops, public meetings and at the Disaster Recovery Centers.

After flooding events, local officials are responsible for inspecting flood damaged structures in the special flood hazard area (SFHA) to determine if they are substantially damaged (50% or more damaged), therefore, requiring the property owner to bring a non-conforming structure into compliance with the local floodplain ordinance. After the 2004, 2007, and 2008 federal disaster declarations DNR and WEM mitigation staff conducted Substantial Damage Determination Workshops to provide information to local officials on their responsibilities under their local floodplain ordinance as well as advise them of their mitigation options. In addition, DNR sponsored the FEMA L-273 course, Managing Floodplain Development through the NFIP in 2007 in LaCrosse and 2008 in Kenosha County. Local officials from around the state attended the class.

There are 561 communities including all 72 Wisconsin counties that have identified flood hazard areas. There are presently 512 communities participating in the NFIP (496 in regular program and 16 in the emergency program). There are another 61 communities with a special flood hazard area identified, but are not participating in the program. Eleven communities have been suspended from the regular program, and one from the emergency program. Contact is made with these communities after a disaster declaration to provide them with information and technical assistance and encourage them to join the program. There are serious consequences when a community is not participating in the program. Flood insurance is not available to individuals and businesses. In turn, lending institutions cannot approve mortgages for properties located in an identified special flood hazard area without the purchase of flood insurance. In addition, certain disaster assistance such as home repair funds is not available to individuals, and businesses as well as local governments. For instance, the communities are not eligible for the FEMA mitigation programs.

The National Flood Insurance Program's (NFIP) Community Rating System (CRS) was implemented in 1990 as a program for recognizing and encouraging community floodplain management activities that exceed the minimum NFIP standards. The National Flood Insurance Reform Act of 1994 codified the Community Rating System in the NFIP. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.

There are ten CRS classes: class 1 requires the most credit points and gives the largest premium reduction; class 10 receives no premium reduction. The CRS recognizes 18 creditable activities, organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction and Flood Preparedness.

The table below describes the credit points earned, classification awarded and premium reductions given for Wisconsin communities in the National Flood Insurance Program Community Rating System.

**Table 3.11-1 Wisconsin Communities in the NFIP Community Rating System in 2008**

| Community Number | Community Name | CRS Entry Date | Current Effective Date | Current Class | Credit For SFHA | Credit For Non- SFHA |
|---|---|---|---|---|---|---|
| 550001 | Adams County | 10/1/91 | 05/1/07 | 8 | 10 | 5 |
| 550612 | Allouez, Village of | 10/1/92 | 10/1/02 | 7 | 15 | 5 |
| 550128 | Eau Claire, City of | 10/1/91 | 10/1/01 | 8 | 10 | 5 |
| 550578 | Elm Grove, Village of | 4/1/01 | 10/1/06 | 6 | 20 | 10 |
| 550022 | Green Bay, City of | 10/1/91 | 10/1/01 | 7 | 15 | 5 |
| 555562 | La Crosse, City of | 10/1/91 | 10/1/02 | 8 | 10 | 5 |
| 550085 | Mazomanie, Village of | 10/1/91 | 10/1/91 | 9 | 5 | 5 |
| 550487 | New Berlin, City of | 10/1/05 | 10/1/05 | 8 | 10 | 5 |
| 550310 | Ozaukee County | 10/1/91 | 10/1/07 | 8 | 10 | 5 |
| 550660 | Suamico, Village of | 05/1/08 | 05/1/08 | 8 | 10 | 5 |
| 550107 | Watertown, City of | 10/1/91 | 10/1/07 | 7 | 15 | 5 |
| 550108 | Waupun, City of | 10/1/91 | 10/1/01 | 8 | 10 | 5 |
| 550537 | Winnebago County | 10/1/91 | 10/1/01 | 8 | 10 | 5 |

Source: http://www.fema.gov/pdf/nfip/manual200805/19crs.pdf

## 3.12 MUNICIPAL FLOOD CONTROL PROGRAM

The Wisconsin Department of Natural Resources (DNR) recognizes the responsibility to protect life, health, and property from flood damages. The Wisconsin Department of Natural Resources, Bureau of Community Financial Assistance and Bureau of Watershed Management offers the Municipal Flood Control Grant Program assistance package to all cities, villages, towns, Indian Tribes, and metropolitan sewerage districts concerned with municipal flood control management in the State of Wisconsin. Assistance is provided with the availability of Acquisition and Development grants to purchase property or vacant land, structure removal, construction or other development costs and with Local Assistance Grants for providing administrative support activities.

Ultimately, this grant program was created to help local governments minimize flooding and flood-related damages by acquiring property, floodproofing structures, creating open space flood storage areas, constructing flood control structures and restoring the flood-carrying capacity and natural and beneficial function of watercourses. Projects eligible under this program shall minimize harm to existing beneficial functions or water bodies and wetlands, maintain natural aquatic and riparian environments, use stormwater detention and retention structures and natural storage to the greatest extent possible and provide opportunities for public access to water bodies and to the floodplain.

For the Municipal Flood Control Grant Program, the state share may not be greater than 70% of the eligible project costs. Applications will be made available and accepted by the department only if funding is available to administer the grant program. The department may not provide to any applicant more than 20% of the funding available. The local share of the project cost may not be less than 30% of the eligible project costs. The substantiated value of donated materials, equipment, services and labor may be used as all or part of the local share of the project cost subject to all of the following:

- All sources of local share donation shall be indicated when the grant application is submitted.
- The maximum value of donated, non-professional labor shall be equal to the prevailing federal minimum wage requirements.
- The value of donated equipment may not exceed the Wisconsin department of transportation highway rates for equipment.
- The value of donated materials and professional services shall conform to market rates and be established by invoice.

For land acquisition projects, the substantiated value of donated contributions of real property may be used as part of the local share of the project cost subject to all of the following:

- Contributions of property are eligible as grant recipient match only if the donated property lies within the boundaries of a project which has been approved under the same component of the municipal flood control program as the property being acquired.
- The fair market value of a contribution of property may be used as local share. The amount of the property donation that can be used for match equals the value or the donation of the amount of cash needed by the applicant for purchase, whichever is less, so there will be no cash back in excess of the moneys actually needed for the purchase.
- The contribution is made within three years of the land acquisition and is considered by the department to be part of the project or eligible for the project.

Like many grant programs, the availability of grant applications are dependent on funding. Eligible applicants are mailed notices when a round of grant applications

becomes available. The notice indicates who to contact for assistance, where to mail applications, deadlines for applications, deadline for ranking and selection of projects, and grant award issuance date.

The DNR has set up priorities for the Municipal Flood Control Grant Program. The ranking is as follows:

1. Acquisition and removal of structures which, due to zoning restrictions, cannot be rebuilt or repaired.
2. Acquisition and removal of structures in the 100-year floodplain.
3. Acquisition and removal of repetitive loss or substantially damaged structures.
4. Acquisition and removal of other flood damaged structures.
5. Floodproofing and elevation of structures.
6. Riparian restoration projects, including removal of dams and artificial obstructions, restoration of fish and native plan habitat, erosion control and streambank restoration projects.
7. Acquisition of vacant land, or perpetual conservation or flowage easements to provide additional flood storage or to facilitate natural or more efficient flood flows.
8. Construction of structures for the collection, detention, retention, storage and transmission of stormwater and groundwater for flood control and riparian restoration projects.
9. Preparation of flood insurance studies and other flood mapping projects.

Similar to the HMGP acquisition/demolition requirements, the Municipal Flood Control Grant Program requires the removal of a structure on the property to be acquired for the development of permanent open space for flood storage or flood water flowage to a watercourse. Eligible flood control acquisition and development projects must meet one of the following criteria:

- Flood damaged structures to be removed on the property to be acquired cannot be rebuilt or repaired due to zoning restrictions.
- Structures to be removed on the property to be acquired are in the 100-year floodplain.
- Structures to be removed on the property to be acquired have repetitive loss or substantially damaged structures due to flooding.
- Flood damaged structures to be removed are other than buildings on the property to be acquired.
- Acquisition of vacant land to provide additional flood storage or to facilitate natural or more efficient flood flows to a watercourse.
- Acquisition of a perpetual conservation easement for permanent open space use and protecting natural resources to facilitate natural or more efficient flood flows to a watercourse.
- Acquisition of a flowage easement allowing the holder nonpossessory interest in real property granting the holder the right to flow the grantor’s lands for flood

storage or natural riverine hydrologic cycles to facilitate natural or more efficient flood flows to a watercourse.

Appendix D (Mitigation Projects Completed in the State) highlights the projects completed through the Municipal Flood Control Grant Program. During the 2008-2009 budget years, the Municipal Flood Control Grant Program funded 12 grants for a total of $2,216,003. Unfortunately due to budget constraints, there is no present funding for the program, but if funding is provided by the legislative budget for the 2009-2010 biennium state budget allocation, Notice of Application Availability will be sent to the authorized representatives for cities, villages, towns, tribal governments, or metropolitan sewerage districts.

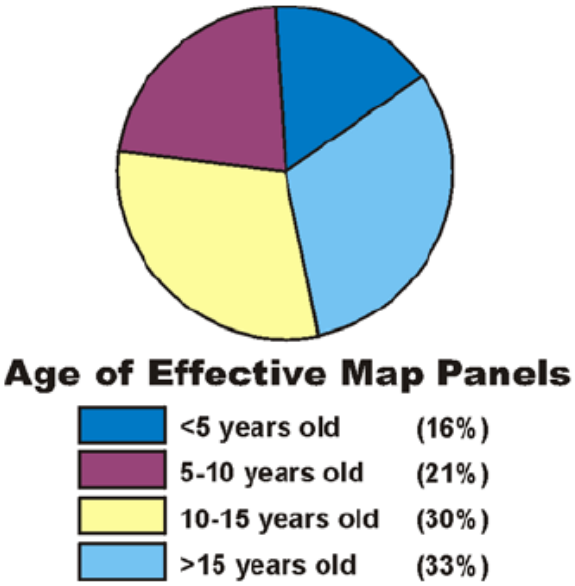
## 3.13 WISCONSIN FLOODPLAIN MAP MODERNIZATION PROGRAM

According to the *Map Modernization Plan for the State of Wisconsin*, FEMA has established a broad goal of modernizing flood hazard maps nationwide and presented a plan to Congress to address these concerns. This plan was accepted and funded by Congress and is now referred to as the Flood Map Modernization Plan. In this plan, FEMA has acknowledged that collaborative partnerships with state, regional and local organizations will be necessary.

Flood Hazard Maps produced by the NFIP are one of the basic and essential tools for flood insurance, floodplain management and flood hazard mitigation. However, due to the manual cartographic processes used and limited topographic information available when they were initially developed, today's flood hazard maps are inadequate to meet the current needs. Recognizing the need to upgrade the existing maps, FEMA developed a Flood Map Modernization Plan, which was funded based on Congressional backing beginning in FY03 (excerpts taken from the *Map Modernization Plan for the State of Wisconsin, WDNR, May 2008)*.

Most of the maps in Wisconsin are severely outdated. Figure 3.13.1 notes the age of flood maps in the State of Wisconsin:

**Figure 3.13-1 Age of Effective Map Panels**




Source: Fiscal Year 2008: Map Modernization Plan for the State of Wisconsin (WDNR)

The *Map Modernization Plan for the State of Wisconsin* also notes that older maps reflect outdated flood hazard information that limits their utility for insurance and floodplain management purposes. Most of the maps were prepared using now outdated road network information and manual cartographic techniques, which introduced errors and made the maps difficult for State and local customers to use and expensive to maintain. In addition, there is development pressure on some Wisconsin streams and lakes where the flood hazard has not yet been mapped (excerpts taken from the *Map Modernization Plan for the State of Wisconsin, WDNR, May 2008)*.

Wisconsin DNR has three Map Modernization Goals and include:

1. To serve our customers, the local communities and public of Wisconsin, and to ensure that flooding sources depicted on FEMA Flood Insurance Rate Maps are accurate enough for local zoning administrators to make reasonable determinations case by case.
2. To facilitate partnerships with Wisconsin communities and leverage existing resources when available.
3. To reduce appeals and minimize future maintenance costs.

Because of the limited funding for mapping, WDNR established priorities while being mindful of the abovementioned goals. The priorities include:

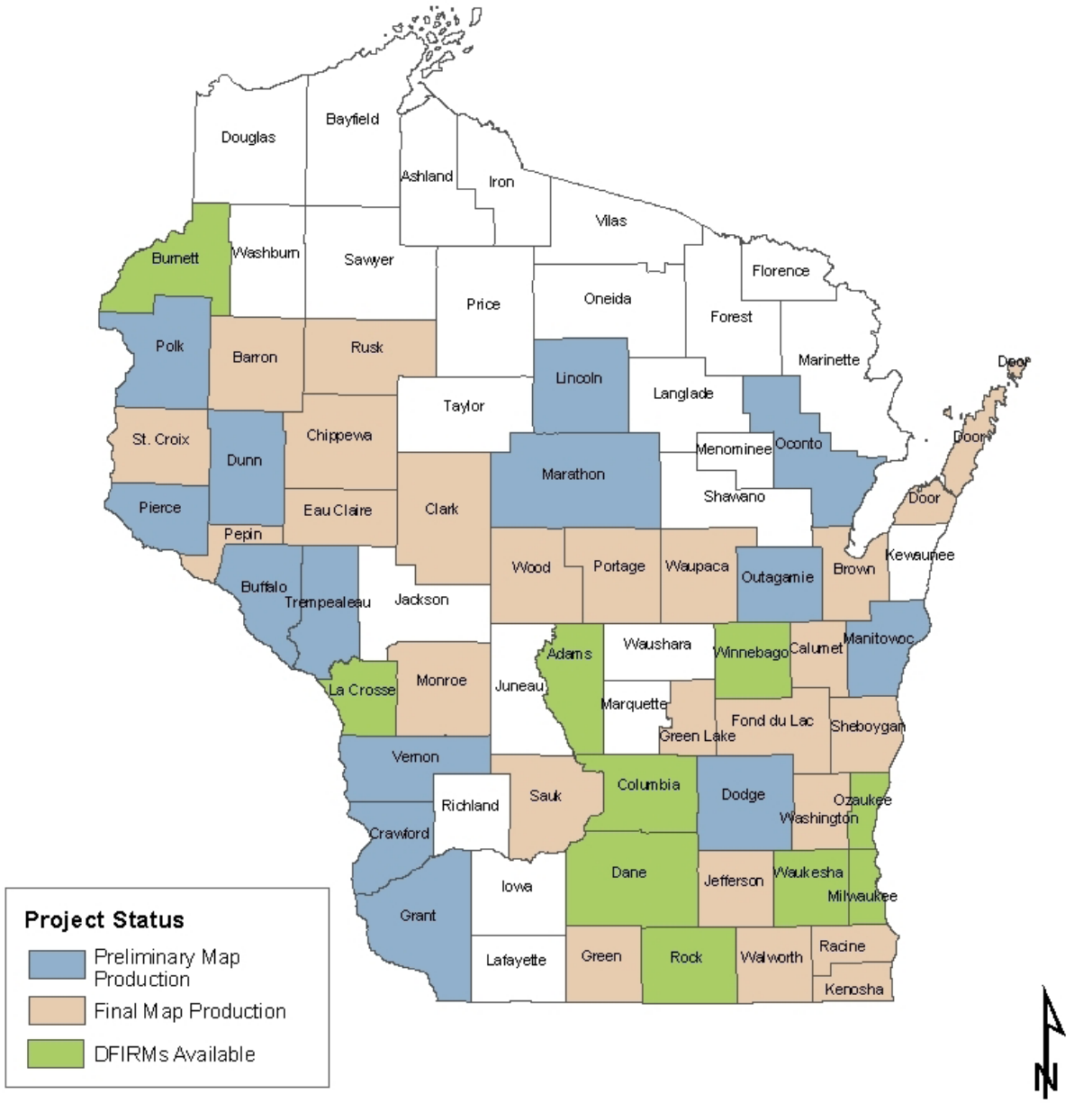
- Ensuring that flood hazards in areas with the highest development pressure have up to date flood profiles and mapped floodways. This will guarantee that at a minimum all incorporated communities and their extraterritorial jurisdictions will have flood profiles and mapped floodways.

- Guaranteeing that existing detailed studies and approximate areas are adjusted to match best available topographic data.
- Providing technical guidance to communities that would like to use their own resources to conduct new studies and incorporate them into the new DFIRMs.

Wisconsin DNR accepts the fact that the type of funding required to properly map all flooding sources throughout the State is simply not available. Map 3.13.1 highlights the counties currently involved in the Map Modernization process, as well as those counties that already have new effective maps and those communities that will not be mapped due to limited funding (excerpts taken from the *Map Modernization Plan for the State of Wisconsin, WDNR, May 2008)*.

**Map 3.13-1**

# Map Modernization Project Status




Data current as of 10/21/2008

Source: Wisconsin DNR Floodplain Program



**Section TOC**

## 3.14 PUBLIC ASSISTANCE PROGRAM

Mitigation can also be implemented through FEMA's Public Assistance Program after a disaster declaration through Section 406. Public Assistance funds allow an existing damaged facility to incorporate mitigation measures during repairs, if the measures are cost-effective or are required by code. This provision has been in the regulations, however, has been very much underutilized. Typically, funds through the Public Assistance Program were to provide funds to repair the facility to its pre-disaster condition not giving any thought to mitigation opportunities. Beginning with the 1996 declaration, FEMA-1131-DR-WI, a greater effort was made to fund Section 406 through the Public Assistance Program. Federal mitigation staff was assigned to be a liaison with Public Assistance staff and to provide technical assistance. To further emphasize mitigation opportunities, a Memorandum of Understanding (MOU) was developed for FEMA-1180-DR-WI for implementing Section 406 mitigation opportunities. The MOU was signed by the Federal and State Hazard Mitigation and Public Assistance Officers as well as the State and Federal Coordinating Officers (FCO) and the Deputy FCO for Mitigation. This tool has been implemented in several subsequent federal disaster declarations. In fact, in implementing FEMA-1332-DR declared in July 2000, the FCO's goal was to incorporate Section 406 mitigation in 20% of all project worksheets. The goal was exceeded with mitigation incorporated on 40% of the projects. Mitigation staff coordinates with the Public Assistance staff to ensure that Section 406 mitigation opportunities are included wherever possible.

## 3.15 PROJECT IMPACT

In 1998, the Federal Emergency Management Agency (FEMA) created the Project Impact initiative. Project Impact is community based with public and private partners working together to improve a community's disaster resistance. Each year between 1998 and 2002 one Wisconsin community was selected as a Project Impact community and received funding to initiate activities that assisted the community in becoming disaster resistant. The purpose of becoming a Project Impact community is to permanently embrace disaster resistance as a community-wide effort. Another goal of Project Impact is for the designated communities to share their experiences and successes and mentor with other communities so they can implement similar programs.

The City of Wauwatosa became the first Project Impact community in November 1998. Project Impact activities included hazard mitigation planning, implementation of identified mitigation projects and public awareness initiatives. The city implemented an acquisition program and acquired and demolished 66 properties along the Menomonee River. In addition to the acquisition program, the City with Americorp and Milwaukee County as partners completed a riverside clean up. The City also completed several stormwater and sewer projects that will reduce future flood damages. The City implemented an ongoing public awareness and information program to educate the public on hazard reduction efforts.

Racine County was selected as the second Project Impact community in 1999. Activities included plan development, public outreach and building mitigation projects. The County developed an all hazards mitigation plan, the first to do so in the State. Another activity included completing a tornado shelter assessment of the public and non-public schools within the county. Weather radios were purchased and distributed to al l the schools within the County. The county worked with the local technical college in conducting a survey of selected county residents to determine resident's opinions, attitude and preparedness in the event of a disaster within the county. The information gathered from the survey assisted in developing public awareness campaigns, etc. The county was active in promoting Project Impact and mitigation through many events such as safety fairs, workshops at Home Depot, and staffing booths at different community functions in addition to making many presentations to a variety of groups within the community. The county produced a Project Impact coloring book to teach children how to stay safe during a natural hazard event and promoted Project Impact through local broadcast weather reports and developing articles for local newsprint. Working with the county Housing Authority, the county built "safe room" in a new home that was constructed. In addition, the Town of Norway incorporated wind resistant construction techniques in their new town hall.

The 2000 Project Impact community selected was the City of Waukesha. The City of Waukesha has experienced flooding in the past during major rain events and has had its share of severe weather. However, the city's major hazards include numerous highway and railroad corridors that transect the city and pose technological hazards from accidental spills of industrial chemicals. Therefore, the City completed an all hazards risk analysis. The information gathered through the analysis was used to develop a hazard mitigation plan. Other activities included a tornado shelter assessment of all schools and public buildings in the city (similar to Racine County's project), promoting mitigation with local developers and architects, and integrating emergency and mitigation planning with the City's GIS system. In addition, the City installed protective film on the City's Chamber Councils and upgraded it to EOC status. They also worked with Habitat for Humanity in construction of a safe room in a habitat house. The City implemented a public awareness and education program that included a variety of activities.

The City of Eau Claire was designated in 2001. The City of Eau Claire has had a history of river flooding and severe weather. It incurred flood damages in 1971, 1973, 1980, 1992, 1993 and most recently in September 2000. Thunderstorms and tornadoes have also affected the city and surrounding areas. Based on the past flood events, the City implemented an acquisition program and acquired and demolished structures on the south and northwest side of the City. The City developed an All Hazard Mitigation Plan, the first in the state to meet the minimum planning criteria per 44 CFR Part 201. Other activities included a tornado shelter assessment of all schools, colleges and public buildings in the City and results were incorporated into the existing School Crisis Intervention Plans. The City integrated information such as wetlands, floodplains, hazardous materials sites, etc., into its GIS system that will assist in emergency and mitigation planning as well as emergency response and recovery. The City

implemented a public education and outreach program. Some of the activities included producing a natural hazard safety calendar and working with local media to develop videos and safety messages. They also purchased and distributed 125 weather radios to critical facilities within the City. This included schools, hospitals, nursing homes, clinics, day care centers and other critical facilities.

## 3.16 EDUCATION AND OUTREACH

One of the challenges for WEM has been educating citizens as well as emergency management and local officials of the importance and the need for mitigation. Since the Midwest Flood of 1993, officials within the state have become more aware of the need for mitigation. Educating local governments and the public is an ongoing process. WEM includes information on mitigation measures and activities in its annual winter weather, tornado and severe weather, heat and flood awareness campaigns. In addition, information is included on WEM's web site as well as the bi-monthly newsletter. A newsletters distributed by the Department of Natural Resources and the Wisconsin Association for Floodplain, Stormwater, and Coastal Managers also includes information on mitigation. Mitigation elements are included in all Damage Assessment Workshops held at the county level as well as in the Introduction to Emergency Management Course, Disaster Response and Recovery Course, and the New Directors Orientation conducted each year by WEM. An annual All Hazards Mitigation Planning Workshop is held to educate local officials, emergency management staff, planners and others on the mitigation planning process and components of such plans. WEM hosted a four-day HAZUS class in 2006 and Benefit-Cost Analysis Training in 2007 conducted by FEMA contractors. WEM Mitigation staff has provided training at the Annual Governor's Conference on Emergency Management and Homeland Security on mitigation programs and project development two years in a row. In addition, they conducted a Buyout Workshop in July 2008. WEM developed a traveling mitigation display board that is utilized at various mitigation training functions, the Annual Governor's Conference on Emergency Management, as well as other events. In addition, WEM developed a Household Natural Hazards Preparedness Questionnaire to help gauge household disaster preparedness and knowledge methods for reducing risk and loss from natural hazards. Included in the survey were the State of Wisconsin's hazard mitigation goals as identified in this plan. People were asked to rate the goals on their importance. The survey has been distributed at various functions and included on WEM's website.

In addition, when a disaster strikes, WEM educates local governments and the public about their options and what help is being offered by different agencies, including FEMA. Mitigation staff attends the Public Officials Briefings and presents information regarding mitigation opportunities and funding. WEM participates in Substantial Damage Workshops conducted by FEMA and DNR providing information on the mitigation programs and how they can provide assistance to property owners whose properties are determined substantially damaged. Both WEM and DNR staff attend community meetings throughout the declared area. Their focus is to discuss the

National Floodplain Insurance Program (NFIP) and the Hazard Mitigation Grant Program (HMGP) and other recovery issues.

## 3.17 MITIGATION PLANNING

The biggest challenge for the state in implementing an effective mitigation program has been getting local governments to recognize the need to do mitigation planning. Both FEMA and the state agree that in order to truly be effective in the area of mitigation at the local level, there needs to be a mitigation planning process. The problem has been how to get communities at risk from natural hazards to complete the mitigation planning process. Up until 2002, the only funds available for mitigation planning were through the FMA program and were limited to addressing only flood hazards in a community, not an all-hazards approach. Since 2002, funds have been made available through the HMGP and PDM programs for the development and/or update of all hazard mitigation plans. The all hazards mitigation planning requirements proves to be a very difficult task for local governments, particularly small communities with very limited or no staff. Most of the communities developing mitigation plans have requested the assistance of their local Regional Planning Commission or have had to hire a private consultant. Without planning assistance through the HMGP and PDM programs, plans could not be completed.

Through the planning process, the community must have a planning process that includes public participation, coordinate with other agencies and organizations, assess the hazards, identify the problems, establish mitigation goals, develop a mitigation strategy with an action plan to implement the mitigation actions identified, and a plan maintenance process. WEM is striving to identify a way to make it easier for local governments to develop mitigation plans that are realistic, practical and can actually be implemented. One of the ways the planning process has streamlined over the past year is the consolidation of the all hazards mitigation and FMA planning requirements with the Final Rule, 44 CFR Part 201. Plans approved after October 1, 2008, must include the FMA planning requirements. This will result in plans that will meet the planning requirements of all five FEMA mitigation programs.

The risk assessment and vulnerability analysis is one of the most difficult tasks for local governments to complete in developing a mitigation plan. FEMA has developed a system referred to as HAZUS that may assist local governments in this effort. HAZUS is a software program that utilizes GIS software and census data to calculate, map and display potential damage loss data for various hazards. HAZUS is basically a “loss estimation methodology.” This methodology may assist local governments in developing mitigation plans and policies, developing and improving emergency operations plans, assist in generating scenarios for exercises and training purposes and for quickly estimating losses after a disaster and what resources will be required for response and recovery. The methodology has been developed for earthquakes, hurricane related wind and flood hazards. In order to run the flood component, the user has to have spatial analyst software installed on their computer along with the ArcGIS program created by ESRI. There is a substantial cost associated with both of these

software pieces. HAZUS provides some default data based on census information. It is then up to the local government to verify the data and import their own hazard data. The GIS capability of local governments will determine how successful they are in utilizing HAZUS. WEM hosted a four-day HAZUS class in 2006 conducted by FEMA contractors. WEM applied for and received a 2007 PDM-C grant for updating the State Hazard Mitigation Plan. A larger portion of the grant was for the development of a statewide HAZUS flood risk assessment. With support from the University of Indiana Purdue-POLIS Center, the University of Wisconsin-Land Information and Computer Graphics Facility (LICGF) completed a statewide flood risk assessment. The results can be found in Section 4.5. The County Assessments will be provided to the counties to assist them in development or update of the county all hazard mitigation plans.

As stated previously, it is a challenge to get local government to recognize the need to do mitigation planning. However, in 2008 when a second flood occurred within a 10-month period, many jurisdictions began to realize the importance of mitigation planning and project implementation. Most jurisdictions simply do not have the funds to repair roads, infrastructure, businesses, and homes from flooding year after year. As a result, over a hundred project applications were submitted to WEM for the HMGP program. Unfortunately, due to the large number of substantially damaged homes that will need to be repaired and the limited funds, there will not be money left over for other types of worthwhile mitigation projects.

Local hazard mitigation plans are required to be updated and reapproved by FEMA every five years in order to remain eligible for FEMA mitigation funds. If a community's plan lapses, they are no longer eligible for mitigation funds until the plan is updated and approved by FEMA. In addition, if an approved project is underway and the plan lapses, funds are discontinued until such time the plan is again updated and approved by FEMA. This presents another challenge for State mitigation staff. The majority of approved plans statewide are countywide, multi-jurisdictional plans. State mitigation staff will need to closely monitor expiration dates of local mitigation plans and the implementation of mitigation projects to ensure that plans do not lapse and grant funds discontinued.

## 3.18 COMPREHENSIVE PLANNING

According to the *2008 Wisconsin Local Land Use Regulations and Comprehensive Planning Status Report,* the Comprehensive Planning Law states that beginning on January 1, 2010, if a city, village, town or county engages in zoning, shoreland/wetland zoning, subdivision regulation, or official mapping, those actions shall be consistent with that local governmental unit’s comprehensive plan. This statutory requirement is known as “the 2010 consistency requirement.” The law (enacted in 1999) provided ten years for communities to develop and adopt comprehensive plans before the consistency requirement takes effect.

At the same time the Comprehensive Planning Law was passed in 1999, a Comprehensive Planning Grant Program was created in the Department of

Administration (DOA) to help local governments develop their comprehensive plans. Since 2000, the Wisconsin Department of Administration has provided comprehensive planning grants to 1,113 local governments. Because of the incentives for multi-jurisdictional coordination, over 90 percent of the local governments receiving comprehensive planning grant funds participated in a multi-jurisdictional grant application.

During 2007 and 2008, the Department of Administration worked with local and regional governments to compile information on comprehensive planning status and certain types of land use regulations exercised by the 1,923 Wisconsin counties, cities, villages and towns.

As of April 2008, 740 local governments had adopted comprehensive plans and an additional estimated 660 had a planning process underway. Another 120 units of local governments are estimated to be in the preliminary stages of the planning process. Many of the remaining units of local government do not exercise zoning, subdivision regulations, official mapping, or shoreland/wetland zoning.

An objective of this project is to target comprehensive planning education, outreach, marketing, and assistance activities, such as those conducted by the DOA and other state agencies, UW-Extension agents, regional planning commissions, county governments, and private consultants. The units of local government known to exercise land use regulations should be encouraged to develop a comprehensive plan. It is important to remember that the decision to develop a comprehensive plan is a local community decision. (Excerpts from the *2008 Wisconsin Local Land Use Regulations and Comprehensive Planning Status Report.)*

The Department of Administration has worked very diligently in the comprehensive planning process. Some recent reports and available resources on local land use regulations and comprehensive planning status include:

- DOA Database of Comprehensive Plans and Grants (ongoing)
  - http://www.doa.state.wi.us/docview.asp?docid=5795
- February 2007 UW-Extension Center for Land Use Education (CLUE) update of a report entitled “Comprehensive Planning in Wisconsin: Status of Current Planning Effort”
- December 2006 CLUE map of “Current Zoning in Unincorporated Areas”
  - http://www.uwsp.edu/cnr/landcenter/pdffiles/Current_Zoning_in_Wisconsin_12_06.pdf
- DOA maps of zoning in unincorporated areas (October 2006)

Table 3.18-1 identifies the strides made in towns, cities, villages, and counties with comprehensive planning. When Wisconsin Emergency Management holds Hazard Mitigation Planning Workshops, the importance of comprehensive planning is stressed. It is imperative future development plans identify and locate hazards to assist

policymakers in making the best, most safe decisions for their residents. In turn, hazard mitigation planning needs to be cognizant of future development plans.

Maps 3.18-1 and 3.18-2 highlight the comprehensive planning status of cities, villages, and towns, as well as the strides the counties have made in developing their comprehensive plans. It is interesting to note the similarities in the comprehensive planning and mitigation planning status. Approximately 84% of Wisconsin counties either have an approved All-Hazards Mitigation Plan or are active in the planning stages. 87% of Wisconsin counties either have an approved Comprehensive Plan or are in the planning stages. Only 16% of counties are not participating in the Hazard Mitigation planning process and 13% of counties are not participating in the Comprehensive planning process.

A list of the nine comprehensive planning elements and some ideas on how to integrate all hazards mitigation planning concepts into them are included in the *Resource Guide to All Hazards Mitigation Planning in Wisconsin.* In addition, where to integrate the comprehensive planning elements into the all hazards mitigation plan are also described in the guidance. Information that is collected for the comprehensive planning process can also be valuable in developing an all hazards mitigation plan. There is a DOA representative on the Wisconsin Hazard Mitigation Team. The State Hazard Mitigation Officer (SHMO) is also a member and participates on the State Agency Resource Working Group. The group is statutory funded through the Wisconsin Land Council. Representatives from various agencies participate on the group and promote and cooperate on land use issues.

**Table 3.18-1**

## Comprehensive Planning Status

**Towns**

| | | |
|---|---|---|
| Adopted | 468 | 37% |
| Process Underway | 420 | 33% |
| Preliminary Stages | 78 | 6% |
| Not Planning | 78 | 6% |
| Unknown | 215 | 17% |
| *Total* | *1259* | *100%* |

**Cities and Villages**

| | | |
|---|---|---|
| Adopted | 251 | 42% |
| Process Underway | 199 | 34% |
| Preliminary Stages | 37 | 6% |
| Not Planning | 48 | 8% |
| Unknown | 57 | 10% |
| *Total* | *592* | *100%* |

**Counties**

| | | |
|---|---|---|
| Adopted | 21 | 29% |
| Process Underway | 39 | 54% |
| Preliminary Stages | 3 | 4% |
| Not Planning | 9 | 13% |
| *Total* | *72* | *100%* |

**(All) Towns, Cities, Villages, and Counties**

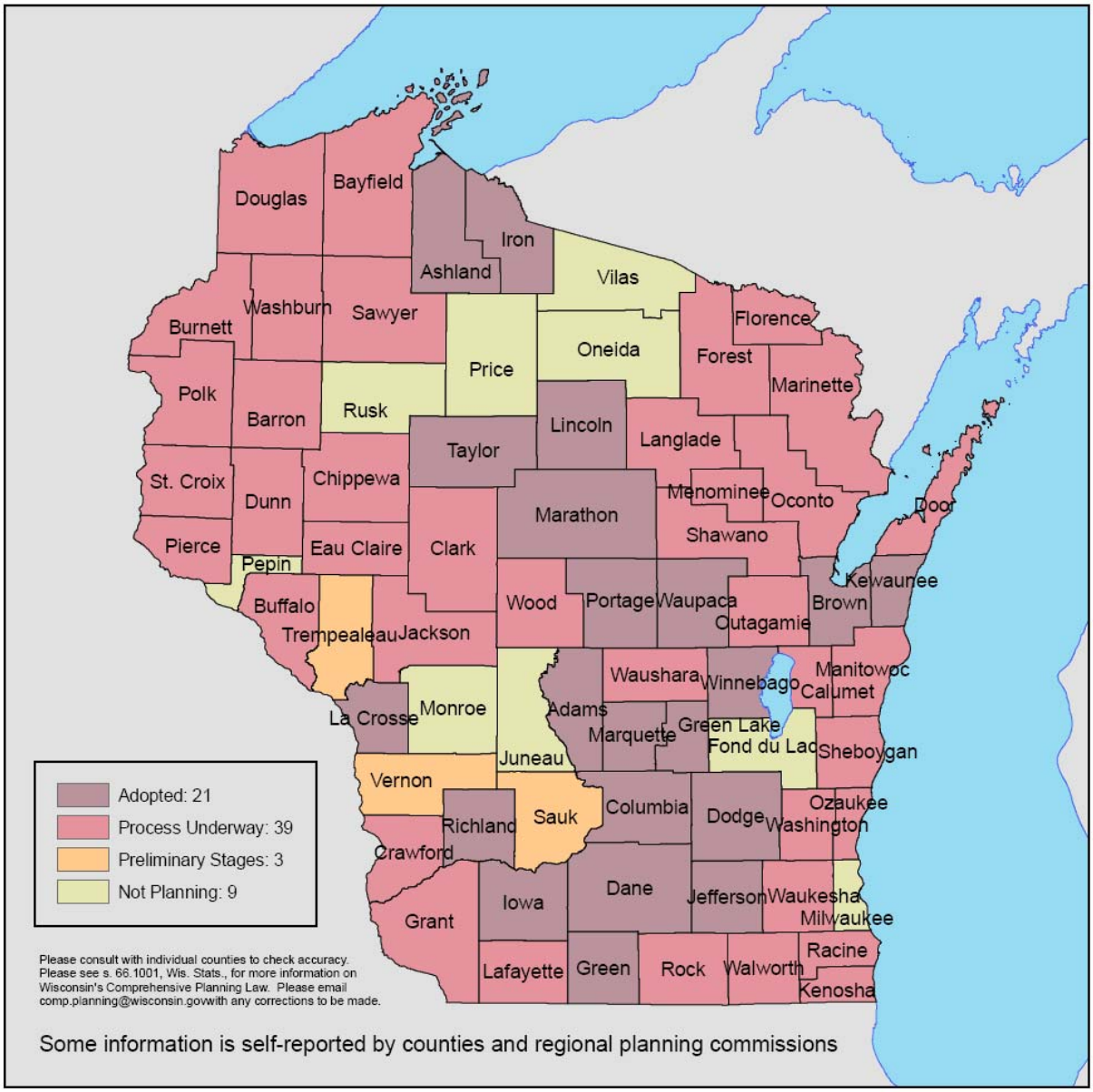
| | | |
|---|---|---|
| Adopted | 740 | 38% |
| Process Underway | 658 | 34% |
| Preliminary Stages | 118 | 6% |
| Not Planning | 135 | 7% |
| Unknown | 272 | 14% |
| *Total* | *1923* | 100% |



Section TOC

**Map 3.18-1**

# County Comprehensive Planning Status




WISCONSIN DEPARTMENT OF ADMINISTRATION

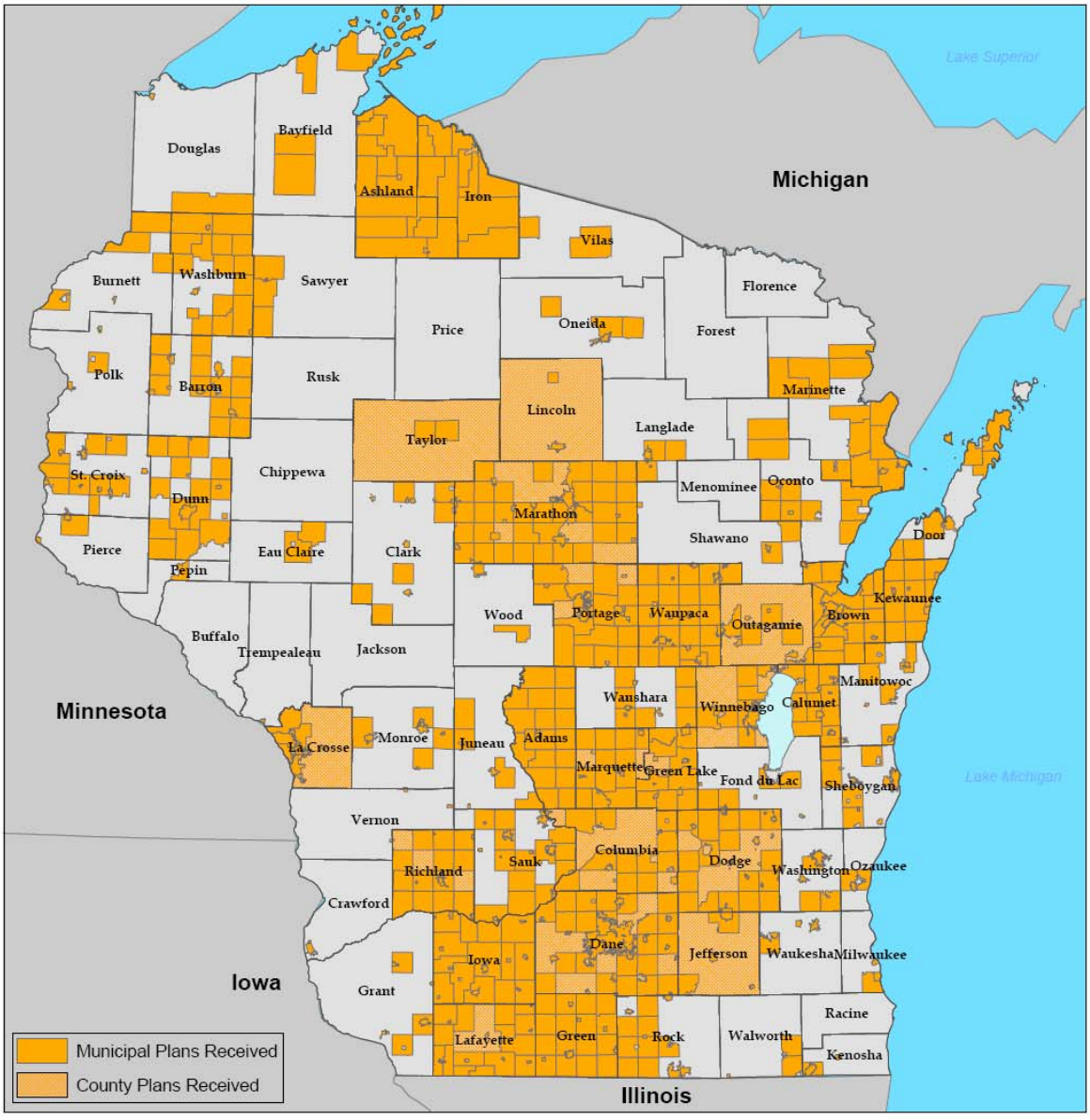
Division of Intergovernmental Relations www.doa.state.wi.us/compplanning April 15, 2008



Section TOC

**Map 3.18-2**

# Final, Adopted Comprehensive Plans Received By the Department of Administration




WISCONSIN DEPARTMENT OF ADMINISTRATION Division of Intergovernmental Relations http://www.doa.state.wi.us/compplanning As of August 20, 2008



Section TOC

## 3.19 WISCONSIN RECOVERY TASK FORCE

It was obvious early in the administration of the 2008 flood declaration that additional outside resources would be required to assist the State and its communities in the recovery. Upon direction of Governor Doyle, WEM created the Wisconsin Recovery Task Force (WRTF) to assist individuals, businesses, and communities to recover quickly, safely, and with more resistance to future disasters. Six subcommittees were formed with a focus on mitigation, agriculture, business, housing, human needs, and infrastructure. The Task Force is comprised of many state and federal agencies. The primary goal of the WRTF is to identify the unmet needs of the communities and citizens of Wisconsin. The Task Force met bi-weekly. One of the outcomes from the report submitted to the Governor was that the Task Force be a standing task force and meet semi-annually to ensure preparedness and facilitate effective operational readiness following a disaster.

The Wisconsin Hazard Mitigation Team (WHMT) played an integral part in identifying the key players that comprise the Wisconsin Recovery Task Force. Many of the WHMT members are actively participating and leading WRTF subgroups. Without the Wisconsin Hazard Mitigation Team, it is very likely that the Wisconsin Recovery Task Force would not have been created and activated as quickly as it was.

The State Hazard Mitigation Officer was assigned as Chair of the Mitigation Committee. The Committee consisted of 11 State agencies (all which are members of the WHMT); 7 federal agencies (5 of which are members of the WHMT); and 5 other organizations (4 of which are members of the WHMT.) The mission of the committee is to "Assist communities during the recovery process to make their communities more disaster resistant." The subcommittee identified goals based on the goals of the State of Wisconsin Hazard Mitigation Plan as well as identified challenges, issues and roadblocks that the State and communities would be facing during the recovery process.

In addition, FEMA activated Emergency Support Function (ESF) 14 for the declaration. ESF 14 provided support for to the State for long term recovery by assisting the WRTF, and in developing a long term recovery plan for the Village of Gays Mills. In addition, they worked with the Village of Rock Springs to address recovery issues in that community. The information gathered from these planning efforts will also assist with the recovery in other impacted communities.

At the time of this update, communities were in the early stages of identifying long-term permanent solutions to problems and applying for funding to address those issues. The Committee is working together to identify the needs and match the needs with the appropriate agency and funding source/s. In addition, it will work together to try and package funding where possible.

## 3.20 MITIGATION SUCCESS

An important component of mitigation is to celebrate our successes. Since 1991, $46 million in HMGP funds has been administered. Based on the estimates from the Preliminary Damage Assessments (PDA) the HMGP funds the HMGP program for FEMA-1768-DR-WI declared on June 14, 2008, could be as high as $34 million. The six-month lock in is not expected until December 14, 2008. This would bring the total for HMGP funds to over $81 million for the history of the program. The table below summarizes the funding history of the Hazard Mitigation Grant Program:

**Table 3.20-1. Hazard Mitigation Grant Program Funding History 1991-2004**

| HAZARD MITIGATION GRANT PROGRAM FUNDING | | | | |
|---|---|---|---|---|
| **DISASTER** | **FEDERAL SHARE** | **STATE SHARE** | **LOCAL SHARE** | **TOTAL** |
| *912-DR-WI | $54,342 | $27,171 | $27,171 | $108,684 |
| *959-DR-WI | $19,434 | $9,717 | $9,717 | $38,868 |
| *963-DR-WI | $188,187 | $94,093 | $94,093 | $376,374 |
| *964-DR-WI | $195,537 | $97,768 | $97,768 | $391,074 |
| 994-DR-WI | $10,503,362 | $1,750,521 | $1,750,521 | $14,004,403 |
| 1131-DR-WI | $258,395 | $43,066 | $43,066 | $344,527 |
| 1180-DR-WI | $4,698,752 | $783,125 | $783,125 | $6,265,003 |
| 1236-DR-WI | $1,471,849 | $245,308 | $245,308 | $1,962,465 |
| 1238-DR-WI | $3,337,816 | $556,302 | $556,302 | $4,450,421 |
| 1284-DR-WI | $609,044 | $101,529 | $101,529 | $812,059 |
| 1332-DR-WI | $3,318,014 | $553,003 | $553,003 | $4,424,019 |
| 1369-DR-WI | $3,292,556 | $548,760 | $548,759 | $4,390,075 |
| 1429-DR-WI | $496,952 | $82,826 | $82,825 | $662,603 |
| 1432-DR-WI | $817,188 | $136,198 | $136,198 | $1,089,584 |
| **1526-DR-WI | $1,362,737 | $227,123 | $227,123 | $1,816,983 |
| ***1719-DR-WI | $4,164,059 | $694,010 | $694,010 | $5,552,079 |
| ***1768-DR-WI | $26,000,000 | $4,333,333 | $4,333,333 | $34,666,666 |
| **TOTAL** | **$60,788,224** | **$10,283,853** | **$10,283,851** | **$81,355,887** |
| **AVERAGE** | **$3,575,778** | **$604,933** | **$604,933** | **$ 4,785,640** |

*Cost share was 50% federal/25% State/25% local. HMGP was 10% of Public Assistance permanent repairs only.
**HMPG is 7.5% of Individual and Public Assistance Programs.
*** HMGP is 20% of Individual and Public Assistance Programs.

The table below identifies the number of grants awarded for the different type of projects.

**Table 3.20-2. Grants by Type**

| PROJECT TYPE | HMGP | FMA | PDM | GRANTS AWARDED |
|---|---|---|---|---|
| Acquisition/Demolition | 51 | 13 | 3 | 67 |
| Floodproofing | 8 | 1 | 0 | 9 |
| Wind Mitigation | 2 | 0 | 0 | 2 |
| Education | 2 | 0 | 0 | 2 |

| | | | | |
|---|---|---|---|---|
| Structural | 11 | 0 | 4 | 15 |
| Relocation | 1 | 0 | 0 | 1 |
| Other | 12 | 0 | 0 | 12 |
| Planning | 20 | 13 | 67 | 100 |
| **Total** | **107** | **27** | **74** | **208** |

Source: WEM, 2008

In addition to the HMGP, FMA funds in the amount of $1,564,772 have been administered, and PDM funds in the amount of $8,273,504. Between the three programs a total of $56,527,497 in funds has been provided to communities for mitigation planning and project implementation. With the additional funds under 1768-DR that total will be $91,194,163. Map 3.20-1 identifies the location of mitigation projects statewide. As stated previously, the WHMT and WEM priorities for mitigation are acquisition and demolition, relocation and floodproofing of hazard prone structures with priority given to substantially damaged, repetitive loss and severe repetitive loss properties. The following table identifies the number of structures that have been mitigated through HMGP, PDM and FMA. It is worth noting that the majority of the commercial structures that have been floodproofed were within the historic district in the City of Darlington and required special consideration as historic structures within a floodplain.

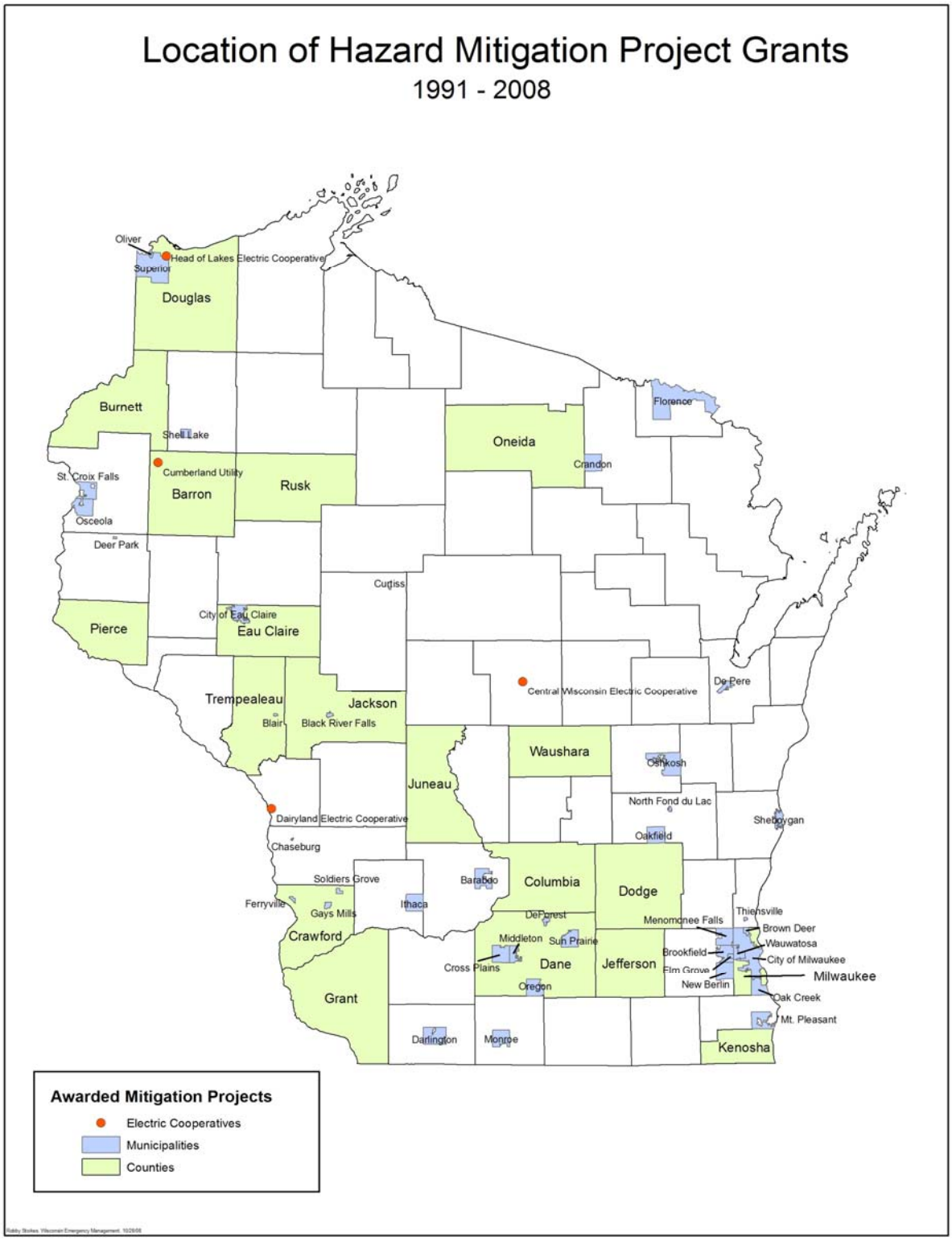
**Table 3.20-3. Structures Mitigated**

| TYPE | NUMBER OF RESIDENTIAL STRUCTURES | NUMBER OF COMMERCIAL STRUCTURES | TOTAL NUMBER OF STRUCTURES |
|---|---|---|---|
| Acquisition | 336 | 24 | 360 |
| Floodproofed | 36 | 21 | 57 |
| Relocated | 1 | 1 | 2 |
| **Total** | **373** | **46** | **419** |

Source: WEM, 2008

The totals in the table above do not reflect the mitigation efforts undertaken through other agencies and by local governments. The Department of Commerce through Community Development Block Grant (CDBG) funds has provided assistance to several communities to further their mitigation efforts by acquiring and demolishing floodplain properties (see Appendix D). Since 1995, Kenosha County has purchased 72 properties along the Fox River in the Towns of Salem and Wheatland and in the Village of Silver Lake. These acquisitions were made using CDBG and DNR funds as well as

**Map 3.20-1**






**Section TOC**

HMGP and FMA funds. Their goal is to purchase up to 160 properties, as funds become available.

Another example is Blackhawk Island in Jefferson County, which is bordered by the Rock River on one side and Lake Koshkonong on the other. The island has been flooded repeatedly over the years and the entire island lies within the floodway. In addition to CDBG, HMGP and FMA funds, the county received Urban Rivers Grant Program funds through the Department of Natural Resources. These funds have enabled the county to purchase 38 properties. The County experienced flooding in 2007 and 2008. The Rock River was under a Flood Warning beginning in early 2008 and extending into mid-Spring. The flood warnings were barley lifted and rivers rose again with the June 2008 flooding. The June flooding broke record flood levels up and down the Rock River. As a result, the County has submitted a HMGP application for the acquisition of 69 substantially damaged structures.

There are also mitigation projects occurring in Wisconsin through local initiative and mostly local funding. The Milwaukee Metropolitan Sewerage District (MMSD) has been implementing a floodplain and stormwater management strategy for over ten years that has involved engineered flood management structures or acquisition to protect structures that their flood hazard models show are vulnerable to a 1% probability flood. MMSD has spent $230 million since 1998 to protect 3,316 floodprone properties in Milwaukee County. Another 700 will be protected or acquired by 2010. Projects include $12 million in Valley Park along the Menomonee River for a flood wall, a million-gallon underground storage and pumping station; $120 million for channel improvements, detention basins, and property acquisitions along Lincoln Creek; and $4 million along the Southbranch Creek in Milwaukee and Brown Deer, and acquisitions along the Menomonee River. In addition smaller flood management projects and acquisition projects have been implemented in the Cities of Franklin, West Allis and Greenfield. Along the Root River approximately 67 structures have been acquired with the largest number in Greenfield (43 structures). Along the Menomonee River approximately 80 structures have been acquired with the largest number in the Cit of Wauwatosa (73 structures.) Flood management work is ongoing with planning and design projects in the Kinnickinnic River and its tributaries and a watershed management plan for the Milwaukee River.

One of the more well known mitigation projects was the relocation of Soldiers Grove. Flooding was not a new experience to the residents of Soldiers Grove. Residents experienced flooding in 1907, 1912, 1917, 1935, 1951, and the "big one" in 1978 and lesser floods after that. The August 2007 and June 2008 floods were the biggest floods to hit the Village. The Village began to debate about what to do about the flooding in the mid-60's when the construction of a dam was considered. In 1975 a relocation coordinator was hired, and in 1976 the Village passed a resolution that supported relocation to avoid future flood damages. After the 1978 flood Village officials convinced state and federal officials that moving the town was the best floodproofing. By 1983 the project costing $6 million in public funds was completed. The Soldiers Grove central riverside municipal park and campgrounds stand where the downtown

once stood. The park received little damage in 2007, however, was substantially damaged in the 2008 event. It is not hard to imagine the devastation that would have occurred if the downtown had not relocated. The Solar Village uphill was unscathed. At the time of the Soldiers Grove relocation, there were no FEMA mitigation programs available. The relocation was completed through various funding sources and from several state and federal agencies all working together in a partnership over a period of years. As a result of the 2007 disaster, the Village has received HMGP funds to elevate an additional three structures and acquire another.

Downstream of Soldiers Grove is the Village of Gays Mills. After the 1978 flood, the Village considered mitigation options, but did not move forward in implementation. The Village was struck by back-to-back floods events in August 2007 and June 2008. Both flood events were greater than 500-year flood events, which resulted in substantial losses to residences and businesses within the Village. With two floods so close together, the Village has began to consider the possibility of relocation. The Village established a Flood Recovery Committee after the 2007 flooding, and later a Long Range Planning Committee was formed. The Village has received HMGP funding from the 2007 event for acquisition and elevation of flood damaged structures, and it is anticipated that they will apply for funding under the 2008 disaster declaration.

In addition to acquisitions and floodproofing, other types of mitigation projects have been implemented in Wisconsin. After the June 1997 flood that caused $78 million in damages, the County Emergency Management staff wanted to educate homeowners about preventing flooding and sewer backup damages. Milwaukee County applied for and received a grant for the development of a flood mitigation video and accompanying brochure. The video and brochure are targeted towards property owners and what they can do to protect themselves from flooding. Timing of the video helped towards it success in a rather unfortunate way. The video debuted after the county experienced its second 100-year flood event in 1998. The video was distributed to all the public libraries within the county and over 10,000 brochures have been printed and distributed. Other avenues of distribution and coverage were through newspaper stories and local home improvement shows. These items were developed for Milwaukee County, however, the information is valid for all Wisconsin residents.

Another unique project involved the wind retrofit of a school. In 1996, the Oakfield Middle School was one of 180 structures damaged or destroyed as a result of a tornado. The school district utilized HMGP funds to incorporate wind resistant construction techniques when rebuilding the school to withstand 150-mph winds. Techniques included “hardening” the interior walls, and placement of reinforcing steel in the masonry walls. The roof structure was changed from steel to a masonry pre-cast concrete roof and the roof was welded to plates embedded into the walls, placed at double the normal rate, to tie the roof into the structure more securely. The extra expense to incorporate the measures were relatively minor compared to the overall construction costs and will provide protection to the faculty, students and other individuals living in the vicinity of the school.

During a July 1999 storm, wind and lightning storms caused severe damage to overhead power lines, equipment and facilities owned by the Head of Lakes Electric Cooperative. Over half of the Cooperative's customer base was affected. Through the HMGP, the Cooperative replaced 6.3 miles of existing overhead power lines with underground lines. The underground lines will improve reliability to consumers, reduce losses in revenue, improve safety by reducing line contact possibilities and by increasing communication availability, reduce forest fire danger and significantly reduce the probability of catastrophic failure in the event of a future severe storm. As a result of the success of the Cooperative's project, a HMGP grant was awarded to the Cumberland Municipal Utility after a storm event in 2000 to bury 2.2 miles of overhead power lines with underground lines. In addition, Barron County received a 2003 PDM-C grant for the Barron Electric Cooperative, and Portage County for Central Wisconsin Electric Cooperative to bury overhead power lines. The cooperatives statewide have entered into an agreement with WEM on the development of an annex to the State Hazard Mitigation Plan. Upon completion of the annex the information will be shared with the County Emergency Management Directors for inclusion in the local hazard mitigation plans. With the completion of the annex and approval by FEMA, the electric cooperatives will be eligible to apply for mitigation funds through the State or County to implement mitigation measures.

Since 1982, Juneau County has been hit with nearly 100 severe storms resulting in two deaths and multiple injuries. The County applied for and received a HMGP grant to purchase and install 31 fiberglass underground storm shelters. The shelters are designed for short-term use during severe weather and can hold up to 12 people. Shelters have been installed at facilities without basements such as day care centers, mobile homes, and homes without basements. During severe weather they are open to anyone in the area that needs to take shelter.

The State continues to look for opportunities to fund new or innovative mitigation measures throughout the state when presented to them.

It is now estimated that for every $1 spent on mitigation, $4 is saved in future disaster losses ($5 in flood events.) One of the activities is to demonstrate this by documenting the success and economic benefits of the mitigation measures implemented through the FEMA mitigation programs as well as other programs.

Several communities that have implemented mitigation measures through HMGP, FMA and PDM have now had the chance to test those measures. In the spring and summer of 2000 several communities had flood conditions severe enough to test the benefits of mitigation.

In May 2000, heavy rains in the Milwaukee area caused the Menomonee River to reach floodstage. The City of Wauwatosa, through HMGP and Community Development Block Grant (CDBG) funds, had acquired and demolished 23 structures in the Valley Park area along the river. If the river had risen much higher and mitigation had not been undertaken, damages would have once again occurred to the structures.

At the same time, floodwaters rose in the Village of Brown Deer along Southbranch Creek. In 1998, ten homes were substantially damaged adjacent to the creek and were acquired and demolished by the village again utilizing HMGP and CDBG funds. MMSD constructed a detention basin at the site to alleviate future flooding to neighboring and down stream properties. The detention basin worked as designed alleviating flood damages to structures. The system was again tested in May of 2004 after nearly two weeks of rain. The Village Manager reported there was no overland flooding and stated that they would definitely have had water in basements if the stormwater management projects had not been completed after the 1997 and 1998 flooding.

The Fox River in Kenosha County is subject to frequent flooding. To some extent flooding occurs at least annually and sometimes two and three times a year. From 1994 to 2008, the county has been included in 8 federal disaster declarations. Since 1993 owners of 72 properties in the communities of Wheatland, Salem and Silver Lake have participated in the County's buyout program along the river utilizing HMGP, FMA, CDBG and DNR funds. The County would like to acquire an additional 104 properties. The county issued a flood emergency in May 2000 and again in May 2004 and residents were urged to evacuate when the river rose to above floodstage. Using a formula based on past experiences with flood damages to homes and the effect on infrastructure, recovery officials estimate that the height of the water in the flooding in May 2004 would have caused projected damages to homes in the floodplain at an estimated 20% of the value of the home. The value of those houses that were removed from the site of the flooding averaged $84,000 for the 56 properties acquired at that time. Using projected damage estimates, the flood of 2004 would have caused $940,000 in damages to homes and the associate costs of recovery had the acquisition project not occurred. The 2007 flood hit Kenosha County hard. While the 2004 flood was 4 feet above flood stage, the 2007 event was nearly 5 feet over flood stage. While the 2007 floods made some people think they had seen the worst of it, June 2008 brought even greater devastation. Flooding was 5 to 8 feet above flood stage. Again, damages were averted where mitigation measures had been undertaken.

Blackhawk Island, at the mouth of the Rock River, in Jefferson County is another area that is plagued with annual flooding. The Island is a peninsula and is surrounded on either side by Lake Koshkonong and Mud Lake. When the lakes swell, the two bodies of water merge into one, covering the low-lying areas of the peninsula. The road on the Island becomes submerged, and as the water rises, it flows into homes. After the 1993 flood, the County applied for and received a HMGP grant to implement a buyout program. Along with HMGP, the County utilized CDBG and grant funds through the Department of Natural Resources to acquire structures on Blackhawk Island. The County has continued to implement the buyout program utilizing available HMGP and FMA funds. To date, 38 properties have been acquired and demolished. The County would like to purchase 100 more. As a result of flooding that occurred in May 2004, many of the 35 structures acquired at that time would have been damaged if the properties were still there. It is estimated that the repair expense for the homeowners would have totaled $406,000 (based on an average value of $58,000 per structure and

a projected 20% damage based on floodwater levels.) The County experienced flooding in 2007 and twice in 2008. The June 2008 flooding saw record breaking flood levels along the Rock River. Since the Island experiences some extent of flooding annually, the overall savings have well exceeded the cost of the acquisitions.

Both Kenosha and Jefferson Counties continue to apply for funding to reach their mitigation goals. As a result of the mitigation measures taken in both counties, loss avoidance studies will be prepared in the near future.

Trenton Island is located in the unincorporated area of Trenton Township, Pierce County and is in the middle of the Mississippi River. For years the residents of Trenton Island suffered severe and repetitive flood damage. Major floods in 1952, 1965, 1969, 1993, and 1997 devastated the community, damaging homes, businesses and island infrastructure. The Island also incurred minor flooding in 1967, 1975 and 1986. The 1993 flood hit Trenton Island hard and county officials and island residents faced some difficult choices. To prevent the suffering, damage and expense wrought by repetitive flooding, County officials applied for and received through the HMGP and CDBG to implement a buyout program. For the next several years, owners of 59 Trenton Island properties participated in the program. Another 7 sold to the Red Wing Area Fund, a local conservation group. In all 68 or 65% of island properties were purchased and returned to open space. Floods in 1997 and 2001 illustrated the benefits of the buyout program. In 1997, the crest was almost 2 feet higher than in 1993 and 2.5 feet higher in 2001. The extensive losses caused in 1993 would of have been multiplied in the 1997 and 2001 floods, and in future floods, if the homes and businesses participating in the buyout program had remained on the Island.

Up until 2003, before, during and after flooding, employees of the Crawford County Highway Shop in Gays Mills spent precious time moving vehicles, heavy equipment, and computers, sandbagging, and raising things off the ground, all in an effort to protect their facility from rising waters. Following two events in 2000 and in 2001, Crawford County received a HMGP grant and demolished the facility and relocated to higher ground in nearby Seneca, one of the highest points in the County. In August 2007 and in June 2008 Gays Mills received record breaking rainfall and the highest flood waters in the Valley's history. The new shop remained high and dry while Gays Mills was inundated. Not only were damages avoided to the Highway Shop in two separate events, it allowed the employees to concentrate their efforts on emergency response throughout the county instead of responding to flooding at their own facility. A loss avoidance study will be prepared in the near future.

One of the State's most successful mitigation programs is in the City of Darlington. The Pecatonica River nearly encircles the Village during flooding when the river cannot stay within its reaches due to a horseshoe bend in the middle of town. Buildings were deteriorating and drastically reducing property values. After the 1990 and 1993 floods, the City aggressively began attacking its flooding problems. The City had the first flood mitigation plan approved in the state. The plan identified 1) acquisition and demolition of businesses adjacent to the river; 2) floodproofing down businesses to the highest

protection possible; and 3) floodproofing downtown business district while maintaining their historic character. The third goal was the most difficult to implement. Success in reaching the City's goals depended on forming an interagency coalition and promoting cooperation among local, state and federal agencies and the City's business community. The city worked to secure grants to supplement their local share of all costs involved in this unique and highly successful mitigation effort. As a result, 19 commercial properties have been floodproofed while preserving the historic storefronts. The City acquired and demolished 13 commercial properties and developed a 33-acre business park outside of the floodplain for relocated businesses and new businesses. The vacated land near the river was turned into a riverside park with a lighted 1.2 mile trail, campground and green space. Approximately 55 homes were floodproofed. Utilities at the fairgrounds were elevated above the flood stage, and the wastewater treatment plant as well as the fire department was relocated outside of the floodplain. The City was honored with an Achievement Award from the Wisconsin State Historical Society. In addition, portions of the movie, "Public Enemy" were filmed in the restored historic city. During the two most recent events in August 2007 and June 2008, the City was "armored and ready" for Mother Nature. Members of the Long Term Planning Committee from Gays Mills recently visited the City to see first hand the successful mitigation that the City has implemented over the years. The City continues to apply for various mitigation funds to work towards total mitigation within the City.

More information regarding these success stories have been documented and can be found on WEM's website at http://emergencymanagement.wi.gov as well as FEMA's website http://www.fema.gov/plan/prevent/bestpractices/index.shtm#1. Success stories will continue to be developed for future events to demonstrate the success and economic benefits from implementing effective mitigation measures. Loss avoidance studies will be prepared in those areas where adequate data is available to support such a study.

# SECTION 4
# RISK ASSESSMENT

## Table of Contents





Document TOC

## 4.1 INTERIM FINAL RULE REQUIREMENT FOR RISK ASSESSMENTS

A copy of the IFR can be found in Appendix O of this Plan. The present section addresses IFR requirements found at subsection [201.4 [c] [2]]. The IFR specifies that "to be effective, the State Hazard Mitigation Plan must include the following elements:

*Risk Assessments* that provide the factual basis for activities proposed in the strategy portion of the mitigation plan. Statewide risk assessments must characterize and analyze natural hazards and risks to provide a statewide overview. This overview will allow the State to compare potential losses throughout the State and to determine their priorities for implementing mitigation measures under the strategy, and to prioritize jurisdictions for receiving technical and financial support in developing more detailed local risk and vulnerability assessments. The risk assessment shall include the following:

[i] An overview of the type and location of all natural hazards that can affect the State, including information on previous occurrences of hazard events, as well as the probability of future hazard events, using maps where appropriate.

[ii] An overview and analysis of the State's vulnerability to the hazards described in paragraph [c] [2], based on estimates provides in local risk assessments as well as the State risk assessment. The State shall describe vulnerability in terms of jurisdictions most threatened by the identified hazards, and most vulnerable to damage and loss associated with hazard events. State owned critical or operated facilities located in the identified hazard areas shall also be addressed.

[iii] An overview and analysis of potential losses to the identified vulnerable structures, based on estimates provided in local risk assessments as well as the State risk assessment. The State shall estimate the potential dollar losses to State owned or operated buildings, infrastructure and critical facilities located in the identified hazard areas."

## 4.2 OVERVIEW OF NATURAL HAZARDS WITH VUNERABILITY AND RISK ASSESSMENT

The Wisconsin Risk Assessment examines natural disasters on a statewide basis and for individual counties. Natural hazards include those caused by climatological, geological, hydrologic, or seismic events. The risk assessment relies upon information about past hazard events from published sources such as the U.S. National Oceanographic and Atmospheric Administration (NOAA), the U.S. Geological Survey (USGS), the U.S. Army Corps of Engineers (USACE), and the Wisconsin Department of Natural Resources (DNR) and the Wisconsin Emergency Management (WEM), among others.

The Disaster Mitigation Act of 2000 (DMA2K) and supporting requirements in the Interim Final Rule require States first to identify hazards that may affect them, then to perform a comprehensive multi-hazard assessment, including a review of detailed information concerning hazard characteristics, past occurrences, and probability. The initial hazard identification cataloged potential hazards Statewide and determined which have the most chance of significantly affecting Wisconsin and its citizens. The hazards include those that have occurred in the past as well as those that may occur in the future. A variety of sources were used in the investigation. These included national, regional, and local sources such as websites, published documents, databases, and maps.

After the overviews of four of the hazards, a detailed risk assessment is identified through a process described later in the hazards overview. The process used to identify these most significant hazards was reviewed and approved by the Wisconsin Hazard Mitigation Team (WHMT). This qualitative rating is included at the end of each hazard discussed in the present section, as a way to address the issue of probability without undertaking detailed studies for all the hazards.

Because it forms the basis of the State hazard mitigation plan, the State-level risk assessment should be as comprehensive as possible. As discussed elsewhere in this risk assessment, the initial list of 13 natural hazards was reduced to five for the more detailed risk assessment provided in this section. Flood, Tornado and High Wind, Coastal Erosion, and Wildfire are all part of a more comprehensive vulnerability and risk assessment.

### Methodology for Identifying Natural Hazards for Additional Analysis

Although the Interim Final Rule (see Appendix B) requires that all natural hazards affecting the State must be included in a detailed overview, it is not practical or desirable to perform detailed risk assessments on all these hazards because many of them have little probability of affecting the State and/or it is difficult to mitigate their effects. Because of this, the Wisconsin Hazard Mitigation Team and WEM determined that it would be desirable to reduce the initial list of 13 hazards to those that:

1. Have the highest probability of affecting the State
2. Have the greatest potential for mitigation

To accomplish this, WEM and the WHMT used a qualitative ranking system that rated each of the 13 hazards considered by its probability and potential for mitigation. This ranking is not intended to supplant detailed risk assessment, but rather to allow time and technical resources to be focused on the most significant hazards. For each of the 13 initial hazards Table 4.2 – 3 below shows the name of the hazard, data sources used in assessing it, the relative rankings for probability and mitigation potential, and the disposition of the hazard in this risk assessment. Disposition means how the hazard was addressed, either by performing a basic profile as required by the IFR, or through a more comprehensive risk assessment that provides projections of future losses due from the selected hazards impacting the State and its citizens.

Guidance provided by FEMA in the document served as the basis for selecting the natural hazards profiled in the report. The table below, *Natural Hazard Identification and Disposition* lists the broad range of hazards evaluated and describes the disposition of the preliminary investigation.

WEM and the WHMT used the following general guidelines to determine the high, medium or low rankings for probability and mitigation potential. Note that each of the ranking levels has several associated criteria. These criteria were used as general guidelines, so in some cases the rankings were weighted toward one or two of the criteria rather than all of them.

**Table 4.2-1 Probability Ranking and Criteria for Natural Hazard Identification and Disposition**

| Ranking | Criteria |
|---|---|
| High | ▪ The hazard has impacted the State annually, or more frequently<br>▪ The hazard is widespread, generally affecting regions or multiple counties in each event<br>▪ There is a reliable methodology for identifying events and locations |
| Medium | ▪ The hazard impacts the State occasionally, but not annually<br>▪ The hazard is somewhat localized, affecting only relatively small or isolated areas when it occurs<br>▪ The methodology for identifying events is not well-established, or is not applied across the entire State |
| Low | ▪ The hazard occurs only very infrequently, generally less than every five years on a large scale, although localized events may be more frequent<br>▪ The hazard is generally very localized and on a small scale (i.e. sub-county level)<br>▪ A methodology for identifying event occurrences and/or severities is poorly established in the State, or is available only on a local basis. |

**Table 4.2-2 Mitigation Potential Ranking and Criteria for Natural Hazard Identification and Disposition**

| Ranking | Criteria |
|---|---|
| High | ▪ Methods for reducing risk from the hazard are technically reliable<br>▪ The State or Counties have experience in implementing mitigation measures<br>▪ Mitigation measures are eligible under Federal grant programs<br>▪ There are multiple possible mitigation measures for the hazard<br>▪ The mitigation measure(s) are known to be cost-effective<br>▪ The mitigation measures protect lives and property for a long period of time, or are permanent risk reduction solutions |
| Medium | ▪ Mitigation methods are established<br>▪ The State or Counties have limited experience with the kinds of measures that may be appropriate to mitigate the hazard<br>▪ Some mitigation measures are eligible for Federal grants<br>▪ There is a limited range of effective mitigation measures for the hazard<br>▪ Mitigation measures are cost-effective only in limited circumstances |

| | |
|---|---|
| Low | ▪ Mitigation measures are effective for a reasonable period of time<br>▪ Methods for reducing risk from the hazard are not well-established, are not proven reliable, or are experimental<br>▪ The State or Counties have little or no experience in implementing mitigation measures, and/or no technical knowledge of them<br>▪ Mitigation measures are ineligible under Federal grant programs<br>▪ There is a very limited range of mitigation measures for the hazard, usually only one feasible alternative<br>▪ The mitigation measure(s) have not been proven cost effective and are likely to be very expensive compared to the magnitude of the hazard<br>▪ The long-term effectiveness of the measure is not known, or is known to be relatively poor. |

**Table 4.2-3 Natural Hazard Identification and Disposition**

| Hazard | Data Sources | Probability | Mitigation Potential | Disposition |
|---|---|---|---|---|
| **Flooding** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management National Oceanographic & Atmospheric Agency (NOAA)<br>▪ Department of Natural Resources | High | High | ▪ General profile.<br>▪ Risk Assessment at County level.<br>▪ Risk Assessment for State-owned and –operated facilities. |
| **Tornadoes and High Winds** | ▪ National Oceanographic & Atmospheric Agency (NOAA)<br>▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management | High | High | ▪ General profile.<br>▪ Risk Assessment at County level.<br>▪ Risk Assessment for State-owned and –operated facilities.<br>▪ Separate assessments for tornadoes and high winds |
| **Wildfires** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ Department of Natural Resources | Medium | Low | ▪ General profile.<br>▪ Risk Assessment at County Level. |
| **Coastal Erosion** | ▪ U.S. Geological Survey (USGS)<br>▪ U.S. Army Corp of Engineers<br>▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ Department of Administration, Coastal Management Program | High | High | ▪ General profile.<br>▪ Risk Assessment at County level.<br>▪ Risk Assessment for State-owned and –operated facilities. |
| **Severe Thunderstorms** | ▪ National Oceanographic & Atmospheric Agency (NOAA)<br>▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ National Weather Service (NWS) | High | Medium | ▪ General profile. |
| **Hail** | ▪ National Oceanographic & Atmospheric Agency (NOAA)<br>▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management | High | Low | ▪ General profile. |
| **Dam Failure** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ Wisconsin Department of Natural Resources | High | Medium | ▪ General profile. |

| Hazard | Data Sources | Probability | Mitigation Potential | Disposition |
|---|---|---|---|---|
| **Droughts** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management | Medium | Low | ▪ General profile. |
| **Earthquakes** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ University of Wisconsin-Extension, Geological and Natural History Survey<br>▪ University of Memphis Center for Earthquake Information<br>▪ Wisconsin Emergency Management | Low | Low | ▪ General profile. |
| **Wildfires** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ Department of Natural Resources | High | Low | ▪ General profile.<br>▪ Risk Assessment at County Level. |
| **Extreme Heat** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Wisconsin Emergency Management<br>▪ National Weather Service (NWS) | High | Low | ▪ General profile. |
| **Landslides and Land Subsidence** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ U.S. Geological Survey (USGS)<br>▪ Wisconsin Emergency Management | Medium | Low | ▪ General profile. |
| **Lightning** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ Centers for Disease Control and Prevention<br>▪ National Oceanographic & Atmospheric Agency (NOAA)<br>▪ National Weather Service<br>▪ University Corporation for Atmospheric Research (UCAR) | High | Low | ▪ General profile. |
| **Winter Storms** | ▪ Federal Emergency Management Agency (FEMA)<br>▪ WISCONSIN EMERGENCY MANAGEMENT<br>▪ NATIONAL OCEANOGRAPHIC & ATMOSPHERIC AGENCY (NOAA) | High | Low | ▪ General profile. |

As expected, the classification process provided a clear stratification of the hazards based on these criteria. The WHMT identified floods, tornadoes and high winds, wildfires and coastal erosion as the hazards that present highest risk to the State and the most potential for mitigation based on this limited assessment. In the sections that follow, these hazards are afforded detailed risk assessments in order to identify the areas of the State that are most at risk, and this information is in turn used as the basis for determining appropriate actions to reduce the risks.

As discussed earlier, this ranking system is not intended to supersede more detailed and focused risk assessment procedures. As the State occasionally re-evaluates and updates its plans, it may be appropriate to revisit this ranking methodology and perform full risk assessments for additional hazards. Based upon data work completed by U.S. Forest Service and Wisconsin Department of Natural Resources, the 2008 update included a more detailed risk assessment on wildfires.

Increased population growth and development can also increase the risk and vulnerability of counties as property values increase and areas that may once have been undeveloped are now developed. Since most natural hazards, with the exception of floods, coastal hazards and dam failure, are so wide-spread, it is difficult to project future risk based solely on population and growth. Increasing residential property value will also increase future risk from tornado damage, in general.

Although most counties are projected to grow, there are some that are projected to grow by over 20% from 2000 to 2015. These counties are: Polk, St. Croix, Pierce and Chippewa (area around the Twin Cities metropolitan area), Adams, Sauk and Dane in the south-central part of the state and Washington, Calumet and Oconto in the western part of the state. Calumet (32.4%) and St. Croix (58.3%) are projected to grow the fastest of all counties.

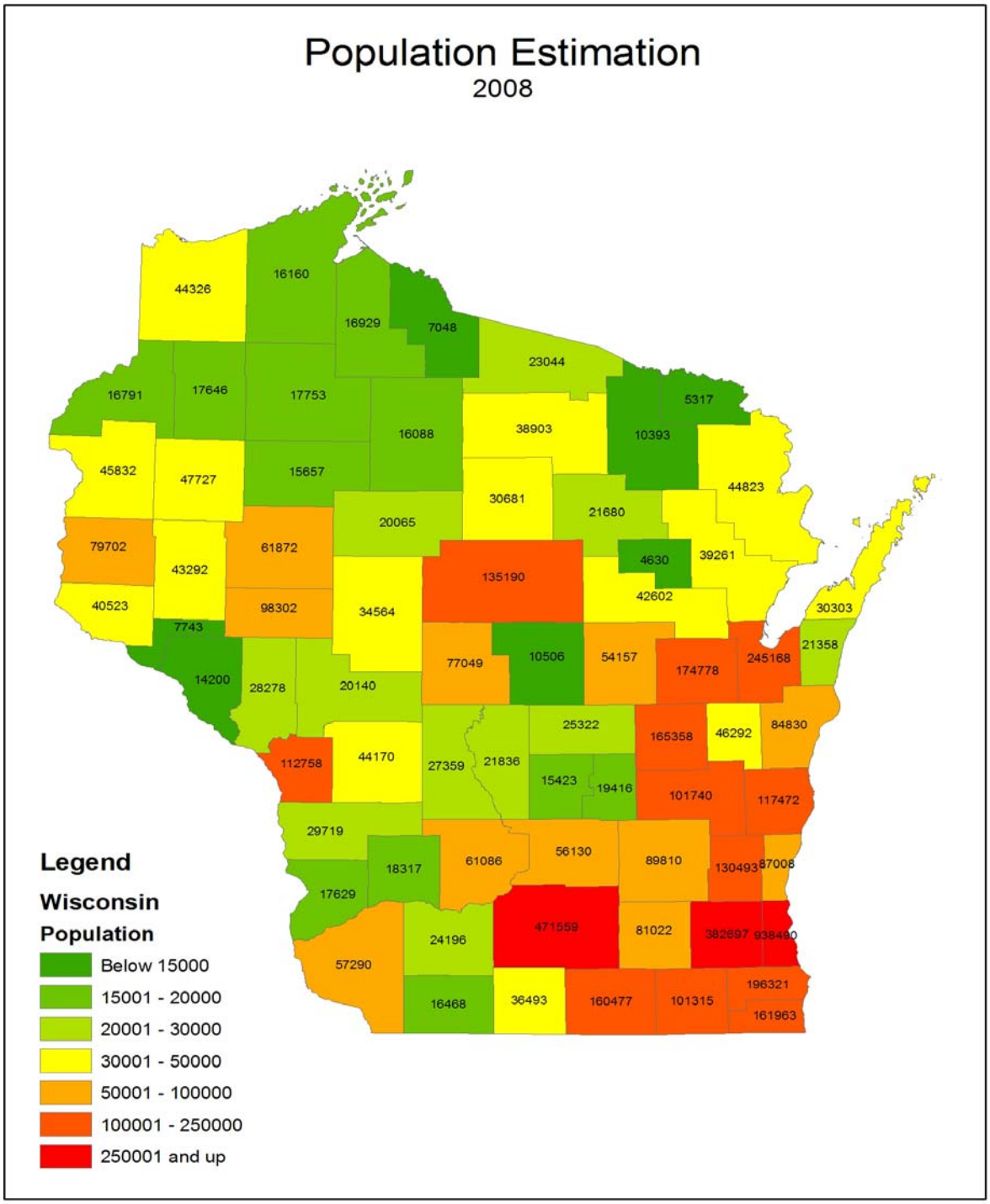
The fastest growing counties have tended to be on the edges of existing metropolitan areas---such as Calumet, Oconto, Pierce, Saint Croix and Washington---or adjoining them (Polk, Sauk, Walworth). However, the fast-paced growth of many metropolitan counties has slowed considerably in the past two years.

Future plans will continue to keep track of high growth populations and note that they have the potential for higher vulnerability. Census data will aid in providing this information, and when the 2011 plan data is formulated, new Census data will reflect these numbers.

Census data from the 2010 census will be used in the next plan to determine increased risk and vulnerability with updated data that will show an increase in most counties in population.

These are the latest estimates from the State of Wisconsin, Department of Administration, Demographic Services Center at http://www.doa.state.wi.us/subcategory.asp?linksubcatid=96&locid=9. These figures were used to prepare the maps as shown on the next two pages:

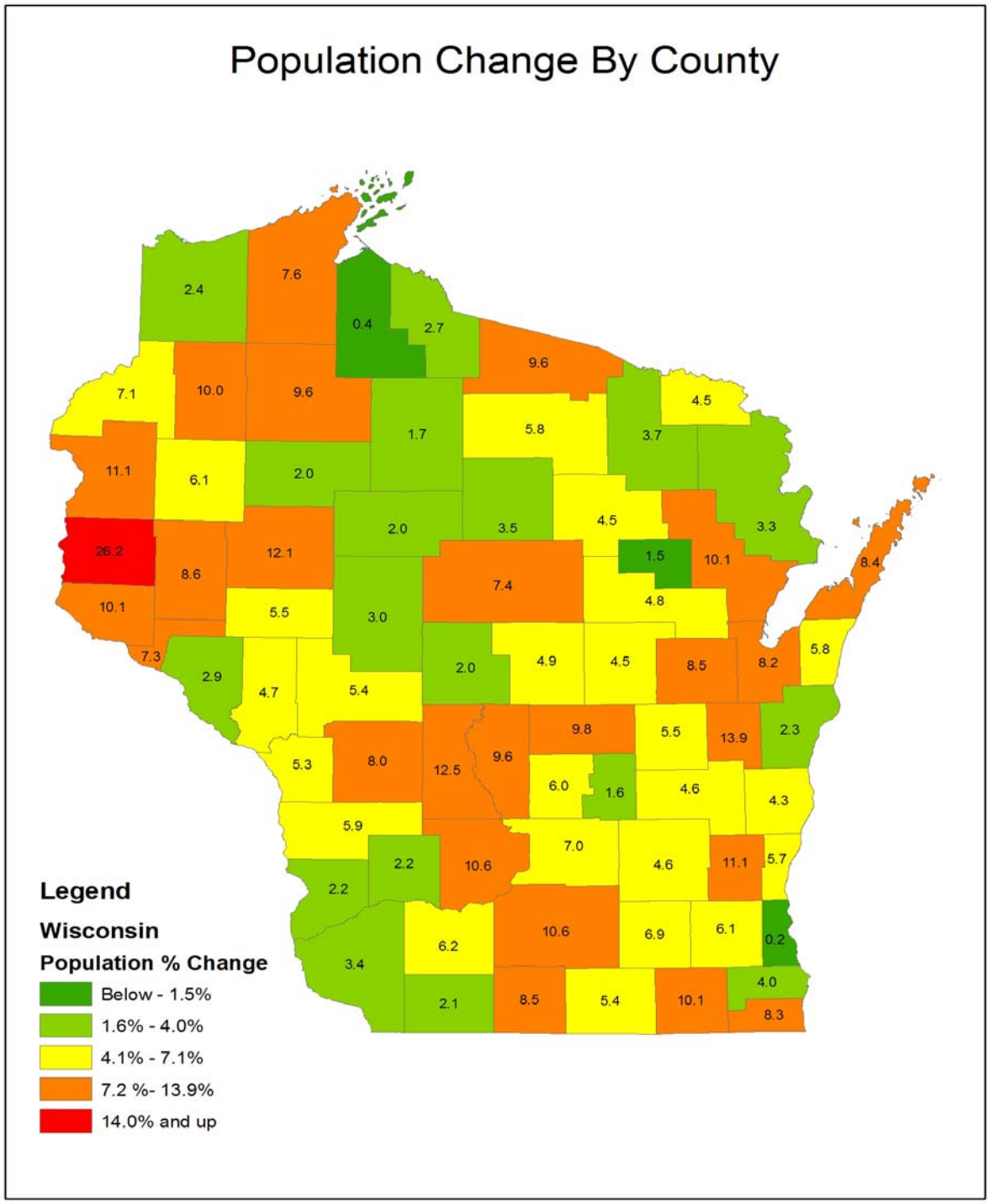
**Map 4.2.- 1 2008 Population Estimation**






Section TOC

**Map 4.2. - 2 Population Change by County**






Section TOC

## General Discussion of Vulnerability and Risk

Prior to reading the following sections about statewide risk, it is important to understand the meanings of several terms that appear in both the Federal hazard mitigation planning rules and this Plan. The terms *risk* and *vulnerability* appear many times in both places, and the terms are defined below and given some context in terms of this plan.

## Definition of Risk

In the context of hazard mitigation planning, *risk* is defined as the expected future losses to a community, business or State from the effects of natural events. The concept has several other concepts embedded in it. These are described below.

**Probability** is the likelihood that events of particular severities will occur. The ability of scientists and engineers to calculate probability varies considerably depending on the hazard in question. In many areas of the country, flood studies of various kinds can provide reasonably accurate estimates of how often water will reach particular places and elevations. On the other hand, tornadoes and earthquakes are notoriously difficult to predict, although general areas of impact can be determined (it is also possible to predict the seasons of the year that are most likely to produce tornadoes, although they can occur almost any time.) Probability is a key element of risk because it determines how often the events are likely to happen.

It is important to note that risk is cumulative. This means that although natural hazards may not affect a place in any particular year, the probability of one or more events (in some places multiple events) occurring “adds up” over time. Risk calculations incorporate all expected future events – usually with some limit on the time horizon that is considered – in order to account for both repetitive events and for the probabilities that accumulate over time. For example, although earthquakes are infrequent in most places there is some possibility of them occurring in any year. So, over time the possibility of an earthquake happening increases.

**Severity** is the measure of “how bad” a hazard event is. The severity of different hazards is measured in different ways, although most hazards are fairly straightforward to categorize. For example, floods can be measured in terms of depth, velocity, duration, contamination potential, debris flow, and so forth. Tornadoes are measured primarily in terms of wind speed, although their duration on the ground can also be an important factor in their destructiveness.

**Vulnerability** is the extent to which something is damaged by a hazard.

**Value** is how much something is worth. Although the concept may generate disagreement, it is possible to assign a value to many community “assets” including physical components such as buildings and infrastructure, functional ones such as government or business operations, and even injuries and casualties.

**Risk** is often expressed in dollars of future expected losses. It is calculated in this way so that different kinds of losses can be adequately compared. For example, without a

common basis for comparison, it would be virtually impossible to determine if the risk of injury from future earthquakes is greater than damage to vehicles in future floods. When the expected losses are converted to and expressed in dollars, the damages can be compared and prioritized. In combination with the concepts discussed above, almost any kind of hazard can be quantified and its risk expressed. The exceptions to this idea are *infrequent* or *highly unpredictable* events such meteors impacting the earth, or manmade hazards such as terrorism. In the cases, the element of probability is virtually impossible to characterize, and the risk calculus cannot be accurate without it.

Risk calculations often start with an annualized (yearly) loss figure, which is then projected into the future for some pre-determined period of time, then *discounted* to today's value using a discount rate. This is a standard economic methodology that is required by the Federal government for analyses of many of its programs, including FEMA's mitigation initiatives. Those who are interested can read more about the required methodology, which is described in Office of Management and Budget Circular No. A-94.

**Introduction**

The State of Wisconsin has experienced thousands of hazard events, resulting in millions of dollars in losses and casualties, 29 Presidential Disaster Declarations, and six Emergency Declarations since 1971. As part of an overall effort to reduce future exposure to damages, the State of Wisconsin, in cooperation with the Federal Emergency Management Agency (FEMA), has developed the Wisconsin Risk Assessment. The Wisconsin Risk Assessment presents research on the potential impact of natural hazards throughout the State and its jurisdictions. The document was developed to comply with the Disaster Mitigation Act of 2000 (DMA2K). This report provides a foundation for Wisconsin's effort to develop strategies to mitigate future damages from hazards.

The Wisconsin Risk Assessment examines natural disasters statewide and for individual counties. Natural hazards include those caused by naturally occurring climatological, geological, hydrologic, or seismic events. The risk assessment relies upon information about past hazard events from published sources, such as the U.S. National Oceanographic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), U.S. Army Corps of Engineers (USACE), Wisconsin Department of Natural Resources (DNR), and Wisconsin Emergency Management (WEM), among other agencies.

The DMA 2K criteria require States first to identify hazards that may affect them and then to perform a comprehensive multi-hazard assessment, including a review of detailed information concerning hazard characteristics, past occurrences, and probability.

**Hazard Identification**

The hazards profiled in the Wisconsin Risk Assessment were selected from the comprehensive list of natural hazards FEMA identified in the 1997 "Multi-Hazard

Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy (MHIRA)" and the "Hazard Analysis for the State of Wisconsin" (Department of Military Affairs (DMA), Wisconsin Emergency Management, November 2002).

The identification involves investigating all natural hazards and determining which ones affect Wisconsin. Natural hazards include those that have occurred in the past, as well as those that may occur in the future. The hazards were methodically examined based on the following three criteria, with each one considered in detail for the natural hazard profiled:

- **Nature**: This topic provides basic information about the natural hazard that is sufficient to enable a user of the plan to comprehend its nature and distinguish it from other hazards. It also provides a basis for leaders to understand the subsequent vulnerability assessment and loss estimates. The information for this section is drawn mainly from FEMA and other national agencies.
- **History**: Background information about previous occurrences of the natural hazard is provided. The focus is on natural disasters that have occurred in Wisconsin and, where Wisconsin information is lacking, on major occurrences elsewhere in the United States. The information in this section is drawn mainly from the database of natural historical hazard events in Wisconsin.
- **Probability and Magnitude**: The focus of this topic is the probability and magnitude of natural hazards in Wisconsin. The information is drawn from a combination of FEMA and other national sources, Wisconsin expertise, and the Wisconsin natural hazard event database. Where possible, the focus of this section is on a commonly accepted design event.

The initial list of 13 hazards was reduced to four for the detailed County-level risk assessment and three hazards for the risk assessment on State-owned and operated facilities. The risk assessments are found in Section 4.2, and include coastal and riverine floods, tornadoes, and high winds for both risk assessments. In addition, the County-level analysis includes a risk assessment for coastal erosion and wildfires.

## 4.2.1 Flood

### Nature of Hazard

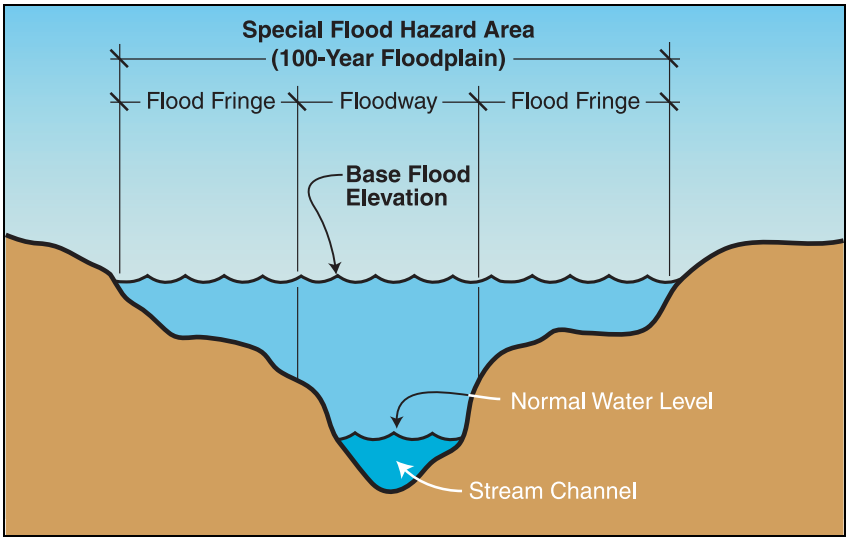
Flooding is the accumulation of water within a water body (e.g., stream, river, lake, and reservoir) and the overflow of excess water onto adjacent floodplains. As illustrated in Figure 4.2.1 – 1, floodplains are lowlands, adjacent to water bodies that are subject to recurring floods. Floods are natural events that are considered hazards only when people and property are affected. Nationwide, hundreds of floods occur each year, making it one of the most common hazards in all 50 states and U.S. territories (FEMA, 1997).

There are a number of categories of floods in the U.S., including the following:

- Riverine flooding, including overflow from a river channel, flash floods, alluvial fan floods, ice-jam floods, and dam break floods
- Local drainage or high groundwater levels
- Fluctuating lake levels
- Coastal flooding, including storm surges
- Debris flow
- Subsidence

The most common type of flooding event is riverine flooding, also known as overbank flooding. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions, to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics. In steep valleys, flooding is usually rapid and deep, but of short duration, while flooding in flat areas is typically slow, relatively shallow, and may last for long periods of time.

**Figure 4.2.1 - 1 Floodplain Definition Sketch**




Source: FEMA, August 2001.



Section TOC

The cause of flooding in large rivers is typically prolonged periods of rainfall from weather systems covering large areas. These systems may saturate the ground and overload the rivers and reservoirs in numerous smaller basins that drain into larger rivers. Localized weather systems (i.e., thunderstorms), may cause intense rainfall over smaller areas, leading to flooding in smaller rivers and streams. Annual spring floods, due to the melting of snowpack, may affect both large and small rivers and areas. While there is no sharp distinction between riverine floods, flash floods, ice jam floods, and dam-break floods, these types of floods are widely recognized and may be helpful in considering the range of flood risk and appropriate responses:

- Flash flood is a term in wide use by experts and the general population, but there is no single definition or clear means of distinguishing flash floods from other riverine floods. Flash floods involve a rapid rise in water level, high velocity, and large amounts of debris, which can lead to significant damage that includes the tearing out of trees, undermining of buildings and bridges, and scouring new channels. The intensity of flash flooding is a function of the intensity and duration of rainfall, steepness of the watershed, stream gradients, watershed vegetation, natural and artificial flood storage areas, and configuration of the streambed and floodplain. Dam failure and ice jams may also lead to flash flooding. Urban areas are increasingly subject to flash flooding due to the removal of vegetation, covering of ground cover with impermeable surfaces, and construction of drainage systems.
- Ice jam floods are primarily a function of the weather and are most likely to occur where the channel slope naturally decreases, culverts freeze solid, reservoir headwaters, natural channel constructions (e.g., bends and bridges), and along shallows.
- Local drainage floods may occur outside of recognized drainage channels or delineated floodplains due to a combination of locally heavy precipitation, a lack of infiltration, inadequate facilities for drainage and stormwater conveyance, and increased surface runoff. Such events frequently occur in flat areas, particularly during winter and spring in areas with frozen ground, and also in urbanized areas with large impermeable surfaces. High groundwater flooding is a seasonal occurrence in some areas, but may occur in other areas after prolonged periods of above-average precipitation. Losses associated with local drainage are most significant when they occur with other hazards described in this document, such as widespread flooding and thunderstorms; therefore, they are not analyzed as a distinct hazard.

Many urban areas that have historically been flood prone have been removed from the floodplain through the application of two construction types: (1) flood control dams, which reduce peak discharges; and, (2) levees, which redirect floods away from areas that would otherwise be inundated.

The aforementioned types of "natural" flooding occur nationally. The Federal Emergency Management Agency (FEMA) and the Wisconsin Department of Natural Resources (DNR), Division of Water through the National Flood Insurance Program (NFIP) usually map them. Regulation of new construction in mapped flood hazard areas is a responsibility of local government.

A type of flooding that does not result directly from overflowing lakes and streams but must be addressed is flooding that result from inadequate infrastructure, e.g., inadequate storm sewers and storm drainage systems.

This type of flooding has not typically been mapped by NFIP, and NFIP only requires local governments to impose land use regulations in a mapped floodplain. The NFIP standard flood insurance policy, however, often pays claims for flood losses in these areas with inadequate infrastructure.

## Flood History

The counties that border the Mississippi and Wisconsin Rivers, the largest rivers in Wisconsin, are prone to flooding in low-lying areas, including the tributaries. Smaller rivers have periodically flooded in other places: the Chippewa River in Eau Claire and Dunn Counties, the Menomonee River in Milwaukee and Waukesha Counties, the Kickapoo River in Crawford and Vernon Counties, the Pecatonica River and its tributaries in Green and Lafayette Counties, the Bad River in Ashland County, the Wolf River in Waupaca and Menominee Counties, and the Milwaukee River. Agricultural areas in Waukesha County have flooded more often as development has increased. The demand for housing along Wisconsin's waterfronts has also had an effect on flooding. For example, the number of homes along all sizes of northern Wisconsin lakes has increased an average of 216% since the 1960s. According to the Wisconsin Department of Natural Resources, lakes that are 500 to 1,000 acres in size now have nine times as many homes as they did in the 1960s. There are also an estimated 250,000 structures in the 100-year floodplains statewide. Table 4.2.1-1 shows major flood events in Wisconsin. Map 4.2.1-1 and 4.2.1-2 show major rivers and river basins.

Table 4.2.1 – 1 Major Flood Events in Wisconsin, 1973 - 2008

| Date of Flood Event | Area Affected | Damages | Fatalities |
|---|---|---|---|
| 1973 | 35 counties along the Mississippi and Wisconsin Rivers, bordering the Great Lakes, and some interior counties as well | $ 24,000,000 | 0 |
| 1975 | Buffalo, Pepin, Pierce, and Trempealeau Counties | $ 5,200,000 | 0 |
| 1978 | 16 counties in southern and southwestern Wisconsin; the Kickapoo River Valley was the most severely affected area | $ 51,000,000 | 0 |
| June and September, 1980 | Flash flooding occurred in six northwestern and west-central counties | $ 6,000,000 | 0 |
| July 1984 | Vernon County | $ 1,000,000 | 0 |
| September 1985 | Ashland, Bayfield, and Douglas Counties | $ 3,000,000 | 0 |
| August1986 | Milwaukee and Waukesha Counties | $ 20,000,000 | 2 |
| September 1986 | Milwaukee, Waukesha, Ozaukee, Sheboygan, Manitowoc, Dodge, Kenosha, and Washington Counties | $ 6,000,000 | 0 |
| June 1990 | East-central and southwestern counties, including Brown (including City of Green Bay), Kewaunee, Calumet, Manitowoc, Outagamie, Winnebago, Dane, Green, Rock, Grant, Iowa, Lafayette (including City of Darlington), Crawford, Richland, Sauk, Juneau, and Vernon Counties | $ 21,000,000 | 0 |
| August 1990 | City of Tomah and surrounding areas of Monroe County | $ 6,200,000 | 2 |

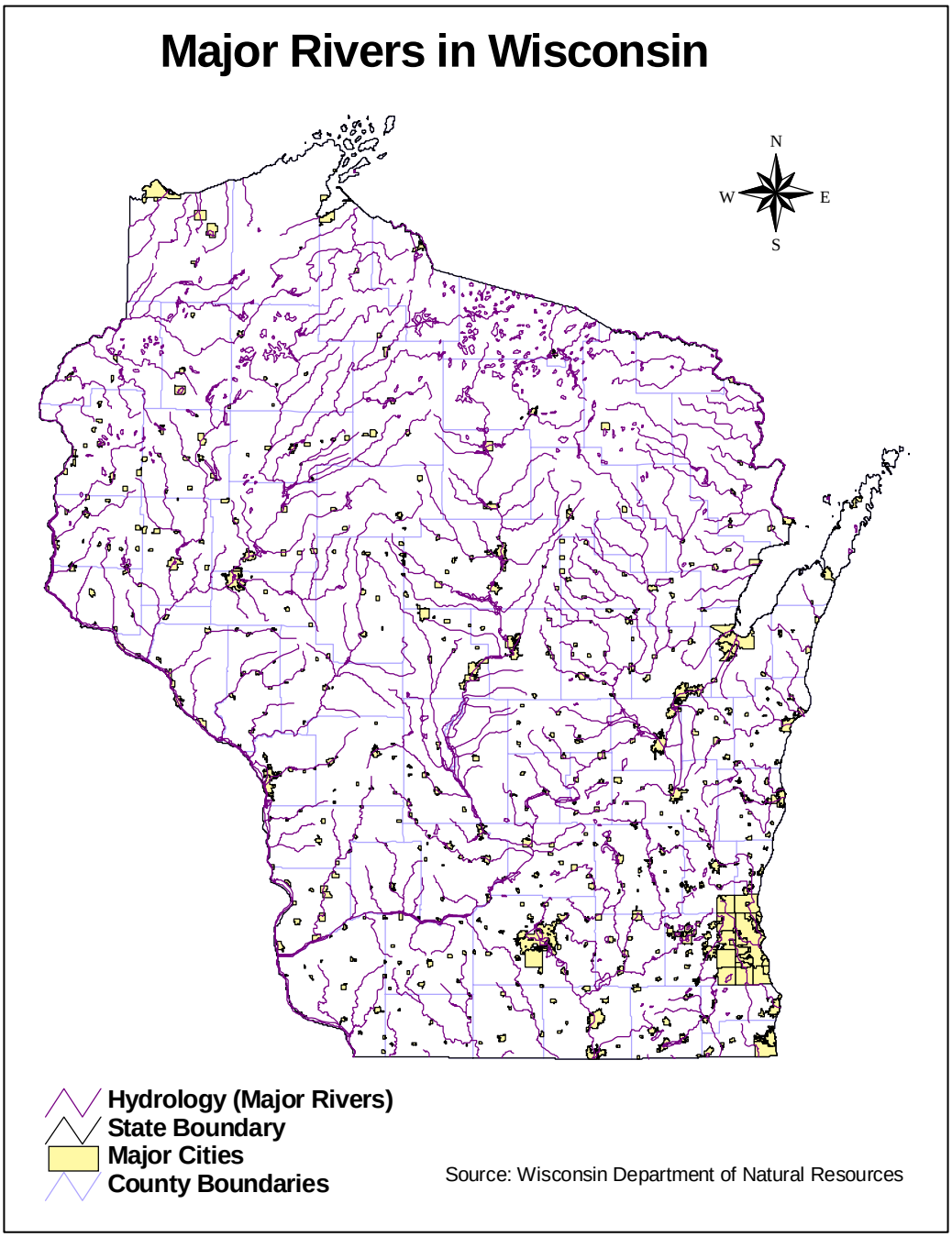
| Table 4.2.1 – 1 Major Flood Events in Wisconsin, 1973 - 2008 | | | |
|---|---|---|---|
| Date of Flood Event | Area Affected | Damages | Fatalities |
| September 1992 | Buffalo, Crawford, Jackson, Juneau, Pepin, Pierce, Richland, Sauk, Trempealeau, and Vernon Counties | $ 17,000,000 | 0 |
| June–August 1993 | 47 counties | $740,000,000 | 2 |
| July 1996 | Green County (including City of Monroe and the Village of Monticello) | $ 6,000,000 | 2 |
| June 1997 | Milwaukee, Ozaukee, Washington, and Waukesha Counties | $ 87,700,000 | 0 |
| August 1998 | Milwaukee, Waukesha, Sheboygan, Racine, and Rock Counties | $ 55,000,000 | 2 |
| July 1999 | Ashland, Bayfield, Douglas, Florence, Iron, Oneida, Price, Rusk, Sawyer, and Vilas Counties | $ 31,000,000 | 0 |
| May–July 2000 | 30 counties: Columbia, Crawford, Dane, Grant, Iowa, Juneau, Kenosha, Lafayette, Milwaukee, Richland, Sauk, Vernon, Walworth, Adams, Ashland, Barron, Burnett, Forest, Green, Iron, Jackson, Monroe, Oneida, Polk, Rusk, Sawyer, Washburn, Dodge, Racine, and Waukesha | $ 74,000,000 | 0 |
| April 2001 | 32 counties | $ 84,200,000 | 0 |
| June 2002 | Adams, Clark, Dunn, Marathon, Marinette, Portage, Waushara, and Wood Counties | $ 14,300,000 | 0 |
| September 2002 | Polk County | $ 3,000,000 | 0 |
| May-June, 2004 | Southern and Central counties - widespread | $268,425,000 | 1 |
| July 2006 | Waukesha County and City of Madison | $13,000,000 | 0 |
| August, 2007 | Southern counties - widespread | $116,400,000 | 1 |
| June 2008 | Southern counties – widespread, 31 Counties | $763,618,860<br>On-going | 1<br>(indirect) |

Source: NOAA NWS Milwaukee/Sullivan WFO, 2008



**Section TOC**

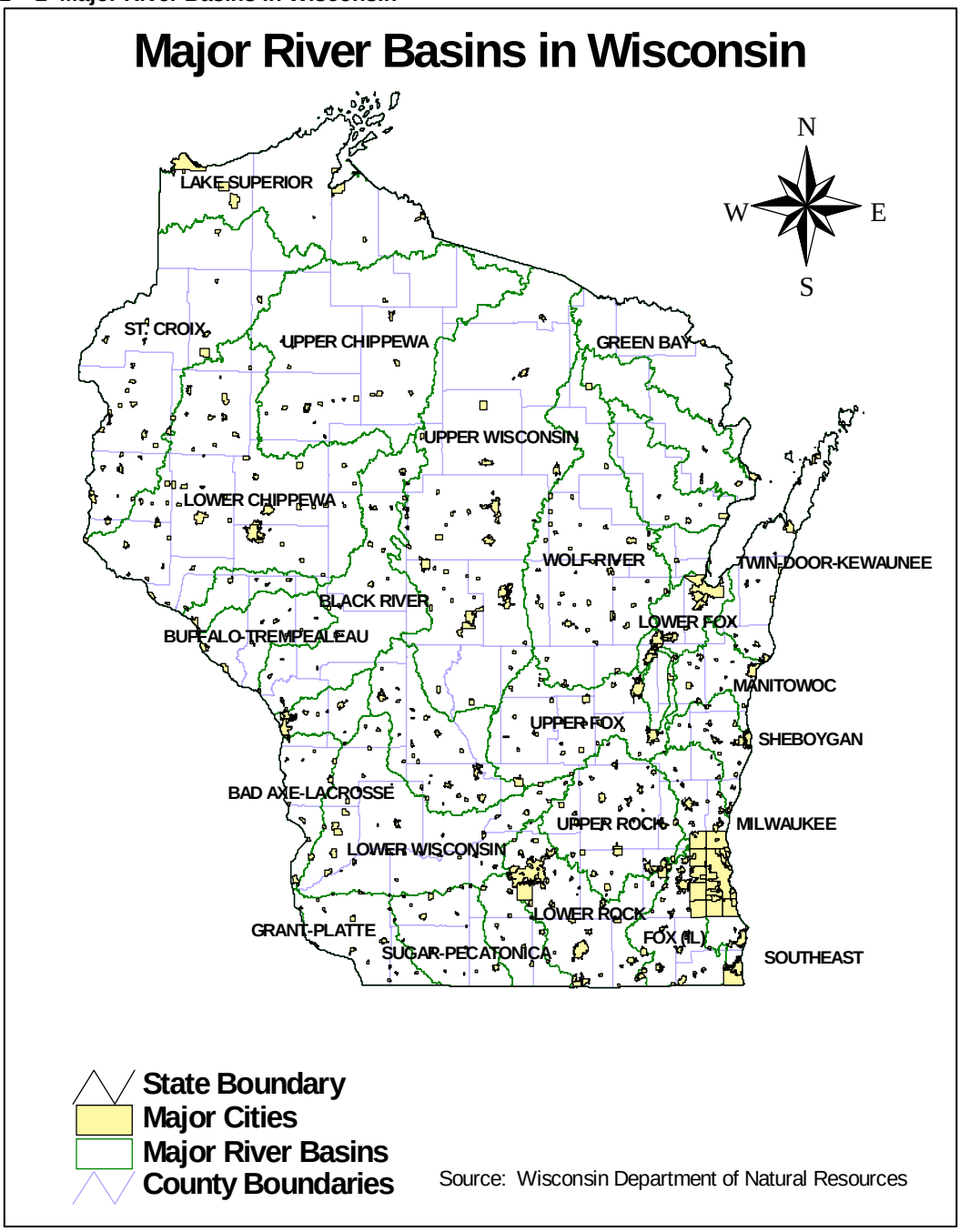
**Map 4.2.1 – 1 Major Rivers in Wisconsin**






Section TOC

**Map 4.2.1 – 2 Major River Basins in Wisconsin**






Section TOC

Flooding has been a principle cause of damage in 26 of 32 Presidential Disaster Declarations and 1 of 6 Emergency Declarations in Wisconsin from 1971 through July, 2008. During summer 1993, the State received its worst flooding in more than 20 years. Widespread rainfall and associated severe storms occurred from June 7 to August 25, 1993, resulting in a major Presidential Disaster Declaration for 47 counties. The total associated damage exceeded $740 million. Forty of the counties were declared for both public and private assistance, while the other seven were declared for Individual Assistance only. Recovery from this disaster is continuing today. In comparison to other states in the Midwest, Wisconsin was fortunate in that it was not affected as severely as others, but the 1993 floods were, by far, the State's worst disaster in terms not only of damages, but also in funds received through disaster relief programs, until the June flooding in 2008. The total amount of disaster relief funds received from all declarations prior to this was $352 million. Approximately $300 million in disaster relief was received for the 1993 Presidential Disaster Declaration alone.

Heavy rains from June 17 to19, 1993 caused extensive flooding on the Black River. Late Sunday morning, June 20, a portion of the embankment on the power canal between Hatfield and Black River Falls failed. At approximately 2:00 p.m. the levee protecting the Grove subdivision of the City of Black River Falls began to fail due to overtopping. Approximately 90 structures were damaged in the Grove area and waters reached the ceiling on the first floor of some of the structures. There were 500 to 700 residents estimated to have evacuated from their homes. Municipal water pumps and sewage treatment operations were shut down. Gas service to more than180 homes and businesses was also shut off. As a result, streets, storm sewers, sanitary sewers, water mains, utilities, and well water sources also suffered extensive damage. High-water marks in Black River Falls indicated that the floodwaters reached 2.5 feet above the 100-year flood level.

Significant flooding also occurred in Darlington, Wisconsin, on the upper west branch of the Pecatonica River. Record-breaking heavy rains in early July added to previous minor flood conditions and raised levels on the Pecatonica River to a crest of 18.6 feet, 7.6 feet over flood stage. The river completely covered the Main Street Bridge, effectively dividing the town, and several blocks of the downtown area had to be evacuated. The fire station was flooded, as were several businesses located downtown. An oil company with large stores of petroleum and gas in the floodplain on the northwest side and the sewage plant on the southeast side were environmental concerns because of the high water. Due to frequent and predictable flooding that occurred in the City of Darlington, a flood warning and evacuation plan had been developed and was implemented. Without it, considerably more property damage and endangerment of life would have resulted. This flood event provided the incentive and the necessary funding for the community to embark on a major hazard mitigation project. Darlington was able to implement its flood mitigation and economic development plan, which entailed the floodproofing and/or acquisition and relocation of numerous downtown buildings. The project has become a model for communities interested in dealing with the effects of repetitive flooding.

Agriculture was severely affected by the heavy rains and flooding that occurred in 1993. Thousands of acres of crops were damaged or destroyed and countless acres of rich

farm soil were washed away. These losses compounded those already incurred by crop producers as a result of a lack of soil moisture in 1992 and winterkill in the first three months of 1993 ("Hazard Analysis for the State of Wisconsin," Wisconsin Emergency Management, November 2002).

On June 20 and 21, 1997, the worst rainstorm in more than a decade dumped more than 7 inches of rain in a 30-hour period in Milwaukee and surrounding counties. The intense rainfall overwhelmed creeks and rivers, as well as storm and sanitary sewers. Severe impacts from the storm were felt in Milwaukee, Ozaukee, Washington, and Waukesha Counties. Hundreds of local roads and highways were filled with water, as much as 23 feet in some areas. Thousands of homes were damaged, many of which had six to seven feet of water in their basement. Hundreds more had first floor flooding with major structural damage; a dozen more houses were destroyed. The flood also damaged hundreds of businesses, many of which were forced to close temporarily or, in some cases, permanently. Some of the damaged businesses that provide critical services included Bayshore Clinical Labs, St. Michael's Hospital Health Center, St. Luke's South Shore Hospital, and the dialysis center in the City of Brown Deer. County emergency directors estimated disaster-related costs of $87,700,000.

On August 5-7, 1998, slow-moving thunderstorms dumped 5 to10 inches of rain in a three- to five-hour period, resulting in flash flooding or urban/small stream flooding in Southeastern Wisconsin. Thousands of homes were damaged and hundreds of structures had water above the first floor. Many sustained structural damage, with basement walls bowing or collapsing. The flooding also affected a number of businesses, some of which were temporarily or permanently forced out of operation. Tragically, two young boys lost their lives as a result of the flooding.

When all initial damage figures were compiled for the public and private sectors, they amounted to almost $55 million in losses. Most of the $44 million in private sector losses were uninsured, as flood-related losses are not covered by the standard homeowner's insurance policy. The severity of the storm and significance of the uninsured losses prompted a request for a Presidential Disaster Declaration for four Wisconsin counties. The declaration was granted for both public and private sectors. A fifth county was added later for public assistance only. Table 4.2.1 – 2 shows the Flood Disaster Declarations for the State.

Table 4.2.1 – 2 Major Flood Disaster Declarations in Wisconsin, 1969-2008

| Date of Incident | Disaster Number | Area Affected |
|---|---|---|
| May 1969 | 250 | Ashland, Buffalo, Crawford, Dunn, Eau Claire, Grant, Iron, La Crosse, Lincoln, Pepin, Pierce, St. Croix, Trempealeau, Vernon, Wood |
| July 1969 | 264 | Grant, Green, Lafayette, Milwaukee, Racine, Waukesha |
| September 1972 | 352 | Ashland, Bayfield, Douglas, Iron |
| April 1973 | 376 | Brown, Buffalo, Chippewa, Clark, Crawford, Door, Dunn, Eau Claire, Green Lake, Kenosha, Kewaunee, La Crosse, Langlade, Lincoln, Manitowoc, Marathon, Marinette, Marquette, Milwaukee, Oconto, Ozaukee, Racine, Rock, Rusk, Walworth, Waukesha, Waupaca, Waushara, Wood |

| Table 4.2.1 – 2 Major Flood Disaster Declarations in Wisconsin, 1969-2008 | | |
|---|---|---|
| Date of Incident | Disaster Number | Area Affected |
| May 1973 | 376 | Jefferson, Outagamie |
| June 1973 | 376 | Pepin, Portage |
| July 1973 | 376 | Sheboygan |
| March 1976 | 496 | Calumet, Columbia, Crawford, Dane, Dodge, Fond du Lac, Grant, Green, Iowa, Jefferson, Lafayette, Manitowoc, Milwaukee, Ozaukee, Richland, Rock, Sauk, Sheboygan, Vernon, Walworth, Washington, Waukesha |
| July 1980 | 626 | Chippewa, Dunn, Eau Claire, Pierce |
| August 1986 | 770 | Milwaukee, Waukesha |
| October 1986 | 775 | Dodge, Fond du Lac, Kenosha, Milwaukee, Ozaukee, Sheboygan, Washington, Waukesha |
| June 1990 | 874 | Lafayette |
| August 1990 | 877 | Monroe Vernon, Richland, Crawford, Grant, Lafayette, Iowa, Sauk, Dane, Green, Rock, Juneau, Outagamie, Brown, Kewaunee, Manitowoc, Calumet and Winnebago |
| September 1992 | 964 | Buffalo, Crawford, Jackson, Juneau, Pepin, Pierce, Richland, Sauk, Trempealeau, Vernon |
| July 1993 | 994 | Adams, Brown, Buffalo, Calumet, Chippewa, Clark, Columbia, Crawford, Dane, Dodge, Dunn, Eau Claire, Fond du Lac, Grant, Greene, Green Lake, Iowa, Jackson, Jefferson, Juneau, Kenosha, La Crosse, Lafayette, Lincoln, Marathon, Marquette, Menominee, Milwaukee, Monroe, Outagamie, Pepin, Pierce, Portage, Price, Racine, Richland, Rock, Rusk, Sauk, Shawano, St. Croix, Trempealeau, Vernon, Waupaca, Waushara, Winnebago, Wood |
| August 1996 | 1131 | Fond du Lac, Green |
| July 1997 | 1180 | Milwaukee, Ozaukee, Washington, Waukesha, |
| July 1998 | 1236 | Buffalo, Clark, Crawford, Dunn, Grant, Jackson, La Crosse, Monroe, Pepin, Pierce, Richland, St. Croix, Trempealeau, Vernon |
| August 1998 | 1238 | Milwaukee, Racine, Rock, Sheboygan, Waukesha |
| August 1999 | 1284 | Ashland, Bayfield, Douglas, Florence, Iron, Oneida, Price, Rusk, Sawyer, Vilas |
| June 2000 | 1332 | Adams, Ashland, Barron, Burnett, Columbia, Crawford, Dane, Dodge, Forest, Grant, Green, Iowa, Iron, Jackson, Juneau, Kenosha, Lafayette, Milwaukee, Monroe, Oneida, Polk, Racine, Richland, Rusk, Sauk, Sawyer, Vernon, Walworth, Washburn, Waukesha |
| May 2001 | 1369 | Ashland, Buffalo, Burnett, Crawford, Douglas, Grant, Iron, La Crosse, Pepin, Pierce, Polk, St. Croix, Trempealeau, Vernon, Washburn |
| June 2001 | 1369 | Bayfield, Outagamie, Portage, Waupaca, Waushara, Winnebago, Wood, Rusk, Calumet |
| July 2001 | 1369 | Adams, Chippewa, Dunn, Jackson, Juneau, Taylor, Barron, Clark |
| July 2002 | 1429 | Adams, Clark, Dunn, Marathon, Marinette, Portage, Waushara, Wood |
| September 2002 | 1432 | Barron, Burnett, Chippewa, Clark, Dunn, Langlade, Lincoln, Marathon, Polk, Portage, Price, Washburn, Waupaca and Wood |
| May-June 2004 | 1526 | Most counties south of a line from Eau Claire to Wausau to Green Bay<br>Clark, Columbia, Crawford, Dodge, Fond du Lac, Grant, Green Lake, Jefferson, Kenosha, Ozaukee, Vernon and Winnebago |
| August 2007 | 1719 | Columbia, Crawford, Dane, Grant, Green, Iowa, Jefferson, Kenosha, LaCrosse, Racine, Richland, Rock, Sauk and Vernon |
| June 2008 | 1768 | Adams, Calumet, Crawford, Columbia, Dane, Dodge, Fond du Lac, Grant, Green, |



Section TOC

| Table 4.2.1 – 2 Major Flood Disaster Declarations in Wisconsin, 1969-2008 | | |
|---|---|---|
| Date of Incident | Disaster Number | Area Affected |
| | | Green Lake, Iowa, Jefferson, Juneau, Kenosha, La Crosse, Lafayette, Marquette, Manitowoc, Milwaukee, Monroe, Ozaukee, Racine, Richland, Rock,, Sauk, Sheboygan, Vernon, Walworth, Washington, Waukesha and Winnebago. |

Source: FEMA

In 2001, flooding was the principle reason Wisconsin initially received Presidential Disaster Declaration, DR-1369, although tornadoes and severe storms became a major factor as the disaster progressed. Heavy winter snowfall combined with spring rain led to spring flooding. In mid-April, rain and rapid snowmelt caused the Mississippi River and many of its tributaries to flood. Floodwaters along the Mississippi River from Alma to Prairie du Chien rose to their highest levels since 1965. In addition, severe storms also struck northern Wisconsin in late April. Heavy rains mixed with freezing rain, snow, and severe winds caused widespread flooding and wind damage. The initial flooding affected 17 counties. Eventually, 32 counties were declared for DR-1369 for a variety of storm-related damage, including tornadoes.

Late on June 21, 2002, and early June 22, 2002, a series of severe thunderstorms swept across central and northeastern Wisconsin, including Adams, Clark, Dunn, Marathon, Marinette, Portage, Waushara, and Wood Counties. The storms produced up to 15 inches of rain in 24 hours in some locations; flooding on the Peshtigo, Wisconsin, and Yellow Rivers; flash flooding on smaller streams; and extensive ponding throughout many of the affected areas. There were reports of one to two feet of water in the streets of the City of Marinette, Marinette County, and reports of one foot of water in the streets of the City of Wautoma, Waushara County. The high-velocity floodwaters destroyed or caused extensive damage to bridges, bridge approaches, and culverts. The high-velocity floodwaters also caused extensive road surface damage, leaving impassable gaps on county and township roads throughout the disaster area. Erosion and scouring around culverts and bridges reached depths of up to 8 feet. Areas particularly hard hit were Marathon, Adams, Portage, and Marinette Counties. Nearly $4 million in damage was identified in these four counties, primarily to roads, bridges, drainage ditches, culverts, and sewer lines.

In July 2003, flash flooding occurred ahead of a cold front that moved southeast into a warm and unstable air mass. Early storms produced large hail and some wind damage, which provided the focus for flooding and thunderstorms. The highest measured rainfall was 6.5 inches in Darboy (Calumet County), including 3 inches in one hour. Heavy rain resulted in flash flooding that left two to three feet of water over many roads. Water reached the doorsteps of homes in Menasha (Winnebago County). Flooding caused damage to as many as 150 homes and 30 vehicles in Menasha (Winnebago County) and the Town of Harrison (Calumet County).

In the months of May and June, 2004, a series of weather systems periodically moved east across the central and southern parts of Wisconsin and generated thunderstorms that dumped heavy rains. This resulted in widespread river, urban and agricultural flood damage that totaled a staggering $268,425,000 million. Luckily there was only 1 flood-

related death. Rainfall amounts in May, 2004, ranged from 7 inches to a maximum of 14.72 inches at Lynxville (Crawford County), or 2 to 3.5 times monthly normals. In May alone, the water level in Lake Michigan rose 11 inches due to rain and runoff! In June, 2004, rainfall totals ranged from 5 to 12.72 inches at Readstown (Vernon County). Some of the larger rivers rose 2 to 4 feet above flood stage which constituted moderate to major flooding.

In August, 2007, thanks to a stationary front from northern Iowa to northern Illinois, a series of thunderstorm clusters moved east-southeast through the southern third of Wisconsin and dumped record-setting rains. The area from La Crosse to Kenosha bore the brunt of the heavy rains and resultant widespread flooding. Many locations set new all-time daily, August, and monthly rainfall records. A large chunk of the rain fell in the 2-day period of August 19-20th, when 6 to 12 inches were measured (150% to 300% of the August monthly normal). Luckily, only 1 person perished in a flash flood event in southern Richland County. Viroqua (Vernon County) picked up 21.74 inches of rain for the month, a new all-time monthly record for Wisconsin. Unofficially there were reports of 22 to 25 inches in parts of the counties of Vernon, Iowa, and Green! Total flood damages were about $116.4 million. A record flood crest was reported at the Root River Canal near Raymond (Racine County), and major flood levels were observed at New Munster on the Fox River (Kenosha County) and at Newville on the Rock River (Rock County). Moderate flood levels were experienced on many other large rivers. The 2nd highest river crest on record was observed on the Kickapoo River at Viola, Readstown, Galls Mills, and Steuben (Vernon and Crawford County). Some locations along the Kickapoo River came within an inch or two of establishing a new all-time record crest.

In June 2008, yet another widespread, severe flooding/flash flooding event, consisting of two rounds of heavy rains, ravaged southern Wisconsin. The affected area was basically south of a line from La Crosse to Manitowoc. The first round of heavy rains occurred June 5th -8th (mostly overnight June 7th) and the second round during the overnight hours of June 12th -13th. Collectively, amounts ranged from 6 to over 15 inches. The greatest amount was 15.35 inches about 3 miles southeast of Portage in Columbia County. Total flood damages were estimated at roughly $697 million. Depending on location, 24-hour and monthly rainfall records were established, and Milwaukee would eventually measure 12.27 inches, which is not only a new June record but a new record for any month of the year. All of this rain fell on top of a ground that was saturated due to all-time record winter snowfalls of 70 to 121 inches across southern Wisconsin which were roughly double normal amounts. At least 38 river gauge sites set new all-time record-high crests; in some cases exceeding flood stage by 6 to over 11 feet. The Baraboo River in Baraboo (Sauk Co.) crested at 27.48 feet (flood stage is 16.0 feet). Thousands of homes, businesses, and farms were damaged or destroyed by the flood waters. In some cases, rivers remained in flood stage into late July, 2008, and some low spots in farm fields still had standing water into September 2008 due to a high water table! Most of the flooding was of the “one in a hundred year” type, and some probably were of the “one in a 200 or 300 year” type. Additionally, numerous roads were closed, damaged, or washed-out in river valleys and other low spots, and some bridges were significantly damaged. The worst river flooding occurred on the Baraboo, Kickapoo, Rock, Fox (northern), Fox (southeastern), and Crawfish

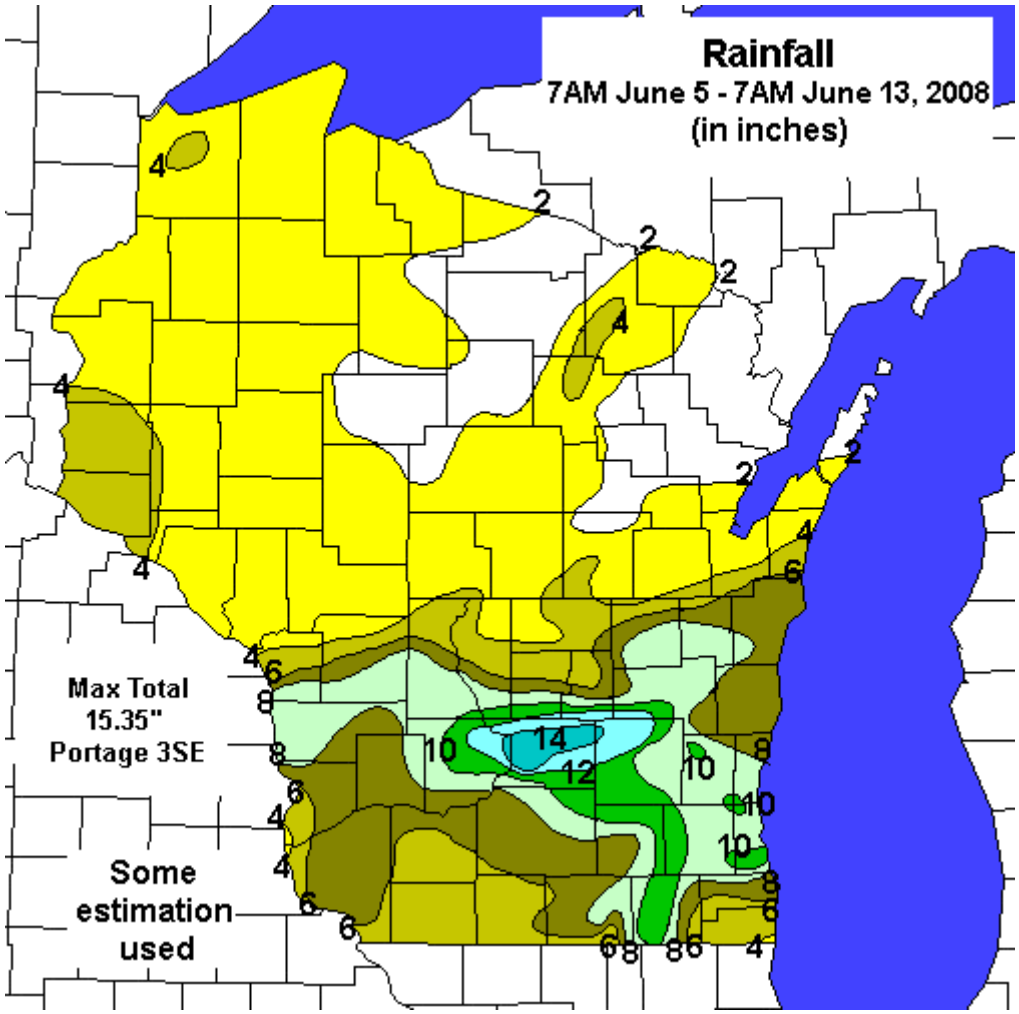


Section TOC

Rivers. A number of farm fields were never replanted by the time they dried out in late July or early August 2008. In some cases, the June 2008 flooding was worse than the 1993 flooding. Map 4.2.1 – 3 shows the rainfall for the period of June 5th through the 13th.

Recent heavy rain events in Wisconsin in 2007 and 2008 indicate that maximum rainfall totals for a month can reach 20 to 25 inches (50-75% of the yearly average), or possibly higher, in some river basins. In this rain falls on soils that are already saturated, then major to record-setting flooding can be expected, along with damage in the hundreds of millions.

**Map 4.2.1 – 3 Rainfall Totals 7 AM June 5 – 7 AM June 13, 2008**




Source: NOAA NWS Milwaukee/Sullivan WFO

In addition to the heavy rainfall previously discussed, severe weather for the first half of June 2008 included hail, damaging winds and several tornados on June 5th. On June 7th a warm weather front tracked from west to east across Wisconsin spawning tornados, funnel clouds and rotating wall clouds which lingered in the state on June 8th when a cold front tracked east out of the northern plains. More thunderstorms and

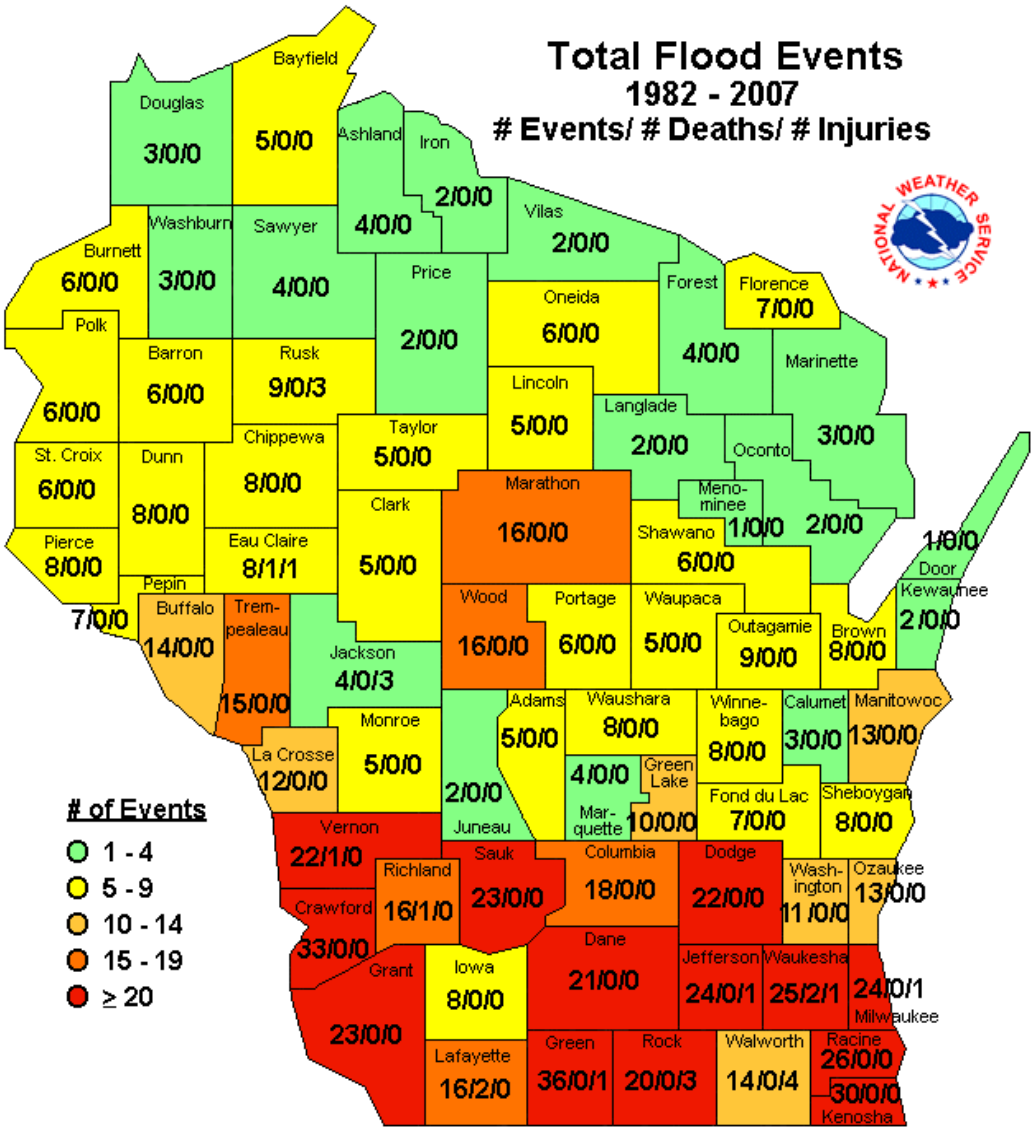
heavy rains occurred as the continuing weather pattern persisted on Monday, Tuesday and Wednesday (June 9-11). On June 12th a slow moving cold front combined with warm moist air again passed through the state producing tornados, severe thunderstorms and heavy rainfall. From June 7 to 13, there were 20 tornados reported where the average number in a year for Wisconsin is 21.

The rains combined with the already saturated soils worsened the flooding conditions necessitating rescues, evacuations, road closures and sandbagging. Thousands of homes sustained damages and many people were left homeless. Hundreds of small businesses were damaged and temporarily closed. Damage to public facilities is estimated to be in the tens of millions of dollars. Both the agriculture and tourism industries, representing the heart of state and local economies, suffered significantly. Many of the communities were still recovering from flooding that occurred ten months before resulting in a federal disaster declaration.

On June 14th, President Bush declared Disaster Declaration 1768 in the state. Eventually the declaration included 31 counties: Adams, Calumet, Columbia, Crawford, Dane, Dodge, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, LaCrosse, Marquette, Milwaukee, Ozaukee, Racine, Richland, Rock, Sauk, Sheboygan, Vernon, Walworth, Washington, Waukesha, and Winnebago. Subsequently, Lafayette, Monroe, Manitowoc counties were declared. The estimated damages totaled $763,618,860.

Map 4.2.1 – 4 shows the county-by-county distribution of flood events across Wisconsin for the period of 1982-2007. Within each county are three numbers: the first number is the number of flood events, followed by the number of directly-related fatalities, and the number of directly-related injuries. Notice that the southern part of the state has most of the flood events. Hilly terrain in the southwestern counties and the built-up urban areas in the southeast are factors in increasing the chances of flood events.

**Map 4.2.1 – 4 Flood Events per County in Wisconsin for the period of 1982-2007**




Source: NOAA NWS Milwaukee/Sullivan WFO

## Probability of Occurrence

Floods are described in terms of their extent, including the horizontal area affected and the related probability of occurrence. Flood studies use historical records to determine the probability of occurrence for different extents of flooding. The probability of occurrence is expressed in percentages as the chance of a flood of a specific extent



Section TOC

occurring in any given year. The most widely adopted design and regulatory standard for floods in the United States is the 1-percent annual chance flood and this is the standard formally adopted by FEMA. The 1-percent annual flood, also known as the base flood, has a 1 percent chance of occurring in any particular year. It is also often referred to as the "100-year flood" since its probability of occurrence suggests it should only reoccur once every 100 years. This expression is, however, merely a simple and general way to express the statistical likelihood of a flood; actual recurrence periods vary from place to place.

Smaller floods occur more often than larger, deeper and more widespread floods. Thus, a "10-year" flood has a greater likelihood of occurring than a "100-year" flood. Table 4.2.1 – 3 shows a range of flood recurrence intervals and their probabilities of occurrence.

**Table 4.2.1 – 3 Flood Probability Terms**

| Flood Recurrence Intervals | Percent Chance of Occurrence Annually |
|---|---|
| 10 year | 10.0% |
| 50 year | 2.0% |
| 100 year | 1.0% |
| 500 year | 0.2% |

Source: FEMA, August 2001.

This plan considers hazards over the entire State of Wisconsin. Flood probability and magnitude are highly location-specific, so it is not possible to characterize these generally across the State in a meaningful way. The state plan includes flood risk assessments that implicitly include probability and magnitude determinations on a State and County basis. However, truly accurate determinations of flood probability and magnitude require site-specific engineering studies and data-gathering that is beyond the scope of this hazard profile.

Hazard USA – Multi-Hazard (HAZUS-MH) was developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS). NIBS maintains committees of wind, flood, earthquake and software experts to provide technical oversight and guidance to HAZUS-MH development. Loss estimates produced by HAZUS-MH are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. Estimating losses is essential to decision-making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness, and response and recovery planning. HAZUS-MH provides estimates of hazard-related damage before a disaster occurs and takes into account various impacts of a hazard event. The impacts include the following:

- Physical damage to residential and commercial buildings, schools, critical facilities and infrastructure.

- Economic loss, including lost jobs, business interruptions, repair and reconstruction costs.
- Social impacts, including impacts to people, including requirements for shelters and medical aid.

HAZUS-MH uses state-of-the-art geographic information system (GIS) software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of hurricane winds, floods, and earthquakes on populations. HAZUS-MH provides for three levels of analysis:

- A Level 1 analysis yields a rough estimate based on the nationwide database and is a way to begin the risk assessment process and prioritize high-risk communities.
- A Level 2 analysis requires the input of additional or refined data and hazard maps that will produce more accurate risk and loss estimates. Assistance from local emergency management personnel, city planners, GIS professionals, and others may be necessary for this level of analysis.
- A Level 3 analysis yields the most accurate estimate of loss and typically requires the involvement of technical experts such as structural and geotechnical engineers who can modify loss parameters based on to the specific conditions of a community. This level analysis will allow users to supply their own techniques to study special conditions such as dam breaks and tsunamis. Engineering and other expertise is needed at this level.

FEMA HAZUS-MH data were used to estimate the number of structures located within the one-percent chance, or 100-year floodplain, based upon Flood Insurance Rate Maps (FIRMs) published by the Federal Emergency Management Agency (FEMA). These data were supplemented by U.S. Census housing data to estimate dates of construction.

Under National Flood Insurance Program (NFIP) floodplain management regulations, which must be adopted by communities in order to benefit from Federal flood insurance, structures built after the date a FIRM becomes effective must be elevated at or above the base flood elevation (BFE). Thus, structures completed after the FIRM effective date are significantly less vulnerable to flood damage than pre-FIRM construction. In determining the vulnerability of housing stock, the FIRM effective date can be applied as a benchmark to separate the most vulnerable structures from the total building stock.

### Hazus Flood Risk Assessment

The statewide flood risk assessment is an initial step in identifying and quantifying flood risks throughout Wisconsin. The risk assessment uses existing available information, including GIS data with HAZUS-MH. This tool enables the state to predict the estimated losses from floods for planning purposes. Wisconsin Emergency Management (WEM) has determined that HAZUS-MH should play a critical role in the risk assessments in Wisconsin.

The methodology follows the process outlined in "*State and Local Mitigation Planning How-To Guide: Understanding Your Risks*." The initial assessment uses existing state level information. The information is compiled in digital formats that enable the future update and enhancement of the assessment to use more detailed local data. As individual community hazard mitigation plans are updated, the statewide flood hazard mitigation risk assessment can be enhanced.

The hazard identification and data inventory tasks were conducted by Wisconsin Emergency Management (WEM) with assistance from the Land Information and Computer Graphics Facility (LICGF) at the University of Wisconsin - Madison and the Polis Center at Indiana University Purdue University at Indianapolis. The LICGF and Polis teams assisted WEM with developing the flood risk assessment using HAZUS-MH as a risk assessment tool. Specifically, LICGF and Polis provided the following deliverables:

1. Interview experts in the state who maintain flood related data and studies.
2. Gather the available digital Flood Insurance Rate Maps (FIRM) for the State for hazard event profiling.
3. Provide WEM with estimated losses using HAZUS-MH.
    - Flood assessment reports for each county with inset maps
    - Process report for each county that describes the workflow and sources used to generate the hazard profile.
    - Statewide summaries of losses
    - Statewide map depicting losses
    - HAZUS-MH analysis archive (HPR)

**Identify Hazards**

The initial task involved reviewing flood information within the Wisconsin Department of Natural Resources. The department maintains a file of each county's and communities hydrologic/hydraulic assessments. The file includes Federal Emergency Management Agency (FEMA) Flood Insurance Study (FIS) reports, geo-referenced images of scanned FIRM maps, DFIRM vector maps and Q3 vector maps. LICGF visited DNR and obtained copies of the available files.

Flood Risk Assessment Reports from local hazard mitigation plans were used to identify the local historical hazards. Approved Flood Risk Assessment Reports were provided by WEM for 46 counties and cities in Wisconsin. Eleven preliminary county reports were also made available.

**Profile Hazard Events**

Following the hazard identification task, staff performed HAZUS-MH 100-year flood return interval analysis for each county using DFIRM or Q3 flood boundaries (DFIRM being preferable) whenever they were available. Prototyping prior to the commencement of the project indicated that the Enhanced Quick Look method available in HAZUS-MH (Release MR3-Patch 2 Feb 2008) provided loss estimates consistent with traditional methods.

For counties without DFIRM or Q3 boundaries, HAZUS-MH was used to generate new 100-year flood boundaries and flood depth grids. Hydrology and Hydraulic analysis was performed at 1 square mile intervals on all reaches generated from USGS 30 meter DEMs.

**Table 4.2.1 – 4 Flood Risk Calculation Methods**

| Sources | Counties | Ratio |
|---|---|---|
| DFIRM | 28 | 40% |
| Q3 | 7 | 10% |
| H&H + FIS Discharge Values | 37 | 50% |
| **Total** | **72** | **100%** |

## Inventory Assets

The HAZUS-MH analysis was performed using default inventory data contained within the software. HAZUS-MH default inventory data includes the following:

- General building stock
- Essential facilities
- Demographic information
- Transportation lifeline systems
- Utility lifeline systems
- High potential loss facilities
- Hazardous materials facilities

In addition to the HAZUS-MH supplied data, WEM provided updated essential facilities data. The site specific inventory (specifically Schools, Hospitals, Fire Stations, Emergency Operation Centers and Police Stations) was updated using the best available statewide information.

Sources, assumptions and processes used to update the site-specific data sets were provided in a report (PDM_WI_Hazus_Statewide_Updates_v2_2.doc) prior to the commencement of the flood analysis. Most of the updates were sourced from HSIP Freedom data sets (2007 vintage).

Table 4.2.1 – 5 shows the differences between the default HAZUS data sets for Wisconsin and the updated data that was used for the 2008 flood assessment.

**Table 4.2.1 – 5 Statewide Database Updates**

| Feature Class | Default Counts | Updated Counts | Default Exposure | Updated Exposure |
|---|---|---|---|---|
| Schools | 3,093 | 3,299 | $1,654,615 | $2,046,405 |
| Care Facilities | 143 | 574 | $1,258,320 | $5,399,059 |
| Police Stations | 541 | 985 | $ 810,418 | $1,410,625 |
| Fire Stations | 617 | 900 | $ 396,114 | $ 727,000 |
| EOC | 16 | 55 | $ 17,120 | $ 71,500 |
| Communications | 362 | 920 | $ 38,734 | $ 123,280 |
| Dams *** | 629 | 3713 | $ 0 | $1,418,000 |

*** Dam losses are not reported in HAZUS flood models.
Source: University of Wisconsin and The Polis Center, 2008, "Wisconsin Statewide Flood Risk Assessment Report."

The risk assessment process for each county included a visual overlay of flood results with 2005 NAIP ortho-photography to identify essential facilities susceptible to damage and find examples where HAZUS-MH building loss damages may be over (or under) estimated.

The State of Wisconsin has created a GIS layer for all DNR-managed properties. The risk assessment process overlaid the flood boundaries with the DNR-managed properties to identify any properties at risk.

## Estimate Losses

The loss estimation was performed using HAZUS-MH. This process reflects a Level 1+ approach to flood modeling. The level 1+ approach uses default data while referencing additional data. As indicated above, the loss estimation process used supplementary essential facility information for the purpose of improving the accuracy of the model predictions.

One of the key data sources for HAZUS-MH flood model prediction is terrain data. A USGS provided 30-meter digital elevation model (DEM) was used for the terrain model for each county. Attempts at using higher definition (e.g. 10-meter) DEMs were not successful. Few counties had seamless 10-meter coverage, and HAZUS-MH processing times could not support the required project timeline.

HAZUS-MH flood modeling was performed one county at a time. A stream network was delineated for every square mile within the county. The HAZUS-MH flood model performs an area weighted assessment of flood damage. The number of grid cells at a given depth is counted and then divided by total number of cells within a census block.

The result is used to "weight" damage at that flood depth for each occupancy class. Essential facilities are evaluated by their specific location by default. Buildings are considered a total loss once they reach the 50% damage threshold.

HAZUS-MH analysis was performed within a Study Region created for each county. Separate Study Cases within each Study Region were frequently required:

- Coastal flood analysis was performed separately from the riverine analysis except when DFIRM or Q3 boundaries were used for the analysis.
- Streams for which FIS discharge values were available were segregated into a separate Study Case.
- Riverine flood analysis was performed in a separate Study Case whenever the number of reaches exceeded around 100. This threshold number varied depending on the problems encountered for each Study Case or Study Region.

A Global Summary Report is available for each Study Case. The HAZUS-MH Global Summary Reports included all available options with the exception of Agricultural impact, User Defined Structures and What If scenarios.

The analysis included:

**General Building Stock**

- Building losses
- By occupancy and by building type
- By full replacement value and depreciated replacement value
- Shelter requirements
- Building, content, and inventory losses

Statewide summaries of general building stock losses are compiled in Table 4.2.1 – 6.

**Essential Facilities**

- Building and content losses
- Restoration time to 100% functionality
- Lifeline losses (for selected components)
- Losses to structures and equipment.

**Table 4.2.1 – 6 Statewide Flood Risk Assessment Results**

| General Occupancy | Estimated Total Buildings | Total Damaged Buildings | Total Building Exposure X 1000 | Total Economic Loss X 1000 | Building Loss X 1000 |
|---|---|---|---|---|---|
| Agricultural | 1,384 | 19 | $3,886,980 | $189,864 | $50,125 |
| Commercial | 17,773 | 262 | $75,465,763 | $2,967,075 | $810,856 |
| Education | 147 | 0 | $7,268,816 | $245,885 | $46,250 |
| Government | 777 | 8 | $3,531,540 | $164,827 | $22,895 |
| Industrial | 4,019 | 100 | $32,010,607 | $1,781,486 | $450,642 |

| | | | | | |
|---|---|---|---|---|---|
| Religious/Non-Profit | 819 | 4 | $7,615,518 | $324,900 | $55,067 |
| Residential | 1,832,009 | 15,413 | $330,871,200 | $4,959,273 | $3,110,693 |
| **Total** | **1,856,928** | **15,806** | **$460,650,424** | **$10,633,310** | **$4,546,528** |

Source: University of Wisconsin and The Polis Center, 2008, "Wisconsin Statewide Flood Risk Assessment Report."

Table 4.2.1 – 7 provides a summary of building loss and economic loss for each county. The table also includes short term shelter requirements and population.

**Table 4.2.1 – 7 Flood Risk Assessment Results by County**

| County | Population | Estimated Total Buildings | Total Damaged Buildings | Total Building Exposure X 1000 | Total Economic Loss X 1000 | Building Loss X 1000 | Short Term Shelter |
|---|---|---|---|---|---|---|---|
| Adams | 18,643 | 13,532 | 156 | $1,714,102 | $53,424 | $30,367 | 230 |
| Ashland | 16,866 | 7,767 | 33 | $1,424,733 | $18,051 | $7,976 | 139 |
| Barron | 44,963 | 18,699 | 155 | $3,790,003 | $114,253 | $46,428 | 544 |
| Bayfield | 15,013 | 11,111 | 312 | $1,644,116 | $133,198 | $76,311 | 382 |
| Brown | 226,778 | 69,571 | 1,676 | $19,969,696 | $921,418 | $430,304 | 15,005 |
| Buffalo | 13,804 | 5,462 | 39 | $1,032,269 | $28,606 | $12,279 | 255 |
| Burnett | 15,674 | 12,110 | 162 | $1,853,439 | $65,233 | $36,945 | 135 |
| Calumet | 40,631 | 13,711 | 54 | $3,188,818 | $68,200 | $24,978 | 606 |
| Chippewa | 55,195 | 19,897 | 149 | $4,106,265 | $136,740 | $61,039 | 1,043 |
| Clark | 33,557 | 12,496 | 55 | $2,237,574 | $48,228 | $21,445 | 177 |
| Columbia | 52,468 | 19,485 | 474 | $4,419,256 | $242,423 | $130,669 | 1,903 |
| Crawford | 17,243 | 7,696 | 324 | $1,187,682 | $72,913 | $34,732 | 836 |
| Dane | 426,526 | 120,062 | 588 | $37,942,411 | $460,477 | $180,345 | 8,107 |
| Dodge | 85,897 | 27,873 | 108 | $6,827,447 | $97,327 | $38,249 | 1,307 |
| Door | 27,961 | 17,670 | 489 | $3,549,623 | $70,100 | $36,512 | 359 |
| Douglas | 426,526 | 17,059 | 37 | $3,567,617 | $33,129 | $15,281 | 8,107 |
| Dunn | 39,858 | 12,786 | 186 | $2,773,630 | $123,807 | $51,133 | 1,401 |
| Eau Claire | 93,142 | 29,742 | 668 | $7,194,920 | $709,564 | $363,228 | 6,929 |
| Florence | 5,088 | 4,065 | 6 | $530,974 | $3,736 | $2,107 | 38 |
| Fond du Lac | 97,296 | 32,524 | 344 | $7,849,911 | $300,969 | $94,818 | 9,855 |
| Forest | 10,024 | 7,898 | 3 | $1,090,880 | $4,742 | $2,220 | 24 |
| Grant | 49,597 | 17,179 | 72 | $3,354,262 | $60,160 | $27,548 | 283 |
| Green | 33,647 | 12,042 | 70 | $2,915,843 | $82,537 | $33,036 | 899 |
| Green Lake | 19,105 | 10,071 | 78 | $1,658,521 | $43,925 | $17,286 | 615 |
| Iowa | 23,000 | 8,595 | 14 | $1,816,053 | $23,216 | $10,320 | 230 |
| Iron | 6,861 | 5,212 | 10 | $727,042 | $10,292 | $4,316 | 26 |
| Jackson | 19,100 | 7,230 | 32 | $1,298,474 | $28,897 | $11,141 | 251 |
| Jefferson | 74,021 | 24,973 | 129 | $6,476,456 | $150,487 | $57,626 | 2,528 |
| Juneau | 24,316 | 11,351 | 55 | $1,790,806 | $50,421 | $17,339 | 640 |
| Kenosha | 149,577 | 47,404 | 374 | $12,467,944 | $250,736 | $93,902 | 3,740 |
| Kewaunee | 20,187 | 7,393 | 147 | $1,517,568 | $57,109 | $22,520 | 587 |

| County | Population | Estimated Total Buildings | Total Damaged Buildings | Total Building Exposure X 1000 | Total Economic Loss X 1000 | Building Loss X 1000 | Short Term Shelter |
|---|---|---|---|---|---|---|---|
| La Crosse | 107,120 | 33,301 | 495 | $8,866,469 | $294,438 | $112,867 | 8,088 |
| Lafayette | 16,137 | 6,109 | 7 | $1,214,511 | $27,613 | $12,736 | 28 |
| Langlade | 20,740 | 10,166 | 19 | $1,741,110 | $31,342 | $10,518 | 402 |
| Lincoln | 29,641 | 13,180 | 207 | $2,417,721 | $110,288 | $43,973 | 1,250 |
| Manitowoc | 82,887 | 29,082 | 105 | $7,463,475 | $87,338 | $39,738 | 980 |
| Marathon | 125,834 | 47,404 | 474 | $10,032,014 | $365,012 | $146,104 | 5,977 |
| Marinette | 43,384 | 24,343 | 175 | $3,770,304 | $125,246 | $59,390 | 1,031 |
| Marquette | 15,832 | 8,278 | 76 | $1,187,213 | $25,244 | $9,532 | 223 |
| Menominee | 4,562 | 2,005 | 0 | $253,325 | $4,282 | $1,449 | 33 |
| Milwaukee | 940,164 | 256,229 | 1,059 | $78,904,721 | $732,195 | $286,370 | 13,038 |
| Monroe | 40,899 | 14,618 | 124 | $2,808,608 | $91,692 | $37,601 | 1,869 |
| Oconto | 35,634 | 18,667 | 336 | $3,030,617 | $100,829 | $44,173 | 1,631 |
| Oneida | 36,776 | 24,793 | 26 | $4,242,933 | $51,173 | $16,840 | 274 |
| Outagamie | 160,971 | 47,404 | 49 | $12,467,944 | $60,277 | $17,592 | 3,251 |
| Ozaukee | 82,317 | 26,361 | 396 | $8,424,827 | $257,259 | $106,533 | 4,061 |
| Pepin | 7,213 | 2,705 | 31 | $545,610 | $19,840 | $9,483 | 108 |
| Pierce | 36,804 | 11,320 | 38 | $2,745,224 | $69,889 | $27,163 | 494 |
| Polk | 41,319 | 19,110 | 154 | $3,854,074 | $91,323 | $39,262 | 1,124 |
| Portage | 67,182 | 22,213 | 59 | $4,802,272 | $67,398 | $27,617 | 2,615 |
| Price | 15,822 | 8,898 | 3 | $1,534,217 | $13,589 | $6,048 | 77 |
| Racine | 188,831 | 59,300 | 501 | $15,693,961 | $238,307 | $106,819 | 5,924 |
| Richland | 17,924 | 7,221 | 49 | $1,329,972 | $47,598 | $19,157 | 335 |
| Rock | 152,307 | 52,424 | 485 | $12,746,145 | $316,841 | $123,674 | 3,831 |
| Rusk | 15,347 | 7,111 | 130 | $1,073,541 | $81,905 | $45,935 | 182 |
| Saint Croix | 63,155 | 20,525 | 352 | $5,369,002 | $249,531 | $138,451 | 1,386 |
| Sauk | 55,225 | 20,828 | 229 | $4,709,308 | $145,303 | $59,921 | 1,921 |
| Sawyer | 16,196 | 13,194 | 31 | $1,990,856 | $31,915 | $15,397 | 113 |
| Shawano | 40,664 | 16,584 | 13 | $3,054,433 | $21,462 | $9,660 | 164 |
| Sheboygan | 112,646 | 37,082 | 209 | $10,241,080 | $187,311 | $82,217 | 1,993 |
| Taylor | 19,680 | 7,857 | 35 | $1,458,249 | $92,146 | $23,299 | 157 |
| Trempealeau | 27,010 | 10,011 | 185 | $2,124,476 | $93,200 | $35,119 | 1,133 |
| Vernon | 28,056 | 11,406 | 94 | $1,677,827 | $46,199 | $20,440 | 290 |
| Vilas | 21,033 | 21,564 | 11 | $3,116,310 | $13,696 | $6,127 | 22 |
| Walworth | 93,759 | 35,741 | 285 | $9,304,295 | $232,517 | $120,010 | 1,053 |
| Washburn | 16,036 | 10,233 | 174 | $1,554,736 | $78,854 | $44,926 | 165 |
| Washington | 117,493 | 37,309 | 377 | $10,613,383 | $351,573 | $134,719 | 4,692 |
| Waukesha | 360,767 | 114,352 | 1,154 | $35,955,764 | $739,778 | $291,616 | 13,042 |
| Waupaca | 51,731 | 19,655 | 248 | $4,162,596 | $146,328 | $54,392 | 1,523 |
| Waushara | 23,154 | 13,102 | 0 | $1,921,060 | $10,094 | $3,508 | 507 |
| Winnebago | 156,763 | 51,009 | 213 | $12,530,045 | $220,746 | $73,710 | 7,099 |
| Wood | 75,555 | 27,481 | 73 | $6,328,340 | $95,649 | $38,988 | 1,155 |
| **Totals=** | **5,747,134** | **1,856,928** | **15,806** | **$460,650,424** | **$10,633,310** | **$4,546,528** | **160,422** |

Source: University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”

County summaries of site specific losses relative to essential facilities are compiled in Table 4.2.1 – 8. Counts of the moderately damaged essential facility buildings for each county are provided.

**Table 4.2.1 – 8 Moderately Damaged Essential Facility Buildings by County**

| County | Care | EOC | Fire | Police | School |
|---|---|---|---|---|---|
| Adams | 0 | 0 | 0 | 1 | 1 |
| Ashland | 0 | 0 | 0 | 0 | 0 |
| Barron | 0 | 0 | 0 | 0 | 0 |
| Bayfield | 0 | 0 | 0 | 0 | 0 |
| Brown | 0 | 0 | 0 | 0 | 0 |
| Buffalo | 0 | 0 | 0 | 3 | 0 |
| Burnett | 0 | 0 | 0 | 0 | 0 |
| Calumet | 0 | 0 | 0 | 0 | 0 |
| Chippewa | 0 | 0 | 0 | 0 | 0 |
| Clark | 0 | 0 | 0 | 0 | 0 |
| Columbia | 1 | 0 | 0 | 0 | 3 |
| Crawford | 0 | 0 | 1 | 0 | 0 |
| Dane | 0 | 0 | 1 | 1 | 2 |
| Dodge | 0 | 0 | 1 | 0 | 2 |
| Door | 0 | 0 | 0 | 0 | 0 |
| Douglas | 0 | 0 | 0 | 0 | 0 |
| Dunn | 1 | 0 | 1 | 1 | 0 |
| Eau Claire | 0 | 0 | 0 | 0 | 0 |
| Florence | 0 | 0 | 0 | 0 | 0 |
| Fond du Lac | 5 | 0 | 1 | 1 | 8 |
| Forest | 0 | 0 | 0 | 0 | 0 |
| Grant | 0 | 0 | 1 | 0 | 0 |
| Green | 0 | 0 | 2 | 1 | 1 |
| Green Lake | 0 | 0 | 0 | 0 | 3 |
| Iowa | 0 | 0 | 0 | 1 | 1 |
| Iron | 0 | 0 | 0 | 0 | 0 |
| Jackson | 0 | 0 | 1 | 1 | 2 |
| Jefferson | 0 | 0 | 0 | 0 | 0 |
| Juneau | 0 | 0 | 1 | 0 | 2 |
| Kenosha | 0 | 0 | 0 | 1 | 1 |
| Kewaunee | 0 | 0 | 1 | 1 | 0 |
| La Crosse | 0 | 0 | 0 | 0 | 2 |
| Lafayette | 0 | 0 | 0 | 0 | 0 |
| Langlade | 0 | 0 | 0 | 0 | 0 |
| Lincoln | 0 | 0 | 0 | 0 | 0 |

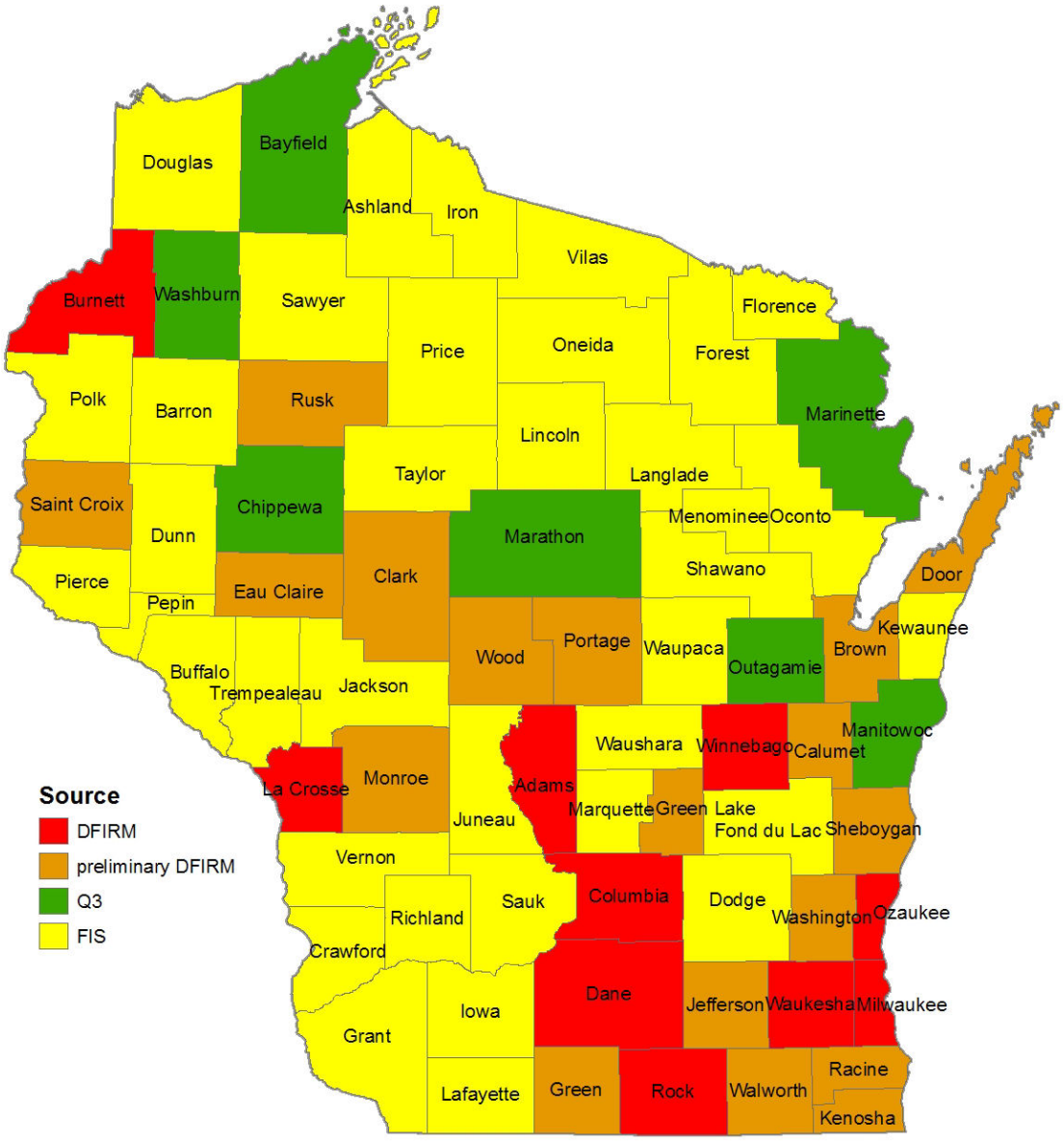
| County | Care | EOC | Fire | Police | School |
|---|---|---|---|---|---|
| Manitowoc | 0 | 0 | 1 | 1 | 1 |
| Marathon | 1 | 1 | 1 | 5 | 0 |
| Marinette | 1 | 0 | 1 | 0 | 1 |
| Marquette | 0 | 1 | 0 | 4 | 0 |
| Menominee | 0 | 0 | 1 | 0 | 2 |
| Milwaukee | 1 | 0 | 0 | 0 | 4 |
| Monroe | 0 | 0 | 1 | 1 | 4 |
| Oconto | 0 | 0 | 0 | 0 | 0 |
| Oneida | 0 | 0 | 0 | 0 | 1 |
| Outagamie | 0 | 0 | 0 | 0 | 0 |
| Ozaukee | 0 | 0 | 2 | 1 | 2 |
| Pepin | 0 | 0 | 0 | 0 | 1 |
| Pierce | 1 | 0 | 0 | 1 | 1 |
| Polk | 0 | 0 | 0 | 0 | 0 |
| Portage | 0 | 0 | 0 | 0 | 0 |
| Price | 1 | 0 | 1 | 0 | 2 |
| Racine | 0 | 0 | 0 | 0 | 1 |
| Richland | 0 | 0 | 0 | 0 | 2 |
| Rock | 0 | 0 | 0 | 0 | 0 |
| Rusk | 0 | 0 | 0 | 0 | 0 |
| Saint Croix | 0 | 0 | 0 | 0 | 0 |
| Sauk | 0 | 0 | 1 | 1 | 0 |
| Sawyer | 0 | 0 | 0 | 2 | 1 |
| Shawano | 0 | 0 | 0 | 0 | 0 |
| Sheboygan | 1 | 0 | 2 | 0 | 1 |
| Taylor | 0 | 0 | 0 | 0 | 0 |
| Trempealeau | 0 | 0 | 3 | 2 | 1 |
| Vernon | 0 | 0 | 0 | 2 | 1 |
| Vilas | 0 | 0 | 0 | 0 | 0 |
| Walworth | 0 | 0 | 0 | 0 | 0 |
| Washburn | 0 | 0 | 0 | 0 | 1 |
| Washington | 0 | 0 | 1 | 1 | 4 |
| Waukesha | 4 | 2 | 3 | 6 | 0 |
| Waupaca | 0 | 0 | 0 | 0 | 0 |
| Waushara | 0 | 0 | 1 | 1 | 0 |
| Winnebago | 0 | 0 | 0 | 0 | 4 |
| Wood | 1 | 0 | 1 | 0 | 2 |
| **Totals=** | **18** | **4** | **31** | **40** | **65** |

Source: University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”



**Section TOC**

**Map 4.2.1 – 5 Flood Model Sources by County**

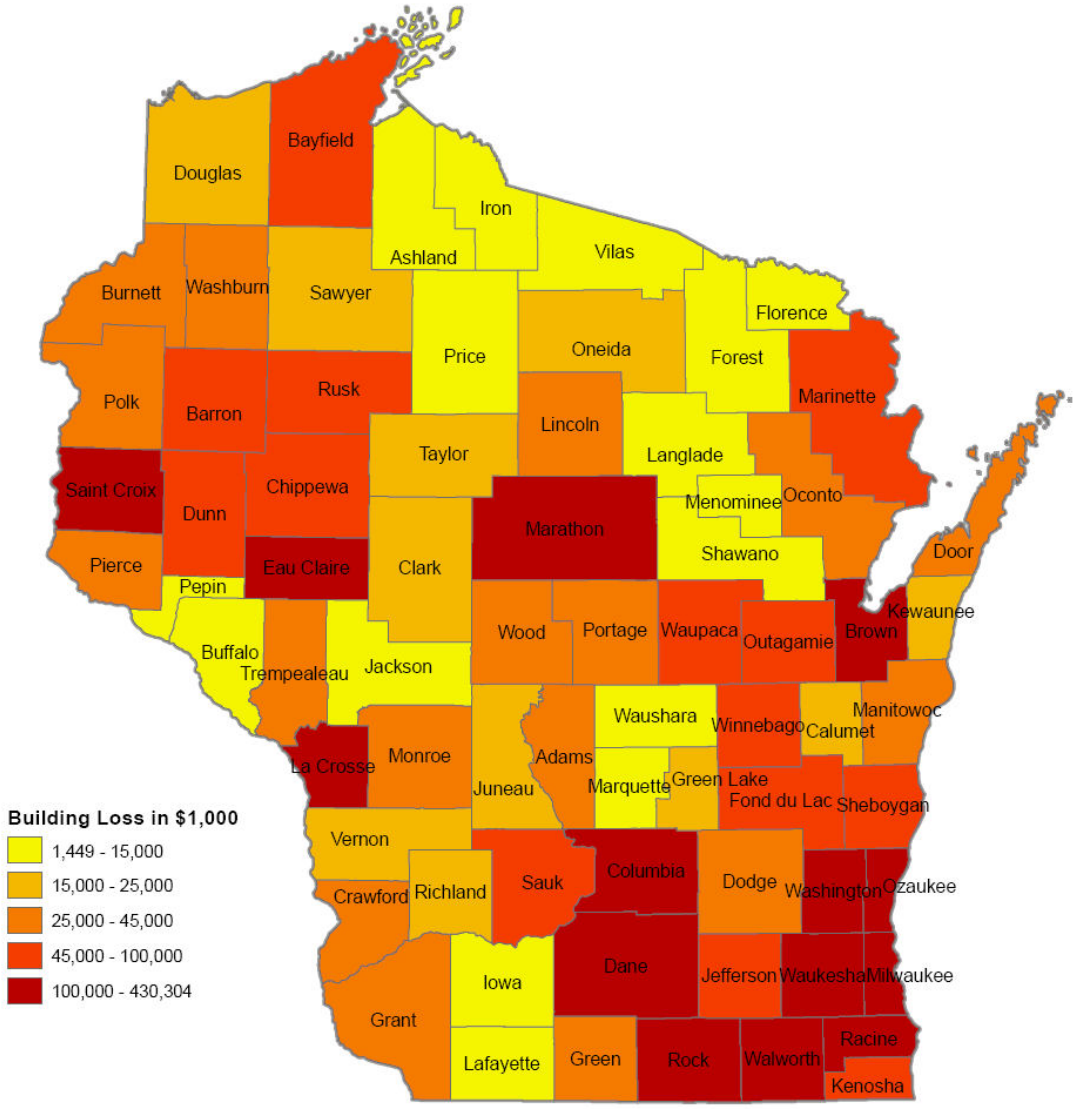



Source: University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”



Section TOC

**Map 4.2.1 – 6 Flood Assessment Building Loss by County ($1000's)**

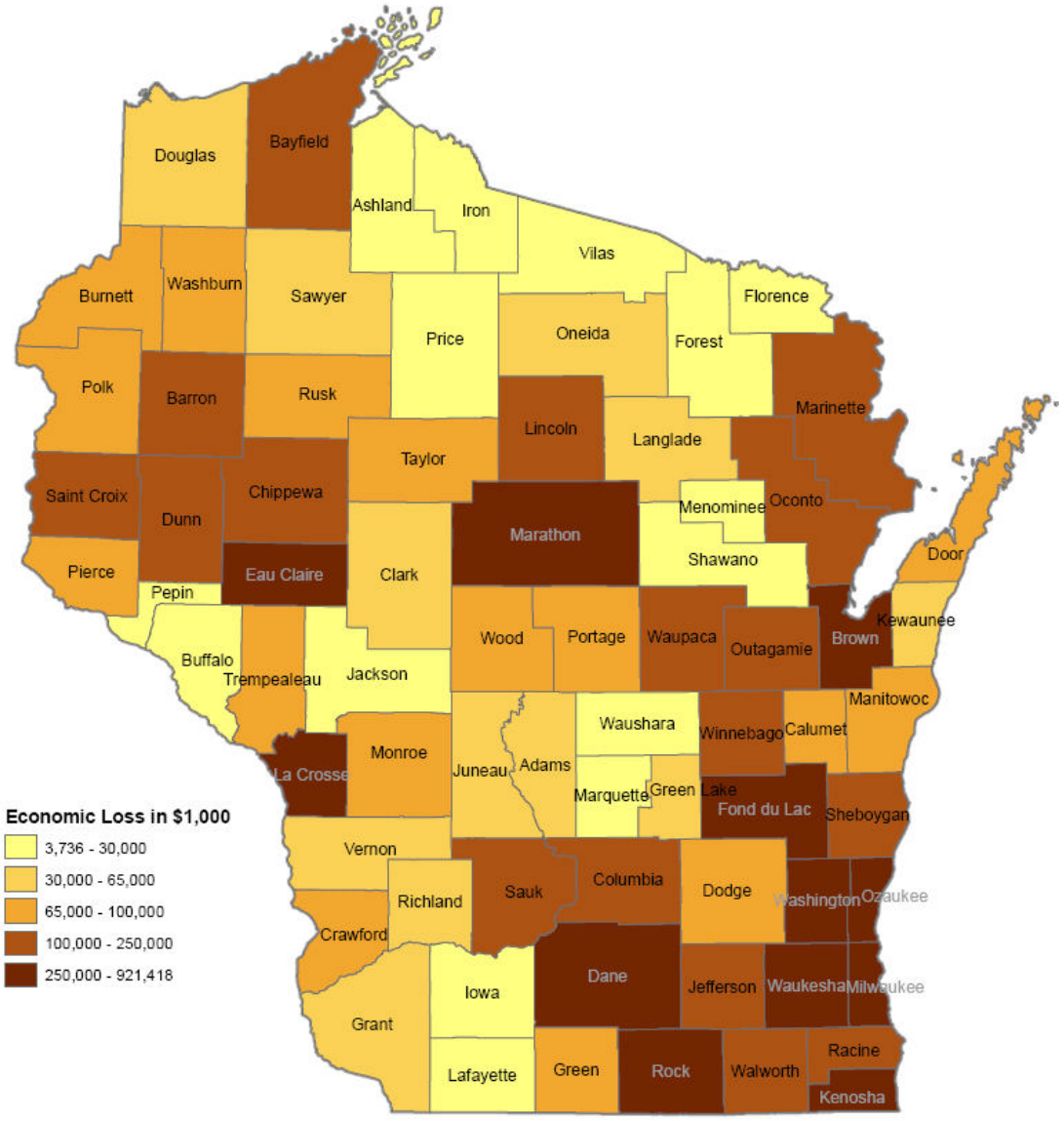



Source: University of Wisconsin and The Polis Center, 2008, "Wisconsin Statewide Flood Risk Assessment Report."



**Section TOC**

**Map 4.2.1 – 7 Flood Assessment Economic Loss by County ($1000's)**

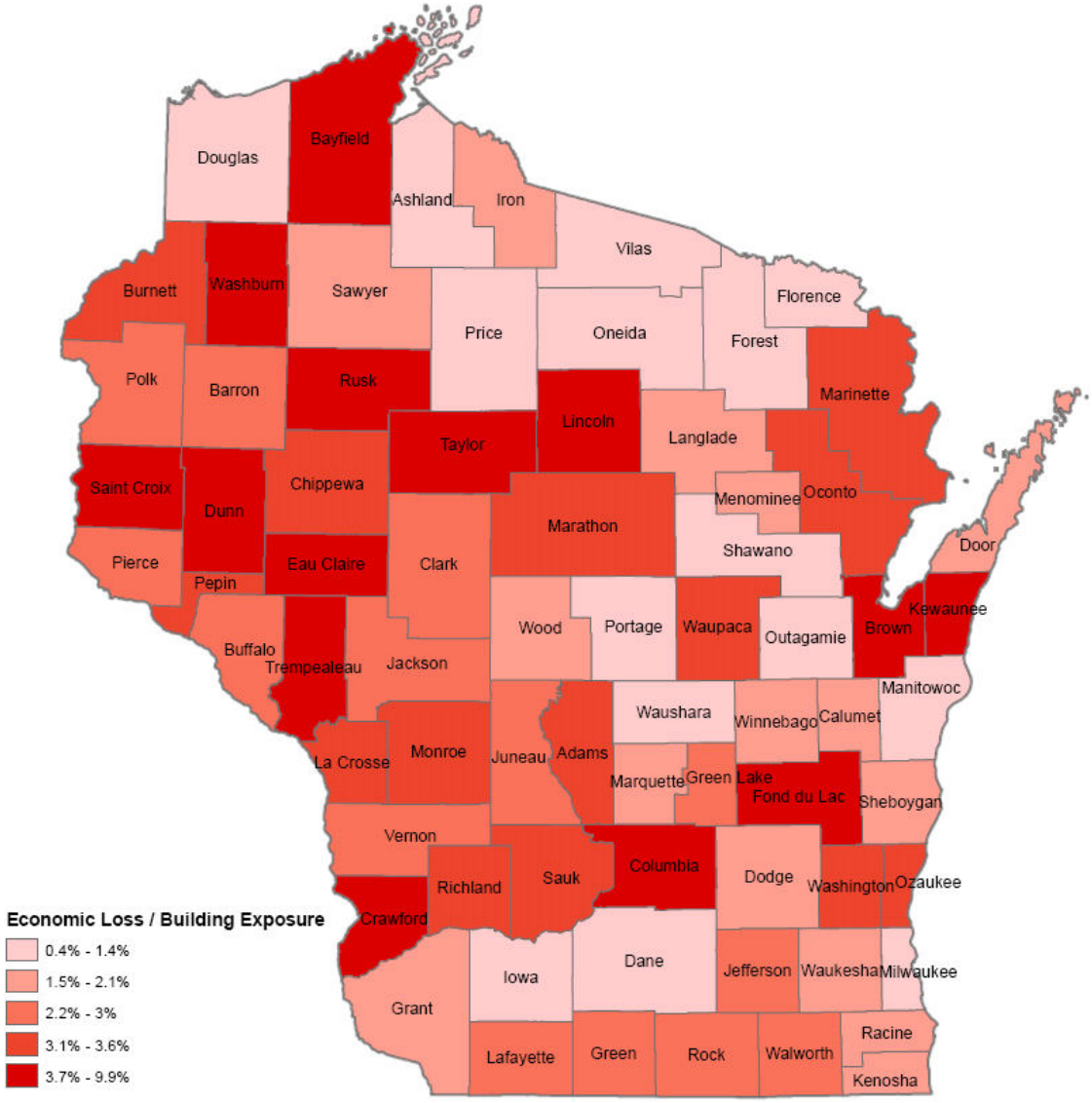



Source: University of Wisconsin and The Polis Center, 2008, "Wisconsin Statewide Flood Risk Assessment Report."



**Section TOC**

**Map 4.2.1 – 8 Loss Ratio (Total Economic Loss/Total Building Exposure)**

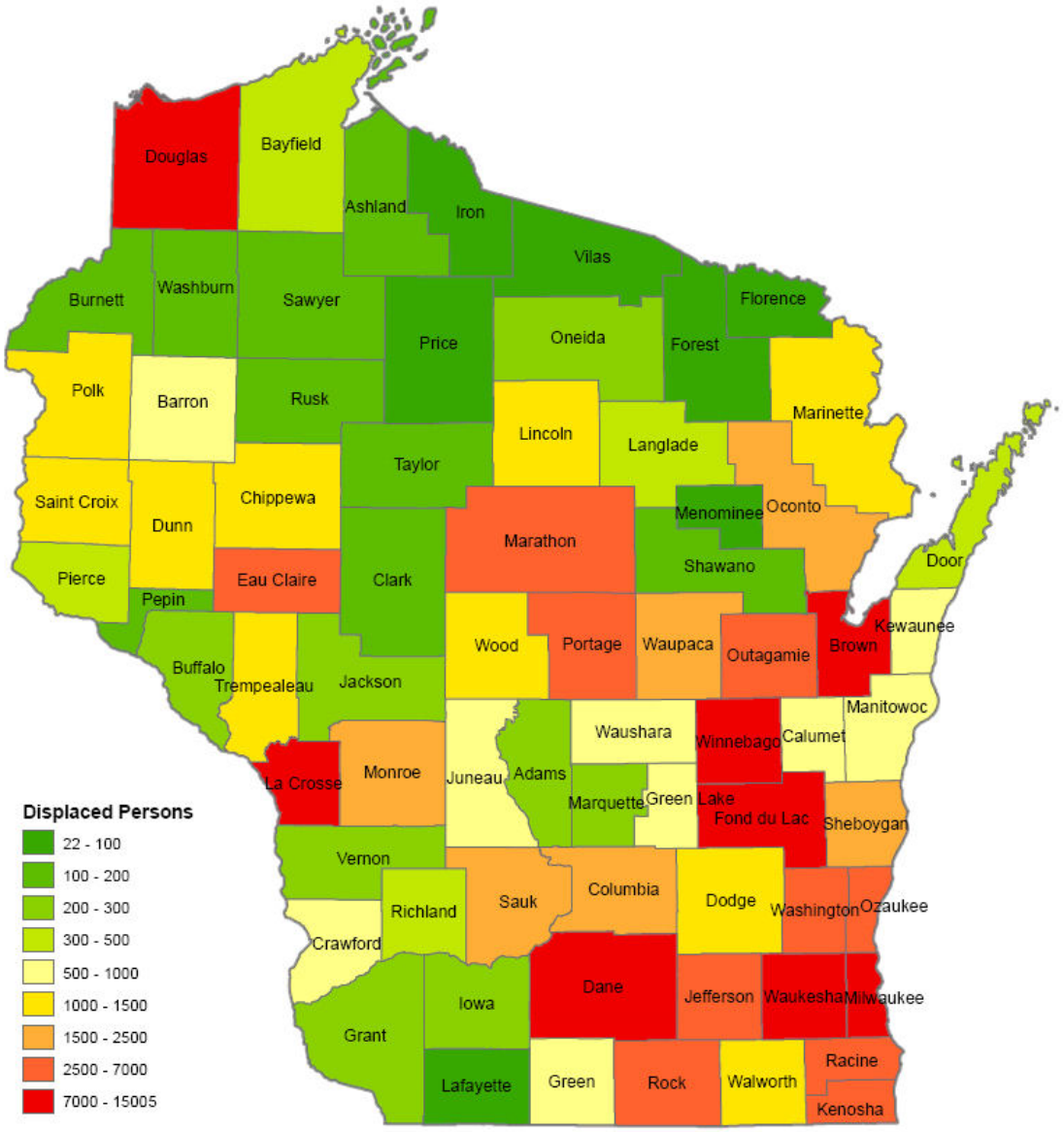



Source: University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”



**Section TOC**

**Map 4.2.1 – 9 Estimated Displaced Persons by County**




Source: University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”



**Section TOC**

**Sources**

Federal Emergency Management Agency (FEMA). 1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.”

USACE, Detroit District. Long Term Average Min-Max Water Levels. Accessed from the World Wide Web a

http://www.lre.usace.army.mil/greatlakes/hh/greatlakeswaterlevels/historicdata/longtermaveragemin-maxwaterlevels/.

Wisconsin Emergency Management, Department of Military Affairs. November 2002. “Hazard Analysis for the State of Wisconsin.”

Federal Emergency Management Agency (Region V) and Wisconsin Emergency Management. 2004. “State of Wisconsin Repetitive Loss Report.”

NOAA, National Weather Service, Milwaukee/Sullivan, 2008

University of Wisconsin and The Polis Center, 2008, “Wisconsin Statewide Flood Risk Assessment Report.”

### 4.2.2 Tornadoes and High Winds

#### Nature of Hazard

A tornado is a violently rotating column of air (vortex) extending from the base of a convective (usually cumulonimbus) cloud to the ground. Tornadoes can form in many environments. However, three common environments include: within intense squall lines, within super-cell thunderstorms, and in the right front quadrant of land-falling hurricanes within the spiral bands of thunderstorms. Most tornadoes in the U.S. are weak (80% of them) and cause little to minor damage. However, the strong and violent tornadoes (the other 20%) can cause extensive, severe damage. Tornadoes may also result from earthquake induced fires, wildfires, or atomic bombs (FEMA, 1997). Additionally, severe weather spotter and research videotapes of tornadoes in the past 20 years has shown that a tornado can be in progress, but a visible "funnel cloud" may be absent at the ground level, while rotating dirt/debris at the ground and cloud-base rotation indicate that a tornado occurred (National Weather Service Milwaukee-Sullivan, 2008).

**Table 4.2.2 – 1 Enhance Fujita Tornado Scale**

| Category | F-Scale Wind Speed | EF-Scale Wind Speed |
|---|---|---|
| EF0 (weak) | 40-72 mph | 65-85 |
| EF1 (weak) | 73-112 mph | 86-110 |
| EF2 (strong) | 113-157 mph | 111-135 |
| EF3 (strong) | 158-206 mph | 136-165 |
| EF4 (violent) | 207-260 mph | 166-200 |
| EF5 (violent) | 261-318 mph | >200 |

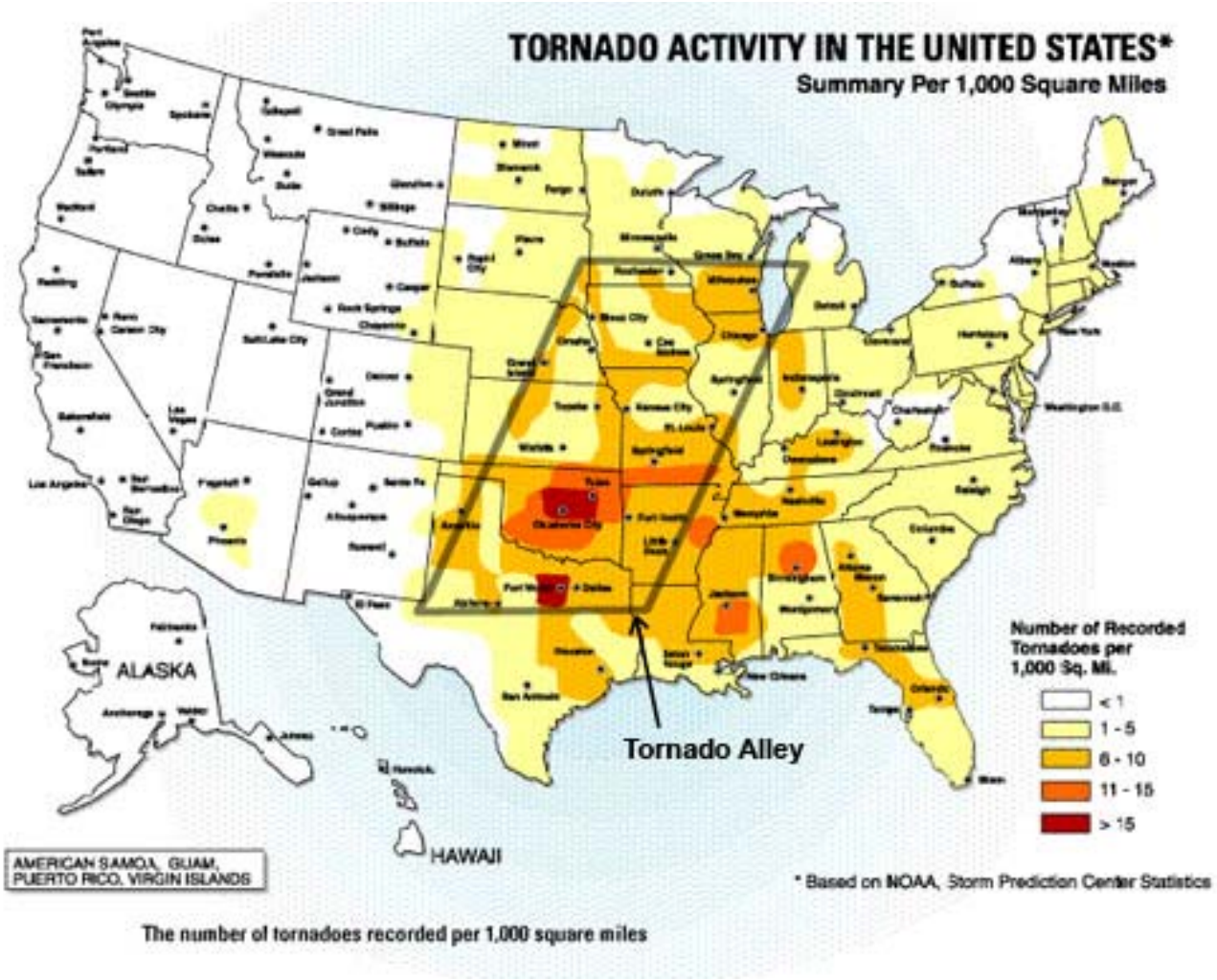
Source: FEMA, 1997, NWS Storm Prediction Center, Norman, OK

#### Tornado History

Most tornadoes in the United States last less than 30 minutes, but can exist for more than an hour. The path of a tornado can range from a few hundred feet to miles, and tornado widths may range from tens of yards to a mile or two.

Wisconsin lies along the northern edge of the nation's maximum frequency belt for tornadoes, called "tornado alley" by some, which extends northeastward from Oklahoma into Iowa and then across to Illinois and southern Wisconsin. Broadly speaking, the southern portions of Wisconsin have a higher frequency of tornadoes; however, every county in Wisconsin has had tornadoes and is susceptible to a tornado disaster. The "tornado alley" in the United States is shown on Map 4.2.2-1 below.

**Map 4.2.2 – 1 Tornado Alley in the United States**




Source: NWS Storm Prediction Center, Norman, OK



Section TOC

**Table 4.2.2 - 2 Wiscosnin Tornado Ratings**

| Year | F0 | F1 | F2 | F3 | F4 | F5 |
|---|---|---|---|---|---|---|
| 1982 | 1 | 9 | 6 | 0 | 0 | 0 |
| 1983 | 16 | 10 | 3 | 1 | 1 | 0 |
| 1984 | 10 | 8 | 10 | 3 | 2 | 1 |
| 1985 | 3 | 7 | 6 | 0 | 0 | 0 |
| 1986 | 4 | 4 | 5 | 1 | 0 | 0 |
| 1987 | 8 | 8 | 0 | 0 | 0 | 0 |
| 1988 | 8 | 19 | 7 | 1 | 0 | 0 |
| 1989 | 9 | 7 | 1 | 0 | 0 | 0 |
| 1990 | 0 | 6 | 3 | 0 | 0 | 0 |
| 1991 | 5 | 3 | 2 | 0 | 0 | 0 |
| 1992 | 6 | 16 | 2 | 2 | 0 | 0 |
| 1993 | 27 | 9 | 1 | 0 | 0 | 0 |
| 1994 | 8 | 18 | 6 | 2 | 1 | 0 |
| 1995 | 5 | 2 | 0 | 0 | 0 | 0 |
| 1996 | 11 | 7 | 2 | 0 | 0 | 1 |
| 1997 | 6 | 6 | 2 | 0 | 0 | 0 |
| 1998 | 16 | 3 | 3 | 2 | 0 | 0 |
| 1999 | 8 | 2 | 0 | 0 | 0 | 0 |
| 2000 | 11 | 6 | 1 | 0 | 0 | 0 |
| 2001 | 7 | 4 | 0 | 1 | 0 | 0 |
| 2002 | 18 | 5 | 2 | 1 | 0 | 0 |
| 2003 | 10 | 4 | 0 | 0 | 0 | 0 |
| 2004 | 22 | 10 | 2 | 2 | 0 | 0 |
| 2005 | 43 | 16 | 2 | 1 | 0 | 0 |
| 2006 | 10 | 2 | 0 | 0 | 0 | 0 |
| 2007 | 13 | 3 | 1 | 1 | 0 | 0 |
| | 285 | 194 | 67 | 18 | 4 | 2 |
| Year | F0 | F1 | F2 | F3 | F4 | F5 |

Source: NWS Milwaukee/Sullivan, 2008

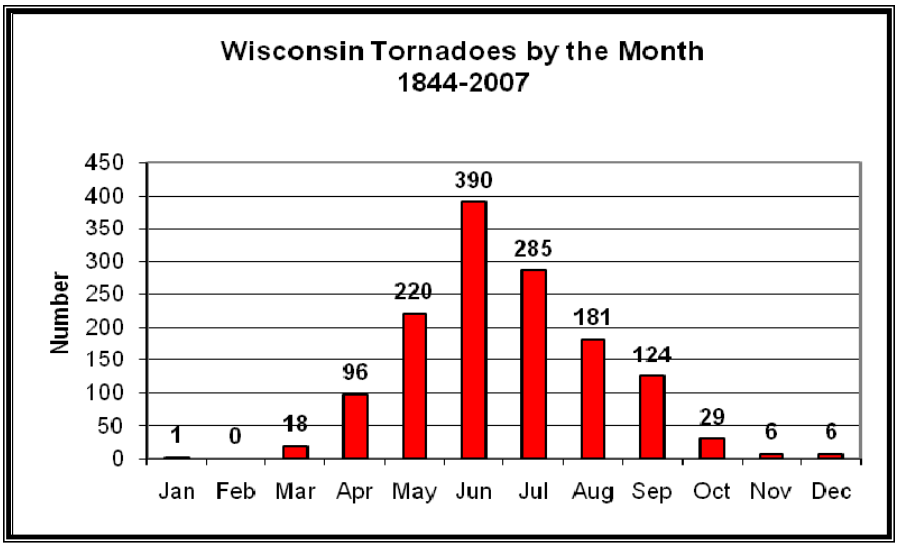
NOAA's National Weather Service statistics for the period of 1982-2007 indicate that about 84% of Wisconsin's tornadoes were rated as "weak" (EF0 & EF1), 15% were "strong" (EF2 & EF3), and 1% were violent (EF4 & EF5). Table 4.2.2 – 2 shows the ratings of all Wisconsin tornadoes for the period of 1982-2007. The NWS initiated systematic ratings of tornadoes in 1982.

The "average" Wisconsin tornado for the period of 1982-2007 had a life-span of 7.1 minutes, a path length of 3.7 miles, a path width of 118 yards, and an EF rating of 0.7 (mid-way between an EF0 and EF1).

Tornadoes have occurred at all times of the day in Wisconsin. The peak hours of occurrence are between 3 P.M. and 10 P.M, when 75% of the tornadoes occur. The busiest spin-up hour is 6 P.M. to 7 P.M.

The only month with no documented tornadoes is February. June has the highest tornado frequency, followed by July, May, and August. Winter, spring, and fall tornadoes historically are more likely to occur in southern Wisconsin than in the northern parts of the State. Table 4.2.2 – 3 shows the monthly tornado distribution in Wisconsin for the period of 1844-2007.

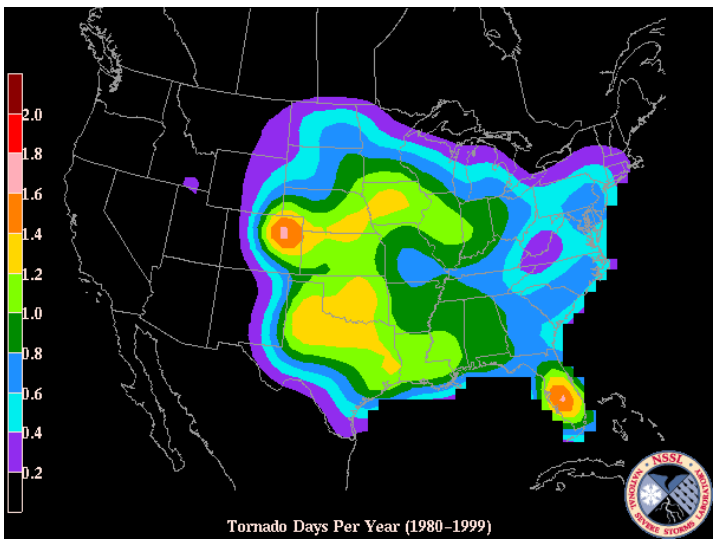
**Table 4.2.2 – 3 Wisconsin Monthly Tornado Distribution**




Source: NOAA's National Weather Service Milwaukee/Sullivan, 2008

Map 4.2.2 – 2 shows the number of days per year that there will be a tornado within 25 miles of any given point. The average number of tornado days in Wisconsin ranges from 0.3 days in the extreme northern part of the State to 1.0 days in the extreme southwestern part of the State. This is based on data for 1980-1999. This map is the most up to date map.

**Map 4.2.2 – 2 Tornado Days Per Year in the United States**



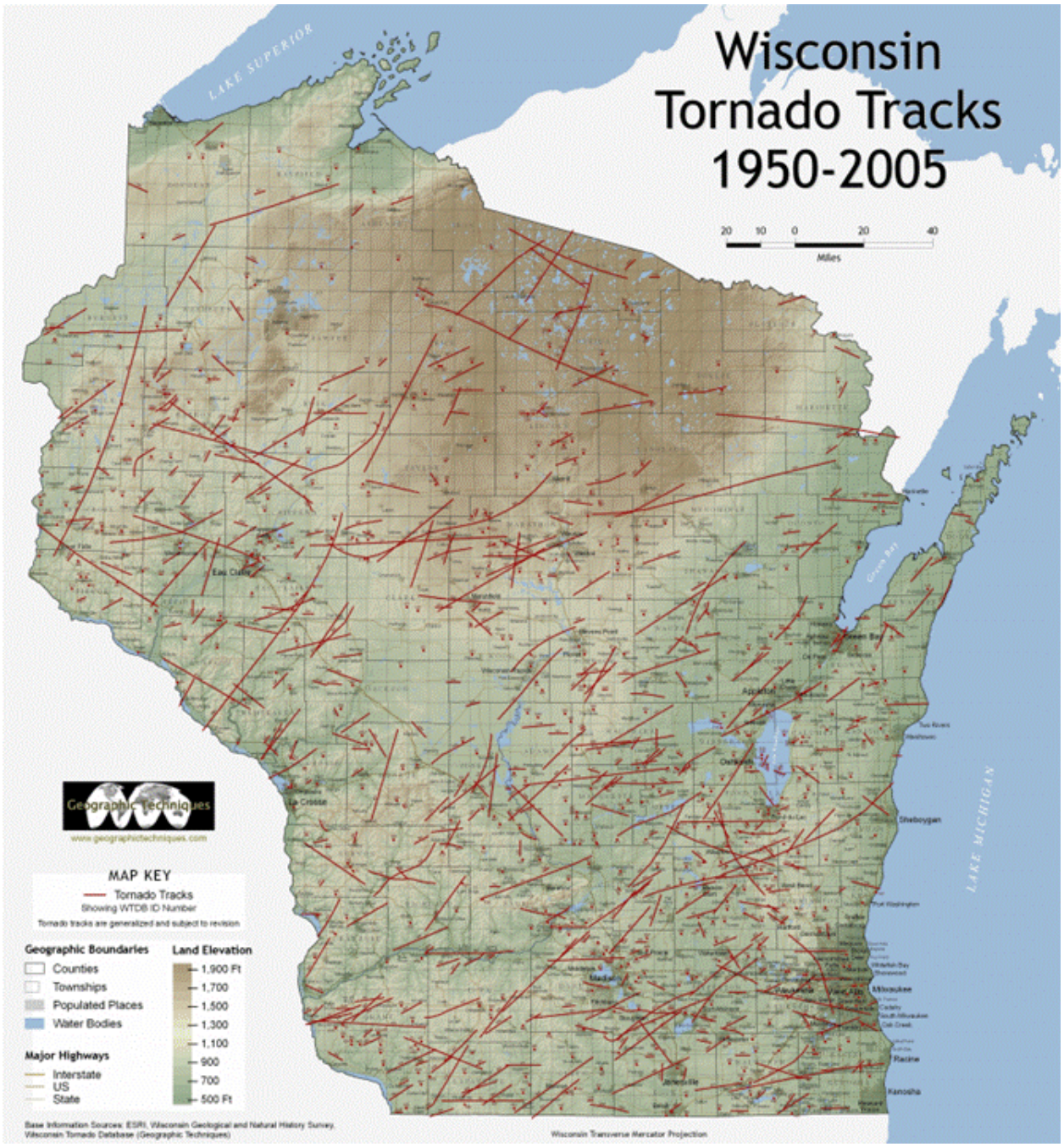

Source: Storm Prediction Center, Norman, OK



Section TOC

In Map 4.2.2 – 3 a plot of Wisconsin tornadoes for the period of 1950-2005 shows that most tornadoes in the State travel southwest to northeast. However, a number of the tornadoes moved west to east as well as northwest to southeast. The data indicated that northwest to southeast moving tornadoes tended to occur in the later part of the warm season. Map is updated every 5 years and is most up to date map.

**Map 4.2.2 – 3 Wisconsin Tornado Tracks**




Source: Geographic Techniques, 2006



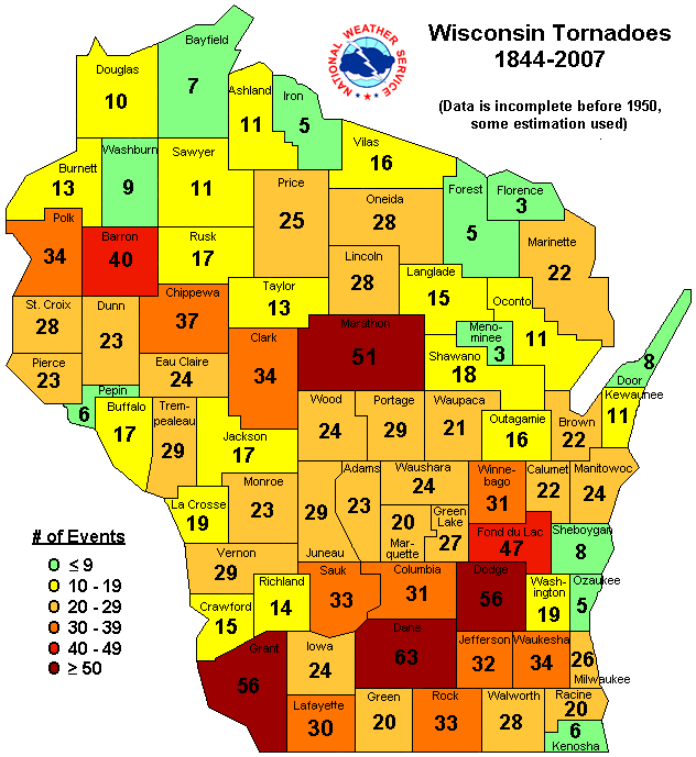
Section TOC

The longest-tracked tornado in Wisconsin was the April 5, 1929, tornado that traveled from southwest of River Falls in Pierce County to Van Buskirk in Iron County. It resulted in 12 fatalities and 100 injuries. As recently as June 7, 2007, a tornado in northeast Wisconsin traveled for over 40 miles through the counties of Shawano, Menominee, Langlade, and Oconto; the longest-tracked tornado in the entire United States for 2007.

Wisconsin's tornadoes display a strong year-to-year variation, ranging from 7 in 1995 on up to 62 in 2005, for the period of 1980 through 2007. For the period of 1971-2000, Wisconsin averaged 21 tornadoes per year and about 1 fatality per year due to tornadoes. Most of the killer tornadoes in Wisconsin have occurred between April and September, with June having the most killer tornadoes (23 of 88 killer tornadoes during the period of 1844-2007).

While all Wisconsin counties have recorded at least three tornadoes from 1844 to 2007, several counties (Barron, Chippewa, Clark, Columbia, Dane, Dodge, Fond du Lac, Grant, Jefferson, Lafayette, Marathon, Polk, Rock, Sauk, Waukesha, and Winnebago) have each recorded 30 or more. Dane, Dodge, Grant, and Marathon Counties have had the most with 63, 56, 56, and 51, respectively. Map 4.2.2 - 4 shows the county-by-county distribution of tornadoes for the period of 1844-2007. Notice that there is a slight tendency for the larger, more populated counties to have the higher totals. Keep in mind that in the 1800s and the early 1900s that unless a tornado went down Main Street in broad daylight it never was reported or documented.

**Map 4.2.2 – 4 Number of Tornado Events Per County 1844-2007**




Source: NOAA's National Weather Service Milwaukee/Sullivan, 2008



Section TOC

Some of Wisconsin's more noteworthy tornadoes occurred as long as 100 years ago. In 1899, half of the City of New Richmond in St. Croix County was destroyed and 112 people were killed by a powerful tornado. This tornado originated on Lake St. Croix, about five miles south of Hudson, Wisconsin. The tornado moved to the northeast, east of Hudson, in the direction of New Richmond. Three people were killed at two locations as farms were leveled near Burkhardt and Boardman. The tornado passed through New Richmond on a day in which about 1,000 people had come from surrounding villages to watch a circus, which ended at about 4:30 p.m. that day. Passing through the very center of town, the tornado leveled all types of buildings. The massive amount of flying debris resulted in multiple deaths in at least 26 different families. Six families had four or more deaths. Over 300 buildings were damaged or destroyed. A 3,000-pound safe was carried a full block. The damage was estimated at $300,000. The good visibility of the tornado may have prevented an even higher death total. While not a massive tornado, the combination of time and position was unfortunate. Figure 4.2.2-1 shows the damage caused by the 1899 tornado.

**Figure 4.2.2 – 1 Tornado Damage**


On April 3, 1956, a tornado struck the southeast sector of the City of Berlin, Green Lake County, at approximately 1:40 p.m. after damaging at least three farms south and west of the city. It came within a few yards of the high school where 400 students were in class. The terrified students watched the tornado churn towards the high school, but the twister veered to the right, barely missing the school. Witnesses saw cars and buildings lifted and carried through the air. The tornado killed 7 people and injured 50. Damage was estimated at more than $1 million.

On June 4, 1958, 20 people died, 110 were injured, and 60 buildings were destroyed in the City of Colfax in Dunn County by a tornado estimated to be an F4 intensity. The same storm system spawned three other tornadoes in Chippewa and Clark Counties that day. On April 21, 1974, a tornado estimated to be an F4 intensity hit the City of Oshkosh in Winnebago County. Despite a lack of advance warning no one was killed, although 17 people were reported injured. Eleven commercial structures were damaged and property damage reached $4 million. The hardest hit areas were in the south by Witzel Avenue and to the east, close to Titan Stadium. About the time the tornado began ripping through Oshkosh in Winnebago County, a series of tornadoes spun up in Dodge County in the Lomira/Brownsville area. The tornadoes left a trail of broken

homes and barns in their wake and destroyed a large lumberyard. Two deaths and numerous injuries were attributed to the storms.

In 1980, tornadoes and downbursts occurred in Chippewa, Dunn, Eau Claire, and Pierce Counties and caused more than $150 million in property damage.

On June 8, 1984, a powerful F5 tornado struck the Village of Barneveld in Iowa County and proceeded to move northeast through Dane County. It killed 9 people and injured 200 with damage pegged at $40 million along its 36 mile path between 12:41 A.M. and 1:40 A.M.

On July 18, 1996, in the late afternoon, a line of thunderstorms caused the National Weather Service to issue a tornado watch for the eastern two-thirds of Wisconsin. As the line moved east, the storms became more severe in counties such as Marathon and Portage. The storms were very dangerous by the time they reached Fond du Lac County. Warning sirens sounded in the Village of Oakfield (population 1,005) in Fond du Lac County at approximately 7:08 p.m. At 7:13 p.m., a tornado intensifying from a F3 to F4 rating tore through the community. This violent tornado intensified to a F5 rating a couple miles east of Oakfield. The path of destruction was about 13.3 miles long and up to ¼ mile wide. Only 12 people were injured but over 150 homes and businesses were damaged or destroyed.

On March 8, 2000, a tornado classified as an F1 by the National Weather Service spun up at General Mitchell Airport in Milwaukee. Tornadoes of this category were considered weak, with 73-112 mph winds (on the old Fujita Scale). However, in just a few minutes, the tornado caused $381,000 worth of damage to about 75 homes and $3.8 million in damage to commercial real estate.

On June 18, 2001, a strong F3 tornado hit Burnett and Washburn Counties. This tornado touched down near Grantsburg and continued traveling east for over 25 miles to an area just outside of Spooner. Witnesses said the tornado split into three tornadoes in some areas. There was extensive damage and destruction along the tornado's path. Damage was most concentrated in a six-block wide area of the Village of Siren, where numerous homes and businesses were completely leveled and three people were killed and 16 injured.

On Labor Day, September 2, 2002, the Village of Ladysmith was hit by an F3 tornado at approximately 4:15 p.m., with estimated winds of 158 to 206 mph on the old Fujita Scale. The damage the tornado caused to a 16-by-4-block area, which included most of the downtown business district, was estimated at $20 million. The tornado damaged more than 130 structures in this community of 3,900. There were 24 injuries, none of them serious, primarily because the downtown business district was unusually empty due to the Labor Day holiday.

**Figure 4.2.2 - 2 Ladysmith Tornado, 2002**

Tornadoes and large hail-producing thunderstorms struck north-central and northeast Wisconsin on the evening of September 30, 2002. Two tornadoes spun up within 20 minutes of each other. One hit several miles west of Tomahawk in northwest Lincoln County. The twister destroyed a trailer home and several out-buildings on the property, threw a pick-up truck up into a nearby tree, and pushed a 28-foot camper trailer 300 feet. Thousands of trees were knocked over in a nearby wooded area. The F2 twister spun up at 7:30 pm, and dissipated just west of the Tomahawk airport at 7:35 p.m.

During the afternoon of June 8, 2003, scattered showers and thunderstorms developed across central and east-central Wisconsin as a strong upper level low pressure system moved across the State. At least five tornadoes developed, four of them in the NWS Green Bay forecast area. The tornado south of Marshfield (Wood County) did several thousand dollars in damage to a garage and play house. Two 50-pound metal barrels were thrown over 200 yards. None of the other tornadoes did any damage.

The June 8, 2003, tornadoes on Lake Winnebago were viewed by many people because a fishing tournament was taking place on the southern part of the lake during the event (Figure 4.2.2 -3). One person was quoted as seeing as many as five to seven tornadoes over the lake. Tornadoes occurring over inland lakes and rivers are classified by the National Weather Service as tornadoes, not waterspouts.

**Figure 4.2.2 - 3: View of a Tornado**

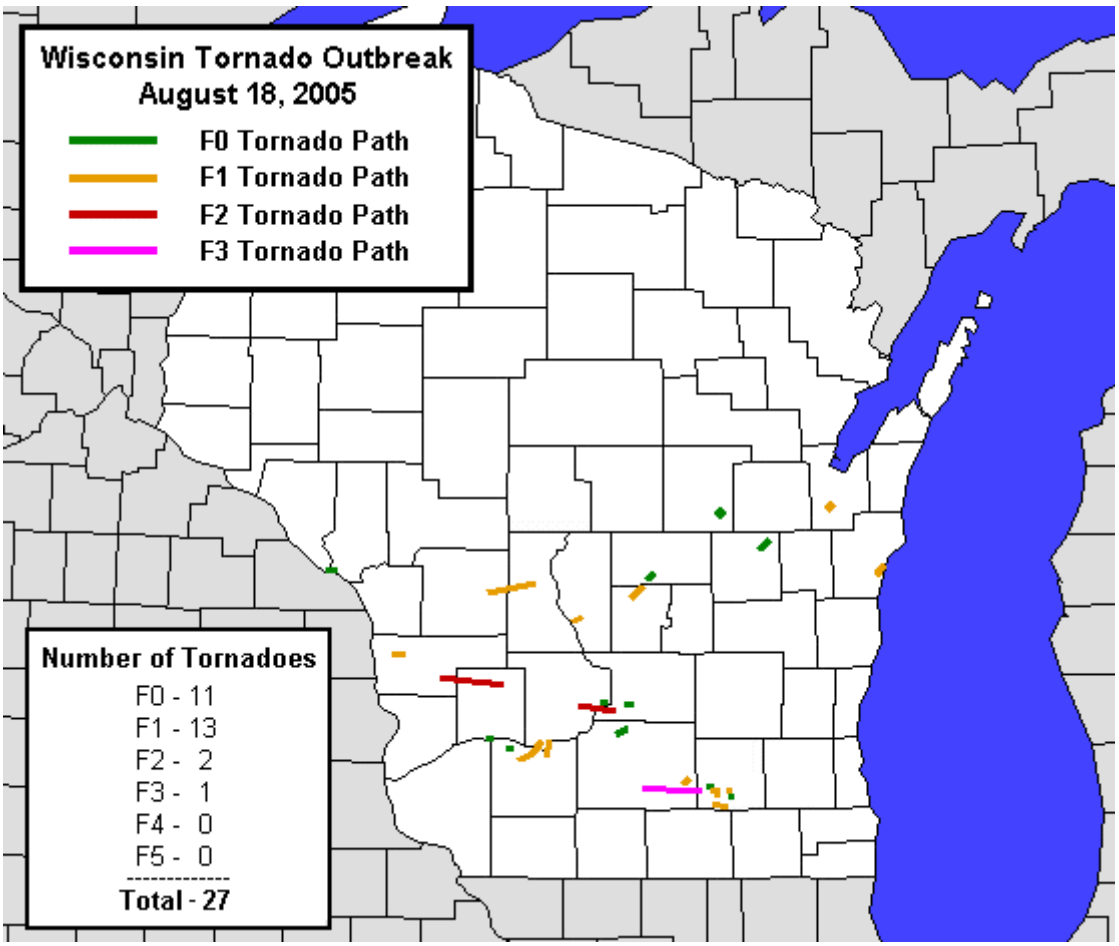
Photo by Nancy Gryzwa.



**Section TOC**

August 18, 2005 was a memorable day with 27 tornadoes spinning up in Wisconsin; a new single-day State record. Map 4.2.2 – 5 shows a plot of the 27 tornadoes. The strongest tornado, which raked the Stoughton area (Dane County), was rated at the top of the EF3 category, traveled for 20 miles, and resulted in 1 fatality, 23 injuries, and $35.052 million in damage.

**Map 4.2.2 – 5 Wisconsin Tornado Outbreak August 18, 2005**

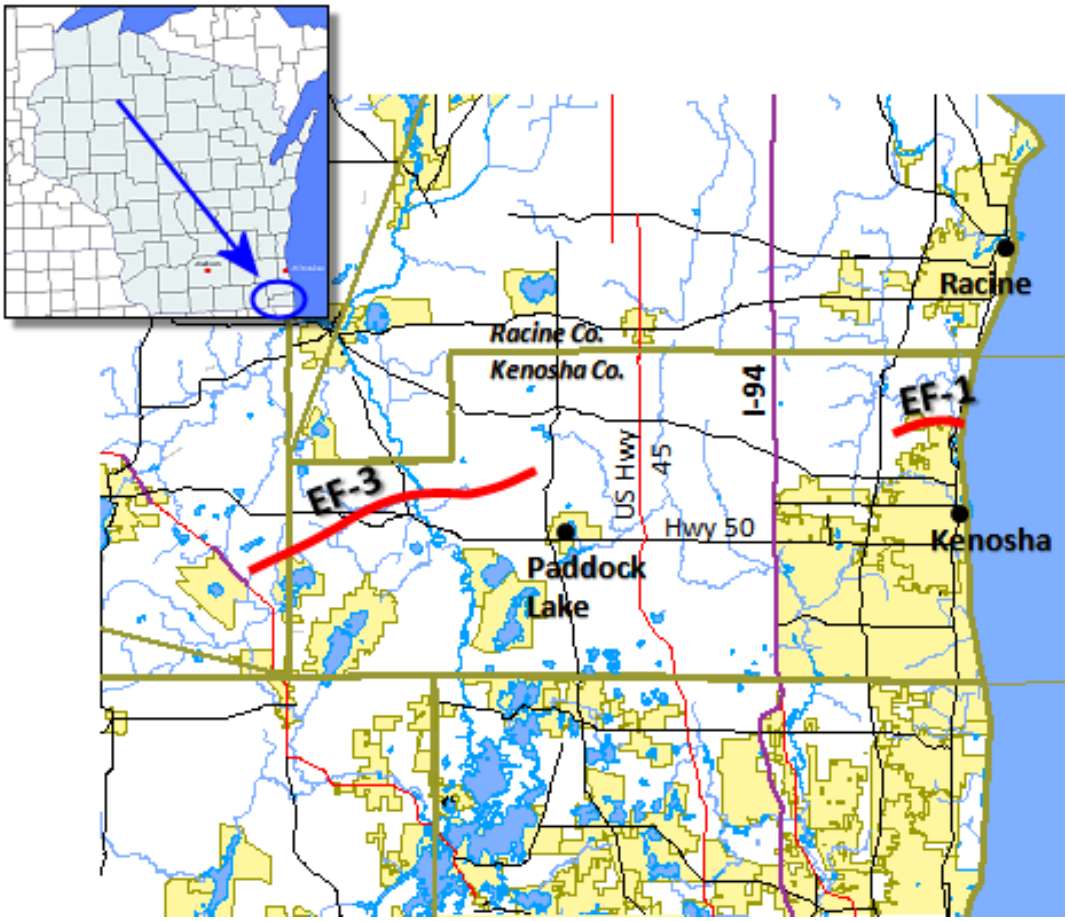



Source: NOAA's National Weather Service Milwaukee/Sullivan, 2008

January 7, 2008 produced a rare weather event in south eastern Wisconsin. With temperatures in the lower 60s, thunderstorms formed ahead of a stationary front and produced hail, damaging winds, and a few tornadoes. The first tornado spun up in Southeast Walworth County and then tracked through the Wheatland and Brighton areas of Western Kenosha County. The second tornado occurred in the town of Somers and on the north side of the city of Kenosha. In Walworth County, five structures sustained damage - three had minor damage and two had moderate damage. In Kenosha County, with both tornadoes combined, 105 homes sustained damage. 46 homes had minor damage, 32 had major damage and 27 were destroyed. Thanks to early warnings issued by the National Weather Service, this tornado resulted in only 15 minor injuries and about $13.81 million in damage. This was the first EF3 tornado in Kenosha County since the rating system began in 1982, and was the first tornado in Wisconsin in January since the January 24, 1967 tornado in Green and Rock Counties.

Map 4.2.2 – 6 shows the tornadoes paths from January 7th.

**Map 4.2.2 – 6 Winter Tornadoes, January 7, 2008**




National Weather Service, Milwaukee/Sullivan, 2008

Table 4.2.2 – 4 lists significant tornadoes in Wisconsin's history and the damage they caused. Figure 4.2.2 – 4 shows a view of the July 18, 1996 Oakfield tornado. Figure 4.2.2 – 5 shows a view of the April 21, 1974 Oshkosh tornado. Map 4.2.2 – 6 shows the total, estimated, monetary damage per county for the period of 1950-2003.

**Table 4.2.2 – 4 Significant Tornado Events in Wisconsin, 1865-2007**

| Date of Tornado | Location | Damage | Fatalities |
|---|---|---|---|
| June 29, 1865 | Vernon County | Not available | 24 |
| May 23, 1878 | Iowa, Dane, Jefferson, Waukesha, and Milwaukee Counties (est. F4) (may have been 3 separate tornadoes) | Not Available | 19 |
| May 18, 1898 | Eau Claire, Clark, Marathon, Lincoln, and Langlade Counties (est. F5) | Not Available | 17 |
| June 12, 1899 | City of New Richmond (St. Croix County) | Not Available | 117 |
| September 21,1924 | Eau Claire to Oneida County | Not Available | 26 |
| September 21,1924 | Barron to Ashland County | Not Available | 10 |
| April 5, 1929 | Pierce, St. Croix, and Barron Counties (est. F4) | $4,000,000 | 7 |
| April 3, 1956 | (City of Berlin) Green Lake, Waushara, and Winnebago | $1,000,000 | 7 |

| | | | |
|---|---|---|---|
| | Counties (est. F4) | | |
| June 4, 1958 | City of Colfax (Dunn County), Chippewa, and Clark Counties (3 tornadoes) | $27,750,000 | 27 |
| April 11, 1965 | Jefferson and Dodge County (est. F2) | Not available | 3 |
| April 21,1974 | City of Oshkosh (Winnebago County) (est. F4) | $4,000,000 | 0 |
| April 21,1974 | Dodge and Fond du Lac Counties (est. F3) | $5,000,000 | 2 |
| July 15,1980 | Chippewa, Dunn, and Eau Claire Counties (9 tornadoes) | $150,000,000 | 0 |
| April 27,1984 | Oneida and Vilas Counties (F3) | $52,500,000 | 1 |
| April 27, 1984 | Waupaca, Shawano, and Menominee Counties (F3) | $2,624,000 | 0 |
| April 27, 1984 | Winnebago and Outagamie Counties (F4) | $3,600,000 | 1 |
| April 27, 1984 | Village of Wales, Waukesha County (F4) | $1,300,000 | 1 |
| June 8,1984 | Iowa, Dane, and Columbia Counties, Village of Barneveld (F5) | $40,000,000 | 9 |
| August 29, 1992 | Waushara County (F3) | $10,100,000 | 1 |
| July 5, 1994 | Manitowoc County (F4) | $2,100,000 | 0 |
| August 27, 1994 | Adams County (F3) | $4,600,000 | 2 |
| July 18, 1996 | West of Oakfield to near Eden (Fond du Lac County) (F5) | $40,400,000 | 0 |
| August 23, 1998 | Door County (F3) | $7,000,000 | 0 |
| March 8, 2000 | Milwaukee (F1) | $4,181,000 | 0 |
| June 18, 2001 | Burnett and Washburn Counties (F3) | $10,000,000 | 3 |
| September 2, 2002 | Rusk County (F3) | $25,000,000 | 0 |
| June 23, 2004 | Green Lake, Fond du Lac, and Dodge Counties (two F3 tornadoes merged) | $20,000,000 | 1 |
| August 18, 2005 | Dane and Jefferson Counties (F3) | $35,052,000 | 1 |
| August 18, 2005 | Vernon and Richland Counties (F2) | $3, 570,000 | 0 |
| June 7, 2006 | Shawano, Menominee, Langlade, and Oconto Counties (F3) | $15,400,000 | 0 |
| January 7, 2008 | Walworth and Kenosha Counties (F3) | $13,810,000 | 0 |

Source: "Hazard Analysis for the State of Wisconsin," Wisconsin Emergency Management, Department of Military Affairs, November 2002, National Weather Service, Milwaukee/Sullivan, 2008.



**Section TOC**

**Figure 4.2.2 - 4: View of Oakfield Tornado**


Photo: Don Lloyd, 1996

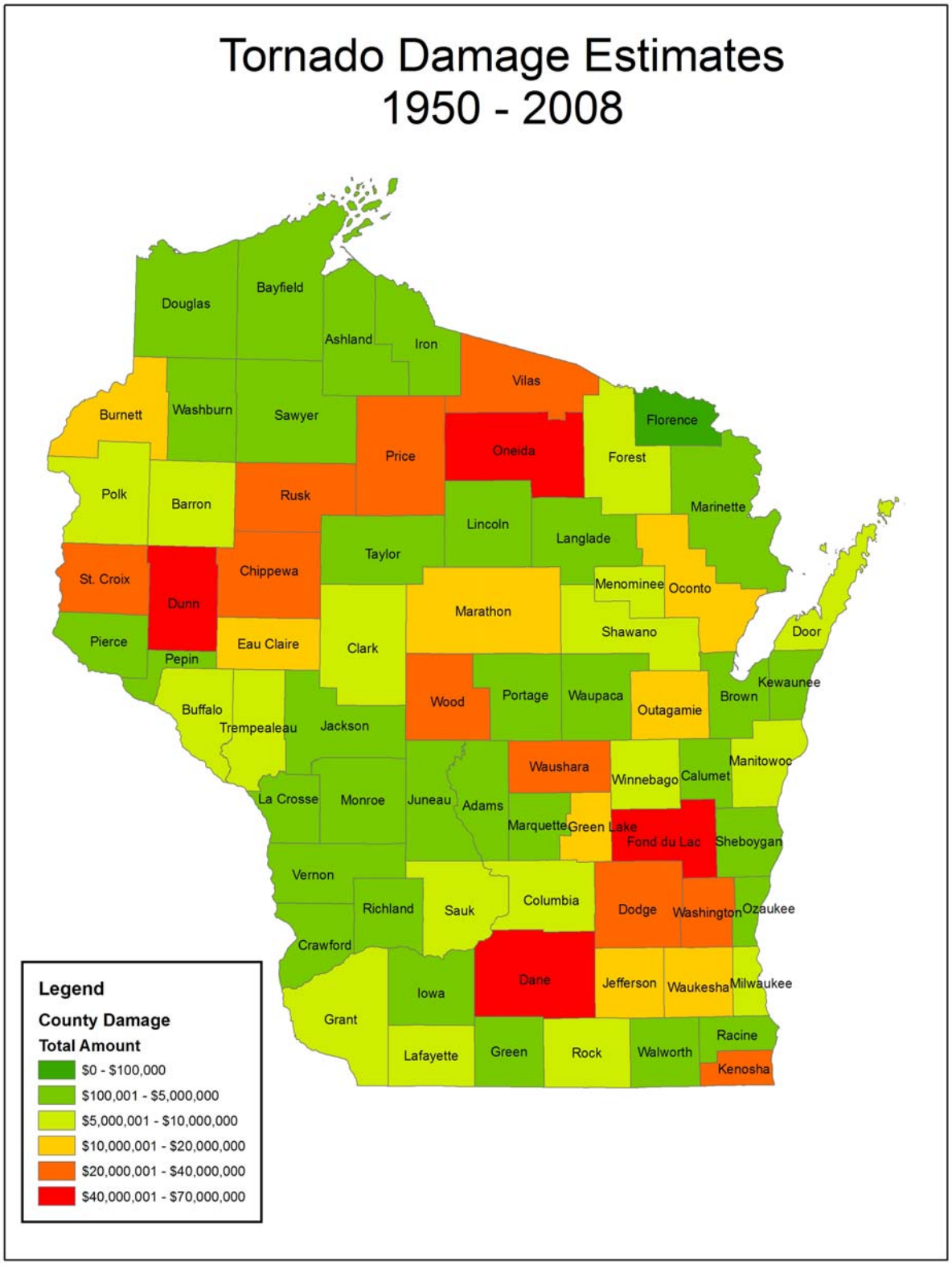
**Figure 4.2.2 - 5: View of Oshkosh Tornado**

Photo: Rusty Kapela, 1974



**Section TOC**

**Map 4.2.2 – 7 Tornado Damage Estimates 1950-2008**




National Weather Service, Milwaukee/Sullivan, 2008



Section TOC

## Probability of Occurrence

Wisconsin currently averages 20.5 (1971-2000 average) documented tornadoes annually. This number has increased recently from an average of 18.7 per year for the 45-year period of 1950 – 1994, due to more highly trained severe weather spotters and more accurate documentation by the NWS. Table 4.2.2 – 5 shows how Wisconsin ranked with other states in terms of number of tornadoes, fatalities, injuries, and damages. The monetary damage amounts shown are not adjusted for inflation. The number of tornadoes per year varies due to fluctuations in the jet stream pattern which influences thunderstorm movement. The State ranked 4th nationally in 1980 when 43 tornadoes spun up (more than Texas had that year). However, during 1999, there were only 11 confirmed tornadoes in Wisconsin, a small number compared to an average year. In 2005, Wisconsin had 62 tornadoes, which was the 7th highest state total for the year.

**Table 4.2.2 - 5 Top 20 States for Number of Tornadoes, Fatalities, and Damages, 1950 to 2007**

| Tornadoes | | | Fatalities | | | Injuries | | | Dollars (Millions) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rank | State | Number | Rank | State | Number | Rank | State | Number | Rank | State | Amount |
| 1 | Texas | 7545 | 1 | Texas | 537 | 1 | Texas | 8155 | 1 | Texas | $11,650 |
| 2 | Kansas | 3285 | 2 | Mississippi | 404 | 2 | Mississippi | 5795 | 2 | Oklahoma | $7,713 |
| 3 | Oklahoma | 3078 | 3 | Alabama | 368 | 3 | Alabama | 5632 | 3 | Florida | $7,291 |
| 4 | Florida | 2940 | 4 | Arkansas | 337 | 4 | Arkansas | 4705 | 4 | Kansas | $5,366 |
| 5 | Nebraska | 2407 | 5 | Tennessee | 270 | 5 | Ohio | 4393 | 5 | Iowa | $5,193 |
| 6 | Iowa | 2053 | 6 | Oklahoma | 265 | 6 | Indiana | 4192 | 6 | Missouri | $4,662 |
| 7 | Illinois | 1952 | 7 | Indiana | 248 | 7 | Oklahoma | 4115 | 7 | Mississippi | $4,634 |
| 8 | Missouri | 1741 | 8 | Michigan | 242 | 8 | Illinois | 4048 | 8 | Nebraska | $4,433 |
| 9 | Colorado | 1738 | 9 | Kansas | 228 | 9 | Tennessee | 3649 | 9 | Georgia | $4,338 |
| 10 | Mississippi | 1595 | 10 | Missouri | 203 | 10 | Georgia | 3626 | 10 | Alabama | $4,142 |
| 11 | S. Dakota | 1561 | 11 | Illinois | 202 | 11 | Michigan | 3350 | 11 | Illinois | $3,958 |
| 12 | Louisiana | 1508 | 12 | Ohio | 184 | 12 | Florida | 3277 | 12 | Louisiana | $3,928 |
| 13 | Alabama | 1487 | 13 | Georgia | 171 | 13 | Missouri | 2875 | 13 | Indiana | $3,407 |
| 14 | Arkansas | 1426 | 14 | Florida | 160 | 14 | Kentucky | 2729 | 14 | Arkansas | $3,355 |
| 15 | Minnesota | 1400 | 15 | Louisiana | 152 | 15 | Kansas | 2664 | **15** | **Wisconsin** | **$3,269** |
| 16 | Georgia | 1251 | 16 | Kentucky | 116 | 16 | Louisiana | 2601 | 16 | Ohio | $3,120 |
| 17 | N. Dakota | 1235 | 17 | Massachusetts | 102 | 17 | North Carolina | 2162 | 17 | Tennessee | $2,772 |
| 18 | Indiana | 1168 | **18** | **Wisconsin** | **99** | 18 | Iowa | 2043 | 18 | Minnesota | $2,730 |
| **19** | **Wisconsin** | **1121** | 19 | N. Carolina | 97 | 19 | Minnesota | 1862 | 19 | Michigan | $2,709 |
| 20 | N. Carolina | 1000 | 20 | Minnesota | 94 | **20** | **Wisconsin** | **1599** | 20 | N. Carolina | $2,499 |

It is reasonable to assume that the average annual State-wide figure of 21 will remain relatively constant in the lower 20s in the near future. The numbers of deaths and injuries can fluctuate drastically depending on the severity of the tornadoes, the locations that they impact, and the time of the day. .

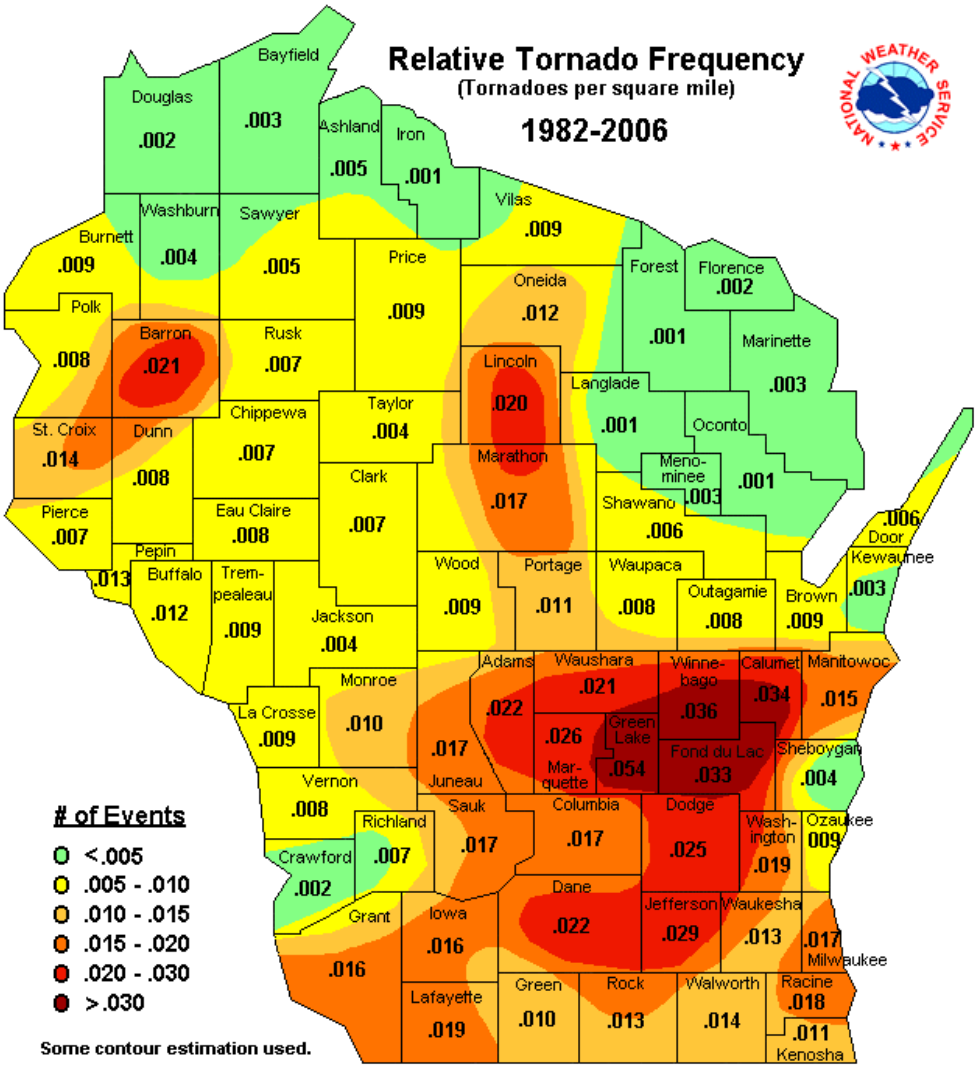
Although site-specific tornado probability is impossible to determine, different techniques exist that can show the relative frequency of tornado occurrence per county and the density plot of tornadoes. In Map 4.2.2 – 4, one can readily see that larger counties tend to have more tornado events. To adjust for this bias, one can divide the



Section TOC

county tornado bean counts in that Map by the number of square miles for that county, and analyze the resultant numbers. By doing so, a relative, county-based, frequency plot of tornadoes can be quickly constructed. Map 4.2.2 – 8 shows this relative frequency plot for the period of 1982-2006. Note that there is a concentration of tornadoes in the area from Green Lake County over to those counties surrounding Lake Winnebago. Additionally, there are other concentrations of tornadoes in Barron, Lincoln, Marathon, Grant, Lafayette, Dane, and Jefferson Counties.

**Map 4.2.2 – 8 Relative Tornado Frequency 1982-2006**




Source: NOAA's National Weather Service Milwaukee/Sullivan, 2007

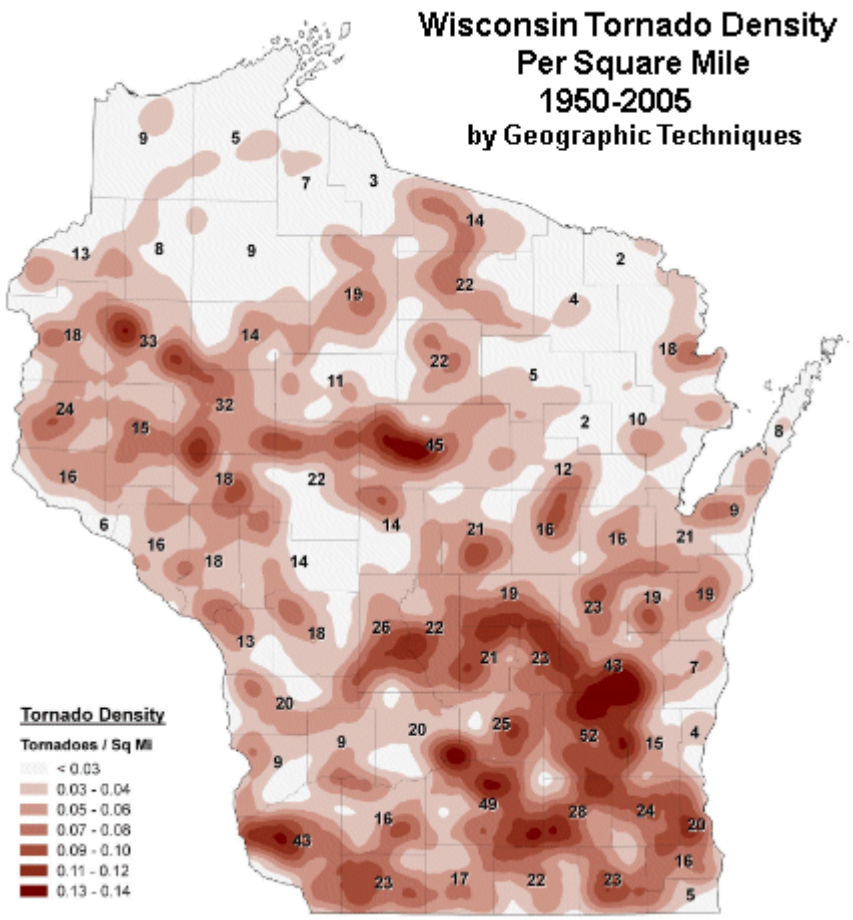
Alternatively, Map 4.2.2 – 9 shows a density plot of tornadoes that was generated by a company entitled Geographic Techniques. Within each county in the map is the total number of tornadoes in that county for the period of 1950-2005. To arrive at a detailed density plot, the numbers of tornadoes per civil Township in each county were determined. Then the number of tornadoes per square mile within that civil Township was calculated based on 100-meter square grids. This technique clearly shows the local



Section TOC

"hot spots" across the State in greater detail. Keep in mind that this density plot is based on only 56 years of data, consequently there is a background "chicken pox/measles" pattern across the State. Ideally, a 100-year or 200-year period of data would lead to an even better tornado density plot. Nonetheless, this tornado density plot clearly shows more detail than other simple, county-based tornado bean-counts shown elsewhere in this section. Speculation suggests that the concentration of tornadoes between Madison and Lake Winnebago may be related to the fact that the terrain in that area is flatter, as compared to the southwestern counties. Additionally, an interaction between a lake breeze front generated by Lake Winnebago and outflow boundaries (gust fronts) generated by individual thunderstorms may enhance the spin-up of the tornado circulation below cloud base.

**Map 4.2.2 – 9 Wisconsin Tornado Density Plot 1950 - 2005**




Source: Geographic Techniques, 2006



Section TOC

The following four tables (4.2.2 – 6 through 4.2.2 – 9) were compiled using historic date from the National Climatic Data Center (NCDC). All property damage (not including crop damages) in tornado-prone counties was considered at-risk for damages. Higher risks are associated to areas with increased populations as well as residential growth.

From 1950 to May 31, 2008, information on tornadoes from each county in the state was entered into a spreadsheet and included the following information: average damage amounts per tornado; annual probability and estimated future annual losses. The following are methods that were used to determine the figures that are used in Tables 4.2.2 – 6 and 4.2.2 – 7.

- *Average $ Damage/Tornado: Total damages ($) divided by the # of tornadoes = avg. damage/event.*

- *Annual Probability: # Tornadoes divided by the # years (May 31, 2008-1950=57.4 yrs) = annual probability.*

- *Estimated Future Annual Loss: Annual probability x avg. damage/event = est. future annual loss.*

For an example of how these losses were estimated: Take Marathon County which had 45 tornadoes over the 57.4 year time period (1950 to May 31, 2008). This translates to an Annual Probability of .7840 (45/57.4 =.7839721). Each tornado has averaged $365,867 in damage ($16,464,000/45 tornadoes = $365,866.66) so $365,867 per tornado x the annual probability of .7839721, equals $286,830 for an estimated future annual loss.

These calculations were done for each county to arrive at an estimated future annual loss and annual probability of a tornado. Table 4.2.2 – 6 lists the counties in alphabet order and Table 4.2.2 – 7 lists the counties by ascending property losses.

Tables 4.5.3.2 – 8 and 4.5.3.2 – 9 have total damages which includes:

1. Property loss calculated in Table 4.2.2 – 6 (column 8 with the heading, “Estimated annual loss (property damage)”,

Plus the calculations for injury and death, as follows:

2. Injury was calculated at $10,553 for a blended major and minor injury. $1,863 for minor injury and $18,627 for major injury are the 2007 figures that was provided based on FEMA guidance used in the benefit-cost (BC) analysis of hazard mitigation measures. The instruction was to use the inflation calculator in the BC tool kit to arrive at the 2008 values. The 2008 figures are $1,919 for minor injury and $19,186 for major injury. Major and minor injuries are combined in the NCDC data. The total of these two figures is $21,105/2 = $10,552.50 or $10,553.

3. Death was calculated at $3,332,958. The 2007 figure that was provided based on FEMA guidance used in the benefit-cost (BC) analysis of hazard mitigation measures is $3,235,882. The instruction was to use the inflation calculator in the BC tool kit to arrive at the 2008 values which is $3,332,958.

Both injury and death was based on an annual probability of .0174 (1/57.4 = .0174216). Table 4.2.2 – 8 lists the counties in alphabet order and Table 4.2.2 – 9 lists the counties by ascending property, injury and death losses.

For an example of how these losses were estimated: Take Marathon County which had 19 injuries which equates to an annual probability of an injury .3310 (19/57.4) x the rate of $10,553 = $3,493. Zero deaths occurred in this county. Table 4.2.2 – 6 calculated the property damage estimate to be $286,830. The total damages for Marathon County would be $290,323 ($3,493 + $0 + $286,830).

Note: in order to demonstrate loss estimates when a death occurs in a county, Burnett County will be used as an example. Burnett County had 3 deaths which equates to an annual probability of a death as .0523 (3/57.4) x the rate of $3,332,958 = $174,314. This amount would be added to the total for injuries and property losses.

**Table 4.2.2 – 6: Tornado Loss Estimate By County (1950-05/31/2008)**

| County | # of Tornadoes | Total Damages | Avg. Damage/Tornado | Annual Probability | Estimated Future Annual Loss |
|---|---|---|---|---|---|
| Adams | 14 | $3.258M | $232,714 | .2439 | $56,760 |
| Ashland | 7 | $300,000 | $42,857 | .1220 | $5,229 |
| Barron | 32 | $8.603M | $268,844 | .5575 | $149,878 |
| Bayfield | 5 | $775,000 | $155,000 | .0871 | $13,502 |
| Brown | 20 | $4.043M | $202,150 | .3484 | $70,436 |
| Buffalo | 13 | $8.598M | $661,385 | .2265 | $149,791 |
| Burnett | 11 | $12.550M | $1,140,909 | .1916 | $218,641 |
| Calumet | 19 | $3.850M | $202,632 | .3310 | $67,073 |
| Chippewa | 27 | $36.893M | $1,366,407 | .4704 | $642,735 |
| Clark | 21 | $7.783M | $370,619 | .3659 | $135,592 |
| Columbia | 29 | $9.154M | $315,655 | .5052 | $159,477 |
| Crawford | 9 | $553,000 | $61,444 | .1568 | $9,634 |
| Dane | 44 | $69.129M | $1,571,114 | .7666 | $1,204,338 |
| Dodge | 53 | $28.058M | $529,396 | .9233 | $488,815 |
| Door | 8 | $8.018M | $1,002,250 | .1394 | $139,686 |
| Douglas | 8 | $856,000 | $107,000 | .1394 | $14,913 |
| Dunn | 15 | $58.297M | $3,886,467 | .2613 | $1,015,627 |
| Eau Claire | 14 | $15.805M | $1,128,929 | .2439 | $275,348 |
| Florence | 2 | $75,000 | $37,500 | .0348 | $1,307 |
| Fond Du Lac | 41 | $60.218M | $1,468,732 | .7143 | $1,049,094 |
| Forest | 4 | $5.300M | $1,325,000 | .0697 | $92,334 |
| Grant | 40 | $5.298M | $132,450 | .6969 | $92,300 |
| Green | 15 | $3.558M | $237,200 | .2613 | $61,986 |
| Green Lake | 19 | $12.493M | $657,526 | .3310 | $217,648 |
| Iowa | 22 | $2.198M | $99,909 | .3833 | $38,293 |
| Iron | 3 | $253,000 | $84,333 | .0523 | $4,408 |
| Jackson | 12 | $3.905M | $325,417 | .2091 | $68,031 |
| Jefferson | 27 | $10.128M | $375,111 | .4704 | $176,446 |
| Juneau | 21 | $4.967M | $236,524 | .3659 | $86,533 |
| Kenosha | 6 | $21.925M | $3,654,167 | .1045 | $381,969 |
| Kewaunee | 7 | $550,000 | $78,571 | .1220 | $9,582 |
| La Crosse | 13 | $3.130M | $240,769 | .2265 | $54,530 |
| Lafayette | 22 | $7.400M | $336,364 | .3833 | $128,920 |

| Table 4.2.2 – 6: Tornado Loss Estimate By County (1950-05/31/2008) | | | | | |
|---|---|---|---|---|---|
| County | # of Tornadoes | Total Damages | Avg. Damage/Tornado | Annual Probability | Estimated Future Annual Loss |
| Langlade | 6 | $4.955M | $825,833 | .1045 | $86,324 |
| Lincoln | 21 | $1.825M | $86,905 | .3659 | $31,795 |
| Manitowoc | 19 | $8.450M | $444,737 | .3310 | $147,213 |
| Marathon | 45 | $16.464M | $365,867 | .7840 | $286,830 |
| Marinette | 18 | $3.925M | $218,056 | .31.36 | $68,380 |
| Marquette | 14 | $1.428M | $102,000 | .2439 | $24,878 |
| Menominee | 2 | $5.200M | $2,600,000 | .0348 | $90,592 |
| Milwaukee | 17 | $7.753M | $456,059 | .2962 | $135,070 |
| Monroe | 18 | $3.916M | $217,556 | .3136 | $68,223 |
| Oconto | 10 | $11.354M | $1,135,400 | .1742 | $197,805 |
| Oneida | 20 | $51.181M | $2,559,050 | .3484 | $891,655 |
| Outagamie | 14 | $15.176M | $1,084,000 | .2439 | $264,390 |
| Ozaukee | 3 | $2.800M | $933,333 | .0523 | $48,780 |
| Pepin | 5 | $600,000 | $120,000 | .0871 | $10,453 |
| Pierce | 16 | $3.808M | $238,000 | .2787 | $66,341 |
| Poke | 20 | $8.628M | $431,400 | .0384 | $150,314 |
| Portage | 21 | $2.088M | $99,429 | .3659 | $36,376 |
| Price | 18 | $26.383M | $1,465,722 | .3136 | $459,634 |
| Racine | 16 | $3.166M | $197,875 | .2787 | $55,157 |
| Richland | 11 | $3.455M | $314,091 | .1916 | $60,192 |
| Rock | 21 | $7.733M | $368,238 | .3659 | $134,721 |
| Rusk | 13 | $25.850M | $1,988,462 | .2265 | $450,348 |
| Sauk | 22 | $6.544M | $297,455 | .3833 | $114,007 |
| Sawyer | 8 | $278,000 | $34,750 | .1394 | $4,843 |
| Shawano | 12 | $5.856M | $488,000 | .2091 | $102,021 |
| Sheboygan | 6 | $3.278M | $546,333 | .1045 | $57,108 |
| St. Croix | 25 | $37.230M | $1,489,200 | .4355 | $648,606 |
| Taylor | 8 | $4.206M | $525,750 | .1394 | $73,275 |
| Trempealeau | 16 | $5.879M | $367,438 | .2787 | $102,422 |
| Vernon | 18 | $4.658M | $258,778 | .3136 | $81,150 |
| Vilas | 13 | $26.450M | $2,034,615 | .2265 | $460,801 |
| Walworth | 22 | $4.530M | $205,909 | .3833 | $78,920 |
| Washburn | 8 | $2.780M | $347,500 | .1394 | $48,432 |
| Washington | 17 | $30.280M | $1,781,176 | .2962 | $527,526 |
| Waukesha | 23 | $14.508M | $630,783 | .4007 | $252,753 |
| Waupaca | 14 | $4.266M | $304,714 | .2439 | $74,320 |
| Waushara | 16 | $28.830M | $1,801,875 | .2787 | $502,265 |
| Winnebago | 21 | $8.279M | $394,238 | .3659 | $144,233 |
| Wood | 15 | $26.510M | $1,767,333 | .2613 | $461,847 |

| Table 4.2.2 – 7: Tornado Loss Estimate By County (1950-05/31/2008) Counties listed in ascending order for damage. | | | | | |
|---|---|---|---|---|---|
| County | # of Tornadoes | Total Damages | Avg. Damage/Tornado | Annual Probability | Estimated Future Annual Loss |
| Florence | 2 | $75,000 | $37,500 | .0348 | $1,307 |
| Iron | 3 | $253,000 | $84,333 | .0523 | $4,408 |
| Sawyer | 8 | $278,000 | $34,750 | .1394 | $4,843 |
| Ashland | 7 | $300,000 | $42,857 | .1220 | $5,229 |
| Kewaunee | 7 | $550,000 | $78,571 | .1220 | $9,582 |
| Crawford | 9 | $553,000 | $61,444 | .1568 | $9,634 |
| Pepin | 5 | $600,000 | $120,000 | .0871 | $10,453 |
| Bayfield | 5 | $775,000 | $155,000 | .0871 | $13,502 |
| Douglas | 8 | $856,000 | $107,000 | .1394 | $14,913 |
| Marquette | 14 | $1.428M | $102,000 | .2439 | $24,878 |
| Lincoln | 21 | $1.825M | $86,905 | .3659 | $31,795 |
| Portage | 21 | $2.088M | $99,429 | .3659 | $36,376 |
| Iowa | 22 | $2.198M | $99,909 | .3833 | $38,293 |
| Washburn | 8 | $2.780M | $347,500 | .1394 | $48,432 |
| Ozaukee | 3 | $2.800M | $933,333 | .0523 | $48,780 |
| La Crosse | 13 | $3.130M | $240,769 | .2265 | $54,530 |

**Table 4.2.2 – 7: Tornado Loss Estimate By County (1950-05/31/2008)**
**Counties listed in ascending order for damage.**

| County | # of Tornadoes | Total Damages | Avg. Damage/Tornado | Annual Probability | Estimated Future Annual Loss |
|---|---|---|---|---|---|
| Racine | 16 | $3.166M | $197,875 | .2787 | $55,157 |
| Adams | 14 | $3.258M | $232,714 | .2439 | $56,760 |
| Sheboygan | 6 | $3.278M | $546,333 | .1045 | $57,108 |
| Richland | 11 | $3.455M | $314,091 | .1916 | $60,192 |
| Green | 15 | $3.558M | $237,200 | .2613 | $61,986 |
| Pierce | 16 | $3.808M | $238,000 | .2787 | $66,341 |
| Calumet | 19 | $3.850M | $202,632 | .3310 | $67,073 |
| Jackson | 12 | $3.905M | $325,417 | .2091 | $68,031 |
| Monroe | 18 | $3.916M | $217,556 | .3136 | $68,223 |
| Marinette | 18 | $3.925M | $218,056 | .31.36 | $68,380 |
| Brown | 20 | $4.043M | $202,150 | .3484 | $70,436 |
| Taylor | 8 | $4.206M | $525,750 | .1394 | $73,275 |
| Waupaca | 14 | $4.266M | $304,714 | .2439 | $74,320 |
| Walworth | 22 | $4.530M | $205,909 | .3833 | $78,920 |
| Vernon | 18 | $4.658M | $258,778 | .3136 | $81,150 |
| Langlade | 6 | $4.955M | $825,833 | .1045 | $86,324 |
| Juneau | 21 | $4.967M | $236,524 | .3659 | $86,533 |
| Menominee | 2 | $5.200M | $2,600,000 | .0348 | $90,592 |
| Grant | 40 | $5.298M | $132,450 | .6969 | $92,300 |
| Forest | 4 | $5.300M | $1,325,000 | .0697 | $92,334 |
| Shawano | 12 | $5.856M | $488,000 | .2091 | $102,021 |
| Trempealeau | 16 | $5.879M | $367,438 | .2787 | $102,422 |
| Sauk | 22 | $6.544M | $297,455 | .3833 | $114,007 |
| Lafayette | 22 | $7.400M | $336,364 | .3833 | $128,920 |
| Rock | 21 | $7.733M | $368,238 | .3659 | $134,721 |
| Milwaukee | 17 | $7.753M | $456,059 | .2962 | $135,070 |
| Clark | 21 | $7.783M | $370,619 | .3659 | $135,592 |
| Door | 8 | $8.018M | $1,002,250 | .1394 | $139,686 |
| Winnebago | 21 | $8.279M | $394,238 | .3659 | $144,233 |
| Manitowoc | 19 | $8.450M | $444,737 | .3310 | $147,213 |
| Barron | 32 | $8.603M | $268,844 | .5575 | $149,878 |
| Buffalo | 13 | $8.598M | $661,385 | .2265 | $149,791 |
| Poke | 20 | $8.628M | $431,400 | .0384 | $150,314 |
| Columbia | 29 | $9.154M | $315,655 | .5052 | $159,477 |
| Jefferson | 27 | $10.128M | $375,111 | .4704 | $176,446 |
| Oconto | 10 | $11.354M | $1,135,400 | .1742 | $197,805 |
| Green Lake | 19 | $12.493M | $657,526 | .3310 | $217,648 |
| Burnett | 11 | $12.550M | $1,140,909 | .1916 | $218,641 |
| Waukesha | 23 | $14.508M | $630,783 | .4007 | $252,753 |
| Outagamie | 14 | $15.176M | $1,084,000 | .2439 | $264,390 |
| Eau Claire | 14 | $15.805M | $1,128,929 | .2439 | $275,348 |
| Marathon | 45 | $16.464M | $365,867 | .7840 | $286,830 |
| Kenosha | 6 | $21.925M | $3,654,167 | .1045 | $381,969 |
| Rusk | 13 | $25.850M | $1,988,462 | .2265 | $450,348 |
| Price | 18 | $26.383M | $1,465,722 | .3136 | $459,634 |
| Vilas | 13 | $26.450M | $2,034,615 | .2265 | $460,801 |
| Wood | 15 | $26.510M | $1,767,333 | .2613 | $461,847 |
| Dodge | 53 | $28.058M | $529,396 | .9233 | $488,815 |
| Waushara | 16 | $28.830M | $1,801,875 | .2787 | $502,265 |
| Washington | 17 | $30.280M | $1,781,176 | .2962 | $527,526 |
| Chippewa | 27 | $36.893M | $1,366,407 | .4704 | $642,735 |
| St. Croix | 25 | $37.230M | $1,489,200 | .4355 | $648,606 |
| Oneida | 20 | $51.181M | $2,559,050 | .3484 | $891,655 |
| Dunn | 15 | $58.297M | $3,886,467 | .2613 | $1,015,627 |
| Fond Du Lac | 41 | $60.218M | $1,468,732 | .7143 | $1,049,094 |
| Dane | 44 | $69.129M | $1,571,114 | .7666 | $1,204,338 |

| Table 4.2.2 – 8: Tornado Loss Estimate by Total Damages (Death, Injury & Property damage) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| County | # Injuries (1950-05/31/2008) | Annual Probability of an injury | Estimated annual loss (injury)* | # Deaths | Annual Probability of a death | Estimated Annual Loss (death)** | Estimated annual loss (property damage)*** | Estimated Annual Loss (Injury & Death & Property ) |
| Adams | 18 | .3136 | $3,309 | 0 | 0 | $0 | $56,760 | $60,069 |
| Ashland | 0 | 0 | $0 | 0 | 0 | $0 | $5,229 | $5,229 |
| Barron | 16 | .2787 | $2,941 | 0 | 0 | $0 | $149,878 | $152,819 |
| Bayfield | 4 | .0697 | $736 | 0 | 0 | $0 | $13,502 | $14,238 |
| Brown | 7 | .1220 | $1,287 | 0 | 0 | $0 | $70,436 | $71,723 |
| Buffalo | 7 | .1220 | $1,287 | 0 | 0 | $0 | $149,791 | $151,078 |
| Burnett | 25 | .4355 | $4,596 | 3 | .0523 | $174,314 | $218,641 | $397,551 |
| Calumet | 7 | .1220 | $1,287 | 1 | .0174 | $57,993 | $67,073 | $126,353 |
| Chippewa | 90 | 1.5679 | $16,546 | 5 | .0871 | $290,301 | $642,735 | $949,582 |
| Clark | 7 | .1220 | $1,287 | 1 | .0174 | $57,993 | $135,592 | $194,872 |
| Columbia | 49 | .8537 | $9,009 | 1 | .0174 | $57,993 | $159,477 | $226,479 |
| Crawford | 9 | .1568 | $1,655 | 0 | 0 | $0 | $9,634 | $11,289 |
| Dane | 66 | 1.1498 | $12,134 | 4 | .0697 | $232,307 | $1,204,338 | $1,448,779 |
| Dodge | 36 | .6272 | $6,619 | 0 | 0 | $0 | $488,815 | $495,434 |
| Door | 4 | .0697 | $736 | 0 | 0 | $0 | $139,686 | $140,422 |
| Douglas | 0 | 0 | $0 | 0 | 0 | $0 | $14,913 | $14,913 |
| Dunn | 77 | 1.3415 | $14,157 | 21 | .3659 | $1,219,529 | $1,015,627 | $2,249,313 |
| Eau Claire | 20 | .3484 | $3,677 | 6 | .1045 | $348,294 | $275,348 | $627,319 |
| Florence | 0 | 0 | $0 | 0 | 0 | $0 | $1,307 | $1,307 |
| Fond Du Lac | 24 | .4181 | $4,412 | 2 | .0348 | $115,987 | $1,049,094 | $1,169,493 |
| Forest | 3 | .0523 | $552 | 0 | 0 | $0 | $92,334 | $92,886 |
| Grant | 7 | .1220 | $1,287 | 0 | 0 | $0 | $92,300 | $93,587 |
| Green | 45 | .7840 | $8,274 | 0 | 0 | $0 | $61,986 | $70,260 |
| Green Lake | 54 | .9408 | $9,928 | 8 | .1394 | $464,614 | $217,648 | $692,190 |
| Iowa | 206 | 3.5889 | $37,874 | 9 | .1568 | $522,608 | $38,293 | $598,775 |
| Iron | 0 | 0 | $0 | 0 | 0 | $0 | $4,408 | $4,408 |
| Jackson | 5 | .0871 | $919 | 0 | 0 | $0 | $68,031 | $68,950 |
| Jefferson | 36 | .6272 | $6,619 | 3 | .0523 | $174,314 | $176,446 | $357,379 |
| Juneau | 38 | .6620 | $6,986 | 3 | .0523 | $174,314 | $86,533 | $267,833 |
| Kenosha | 15 | .2613 | $2,757 | 0 | 0 | $0 | $381,969 | $384,726 |
| Kewaunee | 1 | .0174 | $184 | 0 | 0 | $0 | $9,582 | $9,766 |
| La Crosse | 3 | .0523 | $552 | 0 | 0 | $0 | $54,530 | $55,082 |
| Lafayette | 12 | .2091 | $2,207 | 0 | 0 | $0 | $128,920 | $131,127 |
| Langlade | 3 | .0523 | $552 | 0 | 0 | $0 | $86,324 | $86,876 |
| Lincoln | 2 | .0348 | $367 | 0 | 0 | $0 | $31,795 | $32,162 |
| Manitowoc | 2 | .0348 | $367 | 0 | 0 | $0 | $147,213 | $147,580 |
| Marathon | 19 | .3310 | $3,493 | 0 | 0 | $0 | $286,830 | $290,323 |
| Marinette | 8 | .1394 | $1,471 | 2 | .0348 | $115,987 | $68,380 | $185,838 |
| Marquette | 0 | 0 | $0 | 0 | 0 | $0 | $24,878 | $24,878 |
| Menominee | 0 | 0 | $0 | 0 | 0 | $0 | $90,592 | $90,592 |
| Milwaukee | 176 | 3.0662 | $32,358 | 0 | 0 | $0 | $135,070 | $167,428 |
| Monroe | 4 | .0697 | $736 | 0 | 0 | $0 | $68,223 | $68,959 |
| Oconto | 6 | .1045 | $1,103 | 0 | 0 | $0 | $197,805 | $198,908 |
| Oneida | 36 | .6272 | $6,619 | 5 | .0871 | $290,301 | $891,655 | $1,188,575 |
| Outagamie | 10 | .1742 | $1,838 | 0 | 0 | $0 | $264,390 | $266,228 |
| Ozaukee | 30 | .5226 | $5,515 | 0 | 0 | $0 | $48,780 | $54,295 |
| Pepin | 6 | .1045 | $1,103 | 0 | 0 | $0 | $10,453 | $11,556 |
| Pierce | 6 | .1045 | $1,103 | 0 | 0 | $0 | $66,341 | $67,444 |
| Poke | 17 | .2962 | $3,126 | 4 | .0697 | $232,307 | $150,314 | $385,747 |
| Portage | 4 | .0697 | $736 | 2 | .0348 | $115,987 | $36,376 | $153,099 |
| Price | 26 | .4530 | $4,781 | 0 | 0 | $0 | $459,634 | $464,415 |
| Racine | 7 | .1220 | $1,287 | 0 | 0 | $0 | $55,157 | $56,444 |
| Richland | 9 | .1568 | $1,655 | 0 | 0 | $0 | $60,192 | $61,847 |
| Rock | 2 | .0348 | $367 | 0 | 0 | $0 | $134,721 | $135,088 |
| Rusk | 34 | .5923 | $6,251 | 0 | 0 | $0 | $450,348 | $456,599 |
| Sauk | 13 | .2265 | $2,390 | 0 | 0 | $0 | $114,007 | $116,397 |
| Sawyer | 0 | 0 | $0 | 0 | 0 | $0 | $4,843 | $4,843 |
| Shawano | 1 | .0174 | $184 | 0 | 0 | $0 | $102,021 | $102,205 |
| Sheboygan | 8 | .1394 | $1,471 | 1 | .0174 | $57,993 | $57,108 | $116,572 |
| St. Croix | 35 | .6098 | $6,435 | 2 | .0348 | $115,987 | $648,606 | $771,028 |



**Section TOC**

| Table 4.2.2 – 8: Tornado Loss Estimate by Total Damages (Death, Injury & Property damage) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| County | # Injuries (1950-05/31/2008) | Annual Probability of an injury | Estimated annual loss (injury)* | # Deaths | Annual Probability of a death | Estimated Annual Loss (death)** | Estimated annual loss (property damage)*** | Estimated Annual Loss (Injury & Death & Property ) |
| Taylor | 3 | .0523 | $552 | 0 | 0 | $0 | $73,275 | $73,827 |
| Trempealeau | 3 | .0523 | $552 | 0 | 0 | $0 | $102,422 | $102,974 |
| Vernon | 2 | .0348 | $367 | 0 | 0 | $0 | $81,150 | $81,517 |
| Vilas | 4 | .0697 | $736 | 0 | 0 | $0 | $460,801 | $461,537 |
| Walworth | 3 | .0523 | $552 | 0 | 0 | $0 | $78,920 | $79,472 |
| Washburn | 0 | 0 | $0 | 0 | 0 | $0 | $48,432 | $48,432 |
| Washington | 57 | .9930 | $10,479 | 3 | .0523 | $174,314 | $527,526 | $712,319 |
| Waukesha | 17 | .2962 | $3,126 | 1 | .0174 | $57,993 | $252,753 | $313,872 |
| Waupaca | 8 | .1394 | $1,471 | 6 | .1045 | $348,294 | $74,320 | $424,085 |
| Waushara | 34 | .5923 | $6,251 | 1 | .0174 | $57,993 | $502,265 | $566,509 |
| Winnebago | 52 | .9059 | $9,560 | 1 | .0174 | $57,993 | $144,233 | $211,786 |
| Wood | 30 | .5226 | $5,515 | 0 | 0 | $0 | $461,847 | $467,362 |

Table 4.2.2 – 9: Tornado Loss Estimate by Total Damages (Death, Injury & Property damage)
Counties listed in ascending order for damage.

| County | # Injuries (1950-05/31/2008) | Annual Probability of an injury | Estimated annual loss (injury)* | # Deaths | Annual Probability of a death | Estimated Annual Loss (death)** | Estimated annual loss (property damage)*** | Estimated Annual Loss (Injury & Death & Property ) |
|---|---|---|---|---|---|---|---|---|
| Florence | 0 | 0 | $0 | 0 | 0 | $0 | $1,307 | $1,307 |
| Iron | 0 | 0 | $0 | 0 | 0 | $0 | $4,408 | $4,408 |
| Sawyer | 0 | 0 | $0 | 0 | 0 | $0 | $4,843 | $4,843 |
| Ashland | 0 | 0 | $0 | 0 | 0 | $0 | $5,229 | $5,229 |
| Kewaunee | 1 | .0174 | $184 | 0 | 0 | $0 | $9,582 | $9,766 |
| Crawford | 9 | .1568 | $1,655 | 0 | 0 | $0 | $9,634 | $11,289 |
| Pepin | 6 | .1045 | $1,103 | 0 | 0 | $0 | $10,453 | $11,556 |
| Bayfield | 4 | .0697 | $736 | 0 | 0 | $0 | $13,502 | $14,238 |
| Douglas | 0 | 0 | $0 | 0 | 0 | $0 | $14,913 | $14,913 |
| Marquette | 0 | 0 | $0 | 0 | 0 | $0 | $24,878 | $24,878 |
| Lincoln | 2 | .0348 | $367 | 0 | 0 | $0 | $31,795 | $32,162 |
| Washburn | 0 | 0 | $0 | 0 | 0 | $0 | $48,432 | $48,432 |
| Ozaukee | 30 | .5226 | $5,515 | 0 | 0 | $0 | $48,780 | $54,295 |
| La Crosse | 3 | .0523 | $552 | 0 | 0 | $0 | $54,530 | $55,082 |
| Racine | 7 | .1220 | $1,287 | 0 | 0 | $0 | $55,157 | $56,444 |
| Adams | 18 | .3136 | $3,309 | 0 | 0 | $0 | $56,760 | $60,069 |
| Richland | 9 | .1568 | $1,655 | 0 | 0 | $0 | $60,192 | $61,847 |
| Pierce | 6 | .1045 | $1,103 | 0 | 0 | $0 | $66,341 | $67,444 |
| Jackson | 5 | .0871 | $919 | 0 | 0 | $0 | $68,031 | $68,950 |
| Monroe | 4 | .0697 | $736 | 0 | 0 | $0 | $68,223 | $68,959 |
| Green | 45 | .7840 | $8,274 | 0 | 0 | $0 | $61,986 | $70,260 |
| Brown | 7 | .1220 | $1,287 | 0 | 0 | $0 | $70,436 | $71,723 |
| Taylor | 3 | .0523 | $552 | 0 | 0 | $0 | $73,275 | $73,827 |
| Walworth | 3 | .0523 | $552 | 0 | 0 | $0 | $78,920 | $79,472 |
| Vernon | 2 | .0348 | $367 | 0 | 0 | $0 | $81,150 | $81,517 |
| Langlade | 3 | .0523 | $552 | 0 | 0 | $0 | $86,324 | $86,876 |
| Menominee | 0 | 0 | $0 | 0 | 0 | $0 | $90,592 | $90,592 |
| Forest | 3 | .0523 | $552 | 0 | 0 | $0 | $92,334 | $92,886 |
| Grant | 7 | .1220 | $1,287 | 0 | 0 | $0 | $92,300 | $93,587 |
| Shawano | 1 | .0174 | $184 | 0 | 0 | $0 | $102,021 | $102,205 |
| Trempealeau | 3 | .0523 | $552 | 0 | 0 | $0 | $102,422 | $102,974 |
| Sauk | 13 | .2265 | $2,390 | 0 | 0 | $0 | $114,007 | $116,397 |
| Sheboygan | 8 | .1394 | $1,471 | 1 | .0174 | $57,993 | $57,108 | $116,572 |
| Calumet | 7 | .1220 | $1,287 | 1 | .0174 | $57,993 | $67,073 | $126,353 |
| Lafayette | 12 | .2091 | $2,207 | 0 | 0 | $0 | $128,920 | $131,127 |
| Rock | 2 | .0348 | $367 | 0 | 0 | $0 | $134,721 | $135,088 |
| Door | 4 | .0697 | $736 | 0 | 0 | $0 | $139,686 | $140,422 |
| Manitowoc | 2 | .0348 | $367 | 0 | 0 | $0 | $147,213 | $147,580 |
| Buffalo | 7 | .1220 | $1,287 | 0 | 0 | $0 | $149,791 | $151,078 |
| Barron | 16 | .2787 | $2,941 | 0 | 0 | $0 | $149,878 | $152,819 |
| Portage | 4 | .0697 | $736 | 2 | .0348 | $115,987 | $36,376 | $153,099 |
| Milwaukee | 176 | 3.0662 | $32,358 | 0 | 0 | $0 | $135,070 | $167,428 |
| Marinette | 8 | .1394 | $1,471 | 2 | .0348 | $115,987 | $68,380 | $185,838 |
| Clark | 7 | .1220 | $1,287 | 1 | .0174 | $57,993 | $135,592 | $194,872 |
| Oconto | 6 | .1045 | $1,103 | 0 | 0 | $0 | $197,805 | $198,908 |
| Winnebago | 52 | .9059 | $9,560 | 1 | .0174 | $57,993 | $144,233 | $211,786 |
| Columbia | 49 | .8537 | $9,009 | 1 | .0174 | $57,993 | $159,477 | $226,479 |
| Outagamie | 10 | .1742 | $1,838 | 0 | 0 | $0 | $264,390 | $266,228 |
| Juneau | 38 | .6620 | $6,986 | 3 | .0523 | $174,314 | $86,533 | $267,833 |
| Marathon | 19 | .3310 | $3,493 | 0 | 0 | $0 | $286,830 | $290,323 |
| Waukesha | 17 | .2962 | $3,126 | 1 | .0174 | $57,993 | $252,753 | $313,872 |
| Jefferson | 36 | .6272 | $6,619 | 3 | .0523 | $174,314 | $176,446 | $357,379 |
| Kenosha | 15 | .2613 | $2,757 | 0 | 0 | $0 | $381,969 | $384,726 |
| Poke | 17 | .2962 | $3,126 | 4 | .0697 | $232,307 | $150,314 | $385,747 |
| Burnett | 25 | .4355 | $4,596 | 3 | .0523 | $174,314 | $218,641 | $397,551 |
| Waupaca | 8 | .1394 | $1,471 | 6 | .1045 | $348,294 | $74,320 | $424,085 |
| Rusk | 34 | .5923 | $6,251 | 0 | 0 | $0 | $450,348 | $456,599 |
| Vilas | 4 | .0697 | $736 | 0 | 0 | $0 | $460,801 | $461,537 |
| Price | 26 | .4530 | $4,781 | 0 | 0 | $0 | $459,634 | $464,415 |



**Section TOC**

| Table 4.2.2 – 9: Tornado Loss Estimate by Total Damages (Death, Injury & Property damage) Counties listed in ascending order for damage. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| County | # Injuries (1950-05/31/2008) | Annual Probability of an injury | Estimated annual loss (injury)* | # Deaths | Annual Probability of a death | Estimated Annual Loss (death)** | Estimated annual loss (property damage)*** | Estimated Annual Loss (Injury & Death & Property ) |
| Wood | 30 | .5226 | $5,515 | 0 | 0 | $0 | $461,847 | $467,362 |
| Dodge | 36 | .6272 | $6,619 | 0 | 0 | $0 | $488,815 | $495,434 |
| Waushara | 34 | .5923 | $6,251 | 1 | .0174 | $57,993 | $502,265 | $566,509 |
| Iowa | 206 | 3.5889 | $37,874 | 9 | .1568 | $522,608 | $38,293 | $598,775 |
| Eau Claire | 20 | .3484 | $3,677 | 6 | .1045 | $348,294 | $275,348 | $627,319 |
| Green Lake | 54 | .9408 | $9,928 | 8 | .1394 | $464,614 | $217,648 | $692,190 |
| Washington | 57 | .9930 | $10,479 | 3 | .0523 | $174,314 | $527,526 | $712,319 |
| St. Croix | 35 | .6098 | $6,435 | 2 | .0348 | $115,987 | $648,606 | $771,028 |
| Chippewa | 90 | 1.5679 | $16,546 | 5 | .0871 | $290,301 | $642,735 | $949,582 |
| Fond Du Lac | 24 | .4181 | $4,412 | 2 | .0348 | $115,987 | $1,049,094 | $1,169,493 |
| Oneida | 36 | .6272 | $6,619 | 5 | .0871 | $290,301 | $891,655 | $1,188,575 |
| Dane | 66 | 1.1498 | $12,134 | 4 | .0697 | $232,307 | $1,204,338 | $1,448,779 |
| Dunn | 77 | 1.3415 | $14,157 | 21 | .3659 | $1,219,529 | $1,015,627 | $2,249,313 |

## Sources


Federal Emergency Management Agency (FEMA). 1997. "Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy."

FEMA. 2001. "Understanding Your Risks: Identifying Hazards and Estimating Losses."

Geographic Techniques – Mt. Horeb, WI, 2003, Douglas G. Norgord Accessed from: http://www.geographictechniques.com/

NOAA, Storm Prediction Center. Tornado Numbers, Deaths, Injuries, and Damage, 1950-2007. Accessed from the World Wide Web at: www.spc.noaa.gov/

NOAA, National Weather Service Forecast Office Green Bay, Wisconsin. Accessed from the World Wide Web at http://www.crh.noaa.gov/grb/data/product.php?site=grb&format=ci&product=grb/outreach/TAW/taw05.txt

Wisconsin Emergency Management, Department of Military Affairs. November 2002. "Hazard Analysis for the State of Wisconsin."

NOAA, National Weather Service Forecast Office Milwaukee/Sullivan, Wisconsin. Accessed from the World Wide Web at http://www.crh.noaa.gov/mkx/climatearchive.php.

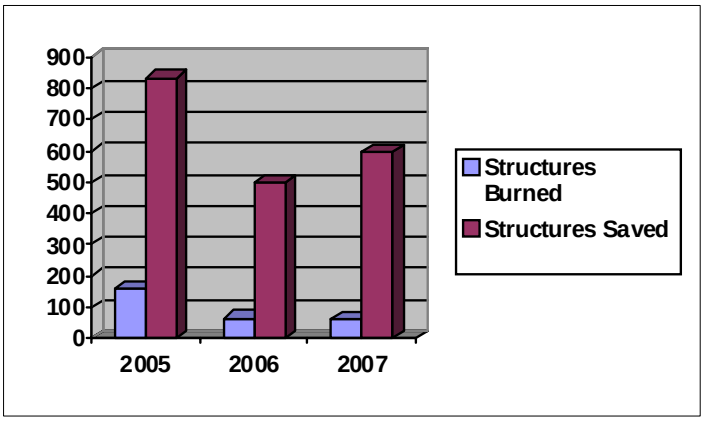
NOAA, National Climatic Data Center. Accessed from the World Wide Web at http://lwf.ncdc.noaa.gov/oa/ncdc.html

### 4.2.3 Wildfire

#### Nature of the Hazard

**Wildfire management** involves the control, containment and suppression of a wild or uncontrolled fire. Chapter 26.01(2) of Wisconsin State Statutes define forest fires as any "uncontrolled, wild or running fires burning in forest, marsh, field, cutover, or other lands or involving farm, city, or village property and improvements incidental to the uncontrolled, wild, or running fires occurring on forest, marsh, field, cutover, or other lands." They often begin unnoticed, can spread quickly, and are usually signaled by dense smoke that may fill the area for miles around. Wildfires in Wisconsin are primarily human-caused through acts such as burning yard debris, arson, or campfires. They can also be caused by natural events such as lightning.

**Table 4.2.3 – 1 Structures burned and saved in Wisconsin wildfires, 2005-07**




Every year, more than 2,500 wildfires occur in Wisconsin, causing thousands of dollars of damage to property, and destroying natural resources. Dozens of structures are damaged or destroyed and hundreds more are threatened. It can be surmised that there is a 100% probability that there will be at least one fire in Wisconsin every year. Wildfire managers prioritize the protection of lives, property, and resources – in that order. The challenge of every manager is to minimize the damage done by wildfire, while at the same time ensuring the safety of everyone involved.

**Interface or intermix fires** occur in areas where both vegetation and structures provide fuel. These are also referred to as wildland-urban interface fires.

**Firestorms** occur during extreme weather (e.g., high temperatures, low humidity, and high winds) with such intensity that fire suppression opportunities are limited. These events typically burn until the weather or fuel conditions change, reducing fire behavior.

**Prescribed fire** is the intentional application of fire to wildland natural fuels, under specific environmental conditions, to accomplish planned land management objectives. It is a commonly suggested management strategy and one of the most complicated and complex operations to implement.

### Factors Influencing Fire Behavior

**Fuels.** Fuel is required for any fire to burn. With regards to wildfire, fuels consist of living vegetation (grass, shrubs, trees) and dead plant material (dead trees, dried grass, fallen branches, pine needles, dead leaves, etc.). Houses, vehicles, and other man-made objects can be thought of as "urban" fuels that can also burn during a wildfire.

Fuels are arranged horizontally and vertically. Ground fuels consist of combustible materials lying beneath the ground including deep duff, roots, buried logs, and other organic matter. Fires in ground fuels are usually called "peat fires." Surface fuels consist of materials lying on or immediately above the ground including pine needles, leaves, grass, downed logs, stumps, tree limbs, and low shrubs. Aerial fuels include green and dead materials in the upper forest canopy: tree tops and branches, snags, and tall shrubs. "Crown fires" burn these aerial fuels and typically occur in conifer stands. Crown fires tend to be very intense and difficult to control.

**Weather**: Temperature, relative humidity, and wind speed are three significant weather factors affecting wildfire behavior. Higher temperatures preheat fuels by driving off moisture, which allows fuels to burn faster. Lower relative humidity and a lack of precipitation lowers fuel moisture; dry fuels burn more easily than fuels with higher moisture content. Wind is the most important weather factor since it dries fuel and increases the supply of oxygen. Wind has the greatest influence on the rate and direction of fire spread. In Wisconsin, wind direction almost always changes in a clockwise rotation, and winds tend to be the strongest in mid-afternoon.

Wisconsin's wildfire weather is most severe during spring, between the time after the last snowmelt and before the vegetation 'greens up.' Spring rains and new green growth lessen the likelihood that wildfires will start and spread. The chances increase again during late summer and fall when the vegetation begins to dry out. The combination of hot weather, high wind speed and dry vegetation creates prime conditions for wildfires.

**Topography**: Steep slopes spread fire rapidly. Fire travels faster uphill and afternoon winds travel upslope as hot air rises, pushing fire even faster. Aspect, or the direction a slope faces, also is a factor. North-facing slopes tend to be more shaded and moister with heavier fuels such as deciduous trees. South-facing slopes tend to be sunnier and drier, with more light fuels such as grasses.

If not promptly controlled, wildfires may grow into an emergency or disaster. Even small fires can threaten lives, resources, and destroy improved properties. The indirect effects of wildfires can also be very bad. In addition to charring vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and the land itself.

Most Wisconsin wildfires occur in spring in the months of April and May, although under the right conditions, they can occur at any time of the year. The season length and peak months may vary from year to year. Land use, vegetation, amount of combustible

materials present, and weather conditions such as wind, low humidity, and lack of precipitation are the chief factors determining the number of fires and acreage burned. Generally, fires are more likely when vegetation is dry from a winter with little snow and/or a spring and summer with sparse rainfall.
Wildfires are capable of causing significant injury, death, and damage to property. A recent inventory showed that 46 percent of the state, 16 million acres is covered with forests. The potential for property damage from fire increases each year as more properties are developed on wooded land and increased numbers of people use these areas. Fires can extensively impact the economy of an affected area, especially the logging, recreation and tourism industries. Major direct costs associated with forest fires or wildfires are the expenses of suppression, property loss, salvage and removal of downed timber and debris, and the restoration of the burned area.

**Large Wildfires in WI History**

While most of the wildfires starts in Wisconsin are quickly contained and kept to less than 10 acres in size, Wisconsin has experienced catastrophic fires throughout its history. The following exemplify the potential for large scale fires in Wisconsin:

**1871**
The most disastrous fire in Wisconsin's history is the Peshtigo fire, when more than 1.2 million acres of forest burned in northeastern Wisconsin, mainly in Oconto, Marinette, Shawano, Brown, Kewaunee, Door, and Manitowoc Counties. Three thousand people were estimated to have been made homeless by this fire. With 1,152 people killed and another 350 missing, this represents the greatest single loss of human life by fire in American history. However, the Great Chicago Fire occurred at the same time and received much more publicity than this historic Wisconsin fire.

**1891**
Comstock fire in Barron County destroyed 64,000 acres, the entire village of Barronett and also burned structures in Shell Lake.

**1894**
On July 27, the Phillips fire burned over 100,000 acres in Price County, destroying 400 homes and much of the downtown area. Thirteen people died trying to escape by swimming across the lake.

**1930-34**
In the dust bowl era, severe droughts ravaged the state. During this time about 2,950 fires burned 336,000 acres annually in Wisconsin.

**1959**
On May 1, a running crown fire in Burnett County burned 17,560 acres, causing $201,889 in damage

**1977**
The entire state suffered two years of severe drought. Nearly 49,000 acres burned in 1977 alone. Over 170 strucutres were destroyed or damaged. Jackson, Washburn,

Douglas and Wood Counties were the worst hit. Notable fires in 1977 were the Saratoga fire in Wisconsin Rapids, 6,159 acres and 90 buildings burned; the Brockway fire in the Black River Falls area, 17,590 acres burned; and the Five-mile fire in Washburn and Douglas counties, 13,375 acres and 83 buildings burned.

**1980**
Over two days in April, the Ekdall Church fire in Burnett County and the Oak lake fire in Washburn County burned over 16,000 acres and destroyed more than 200 buildings.

**2003**
The Crystal Lake fire in Marquette and Waushara counties burned 572 acres. Several buildings were destroyed and nearly 200 were threatened.

**2005**
On May 5th, the Cottonville Fire burned a swath of one and one-half miles wide and seven miles long through the towns of Big Flats, Preston, and Colburn. There were nine year-round residences, 21 seasonal homes, and at least 60 outbuildings destroyed in the 3,410 acres fire.

## Wildland – Urban Interface

Throughout the 20th century housing concentrated mainly in urban areas. By the later part of the century, people began moving to the outer fringe of cities and suburbs. In increasing fashion, housing development continues to move deeper into formally rural areas, sometimes in clustered subdivisions, and sometimes as scattered individual homes. With this increase in rural development for primary homes, the affluence of recent generations affords people the ability to vacation more and even purchase seasonal "recreational" homes. All of this development in formerly agriculture, grassland, marshland, and forested areas is a natural resource management nightmare. For those involved in fire control, the addition of homes in these areas drastically changes the dynamics of suppression efforts.

A unique wildfire danger is growing where homes and other man-made objects are placed in areas of highly flammable vegetation, creating a condition called the wildland-urban interface (WUI). The WUI can be a lone house in the middle of a forest, a subdivision on the edge of a pine plantation, or homes surrounded by grassland. Adding buildings to areas that are historically known to burn not only interrupts the natural cycle of wildfires, but also creates a situation where homes and possessions can become additional pieces of burnable fuel during a wildfire.

Increasingly, people are moving into wildland areas without adapting to the dangers around them. Fire officials are greatly concerned when homes are built in areas of highly flammable vegetation, especially when the structures themselves are made of flammable materials. The concern increases when homes are built in remote areas or when roads and driveways are narrow or sandy, which may make it impossible for

emergency vehicles to get to homes. The increased human presence also brings increased hazards for firefighters through the addition of power lines, liquid propane gas (LPG) tanks, traffic, and hazardous materials.

Unfortunately, as housing in the WUI is increasing, the number of available firefighters and equipment is not increasing at the same rate. Often times, firefighters in fire-prone areas work as volunteers and may not be fully aware of the potential problems in a community they are helping to protect. These firefighters may also be expected to know how to evacuate communities and fight structure fires as well as wildland fires all in the same day. That kind of demand requires a high level of training which may not always be available.

The bottom line is that fire is inevitable. It's not a matter of if a fire will occur, but when. With that knowledge, the task becomes teaching residents and visitors of wildland-urban interface areas ways to live and recreate without starting a wildfire, and how to keep people and property safe when a wildfire does occur.

**Probability of Occurrence**

Wildfires are an ongoing threat both rural areas and urban-wildland interface communities. The number of acres burned has dropped significantly from 9,740 acres in 1988 to 1,338 in 2001, which was a twelve year low. However, the potential for wildfire persists due to the standing fuel load.

**Firewise**

The national Firewise Communities program is a multi-agency effort designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire - before a fire starts. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance.

There are three main Firewise concerns in fire-prone areas:

1) **Buildings.** How flammable are the residence and outbuildings?
2) **Surrounding vegetation**. How easily could a fire spread from the vegetation to the buildings?
3) **Access**. Could firefighters get to the residence if there were a fire in the area?

Firewise recommendations for these issues are primarily focused on "The Home Ignition Zone (HIZ)," an area extending 100 to 200 feet beyond each side of all buildings on a property. The HIZ provides enough distance between buildings and a wildfire to change a situation where fire can easily spread to buildings, into a situation where the vegetation around a home has been modified enough to become a fuel break. Creating such defensible space increases the chance of buildings surviving a wildfire without outside help.

The national Firewise Communities program is intended to serve as a resource for agencies, tribes, organizations, fire departments, and communities across the U.S. that are working toward a common goal: reduce loss of lives, property, and resources to wildland fire by building and maintaining communities in a way that is compatible with our natural surroundings. Firewise Communities is part of the National Wildland/Urban Interface Fire Program.

**Communities-at-Risk**

In 2003, the National Association of State Foresters produced a Field Guidance for Identifying and Prioritizing Communities-at-Risk (CAR). The purpose of the guide was to provide states with a nationally consistent approach for assessing and displaying the risks to communities from wildfire. The DNR, in cooperation with its federal and tribal partners, began working on the statewide assessment of Communities-at-Risk in 2004.

Communities-at-Risk is a model to identify broad areas of the state that are at relatively high exposure to resource damage due to wildfire. Results of the model can then be used by local governments developing Community Wildfire Protection Plans (CWPP), and by the Wisconsin Department of Natural Resources to reduce local risks of wildland fire by prioritizing hazard mitigation and fire protection efforts.

The approach used in this risk assessment model is based on the “Methodology” section of the NASF Field Guidance document which recommends assessing and mapping four factors: 1) Historic Fire Occurrence, 2) Hazard, 3) Values Protected, and 4) Protection Capabilities. Modifications to this methodology were made to fit the data layers available for Wisconsin.

WI DNR uses three factors to assess Communities-at-Risk to wildfire damage:

1. Hazard – the relative likelihood that an ignited wildfire will achieve sufficient intensity to threaten life or property based on land cover type, and historic fire regime.
2. WUI (Values at Risk) – the relative vulnerability of each 2000 census block to wildfire damage based on housing density and spatial relationship with undeveloped vegetation based on housing density and proximity to vegetation (Wisconsin’s Wildlife-Urban Interface). Wisconsin’s WUI was layered with a weighted vegetation layer to accentuate proximity to flammable vegetation.
3. Ignition Risk – the relative likelihood of a wildfire ignition within a given 30-m pixel based on historic fire occurrence, population density, and proximity to a potential ignition source.

Models were developed in GIS (ArcInfo 9.x) to create statewide grids representing each of the three inputs. Finally, a statewide composite grid was created using a weighted overlay of Hazard (40%), WUI (30%), and Risk (30%). This composite grid represents communities-at-risk on a 0-9 scale of threat, with zero representing no threat, nine a very high threat. Statistics could then be calculated by township, municipal civil division (MCD), county, or other geographic area.

For WI CAR reporting, communities-at-risk are reported at the MCD level. MCD's are city and village boundaries that frequently change as they annex land. MCD was chosen due to its identifiable legal boundaries, ease in reporting, and use in the development of Community Wildfire Protection Plans (CWPP). Each of Wisconsin's 1,864 towns, villages, and cities were defined as a "community." Using a combination of natural breaks, and field verification, quantitative markers were assigned for five threat levels: very low, low, moderate, high, and very high. Ultimately, those "communities" (MCD's) determined to have a high or very high threat of wildfire were considered communities-at-risk. Three hundred thirty-seven communities met the requirements for being "at risk."

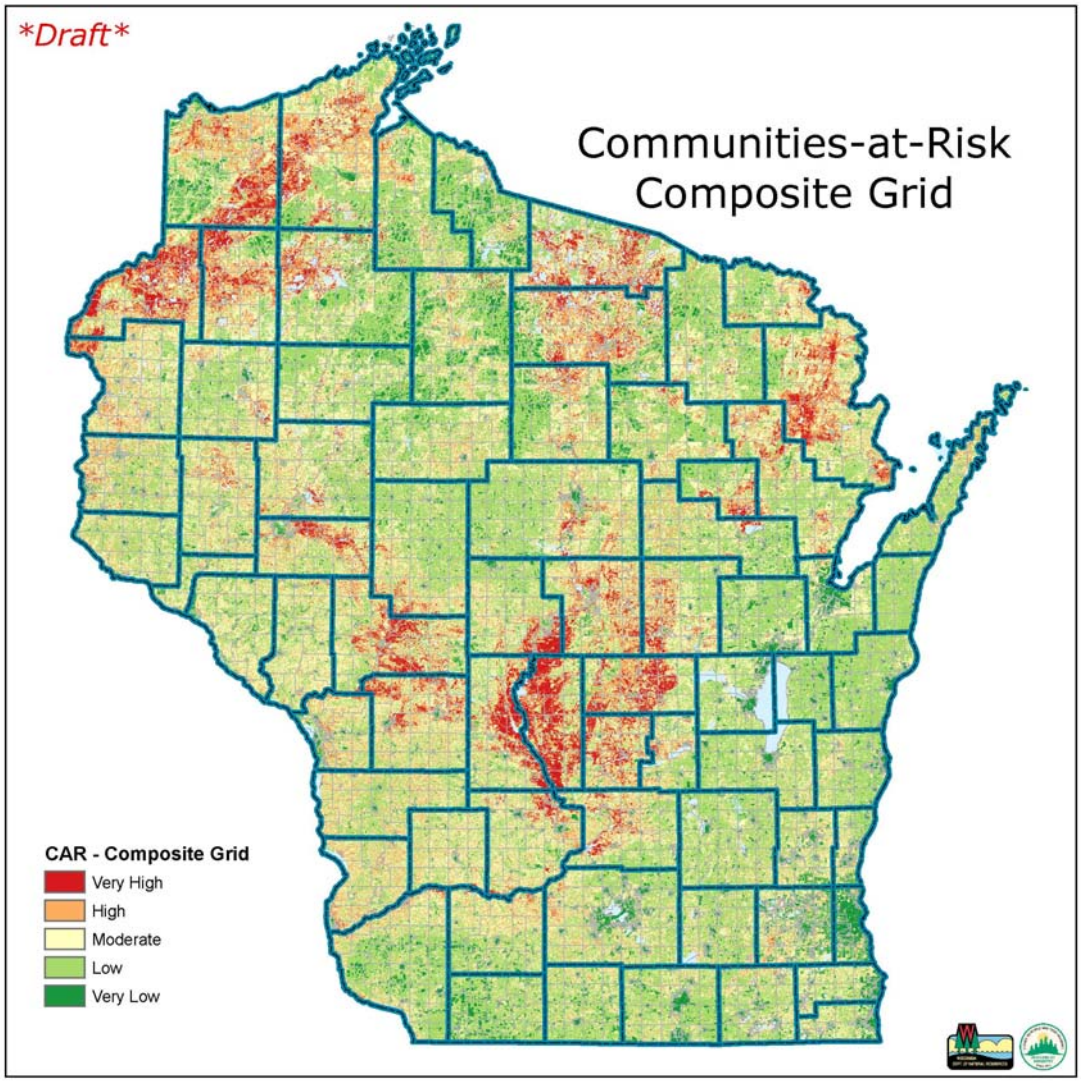
Communities in Wisconsin vary considerably in size. This is particularly evident in a north-south pattern, with larger more rural towns in northern Wisconsin, and smaller, more urban towns in southern Wisconsin. Because of this variation in size, the potential for missing areas of high risk due to smoothing out by other parts of the town was greater for larger towns. For this reason, WI DNR incorporated a "Community of Concern" category to identify those towns that have portions of their town in high risk of wildfire, but were not otherwise included as a Community-at-Risk. A Community of Concern was determined to be an area of at least 2 contiguous square miles at high or very high risk; 237 communities were named as Communities of Concern.

The break down of communities is as follows:

**Table 4.2.3 – 2 Risk Level of Communities**

| Risk Level | Number | % of all WI communities | # cities | # villages | # towns | % of WI land area |
|---|---|---|---|---|---|---|
| Very high | 93 | 5 | 2 | 12 | 79 | 6 |
| High | 244 | 13 | 10 | 47 | 187 | 16 |
| Concern | 237 | 13 | 8 | 6 | 223 | 20 |
| **Totals** | **574** | **31%** | **20** | **65** | **489** | **42%** |

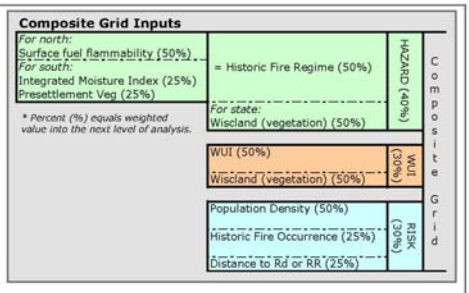
**Map 4.2.3 – 1 Communities-at-Risk Composite Grid**




**Introduction to the CAR Composite Grid**

The composite grid is model generated using Wisconsin datasets compiled from three input grids: Hazard (40%), WUI (30%), Risk (30%) (see table). Each 150-m pixel is attributed a value from 0 to 9, with 9 representing the highest risk of exposure to wildfire damage. These values are represented in the map as Very High to Very Low.

The composite grid is used to determine Communities-at-Risk. To identify a Community-at-Risk, the mean of all values within a Municipal Civil Division (MCD) must fall above CAR thresholds. Thresholds were determined using statistical methods and field verification.

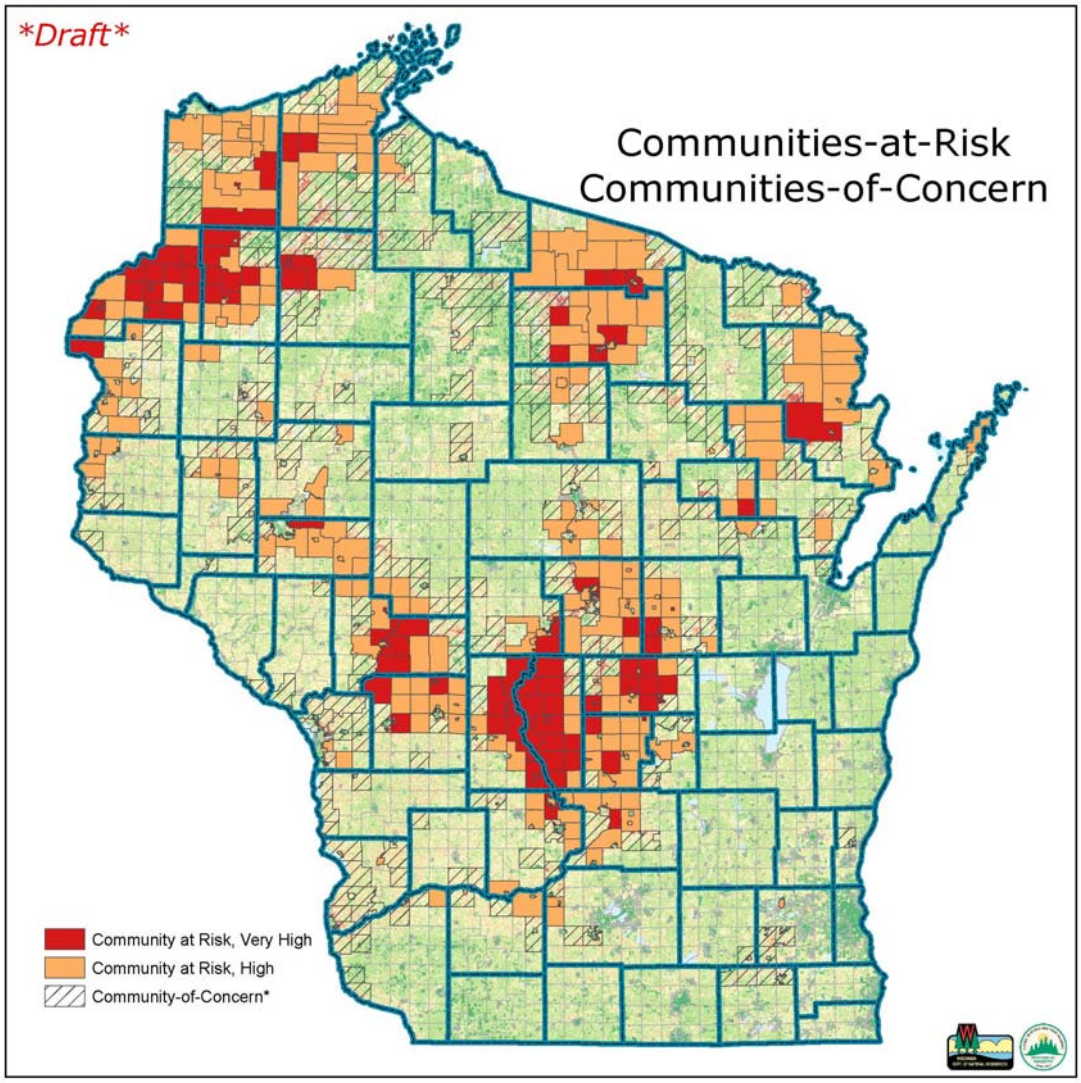



10/5/07



Section TOC

**Map 4.2.3 – 2 Communities-at-Risk Communities-of-Concern**




**Introduction to Communities-at-Risk**

The purpose of this model is to identify broad areas of the state that are at relatively high exposure to resource damage due to wildfire.

As mandated by the NASF, Wisconsin's Communities-At-Risk are divided into three categories:

1) Very High
2) High
3) Community of Concern*

** A Community of Concern is a Wisconsin DNR concept whereby it is demonstrated that a significant portion of the community (more than 2 adjoining square miles) are at high or very high risk, but where the community as a whole falls below the Community-at-Risk threshold.*

**Defining Community**


For Wisconsin, Communities-at-Risk are reported at the MCD (municipal civil division) level*. MCD was chosen due to its identifiable legal boundaries, ease in reporting, and usage in the development of Community Wildfire Protection Plans.

** Menominee County is an exception due to its lack of MCD's (civil townships). Therefore, Menominee county is reported by legal township.*

10/5/07



Section TOC

**Sources**

Cardille, Jeffrey A., Stephen J. Ventura, and Monica G. Turner. 2001. Environmental and social factors influencing wildfires in the upper Midwest, United States. *Ecological Applications*. 11(1): 111-127.

Cleland, David T., Thomas R. Crow, Sari C. Saunders, Donald I. Dickmann, Ann L. Maclean, James K. Jordan, Richard L. Watson, Alyssa M. Sloan and Kimberly D. Brosofske. 2004. Characterizing historical and modern fire regimes in Michigan (USA): A landscape ecosystem approach. *Landscape Ecology*. 19: 311-325.

Finley, Robert W. Data 1976, Map 1999 (Nina Janicki). Finley's Presettlement Vegetation. publ. in: *Ecological Landscapes of Wisconsin*.

Haight, Robert G., David T. Cleland, Roger B. Hammer, Volker C. Radeloff, and T. Scott Rupp. 2004. Assessing Fire Risk in the Wildland-Urban Interface. *Journal of Forestry*. Oct/Nov: 41-48.

National Association of State Foresters (NASF). June 27, 2003. *Field Guidance: Identifying and Prioritizing Communities at Risk.* http://www.fireplan.gov/reports/NASFfieldguidancecommunities.pdf

Radeloff, V.C., R. B. Hammer, S.I. Stewart, J.S. Fried, S.S. Holcomb, and J.F. McKee-Fry. 2005. The wildland urban interface in the United States. *Ecological Applications.* 15(3): 799-805.

SILVIS webpage. http://silvis.forest.wisc.edu/library/wuidefinitions2.asp. Accessed 2004 - 2008.

Stewart, Susan I., Volker C. Radeloff, Roger B. Hammer, and Todd J. Hawbaker. 2007. Defining the Wildland-Urban Interface. *Journal of Forestry*. June: 201-207.

Sturtevant, Brian R, Patrick A Zollner, Eric J Gustafson, and David T. Cleland. 2004. Human influence on the abundance and connectivity of high-risk fuels in mixed forests of northern Wisconsin, USA. *Landscape Ecology*. 19: 235-253.

Sturtevant, Brian, David Cleland, and Sari Saunders. *Human Influence on Fire Disturbance in Northern Wisconsin.* http://www.nrcs.fs.fed.us/gla/reports/FireNoWI.pdf

US Department of the Interior (USDI) and US Department of Agriculture (USDA). 2001. Urban wildland interface communities within vicinity of federal lands that are at high risk from wildfire. *Federal Register.* 66(3): 751-777.

## 4.2.4 Coastal Erosion

### Nature of the Hazard

Coastal erosion is defined as the wearing away of land and the loss of beach, shoreline, or dune material over a period of time as a result of natural coastal processes or human influences. Characteristics such as supply of sand and processes such as lake level change, currents, tides, waves, and wind are natural factors that contribute to the rate of erosion. Human-caused contributors to erosion include dredging tidal entrances, jetty and groin construction, hardening shorelines with seawall, revetments, beach nourishment, construction of harbors and sediment-trapping dams in the river tributaries.

Coastal erosion affects Wisconsin along the shoreline of Lakes Michigan and Superior. Along the Great Lakes, cyclical changes in lake levels, disruption of long shore transport of beach building material, and storms all influence the rate of erosion. According to the National Research Council, a congressionally chartered, non-profit organization that provides science and technology advice, annual variability in wave climate and lake levels causes the rates of bluff and dune erosion along the shores of the Great Lakes to vary from near zero to tens of feet per year. Table 4.2.4-1 shows the mean, maximum, and minimum lake levels for Lake Superior and Lakes Michigan-Huron.

**Table 4.2.4 - 1 Lake Superior and Lakes Michigan-Huron Mean, Maximum, and Minimum Lake Levels, 1918-2007**

| | Jan. | Feb. | March | April | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lake Superior** | | | | | | | | | | | | |
| **Mean** | **601.54** | **601.35** | **601.21** | **601.31** | **601.64** | **601.90** | **602.13** | **602.23** | **602.23** | **602.13** | **602.00** | **601.77** |
| Max | 602.69 **1986** | 602.46 **1986** | 602.40 **1986** | 602.62 **1986** | 602.82 **1986** | 602.89 **1986** | 603.08 **1950** | 603.22 **1952** | 603.22 **1985** | 603.38 **1985** | 603.31 **1985** | 603.05 **1985** |
| Min | 599.84 **1926** | 599.61 **1926** | 599.54 **1926** | 599.48 **1926** | 599.61 **1926** | 599.90 **1926** | 600.26 **1926** | 600.4 **2007** | 600.5 **2007** | 600.72 **1925** | 600.43 **1925** | 600.13 **1925** |
| **Lakes Michigan-Huron** | | | | | | | | | | | | |
| **Mean** | **578.54** | **578.51** | **578.54** | **578.84** | **579.13** | **579.36** | **579.46** | **579.40** | **579.23** | **579.00** | **578.81** | **578.64** |
| Max | 581.30 **1987** | 581.07 **1986** | 581.10 **1986** | 581.46 **1986** | 581.63 **1986** | 581.79 **1986** | 581.99 **1986** | 581.99 **1986** | 581.96 **1986** | 582.35 **1986** | 581.96 **1986** | 581.56 **1986** |
| Min | 576.12 **1965** | 576.08 **1964** | 576.05 **1964** | 576.15 **1964** | 576.57 **1964** | 576.64 **1964** | 576.71 **1964** | 576.67 **1964** | 576.64 **1964** | 576.44 **1964** | 576.28 **1964** | 576.1 **2007** |

Source: USACE, Long Term Average Min-Max Water Levels, http://www.lre.usace.army.mil/greatlakes/hh/greatlakeswaterlevels/historicdata/longtermaveragemin-maxwaterlevels/

As high-lake levels increase, bluff recession rates also increase. Increasing assaults by wave action against the base of the bluff cause shoreline erosion and movement of beach-building sediments. Navigational improvements, shoreline structures and some

dredge-material disposal practices deplete both tributary and shoreland sources of sediment. Removing these sediments from the shore system contributes to erosion.

### Coastal Erosion History

Coastal erosion is usually a gradual process, and sudden incidents prompting emergency action are rare. Such rare events include strong storms with high winds or heavy wave action that can cause sudden failure of bluffs.

All 15 coastal counties in Wisconsin experience erosion, flooding, and damage to shoreline structures. Coastal erosion is a naturally occurring process that can accelerate during times of high water or wave action. For example, bluff erosion is more likely to occur during major storm events due to wave action upon the shoreline. The effects of wave-induced erosion are usually greater during those periods when the level of water is high.

Coastal property owners are acutely aware of hazards during periods of high-water levels and especially right after a damaging storm or a bluff failure, but this awareness can fade over time if low lake levels slow the erosion rate. Lake levels were above long-term averages from 1996 to 1998. The last period of significantly higher lake levels was in 1985 to 1986, resulting in $16 million of documented damage to public facilities alone (WCMP, 1992). Map 4.2.4-1 illustrates the erosion risk in the 15 coastal counties. Record snowfall in northern Wisconsin in 1996 was followed by near record high-water levels in 1997. However, unusually mild weather and light snowfall in the winters of 1998-1999 and 1999-2000 began to drop the lake levels once again to below long-term averages. These trends continued throughout the 2000-2007 period where record low Lake Superior water levels were set for the months of August and September in 2007. Lake Michigan water levels also approached record lows for the months of November through February during the winter of 2007-2008. During the 2008 year, the entire Great Lakes basin received above average precipitation. As a result, both Lake Superior and Lake Michigan water levels have risen from record or near record low levels to levels within 0.5 to 1.0 feet from their long term averages.

Many areas of the Wisconsin Great Lakes coast are vulnerable to bluff erosion. In general, the erodible sections of the Lake Michigan shore are found between the Illinois State line to the Sturgeon Bay Canal in Door County, and in the northeastern part of Brown County on Green Bay. Along the remainder of the Lake Michigan shore, bluff erosion is limited to smaller segments of bays and clay banks. On the Lake Superior shore, bluff erosion is more localized. Vulnerability is highest along the high clay bluffs running from Bark Point in Bayfield County to Wisconsin Point in Douglas County, and from Iron County to the White River in Ashland County (Springman and Born, 1979).

All 15 coastal counties in Wisconsin experience some coastal flooding. However, coastal flooding is a serious issue along two low-lying sections of the Lake Michigan shore: southern Kenosha County and the western shore of Green Bay from the City of Green Bay to the Michigan State line (WCMP 1992, Addendum). Although the risk of

coastal flooding is reduced when lake levels are low, lake levels are only one factor contributing to coastal flooding. Other factors include wind set-up and wave run-up. Wind set-up increases the level of the lake against which a steady wind is blowing, causing a corresponding decrease in lake level on the opposite side of the lake. Wave run-up is also caused by wind but is also dependent on the shore profile. Waves form more readily where there is a shallow beach profile. Strong winds can cause or exacerbate coastal flooding in these areas.

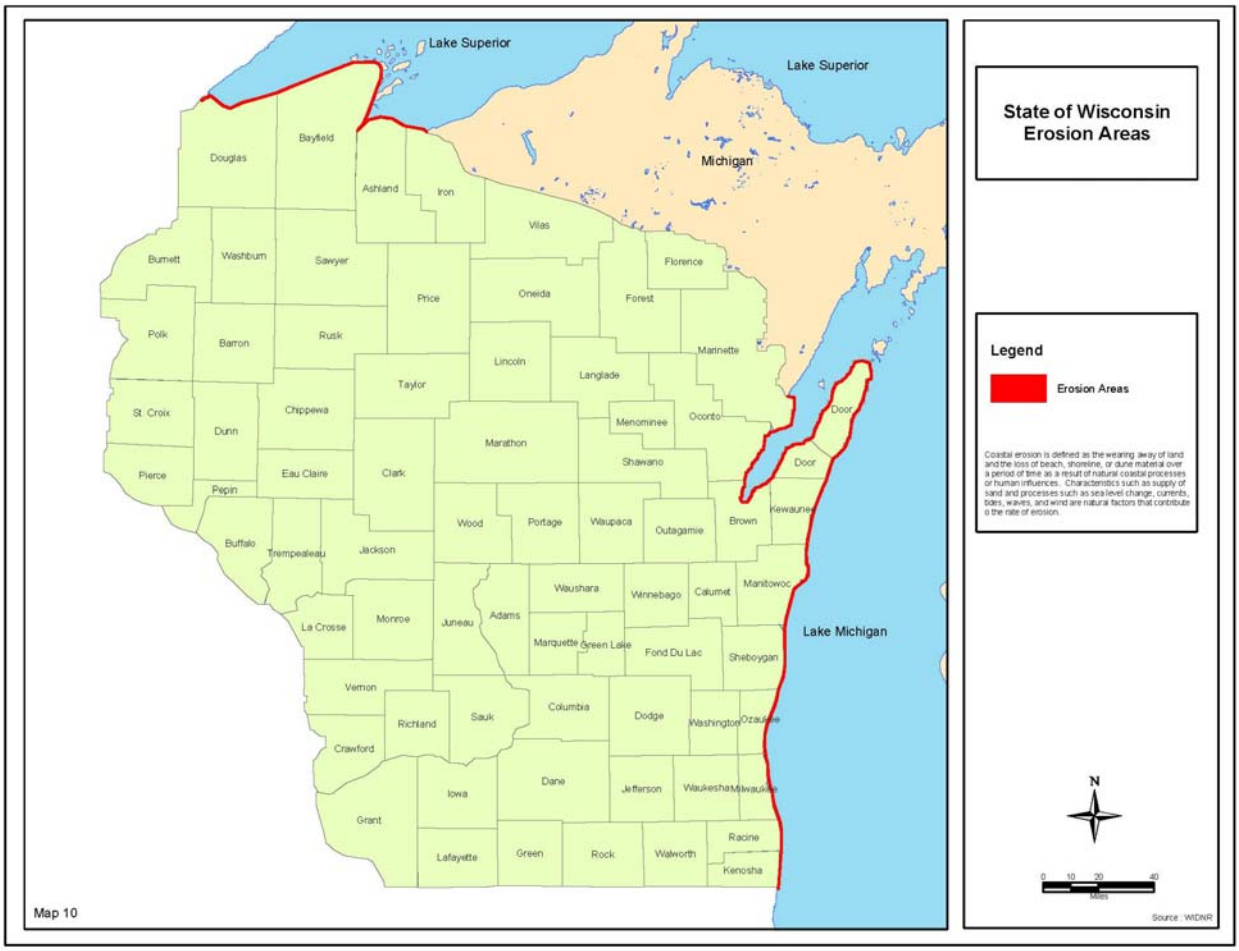
Water levels in the Great Lakes fluctuate on both a seasonal and long-term basis. Seasonally, the lakes are at their lowest levels during the winter when much of the precipitation is held on land as snow and ice and the open lake evaporation dominates. The highest seasonal levels are during the summer when snowmelt from the spring thaw and summer rains contributes to the water supply. Long-term variation of lake levels depends on precipitation and evaporation trends in the Great Lakes watershed. Lake levels rise when net water supply exceeds outflow and above average lake levels can persist for extended periods even after the conditions that caused them have ended. The water volume of the Great Lakes is large and outflow from natural outlets is limited. Flow regulation structures exist in Lakes Ontario, Michigan and Superior, but their influence is limited by their size. Controlled releases strive to simulate long-term averages in an effort to serve multiple interests. The source of about 40% of Lake Superior's annual water supply is from the snowpack around its shores. Lakes Michigan and Huron get up to 30% of their yearly supply from Superior's snowmelt when it flows into the lower lakes (Detroit Free Press, March 18, 2000).

**Figure 4.2.4 - 1 Coastal Erosion along Lake Michigan**T



Section TOC

**Map 4.2.4 – 1 Erosion Areas in Wisconsin**




## Probability of Occurrence

All of Wisconsin's coastal counties experience coastal erosion. The coastal erosion county-level analysis risk assessment provides additional information on the risk of coastal erosion. The high qualitative ranking in the table 4.2-3 for coastal erosion is a function of rainfall and local conditions.

Fifteen counties border the Great Lakes in Wisconsin. Coastal counties account for 19% of the area of the State, but comprise 39% of the population. Coastal counties range from very sparsely populated to highly urban.

The Great Lakes coast in Wisconsin can be divided into three sections based on population density characteristics. The southern four counties (Kenosha, Racine, Milwaukee, and Ozaukee Counties) have the greatest population density with 1,218 people per square mile. Much of the southeast Wisconsin coast is part of the urban



Section TOC

corridor that stretches between Milwaukee and Chicago. The southern counties include the coastal cities of Milwaukee, Racine, Kenosha, Cudahy, Oak Creek, Mequon, St. Francis, and Port Washington.

The northern section of the Lake Michigan coast contains seven counties (Sheboygan, Manitowoc, Kewaunee, Door, Brown, Oconto, and Marinette) and has a moderate population density of 101 people per square mile. This section includes the coastal cities of Green Bay, Sheboygan, Manitowoc, Marinette, Two Rivers, Sturgeon Bay, Oconto, Algoma, and Kewaunee. Much of the shoreline fronts Green Bay. Door County possesses the most extensive Great Lakes shoreline in Wisconsin at 240 miles.

The northwestern section borders on Lake Superior and includes the counties of Douglas, Bayfield, Ashland and Iron. This section has a low population density of approximately 14 people per square mile.

#### 4.2.4.1 Vulnerability and Risk Assessment

**Methodology**

Existing maps depicting rates of coastal erosion and the FEMA HAZUS-MH inventory of structures in the coastal zone provided the basis for estimating the potential vulnerability and losses from this hazard. The number and types of structures subjected to high and low risk of erosion were determined from these data. The erosion risk zones were established based on the distance in miles from the Coastal Area Boundary. The high erosion risk zone is defined as the area within 1/4 mile of the Coastal Area Boundary; the low erosion risk is 1/2 mile from the boundary.

Table 4.2.4-1 illustrates the loss estimation for the high erosion risk. Within areas subjected to high erosion risks, Door County has the largest number of residential units (7,889), followed by Milwaukee County (6,446) and Racine County (4,125). Counties with the highest number of commercial structures are Kenosha, Milwaukee, and Door, with 110, 67, and 66 structures, respectively. For the governmental structures, the counties with the highest numbers include Ashland (5), Ozaukee (2 ) and Bayfield, Door, and Kewaunee Counties with only one structure each. With 7,956 structures, Door County has the most vulnerable structures in the high risk area, followed by Milwaukee (6,513) and Racine (4,168).

For the low erosion risk area, Table 4.2.4-2 shows Milwaukee County with the largest number of residential and commercial structures (15,669 and 302, respectively). Door County has the second largest number of residential units (9,654) and the third largest number of commercial structures (92). Manitowoc has the largest number of governmental structures(8), followed by Milwaukee County (6). The county with the most vulnerable structures in the Coastal Area Boundary is Milwaukee (15,977), followed by Door County (9,747) and Racine County (7,401).

Based upon structure type and dimensions, including square footage, replacement values were estimated. The estimated replacement value was assumed to be equal to the value of a total loss of the structure due to erosion. Tables' 4.2.4-1 and 4.2.4-2 show Coastal Erosion Loss Estimation for the State of Wisconsin.

**Table 4.2.4-1: High Erosion Risk Loss Estimation**

| County | High Erosion Risk (Quarter mile) # of Vulnerable Structures by Type | | | Total # of Structures in Coastal Area Boundary | Loss Estimation Structures by Type | | | Risk |
|---|---|---|---|---|---|---|---|---|
| | Residential | Commercial | Government | | Residential | Commercial | Government | |
| Ashland | 937 | 32 | 5 | 974 | $11,220,780 | $427,480 | $71,060 | L |
| Bayfield | 1,764 | 44 | 1 | 1,809 | $31,007,020 | $792,680 | $19,420 | L |
| Brown | 1,523 | 17 | 0 | 1,540 | $46,697,640 | $438,380 | $0 | L |
| Door | 7,889 | 66 | 1 | 7,956 | $252,104,420 | $2,074,860 | $14,140 | H |
| Douglas | 1,185 | 15 | 0 | 1,200 | $15,681,420 | $183,720 | $0 | L |
| Iron | 34 | 0 | 0 | 34 | $334,560 | $0 | $0 | L |
| Kenosha | 2,185 | 110 | 0 | 2,295 | $56,476,360 | $477,340 | $0 | H |
| Kewaunee | 1,374 | 13 | 1 | 1,388 | $24,912,580 | $203,400 | $15,800 | L |
| Manitowoc | 2,576 | 43 | 0 | 2,619 | $42,246,160 | $647,480 | $0 | H |
| Marinette | 740 | 0 | 0 | 740 | $12,367,300 | $0 | $0 | L |
| Milwaukee | 6,446 | 67 | 0 | 6,513 | $309,670,740 | $3,817,400 | $0 | H |
| Oconto | 406 | 0 | 0 | 406 | $8,016,400 | $0 | $0 | L |
| Ozaukee | 2,198 | 25 | 2 | 2,225 | $118,415,560 | $706,580 | $49,640 | H |
| Racine | 4,125 | 43 | 0 | 4,168 | $96,541,080 | $561,400 | $0 | H |
| Sheboygan | 3,077 | 2 | 0 | 3,079 | $64,448,260 | $27,180 | $0 | H |
| **Total** | **36,459** | **477** | **10** | **36,946** | **$1,090,140,280** | **$10,357,900** | **$170,060** | |

**Table 4.2.4-2: Low Erosion Risk Loss Estimation**

| County | Low Erosion Risk (Half mile) # of Vulnerable Structures by Type | | | Total # of Structures in Coastal Area Boundary | Loss Estimation Structures by Type | | | Risk |
|---|---|---|---|---|---|---|---|---|
| | Residential | Commercial | Government | | Residential | Commercial | Government | |
| Ashland | 1,873 | 34 | 5 | 1,912 | $47,087,720 | $896,320 | $142,120 | L |
| Bayfield | 2,565 | 49 | 2 | 2,616 | $89,632,960 | $1,748,840 | $67,440 | H |
| Brown | 2,138 | 49 | 0 | 2,187 | $127,852,760 | $2,295,840 | $0 | H |
| Door | 9,654 | 92 | 1 | 9,747 | $598,461,600 | $5,896,840 | $28,280 | H |
| Douglas | 2,407 | 16 | 0 | 2,423 | $62,880,680 | $339,920 | $0 | H |
| Iron | 34 | 0 | 0 | 34 | $669,120 | $0 | $0 | L |
| Kenosha | 4,416 | 136 | 4 | 4,556 | $206,497,480 | $1,724,080 | $34,320 | H |



Section TOC

| Table 4.2.4-2: Low Erosion Risk Loss Estimation | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| County | Low Erosion Risk (Half mile) # of Vulnerable Structures by Type | | | Total # of Structures in Coastal Area Boundary | Loss Estimation Structures by Type | | | Risk |
| | Residential | Commercial | Government | | Residential | Commercial | Government | |
| Kewaunee | 1,977 | 14 | 1 | 1,992 | $68,407,240 | $435,480 | $31,600 | L |
| Manitowoc | 4,919 | 86 | 8 | 5,013 | $160,909,560 | $2,515,400 | $224,000 | H |
| Marinette | 1,180 | 5 | 2 | 1,187 | $35,641,920 | $124,600 | $49,840 | L |
| Milwaukee | 15,669 | 302 | 6 | 15,977 | $1,221,789,640 | $21,579,320 | $524,440 | H |
| Oconto | 474 | 0 | 0 | 474 | $18,453,520 | $0 | $0 | L |
| Ozaukee | 3,799 | 66 | 2 | 3,867 | $390,146,560 | $4,917,800 | $99,280 | H |
| Racine | 7,345 | 56 | 0 | 7,401 | $295,093,240 | $1,399,360 | $0 | H |
| Sheboygan | 5,377 | 32 | 0 | 5,409 | $210,716,120 | $1,027,240 | $0 | H |
| **Total** | **63,827** | **937** | **31** | **64,795** | **$3,534,240,120** | **$44,901,040** | **$1,201,320** | |

## Results

In the High Erosion Risk Area, Milwaukee County has the highest loss potential ($313 million), followed by Door ($254 million) and Ozaukee ($119 million) Counties.

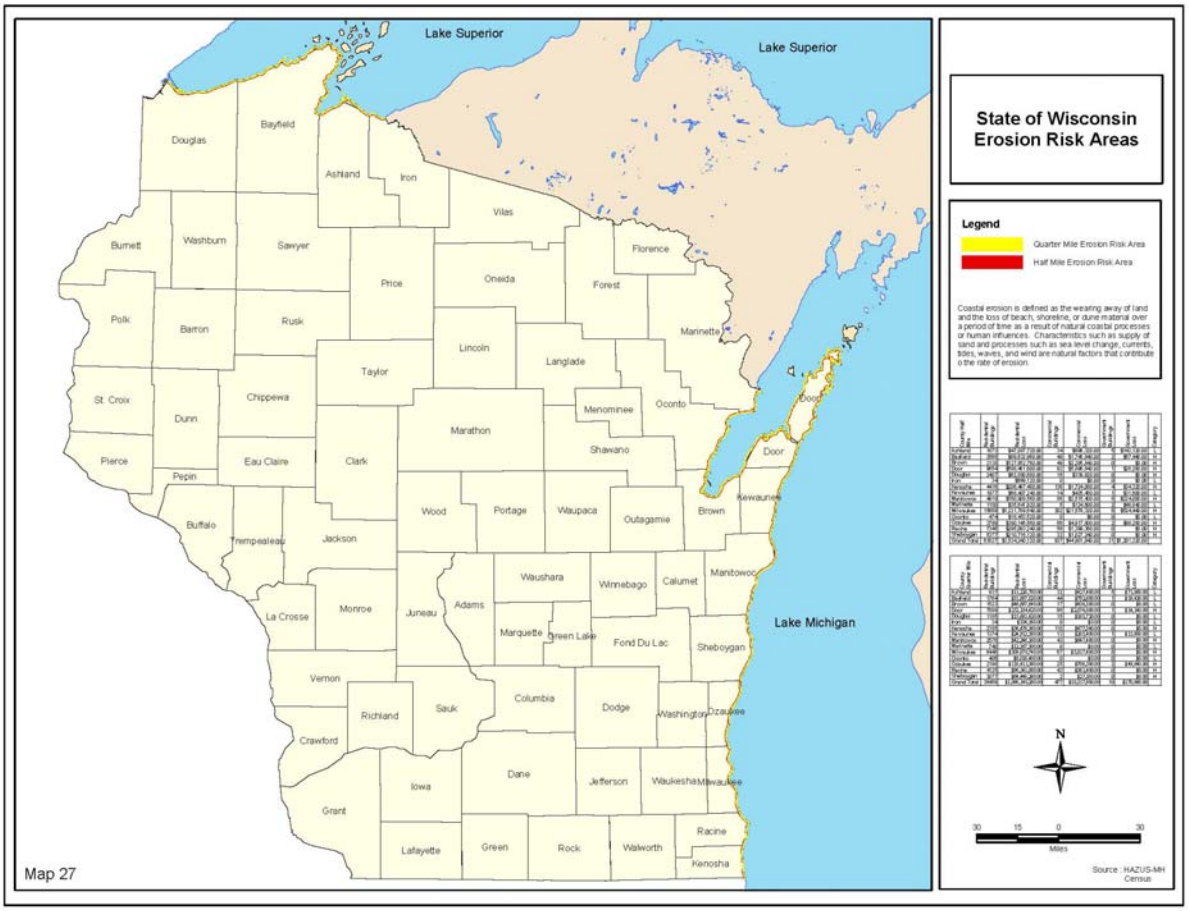
In the Low Risk Erosion Area, Milwaukee County has the highest loss potential ($1.2 billion), followed by Door ($604 million) and Ozaukee ($395 million) Counties.

Map 4.2.4-1 illustrates the low and high risk area within the Coastal Area Boundary.



Section TOC

**Map 4.2.4-1: Erosion Risk Areas**




## Data Limitations

Replacement values for coastal structures were estimated and could be verified in future risk assessments.

## Future Growth and Development Considerations:

Increased population growth and development can also increase the risk and vulnerability of counties as property values increase and areas that may once have been undeveloped are now developed. Because coastal erosion is more site-specific, the effect of increased development and population growth is more easily measured in terms of risk and vulnerability.

Although most counties are projected to grow, there are some that are projected to grow by over 20% from 2000 to 2015. These counties are: Polk, St. Croix, Pierce and Chippewa (area around the Twin Cities metropolitan area), Adams, Sauk and Dane in



Section TOC

the south-central part of the state and Washington, Calumet and Oconto in the western part of the state. Calumet (32.4%) and St. Croix (58.3%) are projected to grow the fastest of all counties. Of the counties along the coast of Lake Superior, Oconto County is projected to grow the most (20.3%), relative to its population, to the year 2015. All of the other 14 counties along the coast are projected to see growth to 2015.

Careful and strict enforcement of shore land and floodplain ordinances will be the key to preventing loss in these areas.

Census data from the 2010 census will be used in the next plan to aid in determining risk and vulnerability with updated data that will show the actual growth (or decline) in each of the coastal counties

**Sources**

Wisconsin Coastal Management Program. 1992. “State of Wisconsin Coastal Management Program Needs

Assessment and Multi-Year Strategy.” Wisconsin Department of Administration, Madison, Wisconsin.

Springman, Roger and Stephen M. Born, 1979. Wisconsin’s Shore Erosion Plan: An Appraisal of Options and Strategies. Prepared for the Wisconsin Coastal Management Program. June 1979.

U.S. Army Corps of Engineers, 1999. Great Lakes Update, April, 5, 1999. U.S. Army Corps of Engineers, Detroit District.

Detroit Free Press, March 18, 2000. “Less Snow This Winter Means Less Great Lakes Water this Summer.” Accessed on the World Wide Web at: http://www.lre.usace.army.mil/functions/pa/news/3-18-2000.pdf.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.

### 4.2.5 Dam Failure

#### Nature of the Hazard

A dam is a barrier constructed across a watercourse in order to store, control, or divert water. Dams are usually constructed of earth, rock, concrete, or mine tailings. The water impounded behind a dam is referred to as the reservoir and is measured in acre-feet, with one acre-foot being the volume of water that covers one acre of land to a depth of one foot. Due to topography, even a small dam may have a reservoir containing many acre-feet of water. A dam failure is the collapse, breach, or other failure of a dam that causes downstream flooding. Dam failures may result from natural events, human-caused events, or a combination thereof. Due to the lack of advance warning, failures resulting from natural events, such as hurricanes, earthquakes, or landslides, may be particularly severe. Prolonged rainfall that produces flooding is the most common cause of dam failure (FEMA, 1997).

Dam failures usually occur when the spillway capacity is inadequate and water overtops the dam or when internal erosion through the dam foundation occurs (also known as piping). If internal erosion or overtopping cause a full structural breach, a high-velocity, debris-laden wall of water is released and rushes downstream, damaging or destroying whatever is in its path. Dam failures may result from one or more the following:

- Prolonged periods of rainfall and flooding (the cause of most failures);
- Inadequate spillway capacity which causes excess overtopping flows;
- Internal erosion erosions due to embankment or foundation leakage or piping;
- Improper maintenance;
- Improper design;
- Negligent operation;
- Failure of upstream dams;
- Landslides into reservoirs;
- High winds; and
- Earthquakes.

For emergency planning purposes, dam failures are categorized as either *rainy day* or *sunny day failures*. *Rainy day failures* involve periods of excessive precipitation leading to an unusually high runoff. This high runoff increases the reservoir of the dam and if not controlled, the overtopping of the dam or excessive water pressure can lead to dam failure. Normal storm events can also lead to rainy day failures if water outlets are plugged with debris or otherwise made inoperable. *Sunny day failures* occur due to poor dam maintenance, damage/obstruction of outlet systems, or vandalism. This is the worst type of failure and can be catastrophic because the breach is unexpected and there may be insufficient time to properly warn downstream residents.

The Wisconsin Department of Natural Resources (DNR) assigns hazard ratings to large dams within the State. Two factors are considered when assigning hazard ratings: existing land use and land use controls (zoning) downstream of the dam. Dams are classified in three categories that identify the potential hazard to life and property:

- **High hazard** indicates that a failure would most probably result in the loss of life
- **Significant hazard** indicates a failure could result in appreciable property damage
- **Low hazard** exists where failure would result in only minimal property damage and loss of life is unlikely

Among the 3,800 dams in Wisconsin, there is a wide variance in the potential to cause damage in the event of failure. Very few dams in Wisconsin were built primarily to protect people and property from floods. Most of the dams that provide a flood-control benefit are large hydroelectric dams on major rivers where flood control is a secondary benefit, or they are PL 566 dams built through the Watershed Protection and Flood Prevention Act of 1954. Wisconsin has about 83 PL 566 dams, located mainly in the western part of the State. The PL 566 dams often hold little or no water in their reservoirs under normal conditions. Since these dams only hold significant amounts of water during floods, they present a special hazard as everyday water-related problems such as seepage cannot be readily seen and corrected.

**Dam Failure History**

The deadliest dam failure in U.S. history occurred in Johnstown, Pennsylvania in 1889. More than 2,209 people died. The June 5, 1976 failure of the Teton Dam in Idaho killed 11 people and caused approximately $1 billion in damages (FEMA, 1997).

Wisconsin has approximately 3,800 dams, many of which were constructed before 1900. Some dams originally used for logging or milling operations are no longer used for their original purpose. An additional 700 dams were built but have subsequently washed out and no longer exist. Approximately 100 dams have been removed since 1967.

Dams serve many purposes, including agricultural uses; providing recreation areas; electrical power generation; and erosion, water level, and flood control. The Federal Government has jurisdiction over large dams that produce hydroelectricity (approximately 5% of the dams in Wisconsin). Private individuals or former companies own approximately 60% of the dams in Wisconsin. The State owns 9%, municipalities such as townships or county governments own 17%, and 14% are owned by various other groups. A dam with a structural height of over 6 feet and impounding 50 acre-feet or more, or having a structural height of 25 feet or more and impounding more than 15 acre-feet, is classified as a large dam. There are approximately 1,160 large dams in the State of Wisconsin.

The Wisconsin Department of Natural Resources regulates all dams on waterways to some degree. However, the majority of dams in Wisconsin are small and not stringently regulated for safety purposes. Map 11 lists high hazard dams in Wisconsin.
On the night of September 1, 1985, a vicious flood nearly overtopped the 66-foot tall Orienta Falls electrical power-generating dam on the Iron River in Bayfield County. The events were chronicled the next morning in photographs taken by employees of Northern States Power (NSP), who circled helplessly in a helicopter, watching as the raging waters overwhelmed the earth embankment and bulldozed away the dam's powerhouse walls. It wasn't just the dam that was destroyed, according to the local newspaper, The Evening Telegram. At least three bridges came down as well, including one at the mouth of the Iron River on Highway 13, where it joins Lake Superior. Telephone service was cut, many roads and culverts were washed away, and although no one died, two families downstream were evacuated for fear the whole dam would be destroyed. The flood brought down the Orienta Dam, but changing times prevented its repair. NSP could not justify spending $500,000 to rebuild a dam that generated meager profits. The river was returned to its natural state and trout fishing was improved as a result. However, some residents still long for the scenic beauty of the flowage or small lake the dam had provided (Katherine Esposito, Wisconsin Natural Resources Magazine, April 1999).

In June 1990, heavy rains stressed the Hillsboro Dam in Vernon County and it threatened to breach. The Village of Union Center was evacuated and other villages below the dam were alerted to prepare for evacuation. Quick response by emergency workers prevented the dam from failing and the resulting loss of life and property that could have occurred.

Excessive precipitation (9 inches of rain in 4 hours) in August 1990 greatly stressed the 50-year old Lake Tomah Dam, imperiling the lives of approximately 2,000 residents of the City of Tomah who had to be evacuated from their homes. Municipal workers, volunteers, and Wisconsin National Guard personnel averted a breach by using more than 20,000 sand bags to reinforce the structure. A large crane was used to open the floodgates and the level of the lake dropped eight inches in one hour. The excess water emptied into the Lemonweir River, which overtopped its banks and rose approximately two inches per minute until it stabilized.

In March 1993, the Briggsville Dam in Marquette County failed and washed out the embankment. Fortunately, severe property damage was averted, but a recreational lake was completely drained. This failure was just one of many that occurred in 1993, a record year for precipitation and flooding. One of the more publicized incidents involved the Hatfield Dam in Jackson County. A power canal dike at the dam failed due to flooding. Initial reports from the area indicated that the main dam had failed, but this proved to be incorrect. A summary of dam washouts, overtopping, or damages associated with the 1993 precipitation and flooding is provided in Table 4.2.5 – 1.

In September 1994, heavy rainfall in Price County caused concern over the potential failure of the Musser, Jobe, and Weimer Dams. The Musser Dam was the most



**Section TOC**

seriously threatened and the County Emergency Management Office set up a command post above the dam to monitor it and coordinate sandbagging efforts of local crews augmented by the Wisconsin Conservation Corps. Wisconsin Emergency Management and Department of Natural Resources Dam Safety personnel were dispatched to the command post. An evacuation of low-lying areas below the dam was ordered as construction crews attempted to open the inoperable floodgates. Their efforts were successful, allowing maximum release of water behind the dam and averting a near catastrophic situation. The Ladysmith Dam in Rusk County did overtop during this event and failed at the left abutment. City, County, and State emergency personnel responded.

Table 4.2.5 – 1 Summary of Dam Failures/Damages Associated with the 1993 Floods

During winter, the following dam washed out:
- **Partridge Lake Dam**, Juneau County

In spring, the following dams washed out or were damaged by high water:
- **Wright Dam**, Iowa County
- **Lake Emily Dam**, Dodge County
- **Gooseville Dam**, Sheboygan County
- **Cox Hollow Dam**, Governor Dodge State Park, Iowa County
- **Briggsville Dam**, Marquette County
- **Waterford Dam**, Racine County
- **Lowell Dam**, Dodge County

The following dams overtopped:
- **Upper Watertown Dam**, Jefferson County
- **Hebron Dam**, Jefferson County

The following dams washed out due to the June flooding period:
- **Rock Dam, Lake Dam**, Eau Claire County – washed out embankment and road
- **Hatfield Dam** power canal dike, Jackson County
- **ASP Cranberry**, Jackson County – 2 dikes
- **Roberts Cranberry**, Jackson County – 4 dikes
- **Cambria Dam**, Columbia County
- **Bass Lake Dam**, Waupaca County

Several other dams were damaged during this June period:
- **Jordan Dam,** Columbia County – emergency repairs to prevent embankment failure
- **Humbird Dam,** Clark County – completely washed out the embankments around the cutoff walls
- **Fairchild Dam,** Eau Claire County – dike overtopped and road washed out
- **Lake Eau Claire Dam,** Eau Claire County – deep sluice gate broken in attempt to open
- **Blair Dam,** Trempealeau County – Slow gate operation caused downstream road embankment to erode
- **Dells Dam,** Augusta, Eau Claire County – damage to waterwheel
- **Packers Bay Dam,** Marquette County – embankment overtopped
- **Shopier Dam,** Rock County – emergency repairs were required to fill embankment breach
- **Reservoir/Dummy Dams**, Oconto County – failure to fully operate gates caused lake to bypass through low area, causing road damage
- **Upper Appleton,** Outagamie County – high head caused grout patch to fail resulting in severe seepage through a rock rubble wall
- **Auld & Rohrer,** Waupaca County – contractor breached embankment to prevent spillway construction from failing
- **Fox Lake Dam,** Dodge County – embankment problems related to seepage at old tree roots

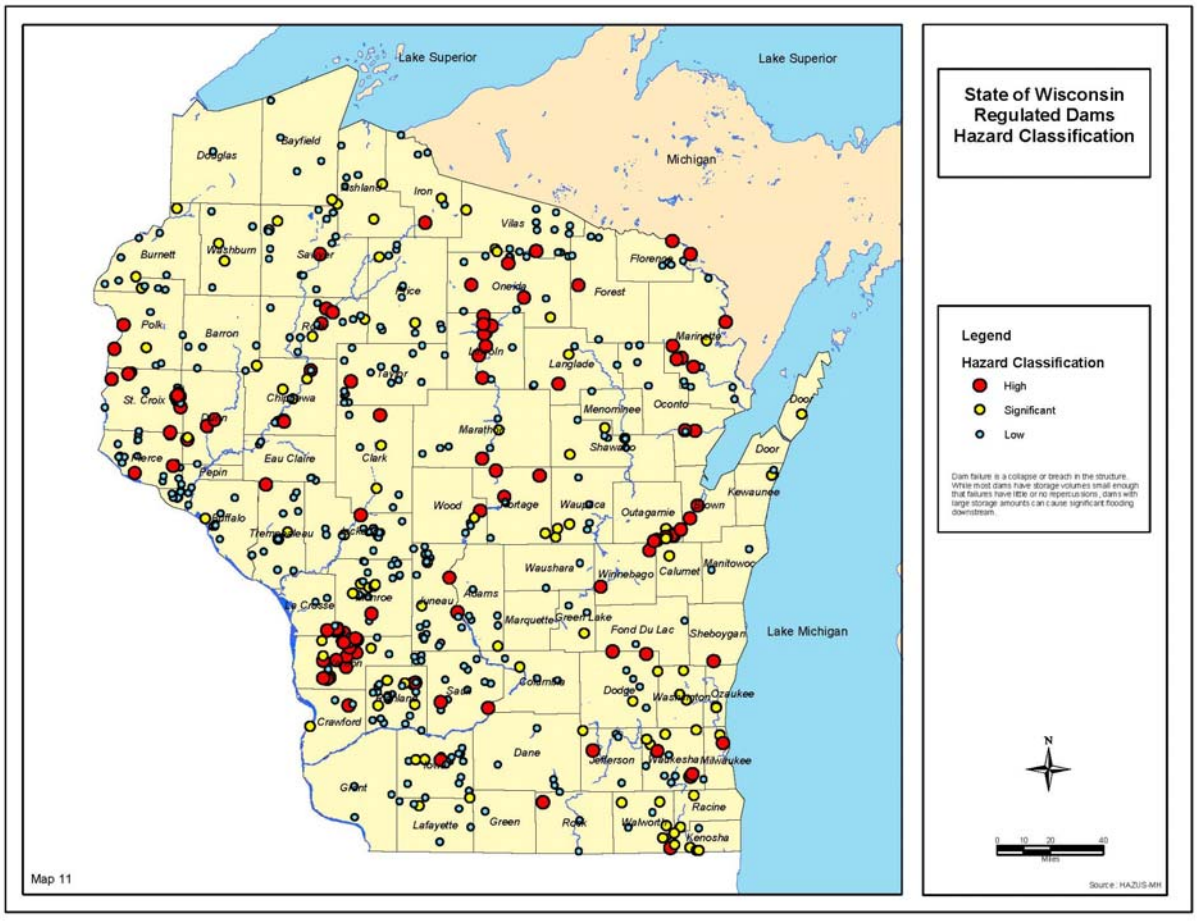
Other results of the flooding include:
- **Construction on dams was halted at Dairyland and Ladysmith due to high water**
- **The necessity for increased numbers of inspections**

Source: Wisconsin Department of Natural Resources, 1993.

Most recently, the Radigan Dam in Douglas County sustained serious damage from flooding associated with Disaster Declaration 1369 in May 2001. The amount of damage exceeded $300,000, much more than the Town of Dairyland, owner of the dam, could afford. Fortunately, the dam did not completely fail. More than 75 dam failures were documented in Wisconsin between 1990 and 1995. Many of these dam failures were associated with the Great Midwest Flood of 1993. Fortunately, none of these failures resulted in any loss of life. During several of these incidents, however, injuries and extensive property damage did occur.

On September 2, 2002, heavy rains occurred in the far western counties of Wisconsin. In the Village of Osceola in Polk County, rain caused an old milldam to breach and floodwaters crashed through a mobile home park. The torrent continued downstream, overtopping a second dam and causing extensive road damage.

**Map 4.2.5 – 1 Dam Hazard Classification**




In August of 2007, heavy rains severely affected southwest Wisconsin. Many dams were stressed and overtopped. In Vernon County, many dams were overwhelmed with debris (in the form of large, round hay bails) and water. In return, the dams either failed,



Section TOC

seeped water, or were under significant stress. As a result, major repairs need to be made to at least 20 dams in Vernon County. Unfortunately, the funds are not available for these repairs. In 2008, Vernon County proposed a 0.5% countywide sales tax to assist in the repairs. With the additional revenue the county would see, it is estimated that the tax could equate to $1.1 million a year for dam repair. On November 4, 2008, the dam referendum was overwhelmingly approved 8,593 to 4,976. The electorate understands the need for dam safety, maintenance, and repair.

However, Vernon County is not the only county facing this dilemma. Many counties throughout the state are struggling to find sources of funding for dam repair and maintenance. In 2007, the American Society of Civil Engineers gave Wisconsin dams a grade of C minus, stating, “Dams are not being inspected as required and repair grants have been curtailed due to lack of funding.” The 2007 and 2008 flooding events have exacerbated the problem. Lack of funding is most conspicuous in the state’s Dam Maintenance, Repair, Modification, and Removal Grant, established by the Wisconsin legislature in 1989. At its inception, the grant was funded but since 2001, the grant has gone essentially unfunded (Wisconsin Dams, 2008).

Again in 2008 with the June flooding, many dams in southern Wisconsin were stressed and overtopped. In Sauk County, Dell Creek Dam on Lake Delton overtopped and the lake overflowed and washed away part of County Highway A into the Wisconsin River, taking out five homes. While, the dam did not fail, the water tried to find another way to the Wisconsin River. Throughout the storm event, Wisconsin DNR Dam Safety staff monitored over 200 dams that were stressed. In the next update of the plan, a summary of the dam failures/damages from the 2008 flood will be included.

**Probability of Occurrence**

The economic impact of a dam or levee failure includes the cost of repair of the dam or levee, the flood damage resulting from the failure, and loss of income due to displaced businesses or workers. There have been very few dam failures in Wisconsin that resulted in major damages or loss of life. Dams, however, can pose a threat of failure, like any structure, when there is lack of maintenance or as dams age.

A problem at a dam would most likely occur during a flood event but could occur anytime. Similarly, levees, which are not properly constructed or maintained, create a false sense of security. Failure of a levee can exacerbate flooding in an area of a community where the residents believe they are safe. Statewide, dam failures are rated High for probability in the qualitative ranking table 4.2-3.

## Sources

Federal Emergency Management Agency.1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.” http://www.fema.gov/fhm/dl_mhira.shtm.

Esposito, Katherine. 1999. “Dammed If You Do and Damned If You Don’t,” Wisconsin Natural Resources Magazine,

April 1999. Wisconsin Department of Natural Resources. Accessed on the World Wide Web at http://www.wnrmag.com/stories/1999/apr99/dams.htm.

Wisconsin Department of Natural Resources, 1993. The Floods of 1993: The Wisconsin Experience. Departmental Report, December 1993.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

The Heartland Institute, 2008. Wisconsin Dams Neglected, Deteriorating as State Has Diverted Repair Funding. Vol. 6 No. 8, September 2008.

October 2008. Wisconsin Department of Natural Resources. Accessed on the World Wide Web at http://dnr.wi.gov/org/water/wm/dsfm/dams/.

### 4.2.6 Drought

#### Nature of the Hazard

Drought is a normal part of virtually every climate on the planet, including areas of both high and low normal rainfall. Drought is the result of a natural decline in the expected precipitation over an extended period of time, typically one or more seasons in length. The severity of drought can be aggravated by other climatic factors, such as prolonged high winds and low relative humidity (FEMA, 1997). Drought is a complex natural hazard which is reflected in the following four definitions commonly used to describe it:

- Meteorological drought is defined solely on the degree of dryness, expressed as a departure of actual precipitation from an expected average or normal amount based on monthly, seasonal, or annual time scales.
- Hydrological drought is related to the effects of precipitation shortfalls on streamflows and reservoir, lake, and groundwater levels.
- Agricultural drought is defined principally in terms of soil moisture deficiencies relative to water demands of plant life, usually crops.
- Socioeconomic drought associates the supply and demand of economic goods or services with elements of meteorological, hydrologic, and agricultural drought. Socioeconomic drought occurs when the demand for water exceeds the supply as a result of weather-related supply shortfall. They may also be called a water management drought.

A drought's severity depends on numerous factors, including duration, intensity, and geographic extent as well as regional water supply demands by humans and vegetation. Due to its multi-dimensional nature, drought is difficult to define in exact terms and also poses difficulties in terms of comprehensive risk assessments.

Drought differs from other natural hazards in three ways. First, the onset and end of a drought are difficult to determine due to the slow accumulation and lingering of effects of an event after its apparent end. Second, the lack of an exact and universally accepted definition adds to the confusion of its existence and severity. Third, in contrast with other natural hazards, the impact of drought is less obvious and may be spread over a larger geographic area. These characteristics have hindered the preparation of drought contingency or mitigation plans by many governments.

Droughts may cause a shortage of water for human and industrial consumption, hydroelectric power, recreation, and navigation. Water quality may also decline and the number and severity of wildfires may increase. Severe droughts may result in the loss of agricultural crops and forest products, undernourished wildlife and livestock, lower land values, and higher unemployment.

Wisconsin is most vulnerable to agricultural drought. Wisconsin has approximately 16.4 million acres of farmland on 78,000 farms and was ranked 10$^{th}$ in the country in overall

farm receipts in 1998 (Wisconsin Agricultural Statistics Service). Even small droughts of limited duration can significantly reduce crop growth and yields, adversely affecting farm income. More substantial events can decimate croplands and result in total loss, hurting the local economy. Droughts also greatly increase the risk of forest fires and wildfires because of extreme dryness. In addition, the loss of vegetation in the absence of sufficient water can result in flooding, even from average rainfall, following drought conditions.

**Drought History**

During the 20th century, nine notable droughts have occurred in the United States. While damage estimates are not available for most, estimates suggest that the 1976-1977 drought in the Great Plains, Upper Midwest, and far Western States caused direct losses of $10 to $15 billion. Furthermore, the drought in the Central and Eastern States during 1987-89 caused an estimated $39 billion in damages (FEMA, 1997).

Some people believe the drought of 1987-1988 was the most severe ever experienced in Wisconsin and much of the Midwest. It was characterized not only by below normal precipitation, but also by persistent dry air and above normal temperatures. Stream flow measuring stations indicated a recurrence interval of 75 to 100 years. Its effects were most severe in north-central and northeastern Wisconsin. The drought occurred early in the growing season and resulted in a 30 to 60% crop loss, with agricultural losses set at $1.3 billion. Fifty-two percent of the State's 81,000 farms were estimated to have crop losses of 50% or more, with 14% estimated at losses of 70% or more. A combination of State and Federal drought assistance programs helped Wisconsin farmers recover a portion of their losses. All Wisconsin counties were designated eligible for this drought assistance.

The effect of this drought on municipal and private water supplies was not as severe; there were only a few reports of individual wells drying up. Several municipal water utilities experienced maximum use of their water delivery systems. Many water utilities imposed some type of water-use reduction rules or restrictions, usually involving the limitation of lawn sprinkling and yard watering.

The drought of 1976-1977 was most severe in a wide band stretching from north to south across the State. Stream flow measuring stations recorded recurrence intervals from 10 to 30 years. Agricultural losses during this drought were set at $624 million. Sixty-four counties were declared Federal drought areas and deemed eligible for assistance under the Disaster Relief Act. Additionally, numerous private and municipal wells went dry. Federal assistance was used to help communities drill new wells and obtain new water supplies.

The drought of 1955-1959 had a recurrence interval of 30 to 70 years in all but the northwestern corner of Wisconsin. The drought that occurred during 1948-1950 was most significant in the northern part of the State. In the most severely affected areas, the drought had a recurrence interval of greater than 70 years. The 1929-1934 drought

probably was the most significant in Wisconsin history, considering its duration as well as its severity. This drought had at least a 75-year recurrence interval in most of the State and over 100-year recurrence interval in certain areas. The austere economic aspects of the Depression compounded its effects. The drought continued with somewhat decreased effect until the early 1940s in some parts of the State.

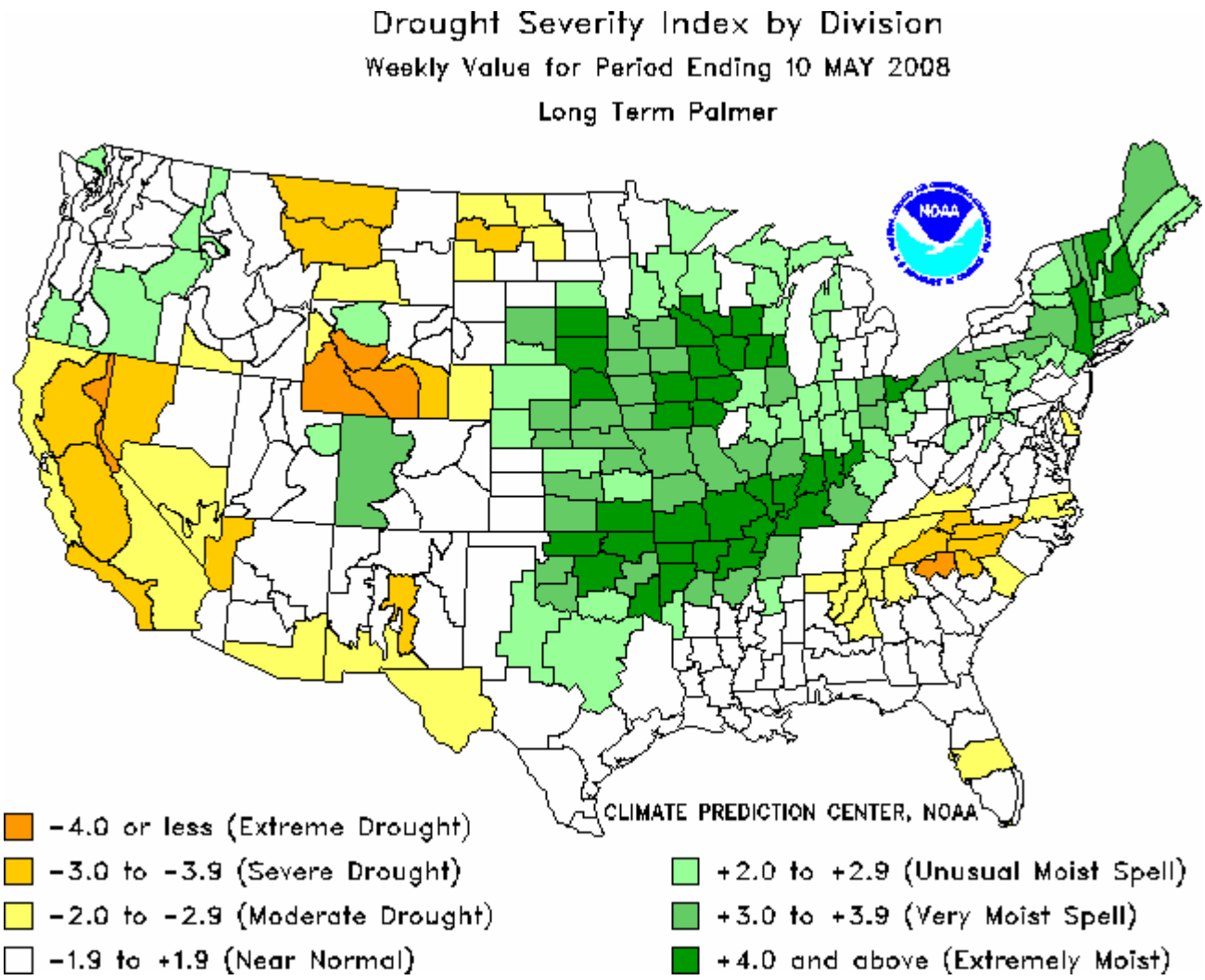
In August 2003, drought conditions returned to parts of south-central and southeast Wisconsin. The jet stream and associated low pressure systems stayed north of Wisconsin, resulting in few cold front passages. Conditions worsened from abnormally dry (D0 rating) to a moderate drought (D1 rating) as the month progressed. This drought continued into September 2003 and ultimately reached the severe category (D2). Crop and fruit tree farms without irrigation capability were especially affected. The hottest day of the 2003 summer for Milwaukee occurred on August 21 when 96 degrees was recorded. Madison topped out at 94 degrees on the August 26. Milwaukee experienced six days during the month with maximum temperatures of 90 degrees or higher. The three-month summer period of June-July-August 2003 was the driest in three decades in West Bend (Washington County), where only 5.11 inches fell (7.82 inches below normal). Similar conditions were experienced throughout southern Wisconsin.

In the period of January through July, 2007, drought gradually returned to most of Wisconsin, spreading from north to south. The jet stream pattern kept low pressure systems and associated thunderstorms northwest of Wisconsin while summer temperatures averaged 1 to 3 degrees above normal. Eventually moderate (D1 rating) to extreme drought (D3 rating) covered 85% of the state. Only the southern tier of counties had normal conditions to abnormally dry conditions (D0 rating). Crop yields were reduced. Moderate to heavy rains across central and southern Wisconsin in August broke the back of the drought in those areas, but the drought only gradually went away across the northern part of the state by December, 2007.

**Probability of Occurrence**

The Palmer Index is effective in determining long term drought—a matter of several months—and is not as good with short-term forecasts (a matter of weeks). It uses a 0 as normal, and drought is shown in terms of minus numbers; for example, minus 2 is moderate drought, minus 3 is severe drought, and minus 4 is extreme drought. The Palmer Index can also reflect excess rain using a corresponding level reflected by plus figures; i.e., 0 is normal, plus 2 is moderate rainfall, etc. Map 4.2.6-1 indicates the drought condition for the U.S. As of early October 2004, WI was in the -1.9 to +1.9 “near normal” range.

**Map 4.2.6-1 Palmer Drought Severity Index**



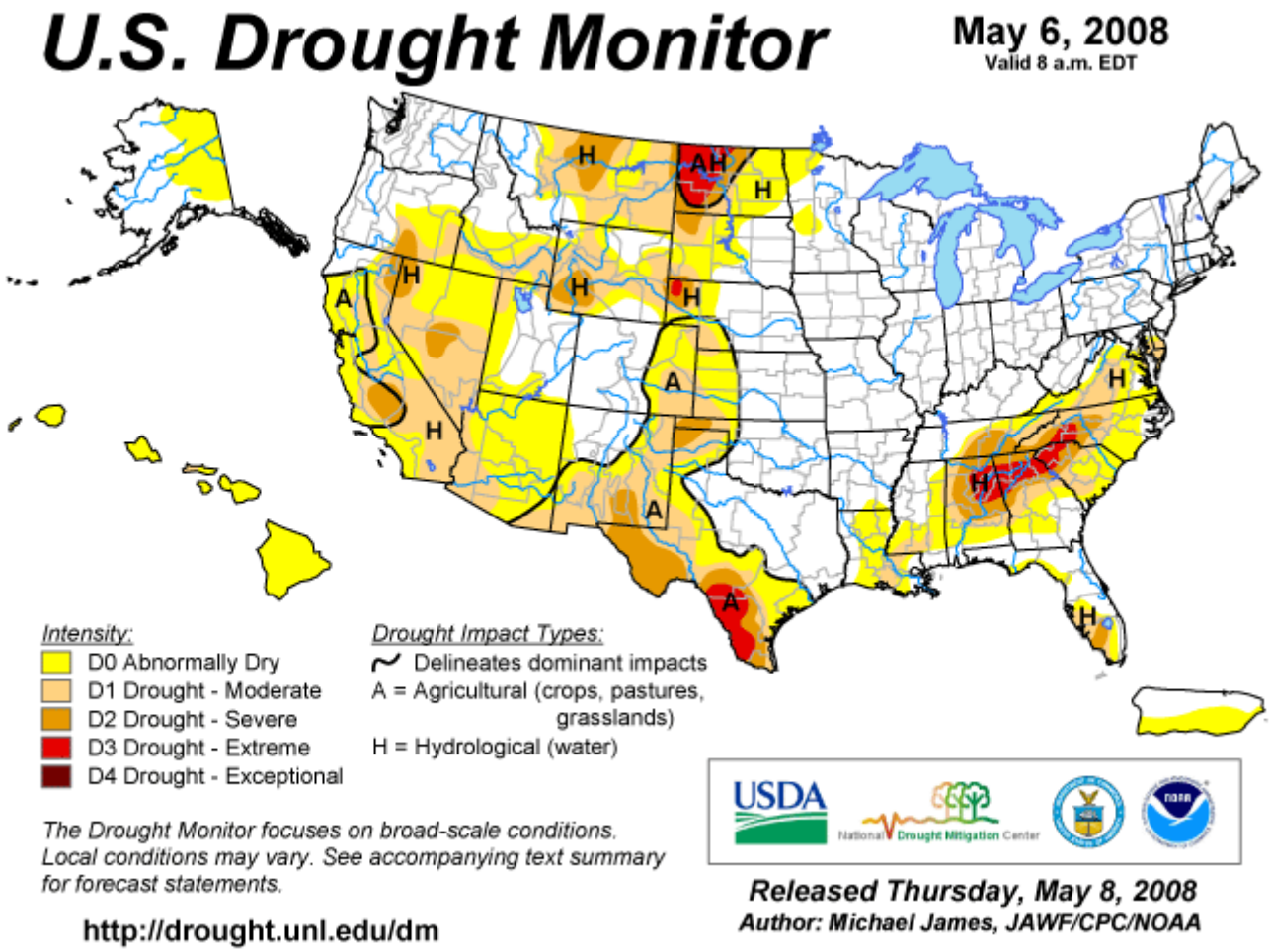

Source: Climate Prediction Center, NOAA

For short-term drought considerations, the U.S. Drought Monitor summarizes short-term changes to show which parts of the country are experiencing short-term drought conditions. The U.S. Drought Monitor can be accessed at this web site: http://www.drought.noaa.gov/index.html. Map 4.2.6 – 2 shows the early May, 2008, short-term drought situation. The lack of any color shading over Wisconsin indicated that there were no short-term drought conditions in Wisconsin.



Section TOC

**Map 4.2.6-2 U.S. Drought Monitor**




Source: NOAA, USDA, National Drought Mitigation Center, 2008

The future incidence of drought is highly unpredictable, and may also be localized, making it difficult to determine probability with any accuracy. The qualitative probability rating for drought is medium.



Section TOC

## Sources

Federal Emergency Management Agency. 1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of

the National Mitigation Strategy.” Accessed on the World Wide Web at http://www.fema.gov/fhm/dl_mhira.shtm.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

NOAA, National Climatic Data Center. Storm Events. Accessed on the World Wide Web at http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms.

### 4.2.7 Earthquakes

#### Nature of the Hazard

An earthquake is "…a sudden motion or trembling caused by an abrupt release of accumulated strain in the tectonic plates that comprise the earth's crust." These rigid plates, known as tectonic plates, are some 50 to 60 miles in thickness and move slowly and continuously over the earth's interior. The plates meet along their edges, where they move away, past or under each other at rates varying from less than a fraction of an inch up to five inches per year. While this sounds small, at a rate of two inches per year, a distance of 30 miles would be covered in approximately one million years (FEMA, 1997).

The tectonic plates continually bump, slide, catch, and hold as they move past each other which causes stress to accumulate along faults. When this stress exceeds the elastic limit of the rock, an earthquake occurs, immediately causing sudden ground motion and seismic activity. Secondary hazards may also occur, such as surface faulting, sinkholes, and landslides. While the majority of earthquakes occur near the edges of the tectonic plates, earthquakes may also occur at the interior of plates.

The vibration or shaking of the ground during an earthquake is described by ground motion. The severity of ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. Ground motion causes waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves. The following are the two kinds of seismic waves:

- P (primary) waves are longitudinal or compressional waves similar in character to sound waves that cause back-and-forth oscillation along the direction of travel (vertical motion), with particle motion in the same direction as wave travel. They move through the earth at approximately 15,000 mph.

- S (secondary) waves, also known as shear waves, are slower than P waves and cause structures to vibrate from side-to-side (horizontal motion) due to particle motion at right-angles to the direction of wave travel. Unreinforced buildings are more easily damaged by S waves.

There are also two kinds of surface waves, Raleigh waves and Love waves. These waves travel more slowly and typically are significantly less damaging than seismic waves.

Seismic activity is commonly described in terms of magnitude and intensity. Magnitude (M) describes the total energy released and intensity (I) subjectively describes the effects at a particular location. Although an earthquake has only one magnitude, its intensity varies by location. Magnitude is the measure of the amplitude of the seismic

wave and is expressed by the Richter scale. The Richter scale is a logarithmic measurement, where an increase in the scale by one whole number represents a tenfold increase in measured amplitude of the earthquake. Intensity is a measure of the strength of the shock at a particular location and is expressed by the Modified Mercalli Intensity (MMI) scale.

Another way of expressing an earthquake's severity is to compare its acceleration to the normal acceleration due to gravity. If an object is dropped while standing on the surface of the earth (ignoring wind resistance), it will fall towards earth and accelerate faster and faster until reaching terminal velocity. The acceleration due to gravity is often called "g" and is equal to 9.8 meters per second squared (980 cm/sec/sec). This means that every second something falls towards earth, its velocity increases by 9.8 meters per second. Peak ground acceleration (PGA) measures the rate of change of motion relative to the rate of acceleration due to gravity. For example, acceleration of the ground surface of 244 cm/sec/sec equals a PGA of 25.0 percent.

It is possible to approximate the relationship between PGA, the Richter scale, and the MMI, as shown in Table 4.2.7 – 1. The relationships are, at best, approximate, and also depend upon such specifics as the distance from the epicenter and depth of the epicenter. An earthquake with 10.0 percent PGA would roughly correspond to an MMI intensity of V or VI, described as being felt by everyone, overturning unstable objects, or moving heavy furniture. Map 4.2.7-1 illustrates peak ground acceleration in Wisconsin.

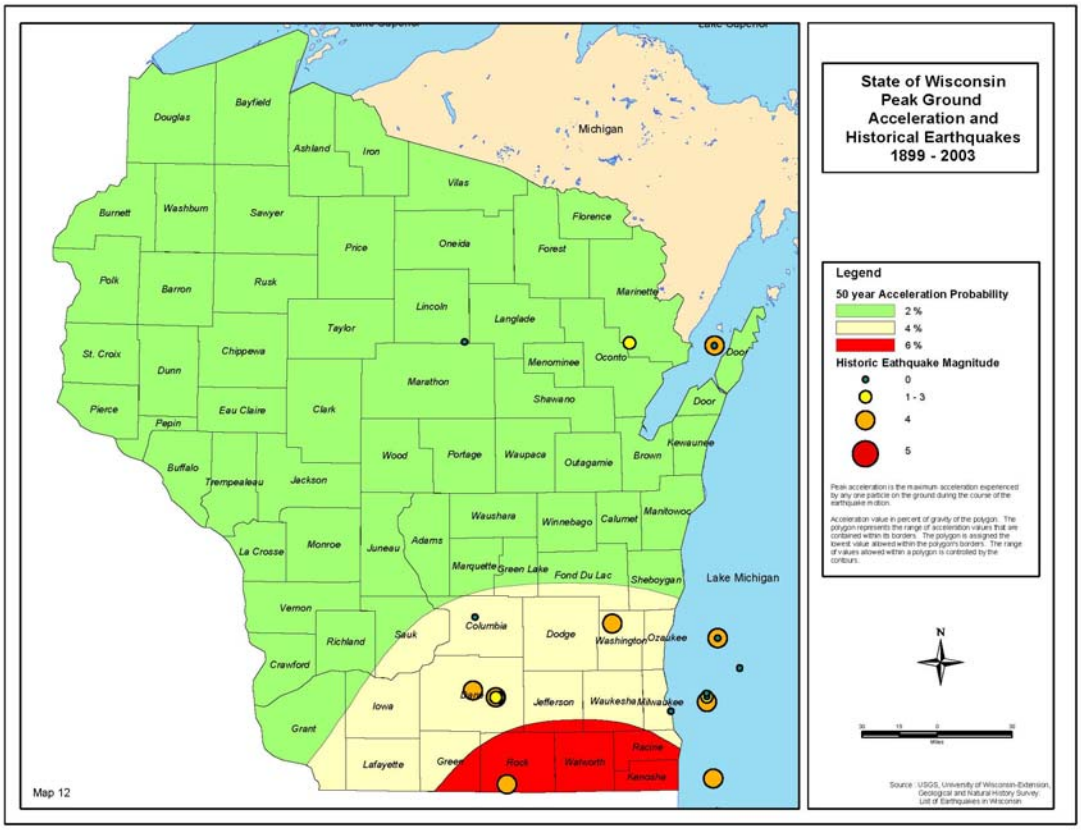
**Table 4.2.7 - 1 Earthquake PGA, Magnitude and Intensity Comparison**

| PGA ( %g) | Magnitude (Richter) | Intensity (MMI) | Description (MMI) |
|---|---|---|---|
| <0.17 | 1.0 - 3.0 | I | I. Not felt except by a very few under especially favorable conditions. |
| 0.17 - 1.4 | 3.0 - 3.9 | II - III | II. Felt only by a few persons at rest, especially on upper floors of buildings.<br>III. Felt quite noticeably by persons indoors, especially on upper floors of buildings. Many people do not recognize it as an earthquake. Standing motor cars may rock slightly. Vibrations similar to the passing of a truck. Duration estimated. |
| 1.4 - 9.2 | 4.0 - 4.9 | IV - V | IV. Felt indoors by many, outdoors by few during the day. At night, some awakened. Dishes, windows, doors disturbed; walls make cracking sound. Sensation like heavy truck striking building. Standing motor cars rock noticeably.<br>V. Felt by nearly everyone; many awakened. Some dishes, windows broken. Unstable objects overturned. Pendulum clocks may stop. |
| 9.2 - 34 | 5.0 - 5.9 | VI - VII | VI. Felt by all, many frightened. Some heavy furniture moved; a few instances of fallen plaster. Damage slight.<br>VII. Damage negligible in buildings of good design and construction; slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures; some chimneys broken. |
| 34 - 124 | 6.0 - 6.9 | VIII - IX | VIII. Damage slight in specially designed structures; considerable damage in ordinary substantial buildings with partial collapse. Damage great in poorly built structures. Fall of chimneys, factory stacks, columns, monuments, walls. Heavy furniture overturned.<br>IX. Damage considerable in specially designed structures; well-designed frame structures thrown out of plumb. Damage great in substantial buildings, with partial collapse. Buildings shifted off foundations. |
| >124 | 7.0 and higher | X or higher | X. Some well-built wooden structures destroyed; most masonry and frame structures destroyed with foundations. Rails bent.<br>XI. Few, if any (masonry) structures remain standing. Bridges destroyed. Rails bent greatly.<br>XII. Damage total. Lines of sight and level are distorted. Objects thrown into the air. |

Source: Wald, Quitoriano, Heaton, and Kanamori, 1999.

Earthquake-related ground failure, due to liquefaction, is a common potential hazard from strong earthquakes in the central and eastern United States. Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Pore-water pressure may also increase sufficiently to cause the soil to behave like a fluid (rather than a soil) for a brief period and causing deformations. Liquefaction causes lateral spreads (horizontal movement commonly 10-15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle or tip). Sands blows were common following major New Madrid earthquakes in the central United States.

**Map 4.2.7 – 1 Peak Ground Acceleration Contours and Historical Earthquakes in Wisconsin (Map contains most current available data.)**




## Earthquake History

Moderate shaking was reported in many places in Wisconsin on August 31, 1886 as the result of a strong earthquake centered near Charleston, South Carolina. The intensity at Beloit, Janesville, and Milwaukee was estimated to be V on the Modified Mercalli Intensity Scale (MM). On May 26, 1909, an earthquake damaged many chimneys in Aurora, Illinois, and caused MM VII effects over a considerable area from Bloomington, Illinois to Platteville, Wisconsin. Two more moderate shocks affected the same area on January 2, 1912. The first tremor was MM VI at Aurora, Freeport, Morris, and Yorkville (Illinois) and was followed by a lighter shock. People as far away as Madison and Milwaukee noticed the tremor.

Scattered felt reports in Wisconsin were noted from a major earthquake in the St. Lawrence River region near La Malbaie, Quebec, Canada on February 28, 1925. The magnitude 7.0 (Richter scale) earthquake encompassed an area of approximately 5 million square kilometers. Intensity at La Crosse and Milwaukee was estimated at MM-III. Another strong Canadian earthquake (magnitude 6.25) affected a large area of the northeastern and north-central U.S. on November 1, 1935. The quake was felt in an area of more than 2.5 million square kilometers and included most of eastern Wisconsin (MM I - III) and scattered points elsewhere in the State.



Section TOC

A short, but moderately strong, earthquake centered just south of Milwaukee caused only minor damage on May 6, 1947. No injuries were reported. The 4:25 a.m. CDT tremor shook buildings and rattled windows in many communities in a 7,770 square kilometer area of southeastern Wisconsin. There were a few reports of broken windows at Kenosha (MM-V) and residents of other communities reported that dishes and glasses had fallen from shelves. Some of the frightened Milwaukee residents ran into the streets in their belief that there had been a serious explosion. The shock encompassed a 160-kilometer wide strip from Sheboygan to the Wisconsin/Illinois border and extended from the lakeshore to Waukesha, 40 kilometers inland. The earthquake lasted only about a half a second and could have caused serious damage if it had continued for as long as a typical major earthquake (30 or more seconds).

The strongest earthquake to occur in the central U.S. in 74 years happened on November 9, 1968 in south-central Illinois. The shock was felt over an area of approximately 1.5 million square kilometers, including all or portions of 23 states and southern Ontario, Canada. Measured at a magnitude of 5.3, maximum intensity reached VII in Illinois, Indiana, Kentucky, and Missouri. MM V was reported from Jefferson and Kenosha, Wisconsin, and MM I - IV, at Baraboo, La Crosse, Milwaukee, Port Washington, Portage, Prairie du Chien, and Sheboygan. Press reports indicate the shock was also felt at Beloit, Janesville, and Madison.
The September 14, 1972, tremor (M = 3.7) was felt over 650,000 square kilometers, including Michigan, Minnesota, Missouri, Ohio, and Wisconsin. Cracked plaster (MM V) was noted at Kewaskum, Milton, Nashotah, and Zenda. A report from Browntown, Green County, said water pipes leaked after the shock.

Reports were received from Kansasville, Mount Hope, and Trevor, Wisconsin, following a magnitude 4 earthquake on April 3, 1974 centered near the 1968 epicenter in southern Illinois. Within one hour or so, a number of tornadoes passed through the area that was affected by the earthquake. Some of the reports may have confused the effects caused by the earthquake and those caused by the tornadoes (abridged from Carl A. Von Hake, Earthquake Information Bulletin, May/June 1978).

Earthquakes are rare in Wisconsin. However, two recent earthquakes have been felt by residents in southeastern Wisconsin. Both quakes occurred early in the morning and woke sleeping residents and shook furniture. Details of the earthquakes listed below:

- June 28, 2004, 4.1 magnitude, centered 8 miles northwest of Ottawa, IL
- April 18, 2008, 5.2 magnitude, centered 6 miles from West Salem, IL

The earthquake threat to Wisconsin is considered low. Minor damages, such as plaster cracking, have occurred but most often the only results have been windows rattling and ground shaking. There is little risk except to badly constructed structures. Most of the earthquakes that could be felt were centered in Wisconsin and adjacent states. Table 11 lists the locations and dates of the 24 recorded earthquakes that have occurred in



Section TOC

Wisconsin since 1900, with none causing significant damage. The causes of these local quakes are poorly understood and are thought to be the result of continuing rebound of the earth's crust after the retreat of the last glacial ice.

The nearest major active fault is the New Madrid Fault. If a strong earthquake occurred with an epicenter anywhere along the New Madrid Seismic Zone, the following counties could experience at maximum an earthquake of Mercalli Scale intensity V to VII: Milwaukee, Waukesha, Walworth, Racine, Kenosha, and Rock. However, this level of intensity would not occur everywhere in these counties. Another potential effect of a major New Madrid Fault earthquake to Wisconsin could be damage to natural gas and petroleum supply pipelines that pass through or near the New Madrid Fault Zone. A depiction of the regional intensity that could result from a major earthquake at the New Madrid Fault is on Map 4.2.7-2 on page 4-289.

**Table 4.2.7 - 2 Earthquake History in Wisconsin**

| Location | YEAR | Month | DAY | Time C.S.T. | | | Latitude North | Longitude West | Felt Area Square km | Maximum Intensity | Magnitude | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | H | M | S | | | | | | |
| 1. Kenosha | 1899 | Oct | 12 | -- | | | 42° 34' | 87° 50' | -- | II | 3.0 | |
| 2. Marinette | 1905 | Mar | 13 | 22 | 30 | | 45° 08' | 87° 40' | -- | V | 3.8 | |
| 3. Shorewood | 1906 | Apr | 22 | -- | | | 43° 03' | 87° 55' | -- | II | 3.0 | |
| 4. Milwaukee | 1906 | Apr | 24 | -- | | | 43° 03' | 87° 55' | -- | III | -- | |
| 5. Marinette | 1907 | Jan | 10 | -- | | | 45° 08' | 87° 40' | -- | III | -- | |
| 6. Beloit | 1909 | May | 26 | 8 | 42 | | 42° 30' | 89° 00' | 800,000 | VII | 5.1 | ⇐ Maximum |
| 7. Madison | 1914 | Oct | 07 | 15 | 0 | | 43° 05' | 89° 23' | -- | IV | 3.8 | |
| 8. Madison | 1916 | May | 31 | 16 | 45 | | 43° 05' | 89° 21' | -- | II | 3.0 | |
| 9. Fond du Lac | 1922 | Jul | 07 | -- | | | 43° 47' | 88° 29' | -- | V | 3.6 | |
| 10. Madison | 1931 | Oct | 18 | 15 | 12 | | 43° 05' | 89° 23' | -- | III | 3.4 | |
| 11. Stoughton | 1933 | Dec | 06 | 23 | 55 | | 42° 54' | 89° 15' | 1,200 | IV | 3.5 | |
| 12. Dubuque | 1938 | Nov | 07 | 23 | 30 | | 42° 30' | 90° 43' | -- | II | 3.0 | |
| " | " | " | 08 | 1 | 15 | | " | " | -- | " | " | |
| " | " | " | " | 3 | 30 | | " | " | -- | " | " | |
| 13. Thunder Mountain | 1943 | Feb | 09 | 17 | 21 | | 45° 11' | 88° 10' | -- | III | 3.2 | |
| 14. Milwaukee | 1947 | May | 06 | 15 | 27 | | 43° 00' | 87° 55' | 8,000 | V | 4.0 | |
| 15. Lake Mendota | 1948 | Jan | 15 | 11 | 40 | | 43° 09' | 89° 41' | -- | IV | 3.8 | |
| 16. Oostburg | 1956 | Jul | 18 | 15 | 30 | | 43° 37' | 87° 45' | -- | IV | 3.8 | |
| " | " | " | 0 | 17 | 0 | | " | " | -- | " | " | |
| 17. South Milwaukee | 1956 | Oct | 13 | -- | | | 42° 55' | 87° 52' | -- | IV | 3.8 | |
| 18. Beaver Dam | 1957 | Jan | 08 | 10 | 0 | | 42° 32' | 98° 48' | -- | IV | 3.6 | |
| 19. Bill Cross Rapids | 1979 | Feb | 28 | 12 | 4 | 55 | 45° 13' | 89° 46' | Instrumental | -- | <1.0 MoLg | |
| 20. Madison | 1981 | Jan | 09 | 9 | 15 | | 43° 05' | 87° 55' | Local | II | -- | |
| 21. Madison | 1981 | Mar | 13 | a.m. | | | 43° 05' | 87° 55' | Local | II | -- | |
| 22. Oxford | 1981 | Jun | 12 | 10 | 30 | | 43° 52' | 89° 39' | Local | IV-V | -- | |
| 23. Milwaukee | 1987 | Feb | 12 | 13 | 12 | | 42° 95' | 87° 84' | Local | IV-V | -- | |
| 24. Milwaukee | 1987 | Feb | 12 | 13 | 16 | | 43° 19' | 87° 28' | Local | IV-V | -- | |
| 25. W. Kenosha Co. | 1990 | June | 18 | 22 | 37 | | 42 60 | 88 20 | 160 | III | -- | |

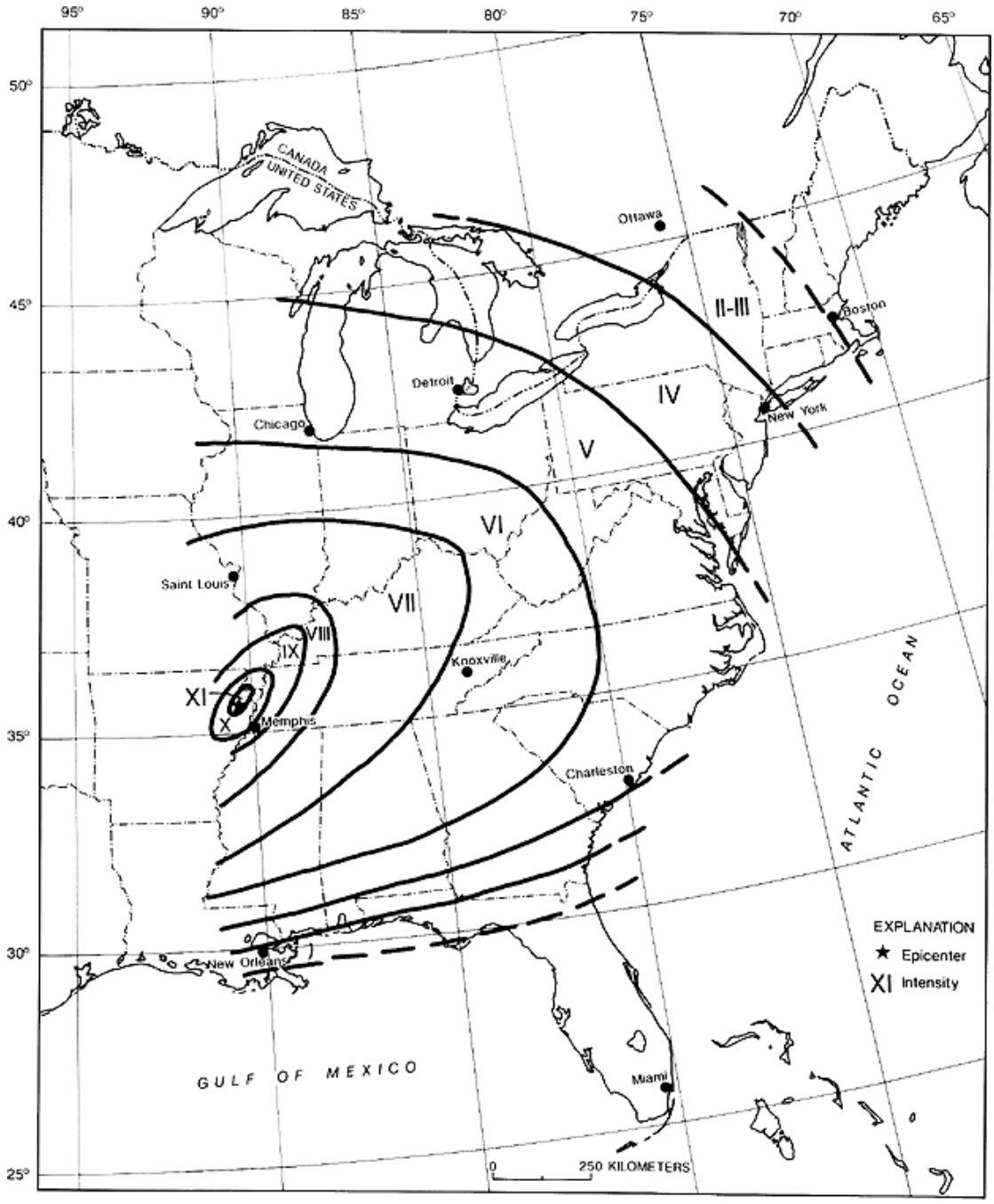
Source: University of Wisconsin-Extension, Geological and Natural History Survey. *List of Earthquakes in Wisconsin*, M.G. Mudrey, Jr., Open File Report 84-1, 12/11/84. Ron Friedel, Department of Geological and Geophysical Sciences, U.W. Milwaukee, 1987.

*Table has most current and up to date information available

This page intentionally blank

**Map 4.2.7 – 2 Regional Earthquake Intensity Map**

**General Intensity from an 1811-Type Earthquake with an Epicenter along the New Madrid Fault**




Source: Mid-America Earthquake Center, University of Illinois at Urbana-Champaign

## Probability of Occurrence

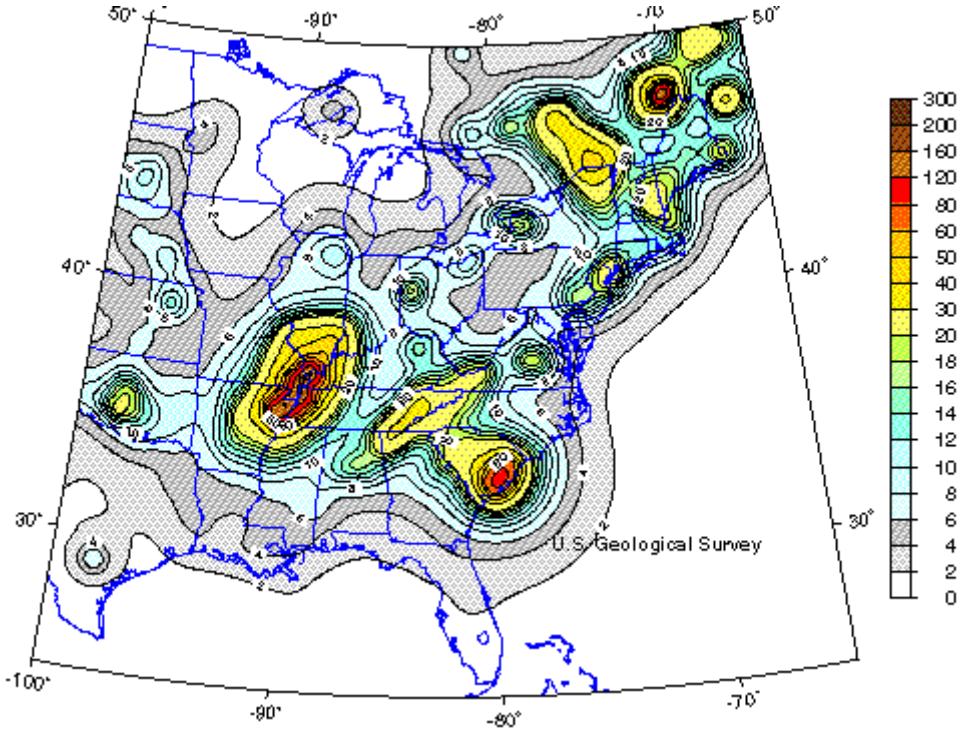
Probabilistic ground motion maps are typically used to assess the magnitude and frequency of seismic events. These maps measure the probability of exceeding a



Section TOC

certain ground motion, expressed as peak ground acceleration PGA, over a specified period of years. The magnitude of earthquakes is generally measured using the Richter scale, as discussed earlier in this subsection. The severity of earthquakes is site specific, and is influenced by proximity to the earthquake epicenter and soil type, among other factors. The qualitative probability rating for earthquakes in table 4.2 - 3 is Low.

**Figure 4.2.7 – 3 Peak Acceleration (%g) with 2% Probability of Exceedance in 50 Years**



**Sources**

Federal Emergency Management Agency. 1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.” .

Wald, David J., Vincent Quitoriano, Thomas H. Heaton and Hiroo Kanamori. 1999. “Relationship between Peak Ground Acceleration, Peak Ground Motion and Modified Mercalli Intensity in California,” Earthquake Spectra, 15:3, 557-564; also available at http://pasadena.wr.usgs.gov/shake/pubs/regress/regress.html.

Von Hake, Carl A. Earthquake Information Bulletin, 10:3, May/June 1978.

Mid-America Earthquake Center, University of Illinois at Urbana-Champaign. Mid-America Earthquake Hazard. Accessed on the World Wide Web at:

http://mae.ce.uiuc.edu/.

University of Wisconsin-Extension, Geological and Natural History Survey. “List of Earthquakes in Wisconsin,” M.G. Mudrey, Jr., Open File Report 84-1, 12/11/84. Ron

Friedel, Department of Geological and Geophysical Sciences, U.W. Milwaukee, 1987.

University of Memphis Center for Earthquake Information. Available from the World Wide Web at: http://www.ceri.memphis.edu/index.shtml.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

This page intentionally blank

## 4.2.8 Extreme Heat

### Nature of the Hazard

Extreme summer heat is the combination of very high temperatures and exceptionally humid conditions. If such conditions persist for an extended period of time, it is called a heat wave (FEMA, 1997). Heat stress can be indexed by combining the effects of temperature and humidity, as shown in Table 4.2.8 – 1. The index estimates the relationship between dry bulb temperatures (at different humidity) and the skin's resistance to heat and moisture transfer. Increasing temperatures along with increasing humidity raise the apparent temperature (heat index.) The major human risks associated with extreme heat are as follows:

- **Heatstroke:** Considered a medical emergency, heatstroke is often fatal. It occurs when the body's responses to heat stress are insufficient to prevent a substantial rise in the body's core temperature. While no standard diagnosis exists, a medical heatstroke condition is usually diagnosed when the body's temperature exceeds 105°F due to environmental temperatures. Rapid cooling is necessary to prevent death, with an average fatality rate of 15 percent even with treatment.

- **Heat Exhaustion:** While much less serious than heatstroke, heat exhaustion victims may complain of dizziness, weakness, or fatigue. Body temperatures may be normal or slightly to moderately elevated. The prognosis is usually good with fluid treatment.

- **Heat Syncope:** This refers to sudden loss of consciousness and is typically associated with people exercising who are not acclimated to warm temperatures. Causes little or no harm to the individual.

- **Heat Cramps:** May occur in people unaccustomed to exercising in the heat and generally ceases to be a problem after acclimatization.

**Table 4.2.8 - 1 Heat Index and Disorders**

| Danger Category | | Heat Disorders | Apparent Temperatures (°F) |
|---|---|---|---|
| IV | Extreme Danger | Heatstroke or sunstroke imminent. | >130 |
| III | Danger | Sunstroke, heat cramps, or heat exhaustion likely; heat stroke possible with prolonged exposure and physical activity. | 105-130 |
| II | Extreme Caution | Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and physical activity. | 90-105 |
| I | Caution | Fatigue possible with prolonged exposure and physical activity. | 89-90 |

Source: FEMA, 1997; NWS, 1997.

In addition to affecting people, severe heat places significant stress on plants and animals. The effects of severe heat on agricultural products, such as cotton, may include reduced yields and even loss of crops (Brown and Zeiher, 1997). Similarly, cows

may become overheated, leading to reduced milk production and other problems. (Garcia, September 2002).

**Extreme Heat History**

For the period of 1982-2007, extreme heat was the number-one weather killer in Wisconsin, as well as for the United States. In Wisconsin there were 115 directly-related deaths, and an additional 95 indirectly-related fatalities. This comes out to an average of 4.4 directly-related fatalities per year and 3.7 indirectly-related fatalities per year. Most of the fatalities in Wisconsin occurred during the two major heat waves in June and July, 1995. For the entire U.S., 1,021 people died in 1995 due to the affects of heat, and for the period of 1988-2006, an average of 154 people die each year due to heat.

During summer 1995, Wisconsin experienced two periods of prolonged heat. During the first heat wave, June 17-27, high temperatures were well in the 90s with heat index values of 98 to 104 degrees. Nine people died directly from the heat during this time period. The second heat wave, July 12-15, resulted in the greatest number of weather-related deaths in Wisconsin's history. During this second heat wave, 141 people died directly or indirectly from the heat. High temperatures were 100 to 108 degrees with heat index values of 120 to 130 degrees. All-time record-high temperatures were set in La Crosse (108 degrees) on July 13, 1995, and Sheboygan (108 degrees) on July 14, 1995. Table 4.2.8-2 summarizes heat-related deaths in Wisconsin from 1986 to 2007. If the medical examiner ruled that heat was the primary cause of death, then that death was considered "direct." If the examiner ruled that heat was a secondary, or contributing factor, then that death was considered "indirect."

| Table 4.2.8 – 2 Heat-Related Deaths in Wisconsin | | |
|---|---|---|
| **Year** | **Direct Deaths** | **Indirect Deaths** |
| 1986 | 1 | 0 |
| 1988 | 1 | 0 |
| 1993 | 2 | 0 |
| 1995 | 82 | 72 |
| 1997 | 1 | 0 |
| 1999 | 12 | 8 |
| 2001 | 10 | 5 |
| 2002 | 3 | 5 |
| 2003 | 0 | 4 |
| 2004 | 0 | 0 |
| 2005 | 0 | 0 |
| 2006 | 3 | 1 |
| 2007 | 0 | 0 |
| **Totals** | **115** | **95** |

Source: National Weather Service, Milwaukee/Sullivan Office, 2008.

Table 4.2.8-3 displays the number of fatalities nationwide directly resulting from the major July heat wave of 1995, broken down by age and gender. Over 71% of the fatalities were people aged 60 years and older.

| Table 4.2.8 – 3 Nationwide Heat Related Fatalities by Age and Gender | | | | |
|---|---|---|---|---|
| **Age Group** | **Female** | **Male** | **Total** | **Percent** |
| *1 to 9* | 6 | 6 | 12 | 1 |
| 10 to 19 | 0 | 2 | 2 | 0 |
| 20 to 29 | 2 | 3 | 5 | 0 |
| 30 to 39 | 7 | 27 | 34 | 3 |
| 40 to 49 | 15 | 64 | 79 | 8 |
| 50 to 59 | 22 | 73 | 95 | 9 |
| 60 to 69 | 50 | 129 | 179 | 18 |
| 70 to 79 | 131 | 122 | 253 | 25 |
| 80 to 89 | 145 | 96 | 241 | 24 |
| 90 and Above | 51 | 10 | 61 | 6 |
| Unknown | 6 | 54 | 60 | 6 |
| Total | 435 | 586 | 1,021 | 100 |

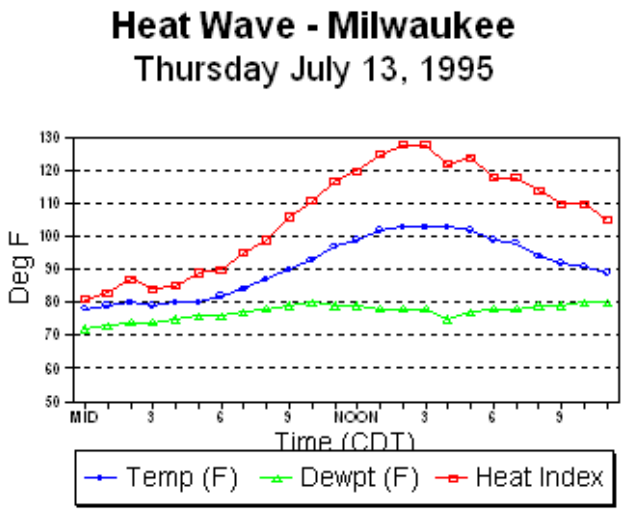
Source: National Weather Service, http://www.nws.noaa.gov/om/95heat.htm



Section TOC

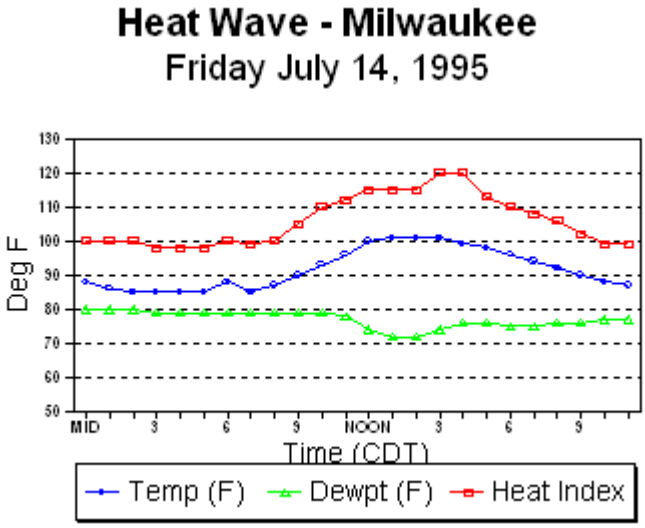
During the July, 1995, major heat wave that affected Wisconsin, the long duration of high temperatures and relative humidity produced heat index values of 120 to 130. This was a major factor in the large number of fatalities in Wisconsin, especially in Milwaukee County. The concentration of buildings, concrete, and asphalt in the Milwaukee area, known as an "urban heat island" only enhanced the affects of the heat. These heat index values of 120 to 130 are rarely reached, but when they are reached, many fatalities are possible. Figures 4.2.8 – 1 and 4.2.8 – 2 depict the temperature, dewpoint, and heat index trend-lines for Milwaukee Mitchell Field on July 13-14, 1995. Note the high heat index values that barely went below 100 overnight on July 13th.

**Figure 4.2.8 – 1 Meteorological Parameters at Milwaukee Mitchell Field July 13, 1995**




Source: NOAA Milwaukee/Sullivan WFO, 2008

**Figure 4.2.8 – 2 Meteorological Parameters at Milwaukee Mitchell Field July 14, 1995**




Source: NOAA Milwaukee/Sullivan WFO, 2008.



Section TOC

Most of the all-time maximum daily temperatures were recorded during the Dust Bowl years from 1934 to 1936. The highest temperature ever recorded in Wisconsin was 114 degrees, which occurred on July 13, 1936 at the Wisconsin Dells. Table 4.2.8-4 lists the Wisconsin cities that set all-time records for high temperatures during the Dust Bowl years:

**Table 4.2.8 - 4 All-Time High Temperatures Set During the Dust Bowl Years**

| City | Record High Temperature | Date |
|---|---|---|
| *Oshkosh* | 107 degrees | July 13, 1936 |
| Appleton | 107 degrees | July 14, 1936 |
| Madison | 107 degrees | July 14, 1936 |
| Milwaukee | 105 degrees | July 24, 1934 |
| Green Bay | 104 degrees | July 13, 1936 |
| Wisconsin Dells | 114 degrees | July 13, 1936 |

Source: National Weather Service, Rusty Kapela, Milwaukee/Sullivan Office.

Another heat wave struck Wisconsin during the last two weeks of July 1999 and peaked July 28-31. During these four days, high humidity and temperatures in the 90s and 100s produced heat index values of 110 degrees to as high as 125 degrees. The heat wave resulted in 12 direct and 8 indirect deaths (National Weather Service). There was a record peak demand for electric power in the Milwaukee area during this time and a record was set that summer for electrical demand in the Midwest region.

Several heat waves from mid-July to early August 2001 claimed 15 fatalities (10 direct, 5 indirect) across Wisconsin. Three hundred people or more were treated at hospitals for heat exhaustion, and temperatures topped out in the mid to upper 90s. However, on August 7 the temperature topped out at 102 degrees at Mt. Mary College in Milwaukee and at 101 degrees in Buffalo and Trempealeau Counties.

### Probability of Occurrence

The probability of exceeding 89 Degrees F is high (the first danger category in Table 4.2.8-1 on page 4-295), but temperatures are only determinant of effects that also include humidity, duration and timing of the extreme temperature event. The qualitative probability rating for extreme temperatures in table 4.2 - 3 is high.

**Sources**

Federal Emergency Management Agency.1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.” http://www.fema.gov/fhm/dl_mhira.shtm.

National Weather Service, Sullivan Office (Madison-Milwaukee), 2008. Rusty Kapela. Information obtained through personal communication, Internet publications, and informal reports. Accessed from the World Wide Web at: http://www.crh.noaa.gov/mkx/climate.htm.

Garcia, Alvaro. September 2002. “Dealing With Heat Stress in Dairy Cows,” Extension Extra. Accessed from World Wide Web at: http://agbiopubs.sdstate.edu/articles/ExEx4024.pdf.

Brown, Paul and Carolyn A. Zeiher.1997. Project Summaries—State Support Program: Development of an Effective Screen for Identifying Cotton Cultivars Tolerant to Elevated Night Temperatures during the Monsoon (74 96-342AZ). Accessed from the World Wide Web at: http://www.cottoninc.com/summaryreports/homepage.cfm?page=931&ProjectID=74.

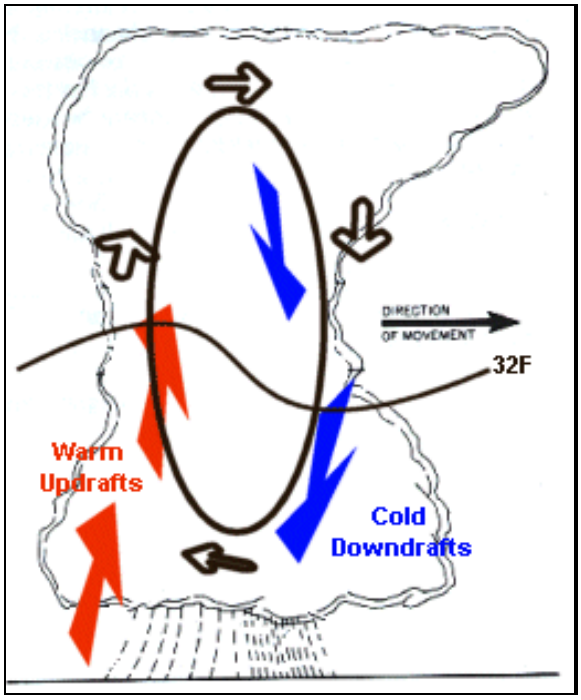
Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

### 4.2.9 Hail

#### Nature of the Hazard

Hail can develop within thunderstorms when strong currents of rising air, known as updrafts, carry water droplets high within the storm. The cold air aloft causes the water droplets to freeze. As the frozen droplet begins to fall toward the ground, rising currents within the storm lifts the ice again. The hailstone gains an ice layer and grows increasingly larger with each ascent. Eventually the hailstone becomes too heavy for the updraft to support, and it falls to the ground.

**Figure 4.2.9 - 1 How Hail Is Formed**




Source: National Weather Service

The National Weather Service (NWS) defines severe thunderstorms as those with high winds of 58 miles an hour or greater, large hail of 0.75 inch in diameter or greater, or a tornado. While only about 10 percent of thunderstorms are classified as severe, all thunderstorms are potentially dangerous, as they can produce one or more of the following: hail, strong winds, lightning, tornadoes, and flash flooding. The size of hailstones varies and is a direct consequence of the severity and size of the thunderstorm. The higher the temperatures and the greater the amount of evaporated moisture in the air at the Earth's surface (i.e., the greater the instability of the atmosphere), the greater the strength of the updrafts. Stronger updrafts can keep

hailstones suspended for longer periods of time, resulting in more up and down trips and assuring larger hailstones at ground level. Hailstones vary widely in size, as shown in Table 4.2.9-1. Note that hail penny size (0.75 inch in diameter) or larger is considered severe.

**Table 4.2.9 – 1 Estimating Hail Size**

| Size | Inches in Diameter |
|---|---|
| Pea | 1/4 – 3/8 inch |
| Small Marble | 1/2 inch |
| Penny | 3/4 inch |
| Nickel | 7/8 inch |
| Quarter | 1 inch |
| Ping-Pong Ball | 1 1/2 inch |
| Golf Ball | 1 3/4 inches |
| Tennis Ball | 2 1/2 inches |
| Baseball | 2 3/4 inches |
| Large Apple | 3 inches |
| Softball | 4 inches |
| Grapefruit | 4 1/2 inches |

Source: NWS, August 2007.

Individuals who serve as volunteer "storm spotters" for the NWS are located throughout the State, and are instructed to report hail, especially that of 0.50 inch or larger size.

Hailstorms are relatively frequent across the United States. Since 1988, there have been on average nearly 3,000 individual hail events reported each year. Although they occur in every state on the mainland U.S., hailstorms occur most frequently in the Midwestern states, particularly in Texas, Oklahoma, Kansas, and Nebraska. Hailstorms can occur throughout the year; however, most hail events occur during the months of April through October; spring and early summer are the peak season. July is the prime month of crop loss as a result of hail. Hail fatalities are rare in the U.S. The last known death from hail occurred on March 29, 2000 in Lake Worth, Texas.

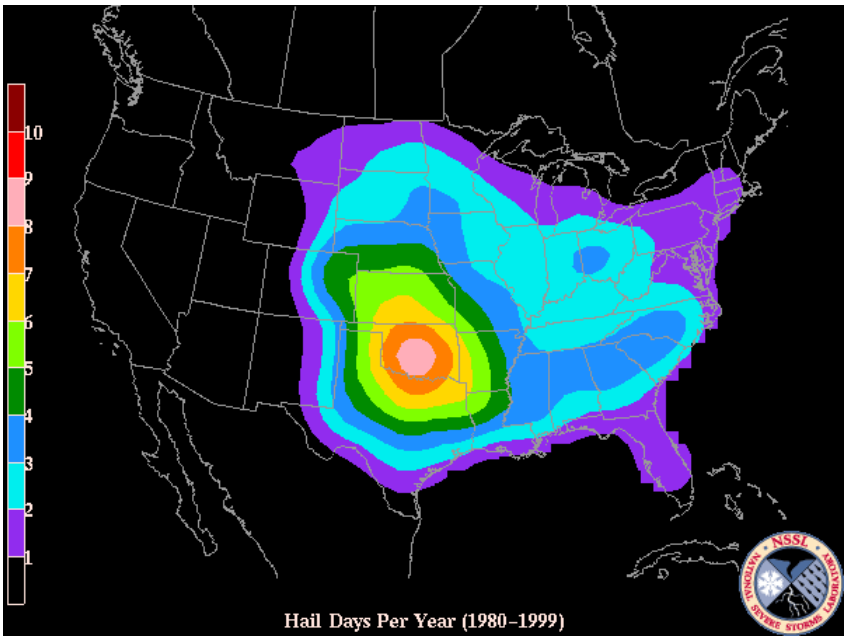
**Hail History**

On average, hail causes $1 billion in damage to crops and property each year in the United States. The costliest hailstorm in the U.S. occurred in Dallas/Fort Worth, Texas, with reported damages of around $2 billion. The largest hailstone ever recorded fell in Aurora, Nebraska, on June 22, 2003, measuring 7.0 inches in diameter (18.75 inch circumference). Map 4.2.9 – 1 depicts the annual number of days that large hail (0.75 inch or larger) can be expected within 25 miles of any given point in the United States for the period of 1980-1999. In Wisconsin the number varied from 1 to 2.5 days per year.

In Wisconsin, at least 42 people have been injured by large hailstones during the period of 1982-2007. The actual number is probably higher since some injured people probably

didn't seek medical treatment. There have been no reported fatalities due to large hail in Wisconsin, but there have been a few fatalities in the United States.

**Map 4.2.9 – 1 Annual Number of Days with Large Hail**
**(Map contains most current available data.)**




Source: Storm Prediction Center, Norman, OK

Wisconsin's largest hailstone had a diameter of 5.7 inches, reported on the north side of Wausau during the evening of May 22, 1921. However, most hailstones in this hailstorm were 4.0 inches in diameter or smaller. Several people were injured by the large hail stones and damage was extensive. The second largest hailstone in Wisconsin weather history fell on June 7, 2007. Hailstones up to 5.5 inches in diameter were measured in Port Edwards (Wood County). The storm resulted in $45 million in hail damage. A picture of the 5.5 inches hailstone is shown in Figure 4.2.9 – 2.

**Figure 4.2.9 - 2 Port Edwards 5.5" Hailstone June 7, 2007**


Source: NWS Green Bay WFO



Section TOC

Wisconsin experiences about one to three hail days per year across any given area. In general, central and southern Wisconsin have more days with hail, and parts of west-central Wisconsin have the greatest annual average number of days (2-3) with hail.

The months of maximum hailstorm frequency are May through September, with approximately 85% of hailstorms occurring during this period. Unfortunately, hailstorms are most frequent during the four months of the growing and harvesting seasons for many of Wisconsin's crops.

Wisconsin's first-ever $100 million dollar hailstorm took place on May 12, 2000 when a single storm moved across the central part of the state from south of La Crosse through the Lake Winnebago area to Manitowoc and eventually to Lake Michigan. Ten counties were pounded with hailstones one to three inches in diameter during the morning hours. Damage to property and crops was estimated at $122 million.

On April 13, 2006, three hail-producing severe thunderstorms affected southern Wisconsin. Hail, up to 4.25 inches in diameter, fell across a large swath from Mineral Point (Iowa County) to north of Milwaukee. Based on insurance company information, the April 13, 2006, hailstorms resulted in total damage of about $420 million, making it the most costly hailstorm day in Wisconsin weather history. Over 50,000 vehicle claims, 40,000 residential claims, and about 5400 business/farm claims were filed with various insurance companies. Additionally, the first of the three hailstorms was the single costliest thunderstorm in Wisconsin weather history, with damage estimated at $300 million, far exceeding anything related to tornadoes. A picture of some of the larger hailstones can be seen in Figure 4.2.9 -3, and typical hail damage to a vehicle is shown in Figure 4.2.9 – 4.

**Figure 4.2.9 - 3 Sample of April 13, 2006 Hailstones**


Source: NWS Milwaukee/Sullivan WFO



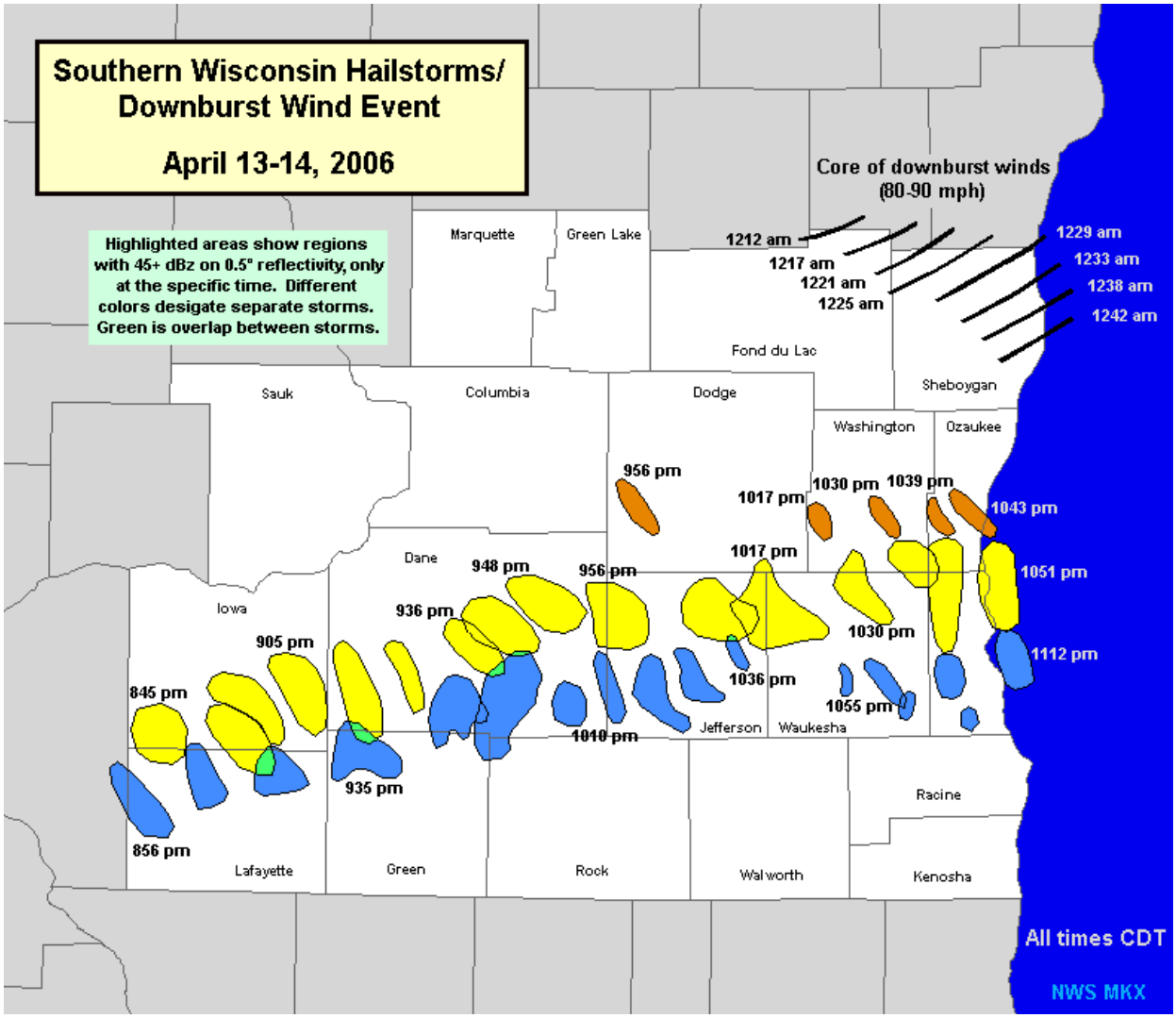
**Section TOC**

**Figure 4.2.9 - 4 Hail Damage - April 13, 2006**

Source: NWS Milwaukee/Sullivan WFO

The paths of the three hailstorms on April 13, 2006 are shown in Map 4.2.9 – 3. The storm shaded in yellow was the strongest of the three, and produced hailstones of 2 to 4.25 inches in diameter. The hailstone 4.25 inches in diameter fell near Lake Mills in Jefferson County.

**Map 4.2.9 – 3 Hailstorm Paths April 13, 2006**




Source: NWS Milwaukee/Sullivan WFO

On June 25, 2006 a slow-moving thunderstorm moved from the Dekorra area southeast through the Poynette area to the North Leeds area, leaving in its wake a lot of crop damage due to hail. A roughly 40 to 45-minute hail shower (stones up to the size of quarters) fell in a band from about 3 miles south-southeast of Dekorra along Kent Rd. to the McKenzie Environmental Education Center just northeast of Poynette. Crop, vegetable, and fruit damage was noted, and in some cases, an entire year's crop was lost due to hail damage. Many residential homes and vehicles were damaged. Hail depth on some roads reached 8 inches and had to be plowed off the roads, especially along Kent Rd. and near the McKenzie Center. The crop damage estimate is based on a newspaper report which quoted a USDA report. The property damage is purely an estimate based on a variety of reports. Very heavy rains within these storms produced 3 to 5 inches of rain in some areas and resulted in flash flooding near Sun Prairie (Dane Co., Wyocena to Arlington (Columbia Co.), and Middleton (Dane Co.). Road washouts, gravel shoulder washouts, and basement flooding were the main result from this

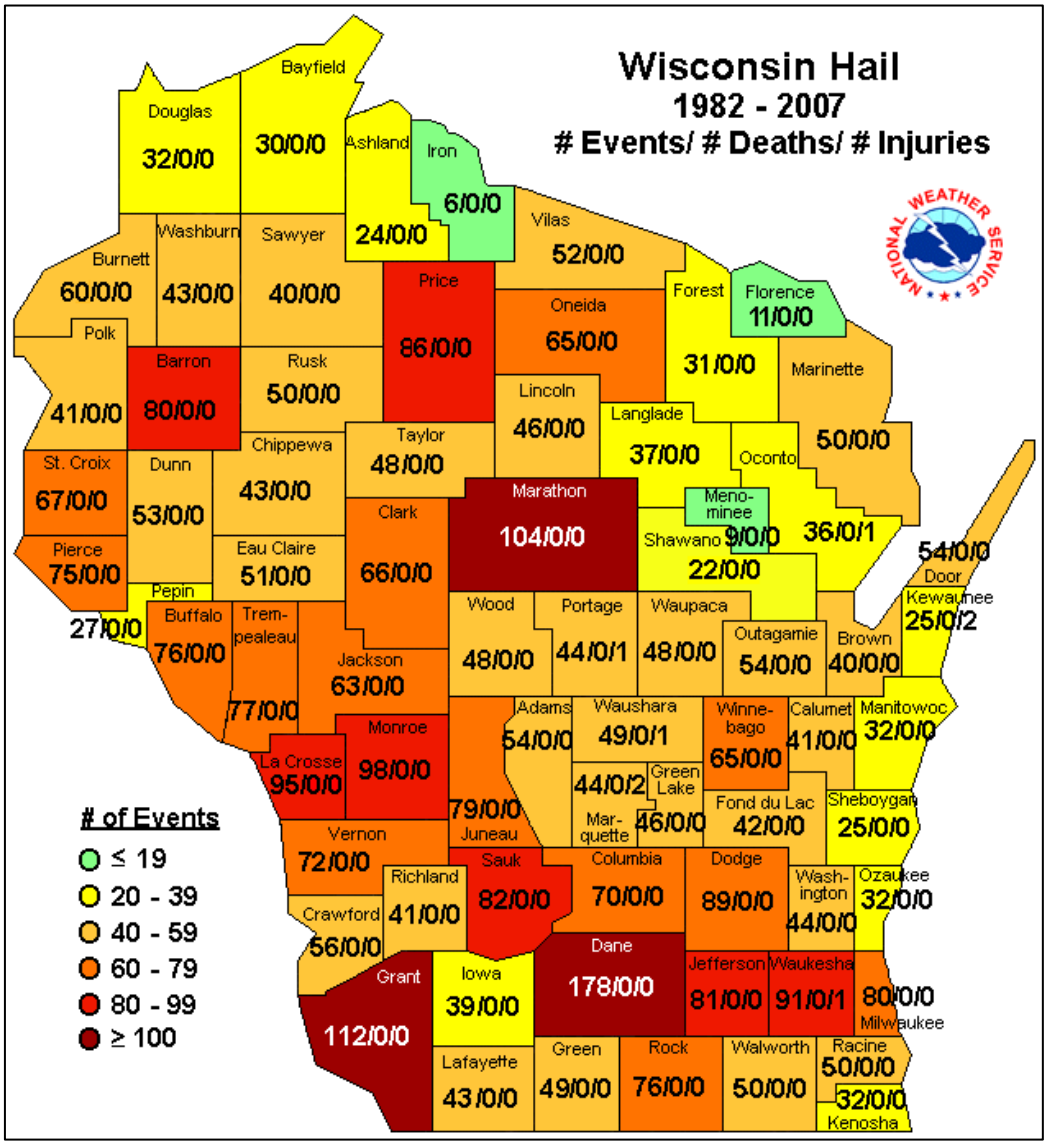


Section TOC

flooding. A large area of southern Columbia County had considerable flood and hail damage - refer to details in the specific line entries for flash flooding and hail events for this date. The slow movement of the the thunderstorms amplified the damage. Damage estimates were over $500 million with $1.7 million in crop damage.

Map 4.2.9 - 4 shows the number of hailstorm events (hailstone diameter of ¾ inch or larger) that occurred in each Wisconsin county from 1982 to 2007, including the number of deaths and injuries attributed to those large hail events. Fewer number of severe hail events are reported across the far northern and far eastern parts of the state – perhaps related to the fact that the cool lake breezes from Lake Michigan and Lake Superior dampen the energy level of thunderstorms.

**Map 4.2.9 – 4 Severe Hail Events per county in Wisconsin for the period of 1982-2007**




Source: NOAA National Weather Service, Milwaukee/Sullivan, 2008

## Probability of Occurrence

The land area affected by individual hail events, an average of 15 miles in diameter around the center of the storm, is similar to the area affected by the parent thunderstorm. Hail risk at a point or over an area is a function of the target at risk (property or crop) and the hail frequency and intensity.

The annual probability of hail occurring somewhere in the State is quite high. However, the site-specific incidence of hail is considered low because of the localized nature of the hazard. The qualitative probability rating for hail is high in the qualitative ranking table 4.2 – 3.



Section TOC

**Sources**

Joseph M. Moran and Edward J. Hopkins, “Wisconsin’s Weather and Climate,” 2002 Blueprint for Safety (2003). Hail Formation. Accessed from the World Wide Web at http://www.blueprintforsafety.org/hail/hail01.htm.

National Weather Service, Green Bay, Wisconsin. Accessed from the World Wide Web at http://www.weather.gov/grb

National Weather Service, Milwaukee/Sullivan, Wisconsin. Accessed from the World Wide Web at http://www.weather.gov/mkx

NOAA, National Climatic Data Center. Accessed from the World Wide Web at http://www4.ncdc.noaa.gov/cgi-win/wwcgi.dll?wwEvent~Storms.

Wisconsin Emergency Management, Department of Military Affairs, “Hazard Analysis for the State of Wisconsin, ” November 2002.

### 4.2.10 Landslide and Land Subsidence

#### Nature of the Hazard

Landslides are the downward and outward movement of slopes. The term refers to various kinds of events, including mudflows, mudslides, debris flows, rock falls, rockslides, debris avalanches, debris slides, and earth flows. Landslides may include any combination of natural rock, soil, or artificial fill, and are classified by the type of movement and the type of material. The types of movement are slides, flows, lateral spreads, and falls and topples (FEMA, 1997).

Below is a brief discussion of the various types of landslide movements. A combination of two or more landslide movements is referred to as a complex movement.

- Slides are downward displacements along one or more failure surfaces of soil or rock. The material may be a single intact mass or a number of pieces. The sliding may be rotational (turning about a point) or translational (movement roughly parallel to the failure surface). There are several types of slides but one of the most common is a *slump.* A slump occurs when a portion of a hillside moves downslope under the influence of gravity.
- Flows are a form of rapid mass movement by loose soils, rocks, and organic matter, together with air and water that form a slurry flowing rapidly downhill. Flows are distinguished from slides by high water content and velocities that resemble those of viscous liquids.
- Lateral spreads are large movements of rock, fine-grained soils (i.e., quick clays), or granular soils, distributed laterally. Liquefaction may occur in loose, granular soils, and can occur spontaneously due to changes in pore-water pressure or due to earthquake vibrations.
- Falls and topples are masses of rocks or material that detach from a steep slope or cliff that free-fall, roll, or bounce. Movements typically are rapid to extremely rapid. Earthquakes commonly trigger rock falls.

Almost any steep or rugged terrain is susceptible to landslides under the right conditions. The most hazardous areas are steep slopes on ridges, hill, and mountains; incised stream channels; and slopes excavated for buildings and roads. Slide potentials are enhanced where slopes are destabilized by construction or river erosion. Road cuts and other altered or excavated areas are particularly susceptible to landslides and debris flows. Rainfall and seismic shaking by earthquakes or blasting can trigger landslides.

Debris flows (also referred to as mudslides) generally occur during intense rainfall on water saturated soil. They usually start on steep hillsides as soil slumps or slides that liquefy and accelerate to speeds as great as 35 miles per hour. Multiple debris flows may merge, gain volume, and travel long distances from their source, making areas downslope particularly hazardous. Surface runoff channels along roadways and below culverts are common sites of debris flows and other landslides (USGS, 2000).

Landslides often occur together with other major natural disasters, such as the following, thereby exacerbating relief and reconstruction efforts:

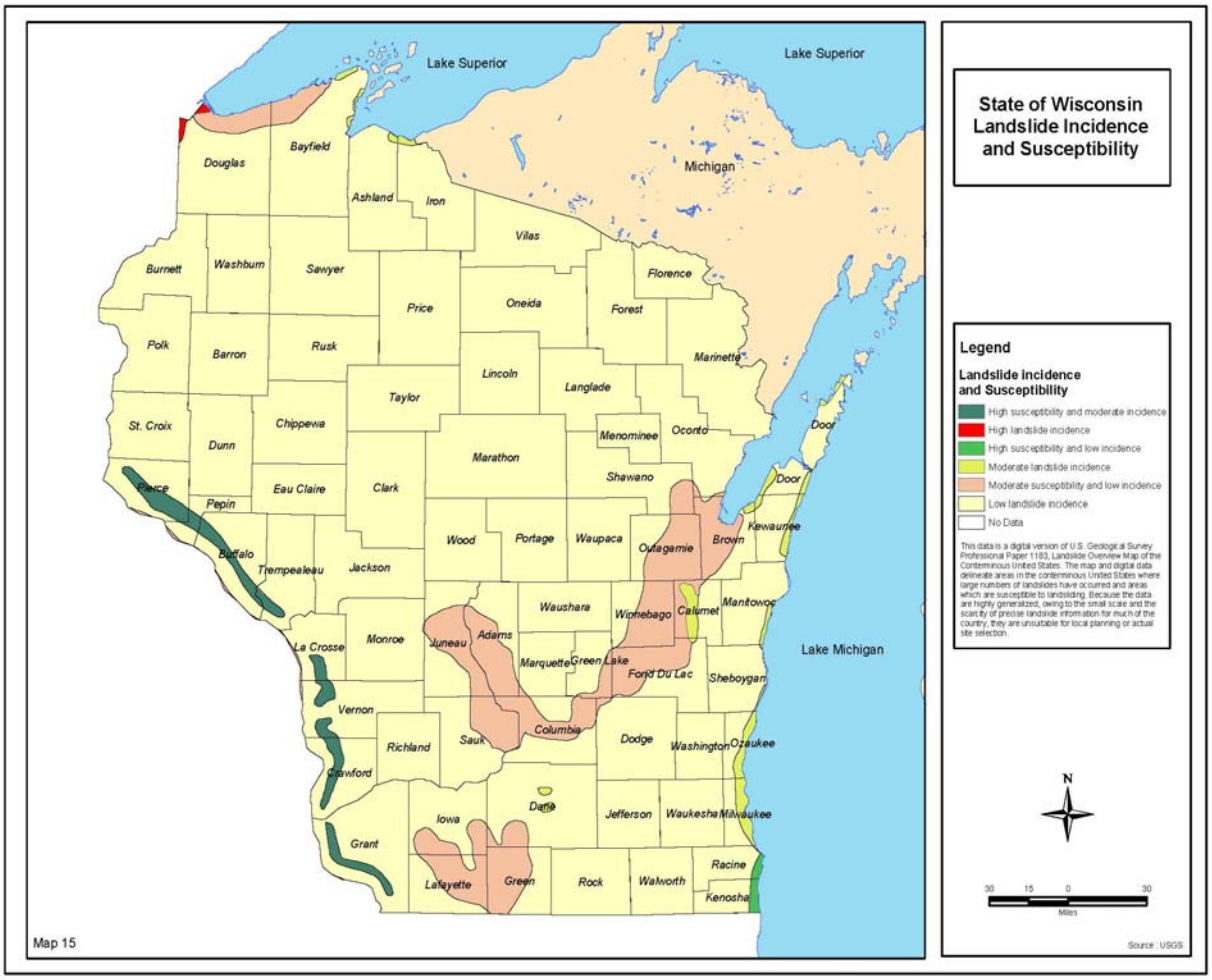
- Floods and landslides are closely related and both involve precipitation, runoff, and ground saturation that may be the result of severe thunderstorms or tropical storms.
- Earthquakes may cause landslides ranging from rock falls and topples, to massive slides and flows.
- Landslides into a reservoir may indirectly compromise dam safety or a landslide may even affect the dam itself.
- Wildfires may remove vegetation from hillsides, significantly increasing runoff and landslide potential.

Landslides are a major geologic hazard because they are widespread, occurring in all 50 states. It is estimated that landslide-related fatalities average from 25 to 50 per year and direct and indirect economic costs to the nation range up to $3 billion per year. The costs of landslides are increasing rapidly as lands susceptible to failure are developed for highways, housing, industry and recreation (USGS, 2006). Landslides pose serious threats to highways and structures that support fisheries, tourism, timber harvesting, mining, and energy production, as well as general transportation.

Sinkholes have not been a factor in any natural disaster. However, karst features should be identified and considered in a community, especially for land use planning, stormwater management, and hazardous materials planning, to avoid possible damage to structures or contamination of groundwater. Even a 100-foot deep well can be contaminated from surface pollutants entering a sinkhole.

Sinkholes can form naturally in areas with karst geology, areas with limestone or other bedrock that can be dissolved by water. As the limestone rock under the soil dissolves over time from rainfall or flowing groundwater, a hollow area may form underground into which surface soil can sink. Sinkholes also can be caused by human activity. Some parts of southern and western Wisconsin have experienced sinkholes from collapsed, abandoned underground mines. Identifying areas with karst conditions is important, and not just for public safety and protection of structures. Karst features provide direct conduits to groundwater. Areas with karst conditions can be subject to groundwater contaminants from pollutants entering a sinkhole, fissure, or other karst features. Maps 15 and 16 show the landslide incidence and karst potential, respectively.

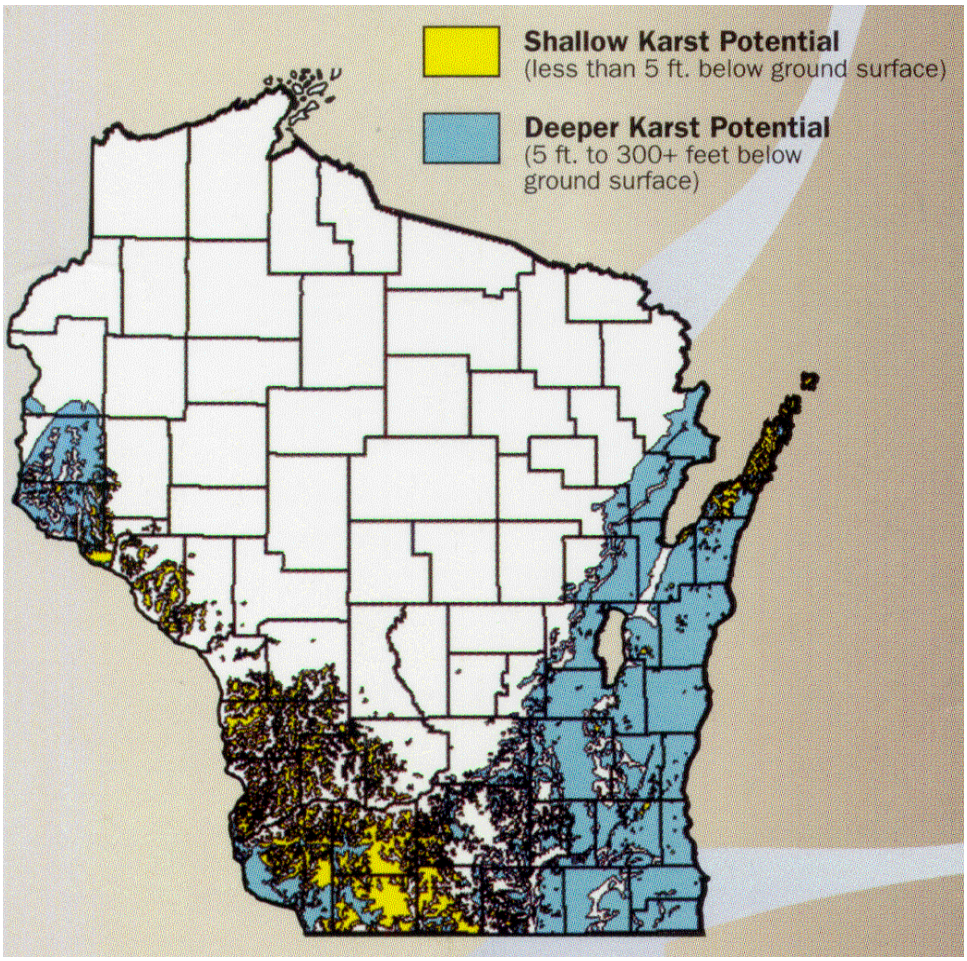
**Map 4.2.10 – 1 Landslide Incidence and Susceptibility in Wisconsin**






**Section TOC**

**Map 4.2.10 – 2 Karst Potential in Wisconsin**




Source: Wisconsin Geological and Natural History Survey

## Landslide and Land Subsidence History

The bluffs of the "Driftless" region that stretches along the Mississippi River are formed of limestone bedrock covered by an ancient mix of clay and river silt. Under most conditions, this provides a solid base for home building, though most counties restrict building to a slope of 20-30%. Homes that are built on "benches" may have much steeper areas above them (or below). Between 1998 to 2006, 205 homes and 10 condominiums were built in La Crosse County on slopes of 20-30%.

As water particles fill the space between silt particles, the silt and clay first become "plastic" and then "viscous." When "plastic" it will move when pressure is applied to it (such as the weight of a home). When "viscous" it begins to slow under its own weight like a glacier, only much more quickly.

Landslides in the form of stream bank erosion and hillside slumping have been a factor in several Wisconsin disasters. In 2001, a home in the City of Superior was endangered as the entire yard started slipping downhill toward the Namdji River. Although the house was not in the floodplain and 100 yards from the river, stream bank erosion from the spring floods had caused the ground within 15 feet of the house to slide downhill. The City of Superior applied for and received a Hazard Mitigation Grant under Disaster Declaration 1369 to buy the threatened structure from the landowner and demolish it to protect public safety. In 2000, during Disaster Declaration 1332, a home in Grant County was damaged when its foundation partially collapsed as the hillside slumped from heavy rainfall. Falling rock is also a common problem along the bluffs of the Mississippi River.

In several areas where railroad tracks run along the river, fences have been erected with sensors to detect rock falls that could otherwise damage or derail a train (Ron Hennings, Wisconsin Geological and Natural History Survey, 2002). According to a Wisconsin State Journal article, a 400,000-pound boulder rolled down a bluff in Fountain City in July 2002, leveling trees but causing little damage otherwise. The rock was the second to fall from the bluff in the last seven years. In 1995, a 55-ton boulder crashed into a Fountain City house, causing serious damage but fortunately no injuries (Wisconsin State Journal, 2002).

In 2002, seven properties in the Village of Oliver experienced some severe land subsidence along the St. Louis River. Three of the seven properties were in imminent danger. The Village received a Hazard Mitigation Grant Program (HMGP) grant in Disaster Declarations 1429 and 1432 to purchase and demolish the three homes. In mid-August 2002, owners of one of the properties discovered cracks in their garage floor. By mid September, what was once their garage had broken off and dropped about 12 feet from the main garage slab. This property has experienced a large ground failure that has jeopardized the integrity and stability of the home. To date, there has been an 18-foot scarp that is situated approximately 1 foot from the rear entrance of the home. The slump at this property is approximately 100 yards in width and extends 100 to 150 feet down slope to the river’s edge. The slip rate was in excess of 4.5 inches/day early on. Currently the slump is on the order of 1.5 inches/day.
.



**Section TOC**

**Figure 4.2.10 - 1: Ground Failure**


**Figure 4.2.10 - 2: Property Collapse**


Contributing to the collapse of the property is its location on top of a steep slope next to the St. Louis River. The soil in this area is a thick substrate of red clay, which when dry can sustain a property, but when wet it loses strength. Also, the property is approximately 300 yards from a railroad bridge. Trains passing by cause significant ground vibrations (equivalent to a 3.0 to 4.9 earthquake), disturbing the ground and causing it to collapse.

August 2007 was devastating to Wisconsin along the Upper Mississippi River. Mudslides covered roads and bluffsides collapsed into yards. One yard in the Goose Island area had 25 dump trucks of mud removed and Hwy 35 from Goose Island to Stoddard had mud and debris. Two homes slid onto Hwy 35 south of La Crosse. A third home in near Chaseburg in Vernon County was destroyed by a mudslide



Section TOC

**Figure 4.2.10-3: Steep Slope**

On August 20th of 2007, rainfall of 11-15" over two days left the Coulee country from Winona, MN to Genoa and Viroqua, Wisconsin, virtually impassable. Mudslides, a few carrying homes with them, littered major and minor roads. Bridges were awash, as creeks that normally carried a 20 ft creek flooded to 100 ft. or flooded entire valleys. Household water wells filled with mud and bacteria. Waterfalls gushing over the rocky bluff faces turned normally stable hillsides into a gelatin consistency that began an unstoppable flow down the 600 ft. high bluffs. Canyons formed were there were none.

## Probability of Occurrence

Landslide probability is highly site-specific, and cannot be accurately characterized on a statewide basis, except in the most general sense. The qualitative probability is rated Medium in Section 4.2, although the rating is intended only for general comparison to other hazards that are being considered in this stage of the planning process.

## Sources

Federal Emergency Management Agency. 1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.” .

United States Geological Survey. 2000. National Landslide Hazards Mitigation Strategy: A Framework for Loss Reduction (Open File Report 00-450). Accessed from the World Wide Web at http://pubs.usgs.gov/of/2000/ofr-00-0450/ofr-00-0450.html.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

University of Wisconsin. 2002. The Oliver Ground Failure Mississippi River Home Page, http://www.greatriver.com/naturaldisaster/disaster/August07.htm

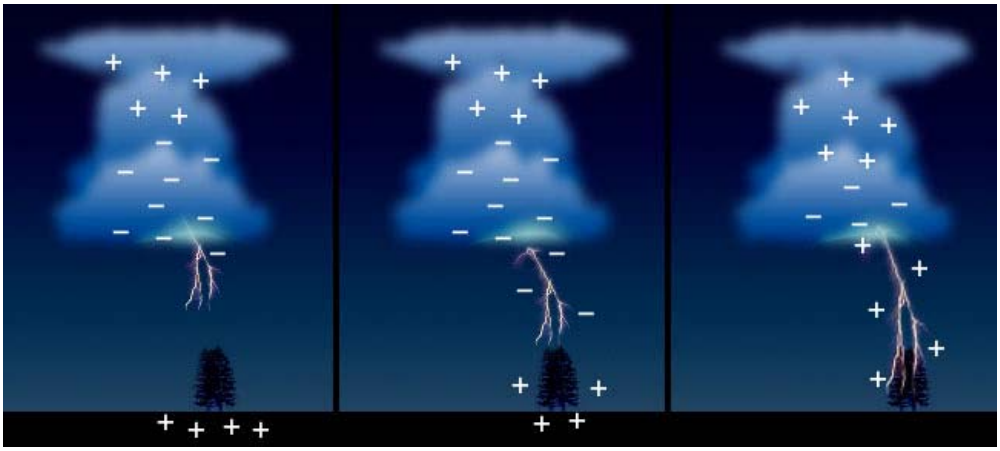
Association of Environmental & Engineering Geologists, www.aegweb.org

## 4.2.11 Lightning

### Nature of the Hazard

Lightning typically occurs as a by-product of a thunderstorm. The action of rising and descending air in a thunderstorm separates positive and negative charges, with lightning the result of the buildup and discharge of energy between positive and negative charge areas. Water and ice particles may also affect the distribution of the electrical charge. In only a few millionths of a second, the air near a lightning strike is heated to 50,000°F, a temperature hotter than the surface of the sun. Thunder is the result of the very rapid heating and cooling of air near the lightning that causes a shock wave.

**Figure 4.2.11 – 1 Formation of Lightning**



Source: University Corporation for Atmospheric Research (UCAR).

The hazard posed by lightning is significantly underrated. High winds, rainfall, and a darkening cloud cover are the warning signs for possible cloud-to-ground lightning strikes. While many lightning casualties happen at the beginning of an approaching storm, more than half of lightning deaths occur after a thunderstorm has passed. The lightning threat diminishes after the last sound of thunder, but may persist for more than 30 minutes. When thunderstorms are in the area, but not overhead, the lightning threat can exist when skies are clear. Lightning has been known to strike more than 10 miles from the storm in an area with clear sky above.

According to the National Oceanic and Atmospheric Administration (NOAA), an average of 20 million cloud-to-ground flashes has been detected every year in the continental United States. About half of all flashes have more than one ground strike point, so at least 30 million points on the ground are struck on the average each year. In addition, there are roughly 5 to 10 times as many cloud-to-cloud flashes as there are to cloud-to-ground flashes (NOAA, July 7, 2003).

Lightning is the most dangerous and frequently encountered weather hazard that most people in the United States experience annually. Lightning is the second most frequent

thunderstorm killer in the U.S., behind floods/flash floods, with an average of 53 deaths and 500 injuries annually, for the period of 1988 -2006. These numbers are likely an underestimate of the actual number of casualties because of the under reporting of suspected lightning deaths and injuries. Cloud-to-ground lightning can kill or injure people by either direct or indirect means. The lightning current can branch off to strike a person from a tree, fence, pole, or other tall object. It is not known if all people are killed who are directly struck by the flash itself. In addition, electrical current may be conducted through the ground to a person after lightning strikes a nearby tree, antenna, or other tall object. The current also may travel through power lines, telephone lines, or plumbing pipes to a person who is in contact with an electric appliance, telephone, or plumbing fixture. Lightning may use similar processes to damage property or cause fires.

To the general public, lightning is often perceived as a minor hazard. However, lightning-caused damage, injuries and deaths establish lightning as a significant hazard associated with any thunderstorm in any part of the state. Damage from lightning occurs in four ways:

(1) Electrocution/severe shock of humans and animals;
(2) Vaporization of materials along the path of the lightning strike;
(3) Fire caused by the high temperatures associated with lightning (10,000-60,000° F); and
(4) The sudden power surge that can damage electrical/electronic equipment.

Large outdoor gatherings (sporting events, concerts, campgrounds, etc.) are particularly vulnerable to lightning strikes that could result in injuries and deaths. This vulnerability underscores the importance of developing site-specific emergency procedures for these types of events, with particular emphasis on adequate early warning. Early warning of lightning hazards, combined with prudent protective actions, can greatly reduce the likelihood of lightning-related injuries and deaths.

“Previous studies have identified patterns associated with lightning fatalities. For example, approximately 30% of persons struck by lightning die and 74% of lightning strike survivors have permanent disabilities. In addition, persons with cranial burns or leg burns from lightning are at higher risk for death than others struck by lightning. Sixty-three percent of lightning-associated deaths occur within 1 hour of injury, 92% occur during May-September and 73% occur during the afternoon and early evening. Of persons who died from lightning strikes, 52% were engaged in outdoor recreational activities and 25% were engaged in work activities. Most lightning injuries and deaths can be prevented by taking precautions (Center for Disease Control, 1998).”

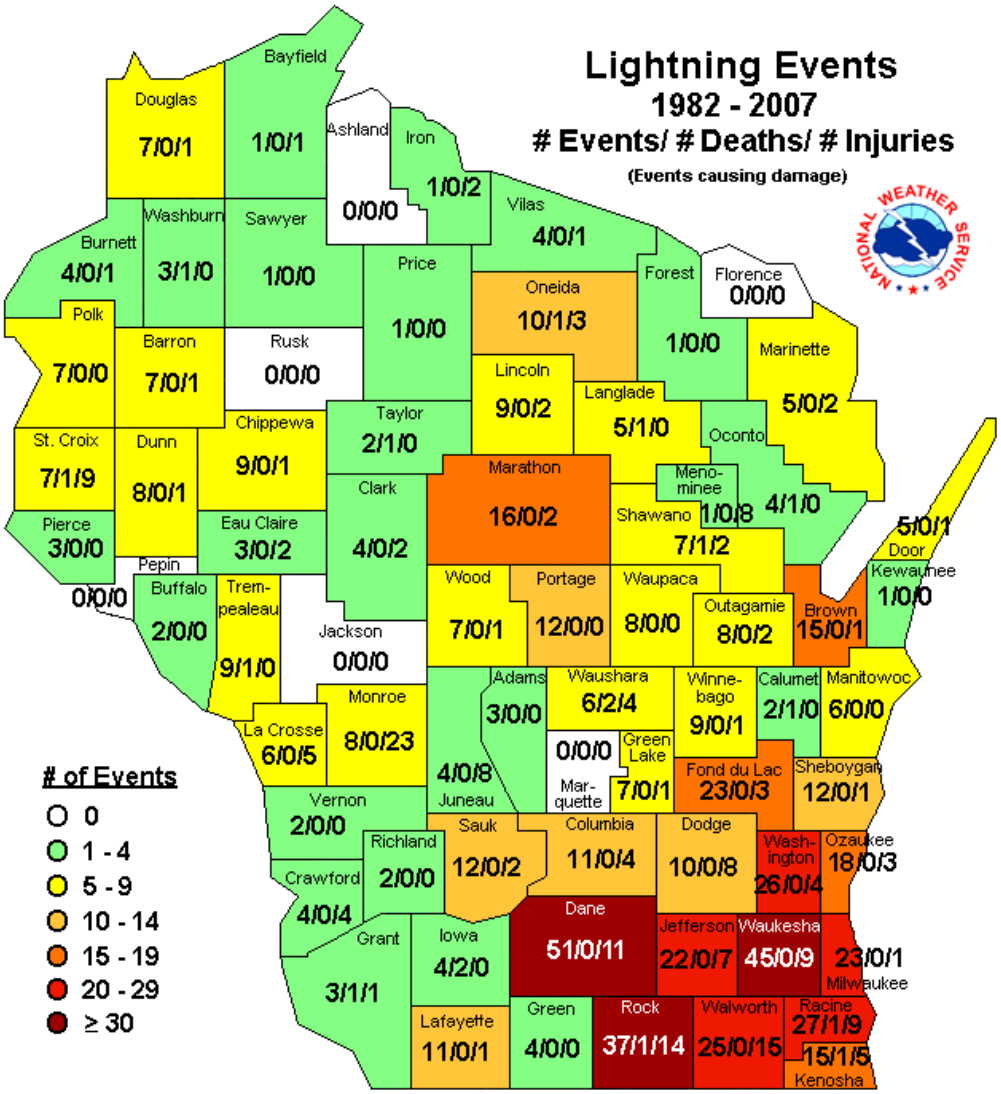
**Lightning History**

Wisconsin has a high frequency of property losses due to lightning. Insurance statistics show that two out of every 100 farms are struck by lightning or have a fire that may have been lightning-caused each year. It is estimated that in northern Wisconsin there

are between two and five lightning-caused fires per million acres of forested lands every year. In Wisconsin from 1982 to 2007 there were 22 fatalities directly caused by lightning and 184 directly-related injuries (Rusty Kapela, NWS 2008).

Map 4.2.11 – 1 shows the county-by-county lighting event count across Wisconsin for the period of 1982-2007. These numbers are undercounts since a number of lightning strikes and resultant fatalities, injuries, or fires are not reported in newspapers. In each county are three numbers: the first number is the number of lightning events that resulted in fires or fatalities or injuries as reported in newspapers or by Emergency Managers. The second number is the number of directly-related fatalities, and the third number is the number of directly-related injuries due to lightning. Larger and more populated counties tend to have more reported lightning events. Undoubtedly a large number of events were unreported.

**Map 4.2.11 – 1 Lightning Events by County for the period of 1982-2007.**




Source: NOAA NWS Milwaukee/Sullivan WFO



Section TOC

### Probability of Occurrence

The probability of lightning occurring is quite high. However, the site-specific incidence of lightning is considered low because of the localized nature of the hazard. The qualitative probability rating for lightning in table 4.2 – 3 is high.

### Sources

Federal Emergency Management Agency.1997. Multi-Hazard Identification and Risk Assessment – A Cornerstone of the National Mitigation Strategy. http://www.fema.gov/fhm/dl_mhira.shtm

Department of Military Affairs, Wisconsin Emergency Management. 2002. Hazard Analysis for the State of Wisconsin.

National Oceanic and Atmospheric Administration. July 7, 2003.“Lightning.” Available from the World Wide Web at: http://www.noaa.gov/lightning.html

Center for Disease Control Lightning-Associated Deaths - United States, 1980-1995. Morbidity and Mortality Weekly Report (MMWR) May 22, 1998 / 47(19); 391-394. Available form the World Wide Web at: http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/00052833.htm.

National Weather Service, Sullivan Office (Madison-Milwaukee), 2000-2008. Rusty Kapela. Information obtained through personal communication, Internet publications and informal reports. Internet address is http://www.crh.noaa.gov/mkx/climate.htm.

University Corporation for Atmospheric Research (UCAR). 2000. Formation of Lightning. Available from the World Wide Web at: http://www.windows.ucar.edu/tour/link=/earth/Atmosphere/tstorm/lightning_formation.html

## 4.2.12 Severe Thunderstorms

### Nature of the Hazard

Thunderstorm events are generated by instability in the atmosphere, sufficient moisture, and rising motion to form clouds and rain. They are characterized by precipitation in the form of rain, lightning, hail, downbursts, and tornadoes. On occasions, thunderstorms can occur in winter during heavy snow events. Typically, Wisconsin thunderstorms are approximately 15 miles across and last for about 30 minutes, but events of longer duration or with high rates of precipitation can lead to flooding.

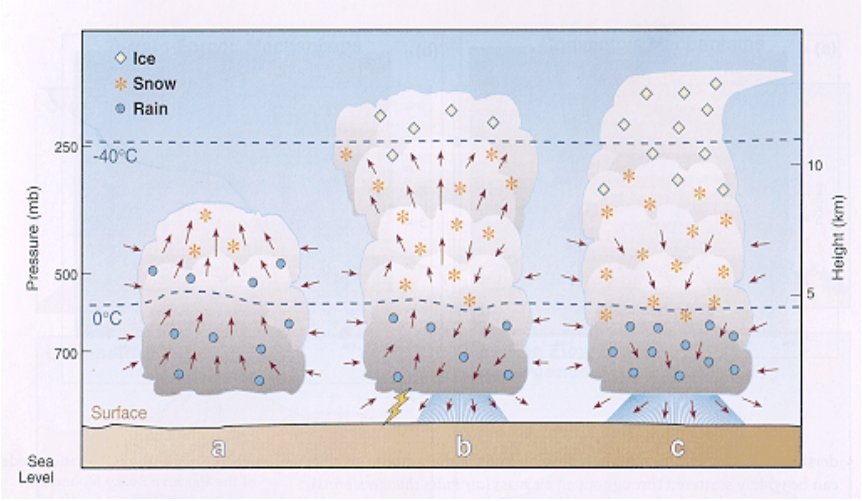
The National Weather Service (NWS) classifies a thunderstorm as severe if winds reach or exceed 58 mph; the storm produces a tornado or produces hail at least 3/4-inch in diameter. Specifically, the NWS reports that severe thunderstorm events are caused by:

- Warm moist air flowing out of the Gulf of Mexico at low levels and cool dry air moving in from the west at higher levels, resulting in unstable air mass over Wisconsin.
- A front or other boundary or a weather system at mid levels of the atmosphere to lift the low-level moist air and produce thunderstorms.
- An increase in wind speed with heights and wind shear, which keeps the falling precipitation away from the rising air columns (updrafts). Since the precipitation does not fall through the updraft and weaken it, the updraft lives longer and grows stronger, increasing the chances of severe weather.

Downburst winds are strong, high winds created by falling rain and associated sinking air. Typically, in severe storms, these winds can reach speeds of 60 to 100 mph. Micro-bursts, concentrated versions of downbursts, can have speeds up to 150 mph. Severe damage can result from downbursts and micro-bursts. Additionally, lightning occurs in all thunderstorms and can strike anywhere, even 5 to 10 miles away from the storm with a clear sky above. Reaching temperatures over 50,000º F, lightning is generated by the buildup of charged ions in thunderclouds.

One type of severe thunderstorm, a hailstorm, is a severe thunderstorm in which chunks of ice fall along with rain. Hail develops in the upper atmosphere, as ice crystals bounced about by high-velocity updraft winds accumulate frozen droplets and fall after developing enough weight. Hailstorms generally occur more frequently during the late spring and early summer, a period of extreme variation between ground surface temperatures and jet stream temperatures, which produces the strong updraft winds necessary for hail development. Figure 4.2.12-1 illustrates the Thunderstorm Life Cycle.

**Figure 4.2.12 - 1 Thunderstorm Life Cycle**




Source: National Weather Service Flagstaff.

## Severe Thunderstorm Climatology and History

Thunderstorms and their associated severe weather can occur throughout Wisconsin during any month of the year, but their highest frequency is from May through September. They also occur most often between 12 Noon and 10:00 p.m. The peak hour for severe thunderstorms is typically 6 to 7 p.m.

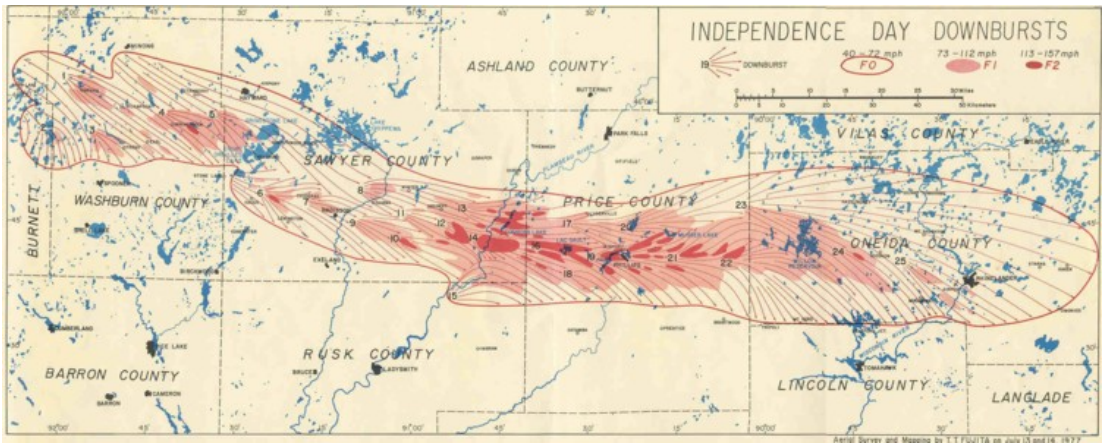
Wisconsin averages around 30 thunderstorm days per year over the northeastern counties to around 42 days over the southwestern counties.

On July 4, 1977, a long-lived line of severe thunderstorms produced significant wind damage across a large part of northern Wisconsin. Called a “derecho”, a widespread and long-lived, violent convectively-induced windstorm that is associated with fast-moving band of severe thunderstorms, storms developed over west central Minnesota during the morning and moved southeast, increasing in intensity as it approached Wisconsin. A series of intense downburst winds caused major forest blown-downs, widespread severe damage to property, and a casualty. This band of extreme damage, which was 10 to 20 miles wide and over 160 miles long, extended from eastern Burnett County through Washburn, Sawyer, Price, and Oneida Counties. Approximately 850,000 acres of trees were either destroyed or badly damaged and damage estimates including buildings and vehicles totaled about 24 million dollars. Wind gusts may have reached 135 mph at times. One person was killed and 35 were injured. A graphic showing the path of the July 4$^{th}$ derecho can be seen in Figure 4.2.12 – 2.



Section TOC

**Figure 4.2.12 - 2 July 4, 1977 "Derecho"**




Source: National Weather Service Green Bay.

During the early morning hours of Sunday, May 31, 1998, south-central and southeast Wisconsin experienced another "derecho." Incredibly powerful, hurricane-force high winds, with peak gusts of 100 to 128 mph tore through 12 counties, while another 8 counties had peak gusts of 30 to 80 mph. Although all 20 counties in south-central and southeast Wisconsin reported scattered to widespread wind damage, there were five main corridors or swaths of concentrated damage: 1) central Sauk County through northern Dane County through northern Jefferson County and southern Dodge County through Waukesha County and into Milwaukee County; 2) east-central Columbia County across northern Dodge County through southeast Fond du Lac County and through southern Sheboygan County; 3) West Bend area of central Washington County east to the Port Washington area of Ozaukee County; 4) southeast Iowa County into northwest Green County; and 5) northwest to the central part of Lafayette County.

Utility companies and Emergency Managers stated that the May 31st event was the most damaging, widespread, straight-line thunderstorm wind event to affect southern Wisconsin in the past 100 years. Estimated monetary damage for all 20 counties was $55.85 million for residential or mobile homes, businesses, utilities buildings, agriculture buildings, signs, street lights, billboards, campers, and boats. An additional $1.48 million damage occurred in crop and livestock losses. As a sign of the wind power, many concrete silos had their tops blown off and many barns were flattened. Roofs peeled off many homes and other structures. Thousands of large trees were either uprooted or broken/twisted by the winds. Hundreds of power poles were snapped or pushed over by the winds or falling trees/branches. At one time, approximately 60,000 customers in south-central Wisconsin and 170,000 in southeast Wisconsin were without electricity. Some residences and businesses were without power for as long as five or six days due to the deluge of utility repairs and a shortage of replacement power poles.

Throughout July 1999, the northwestern portion of Wisconsin received an unusual amount of thunderstorm activity. The cumulative damage from these events led to a Disaster Declaration for 10 counties. Most of the wind damage occurred in the forests of

Douglas and Bayfield Counties. The U.S. Forest Service stated that downbursts and wind affected an estimated 92,000-acre area of forest during this month-long period.

Approximately 12,000 acres of trees were nearly 100% down in the affected area and another 30,000 acres were moderately affected with up to 40% of the trees mortally damaged. The downed trees created an immediate debris problem on area roads as well as a severe long-term fire hazard. Other long-term effects of the damage could include the spread of tree diseases, which could affect the value of timber as an economic resource. Other economic losses could include lost tourism, increased expenses for clearing debris, and increased expense for fire fighting activities.

On May 12, 2000, a major storm, or super-cell, developed in west-central Wisconsin. Chilton and St. Nazianz in Manitowoc County were particularly hard-hit by hail and wet micro-bursts that produced high winds over 100 mph and a brief F0 to F1 tornado.

On June 11, 2001, a line of thunderstorms with many of the same characteristics as a tropical storm ripped through east-central and west-central Wisconsin. The thunderstorm complex produced hurricane-strength wind gusts and hail, resulting in thousands of downed trees and damage to structures. Nearly $20 million in damage was reported in central and east-central Wisconsin. Much of the wind damage was concentrated in Wood, Portage, Waushara, Waupaca, Winnebago, Outagamie, and Calumet Counties and the cities of Appleton and Oshkosh. Overall, this event affected 30 counties, which were added to Disaster Declaration 1369.

On July 15, 2003, clusters of thunderstorms over central Wisconsin merged into a broad line as they moved southeast through south-central and southeast Wisconsin. Powerful downburst, high winds resulted in tree, power-line, and structural damage primarily from southeastern Columbia through parts of Dodge, Jefferson, Waukesha, Rock, Walworth, Racine, and Kenosha Counties. Associated intense rains lowered visibility to less than 50 yards, leading to minor ponding of water in low spots. In Jefferson County, where the storms were the most intense, there were many reports of toppled trees and power lines, especially in the Cities of Watertown and Fort Atkinson. This storm caused approximately $175,000 in damages.

On August 3, 2004 clusters of severe thunderstorms moved southeast through south-central and southeast Wisconsin, resulting in damaging high winds that toppled large trees, included very large damaging hail, and heavy rains that led to flash flooding. Columbia County suffered the most damage thanks to hurricane-force thunderstorm winds coupled with large hail stones of 1 to 3 inches in diameter. The wind-driven hail damaged at least 100 homes and several businesses and churches in Fall River (Columbia Co.). The wind-driven hail also mowed down some corn and soybean fields between Rio and Columbus. Some of the hail stones were still unmelted the next morning. Flash flooding resulted in gravel shoulder washouts and flooded buildings and basements in the Wisconsin Dells to Wyocena area of Columbia County. Rainfall amounts of 2.50 inches were measured in about 1 to 2 hours in the Portage area (Columbia Co.). This storm caused over $3 million in damages.

On July 30, 2006 downburst winds hit the Bayfield waterfront where an art fair was in progress at Memorial Park. Most of the ninety fair tents were demolished and art pieces were tossed into Lake Superior. A woman broke her hand while a man received a large gash on his hand. Numerous large trees were blown down in Bayfield. The local

Catholic church lost a portion of its roof, resulting in damage estimated at $300,000. There was an unverified report of a private weather system clocking the wind at 99 mph before it became inoperable. At the Apostle Island Marina numerous boats were damaged. Trees were reported down all across northern Douglas County. Damages were over $1.5 million.

On August 13, 2007, a large swath of severe thunderstorm wind damage occurred from just west of New Richmond to the Glenwood City area. This swath of damage occurred within an approximately two to four mile width between these two cities. Some general reports include: 109 homes damaged or severely damaged, 48 barns damaged or severely damaged. Two barns were reported destroyed near Emerald. A house was also rendered uninhabitable three miles east-southeast of New Richmond. One home at County G and GG was completely destroyed. Near Emerald Dairy, along county Highway G, barns, homes and corn fields were flattened. Power lines and trees were also toppled. The entire village of Hammond and some outlying areas were without power for approximately 12 hours Tuesday morning. Damage was over $35 million to properties and $10 million to crops.

Wisconsin Thunderstorm Facts:

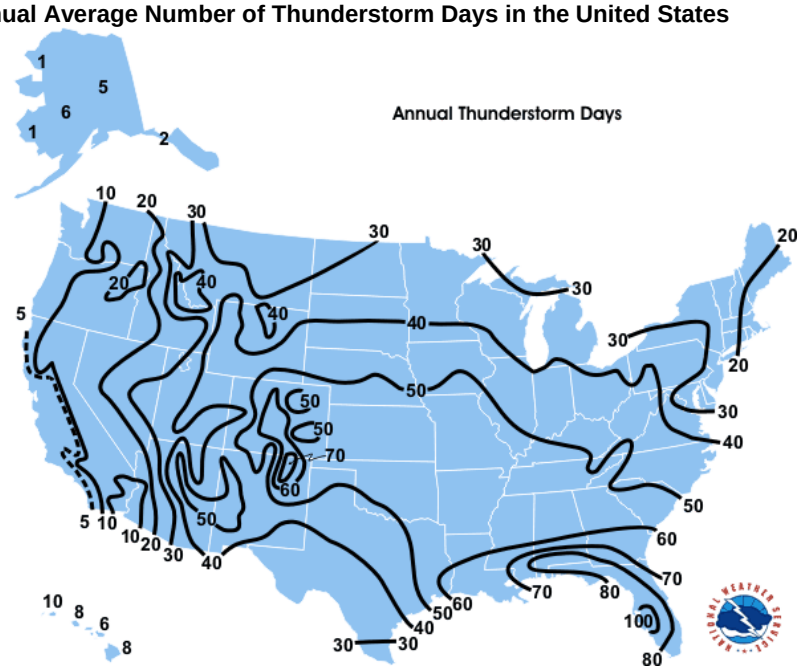
- Wisconsin averages 30 to 45 days each year with thunderstorms.
- One of the country's worst thunderstorm high winds occurred on July 4, 1977, in northern Wisconsin. Winds reached more than 115 mph in a swath over 150 miles long, flattening hundreds of thousands of acres of forest.
- In 1998, thunderstorm winds were responsible for 1 death and 59 injuries in Wisconsin, mostly due to the widespread thunderstorm wind event on May 30th and 31st across southern and central parts of the State. Maximum wind gusts ranged from 80 mph to 128 mph.
- In 1999, thunderstorm winds resulted in two deaths and four injuries in Wisconsin.

What You Can Do:

- Keep track of what county you are in. Severe weather warnings are issued on a county basis.
- Check the weather forecast before leaving for extended periods outdoors.
- If a storm is approaching, seek a sturdy shelter and keep a NOAA Weather Radio with you.
- Postpone outdoor activities if thunderstorms are imminent.
- Stay off the water if a thunderstorm approaches.
- Don't take Severe Thunderstorm Warnings lightly.

Map 4.2.12-1 shows the average number of thunderstorm days across the United States and Wisconsin. The southwestern counties of Wisconsin experience about 42 days per year on average.

**Map 4.2.12 – 1 Annual Average Number of Thunderstorm Days in the United States**

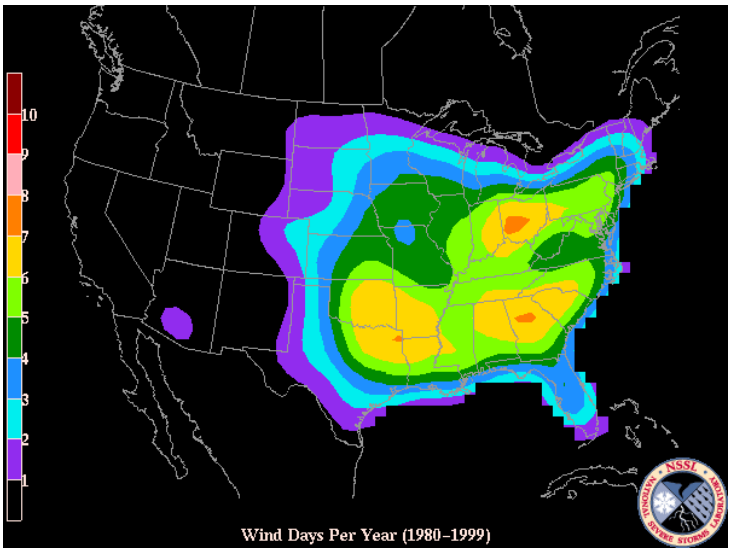



Source: NWS Milwaukee/Sullivan WFO.

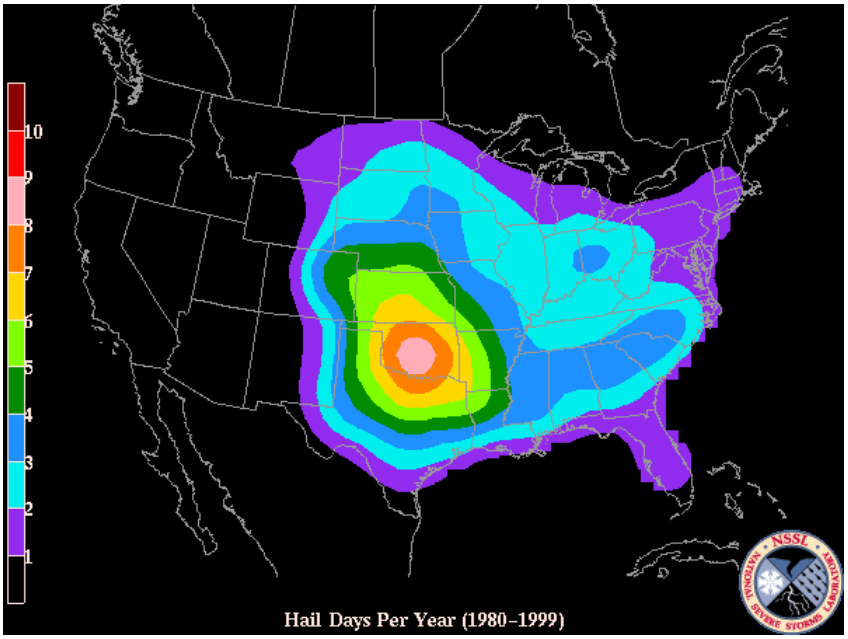
## Probability of Occurrence

The number of days that severe thunderstorm winds, large hail, or a tornado occur on an annual basis within 25 miles of a given point in Wisconsin ranges from about 3 days across the northern counties to about 7 days across the southwestern counties. The number of severe thunderstorm days from year to year will fluctuate. Maps 4.2.12 – 2 through 4.2.12 – 4 depict the annual number of days with severe thunderstorm winds, large hail, or tornadoes that can be expected within 25 miles of any given location in the United States.

**Map 4.2.12 – 2 Annual Average Number of Days with Severe Thunderstorm Winds**



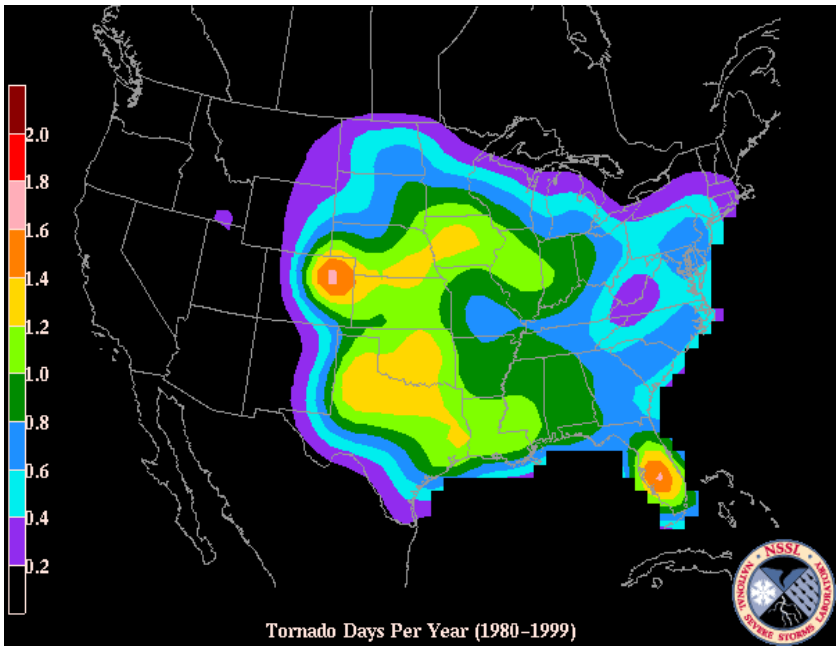

**Map 4.2.12 – 3 Annual Average Number of Days with Severe Hail**






Section TOC

**Map 4.2.12 – 4 Annual Average Number of Days with a Tornado**



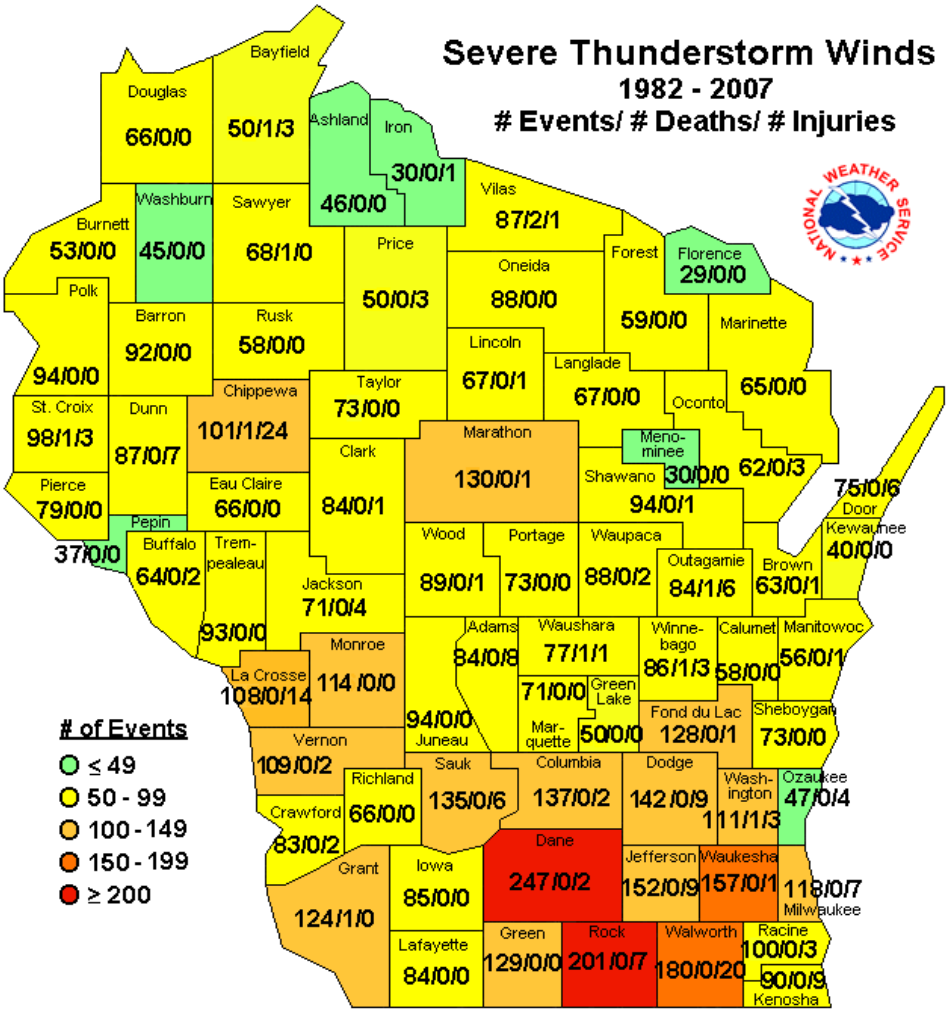

According to the National Weather Service's monthly publication, *Storm Data*, in the past 38 years, Wisconsin has experienced hurricane force winds of 74 mph or higher on 197 days, or about 5.2 days annually on average. Within the same time period, winds at or above 100 mph have been documented on 22 days, meaning that winds similar to a Category 2 hurricane are experienced about one day every 1.7 years on average in Wisconsin.

Thunderstorm winds can be fatal. Twenty-five fatalities were attributed to wind from severe thunderstorms during the time period from 1982 to 2007. When a thunderstorm did become severe in Wisconsin during the period of 1982-2007, short-fuse severe weather was in the form of:

- damaging high wind 58% of the time,
- large hail 30% of the time,
- tornadoes 7% of the time, and
- flash floods from heavy rain 5% of the time.

The actual county-by-county bean-count of severe thunderstorm wind events can be seen in Map 4.2.12 – 5. Within each county are three numbers: the first number is the number of severe thunderstorm wind events in that county, followed by the number of directly-related fatalities and directly-related injuries. Southern Wisconsin has the greatest number of severe thunderstorm wind events. Larger counties will tend to have a greater number of events due to their size.

Map 4.2.12 - 5 Severe Thunderstorm Wind Event By County (1982-2007)



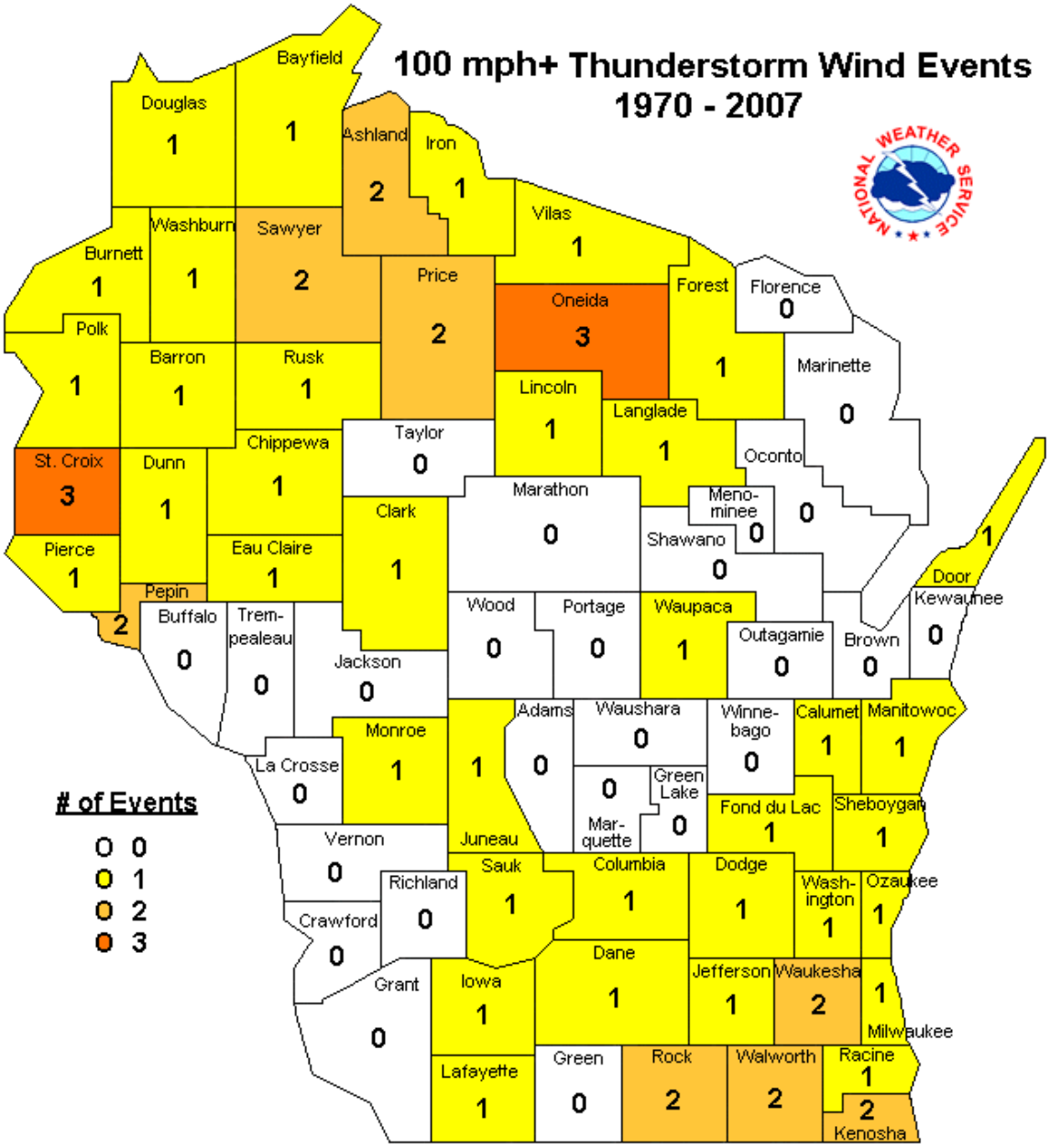

Source: NOAA National Weather Service, Milwaukee/Sullivan, 2008

In Map 4.2.12 – 6, the number of severe thunderstorm wind events with wind gusts 100 mph or more per county is depicted. These kind of extreme wind events are not very common; consequently the data shown doesn't lend itself to meaningful conclusions. It appears that the northern parts of the State have a slightly higher risk for these extreme wind events.



Section TOC

**Map 4.2.12 - 6 County 100+ MPH Severe Thunderstorm Wind Events (1970-2007)**



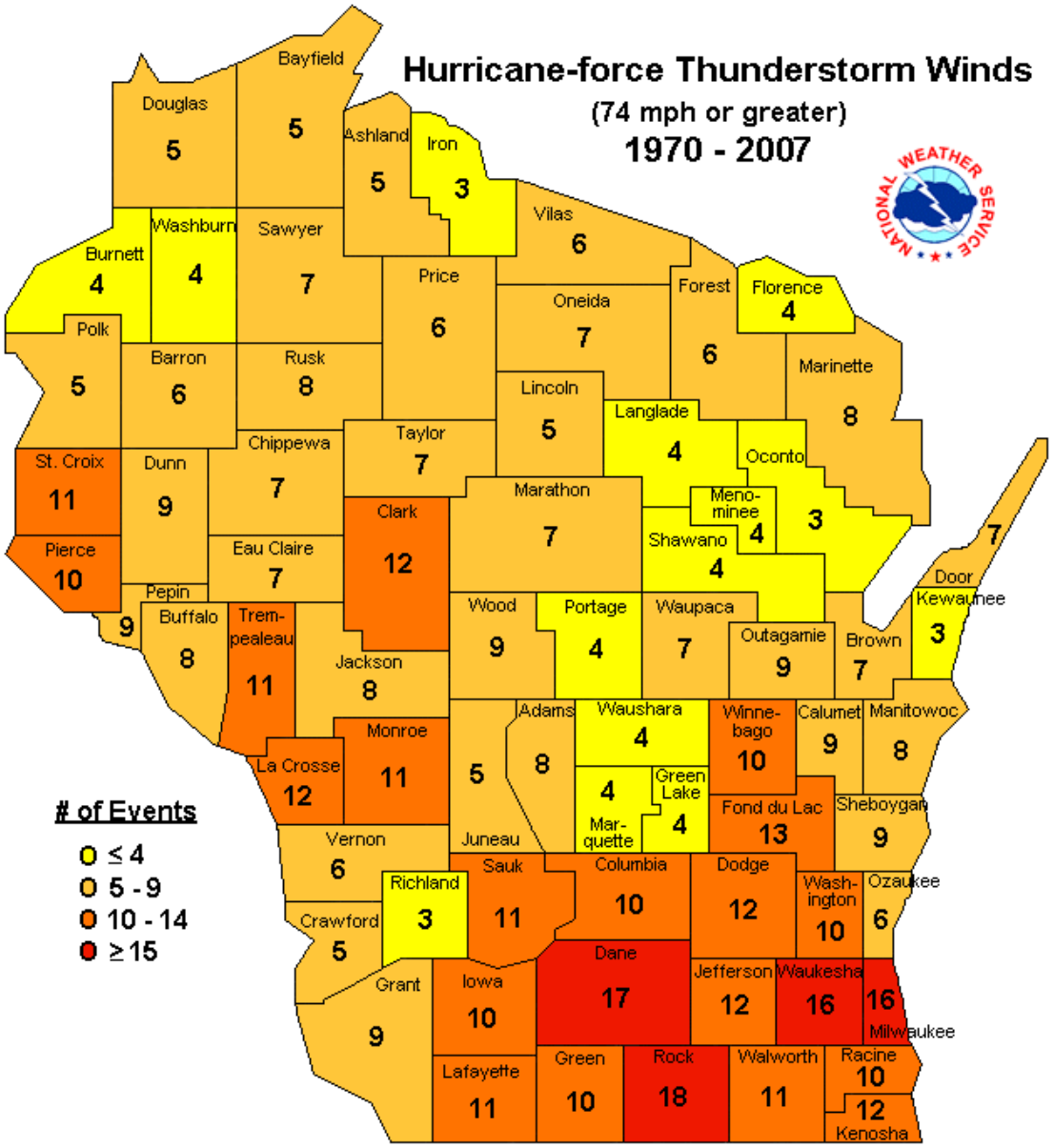

Source: NOAA National Weather Service, Milwaukee/Sullivan, 2008

In Map 4.2.12 – 7, the number of severe thunderstorm wind events with wind gusts of 74 mph or more per county is depicted. Southern Wisconsin experiences great numbers of these kinds of events since it averages more thunderstorm days per year. The southern two tiers of counties have the highest concentration.



Section TOC

**Map 4.2.12 - 7 County 74+ MPH Severe Thunderstorm Wind Events (1970-2007)**




Source: NOAA National Weather Service, Milwaukee/Sullivan, 2008

Information on large hail and tornado events can be found in Sections 4.2.2 and 4.2.9.



Section TOC

## Sources

Federal Emergency Management Agency (FEMA). 1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.”

National Weather Service, Milwaukee, Wisconsin. Accessed from the World Wide Web at weather.gov/Milwaukee.

National Oceanographic and Atmospheric Administration. Storm Data. Accessed from the World Wide Web at http://www.crh.noaa.gov/iwx/stormdata/index.shtml.

Wisconsin Emergency Management, Department of Military Affairs. November 2002. “Hazard Analysis for the State of Wisconsin.”

National Weather Service, Storm Prediction Center; “The Independence Day Derecho of July 4, 1977: http://www.spc.noaa.gov/misc/AbtDerechos/casepages/jul41977page.htm

### 4.2.13 Severe Winter Weather

#### Nature of the Hazard

Winter storms vary in size and strength and include heavy snowstorms, blizzards, freezing rain, sleet, ice storms, and considerable blowing and drifting snow conditions that can close roads. Additionally, another dangerous winter weather situation is the combination of extremely cold temperatures accompanied by strong winds can result in wind chills that cause bodily injury such as frostbite and death due to exposure (hypothermia). Severe winter and ice storms can cause unusually heavy rain or snowfall, high winds, extreme cold, and ice storms throughout the continental United States. Wisconsin usually experiences about 10 to 12 of these severe winter systems annually.

Winter storm occurrences tend to be very disruptive to transportation and commerce. Trees, cars, roads, and other surfaces develop a coating or glaze of ice, making even small accumulations of ice extremely hazardous to motorists and pedestrians. The most prevalent impacts of heavy accumulations of ice are slippery roads and walkways that lead to vehicle and pedestrian accidents; collapsed roofs from fallen trees and limbs and heavy ice and snow loads; and felled trees, telephone poles and lines, electrical wires, and communication towers. As a result of severe ice storms, telecommunications and power can be disrupted for days. Such storms can also cause exceptionally high rainfall that persists for days, resulting in heavy flooding due to snow melt.

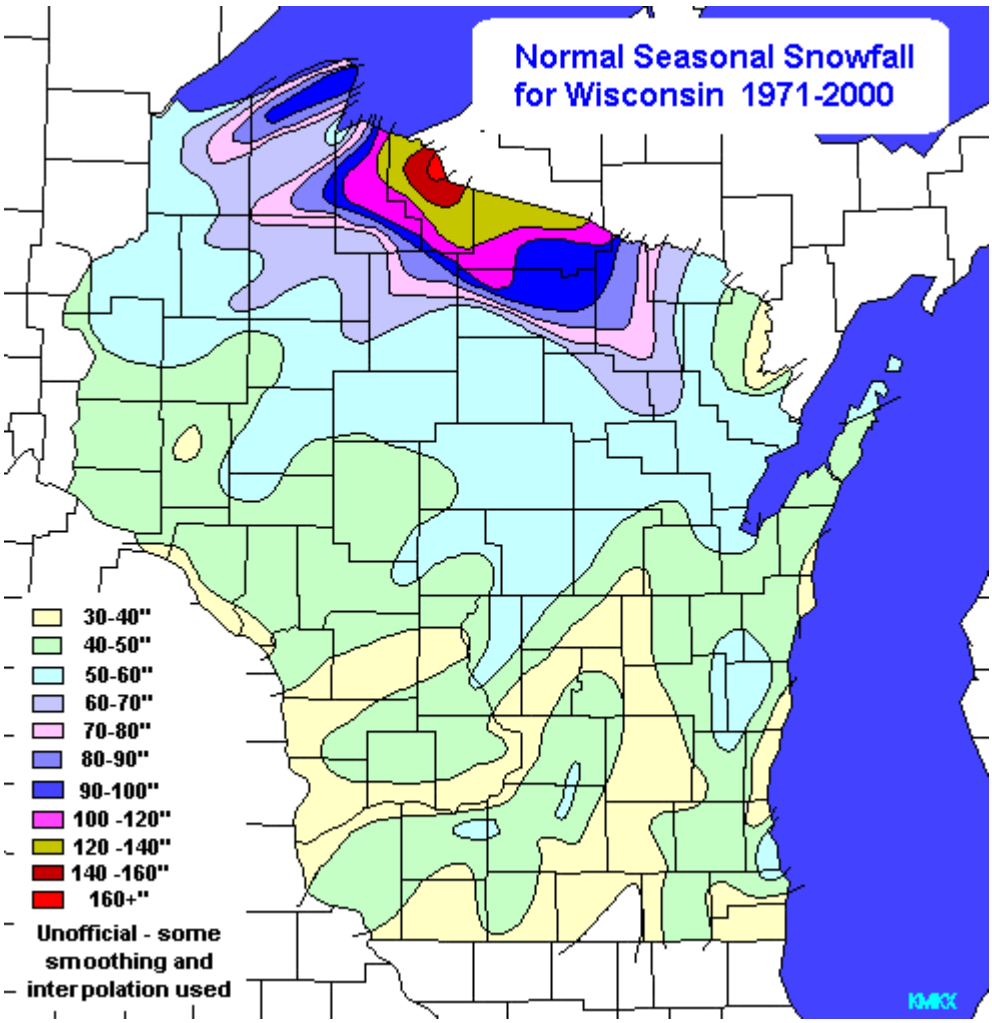
A variety of weather phenomena and conditions can occur during winter storms. For clarification, the following are National Weather Service approved descriptions of winter storm elements:

- **Heavy snowfall:** Accumulation of six or more inches of snow in a 12-hour period or eight or more inches in a 24-hour period.
- **Blizzard:** An occurrence of sustained wind speeds, or frequent wind gusts, equal to or in excess of 35 mph accompanied by heavy snowfall or large amounts of blowing or drifting snow.
- **Ice storm:** An occurrence when rain falls from warmer upper layers of the atmosphere to the colder ground, freezing upon contact with the ground and exposed objects near the ground. Ice accumulations of ¼ inch or more within 12 hours constitutes an ice storm in Wisconsin.
- **Freezing drizzle/freezing rain:** Effect of drizzle or rain freezing upon impact on objects with a temperature of 32 degrees Fahrenheit or below.
- **Sleet:** Solid grains or pellets of ice formed by the freezing of raindrops or the refreezing of largely melted snowflakes. This ice does not cling to surfaces.
- **Wind chill:** An apparent temperature that describes the combined effect of wind and low air temperatures on exposed skin.

Much of the snowfall in Wisconsin occurs in small amounts of one to three inches per occurrence. Heavy snowfalls that produce at least 6 inches of accumulation in one

county happen on the average about 10 to 12 times per winter season. The northwestern and north-central portions of Wisconsin can experience early and late season storms, while any part of Wisconsin can receive heavy snows during mid-winter. Snowfall in Wisconsin varies between the seasonal average of approximately 30 inches in the extreme south-central area of the State to 130 to 160 in the Lake Superior snow belt in Ashland and Iron Counties. Annual snowfall distribution across Wisconsin is shown in Map 4.2.13 – 1.

**Map 4.2.13 –1 Annual Mean Snowfall Across Wisconsin**

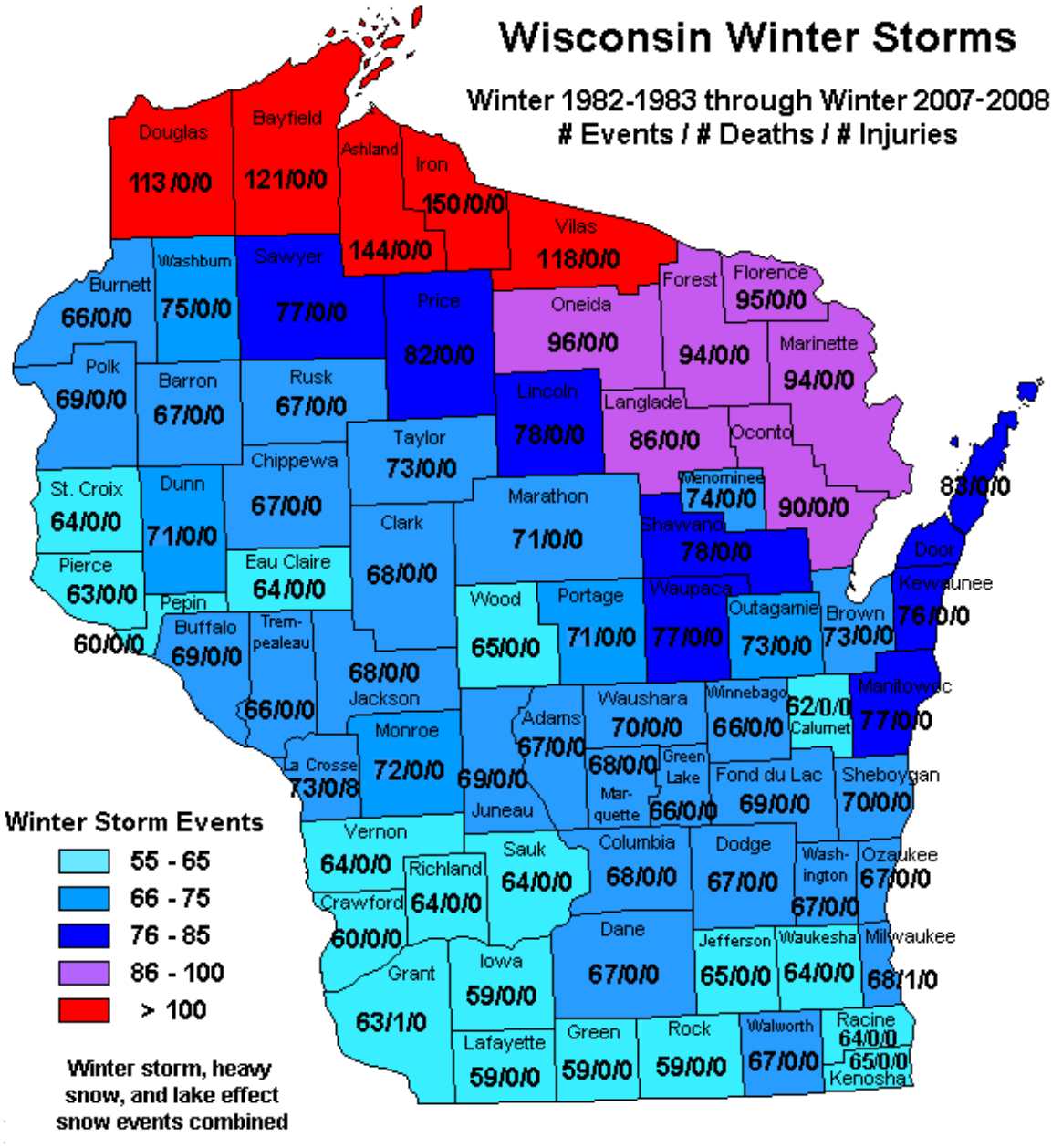



Source: National Weather Service: http://www.weather.gov/mkx



Section TOC

**Map 4.2.13 –2 County-by-County Bean-count of Winter Storms Across Wisconsin**




Source: National Weather Service: http://www.weather.gov/mkx

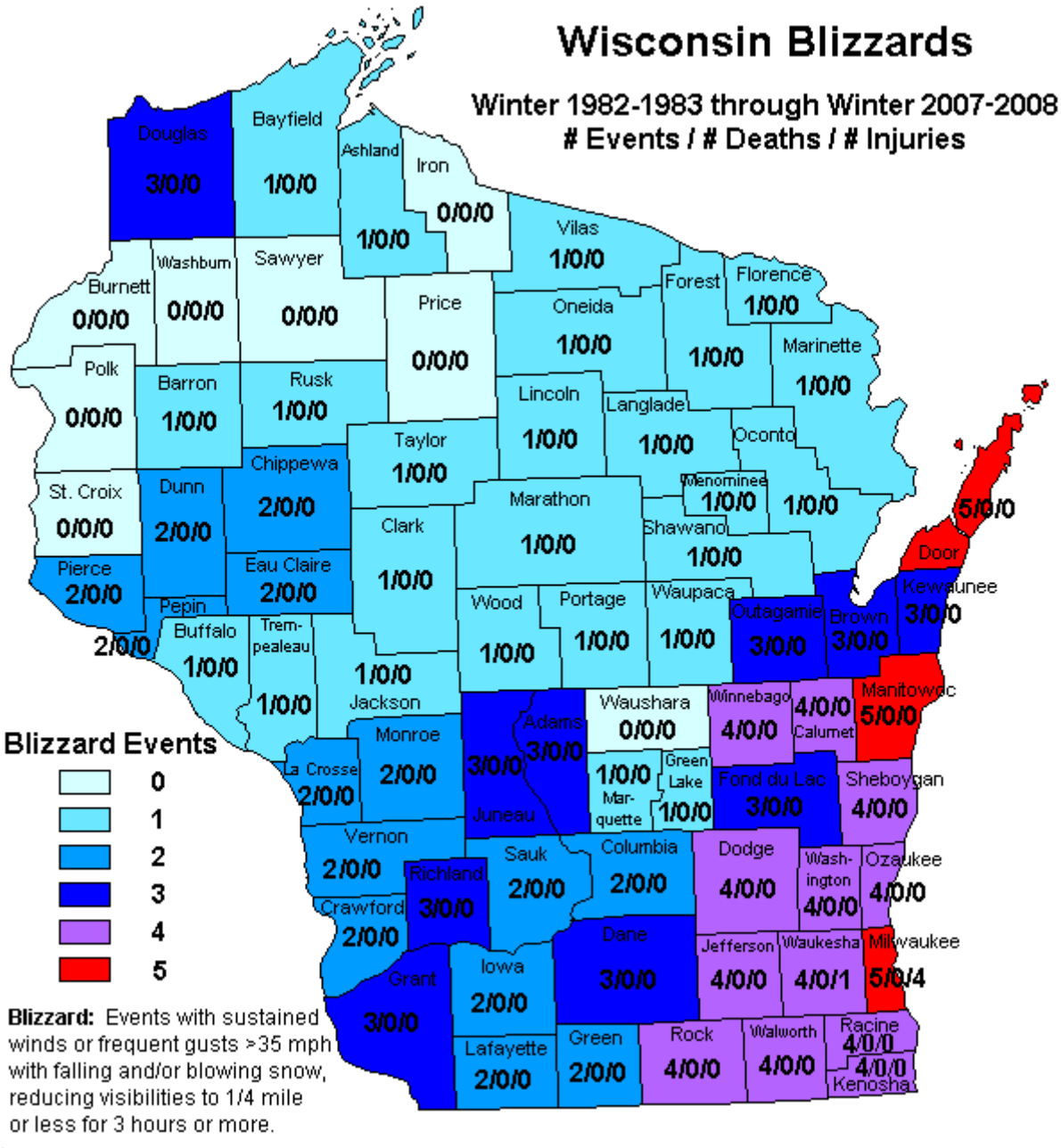
A county-by-county bean-count of winter storms across Wisconsin is shown in Map 4.2.13-2. This distribution is what would be expected knowing that northern Wisconsin normally receives more snowfall than southern Wisconsin. True blizzards or true ice storms are not included in the county bean-counts shown in Map 4.2.13-2. Fatalities and injuries due to vehicle accidents are not included in Map 4.2.13-2.



Section TOC

True blizzards are rare in Wisconsin and are more likely to occur near Lake Michigan where the smoother water surface allows northeast winds to obtain higher values, even though heavy snowfalls are more frequent in the northern part of the State. However, near-blizzard conditions can often occur in just about any heavy snowstorm in Wisconsin when gusty winds cause severe blowing and drifting of snow. A county-by-county bean-count of blizzards for the period of 1982-2007 is shown in Map 4.2.13 - 3.

**Map 4.2.13 –3 County-by-County Bean-count of Blizzard Events in Wisconsin**



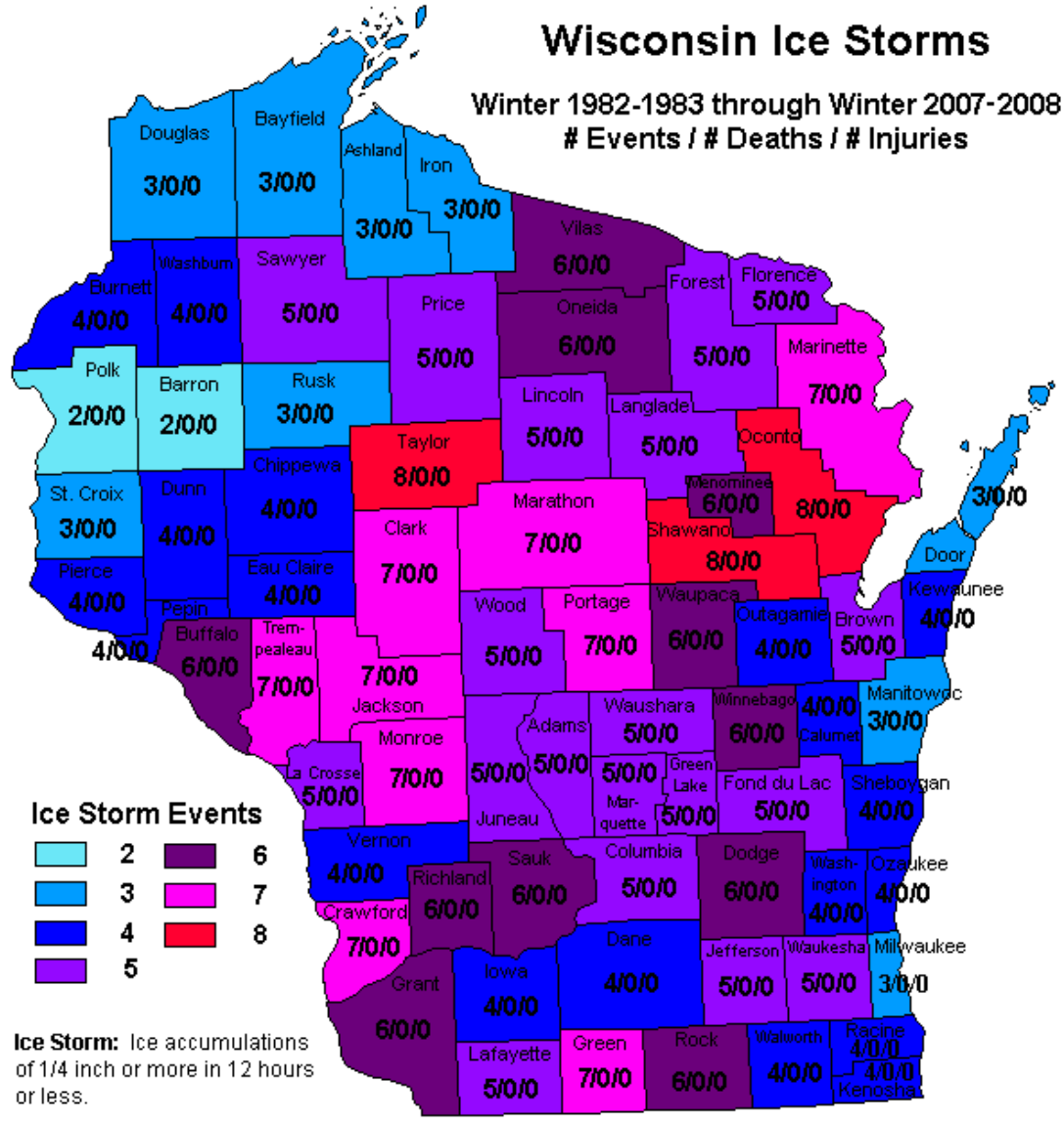

Source: National Weather Service: http://www.weather.gov/mkx



Section TOC

Ice and sleet storms can occur anytime throughout the winter season from October and into April. Early and late season ice and sleet storms are generally restricted to northern Wisconsin, such as the November 7-8, 1943 and April 16-17, 1939 storms. Otherwise, the majority of these storms occur from west-central through northeast Wisconsin. On average, a major ice storm occurs on a frequency of about once every other year. If ½-inch of rain freezes on trees and utility wires, extensive damage can occur, especially if accompanied by high winds that compound the effects of the added weight of the ice. In addition, between three and five instances of glazing (less than ¼-inch of ice) occur throughout Wisconsin during a normal winter. A county-by-county bean-count of ice storms for the period of 1982-2007 is shown in Map 4.2.13 - 4.

**Map 4.2.13 – 4 County-by-County Bean-count of Blizzard Events in Wisconsin**



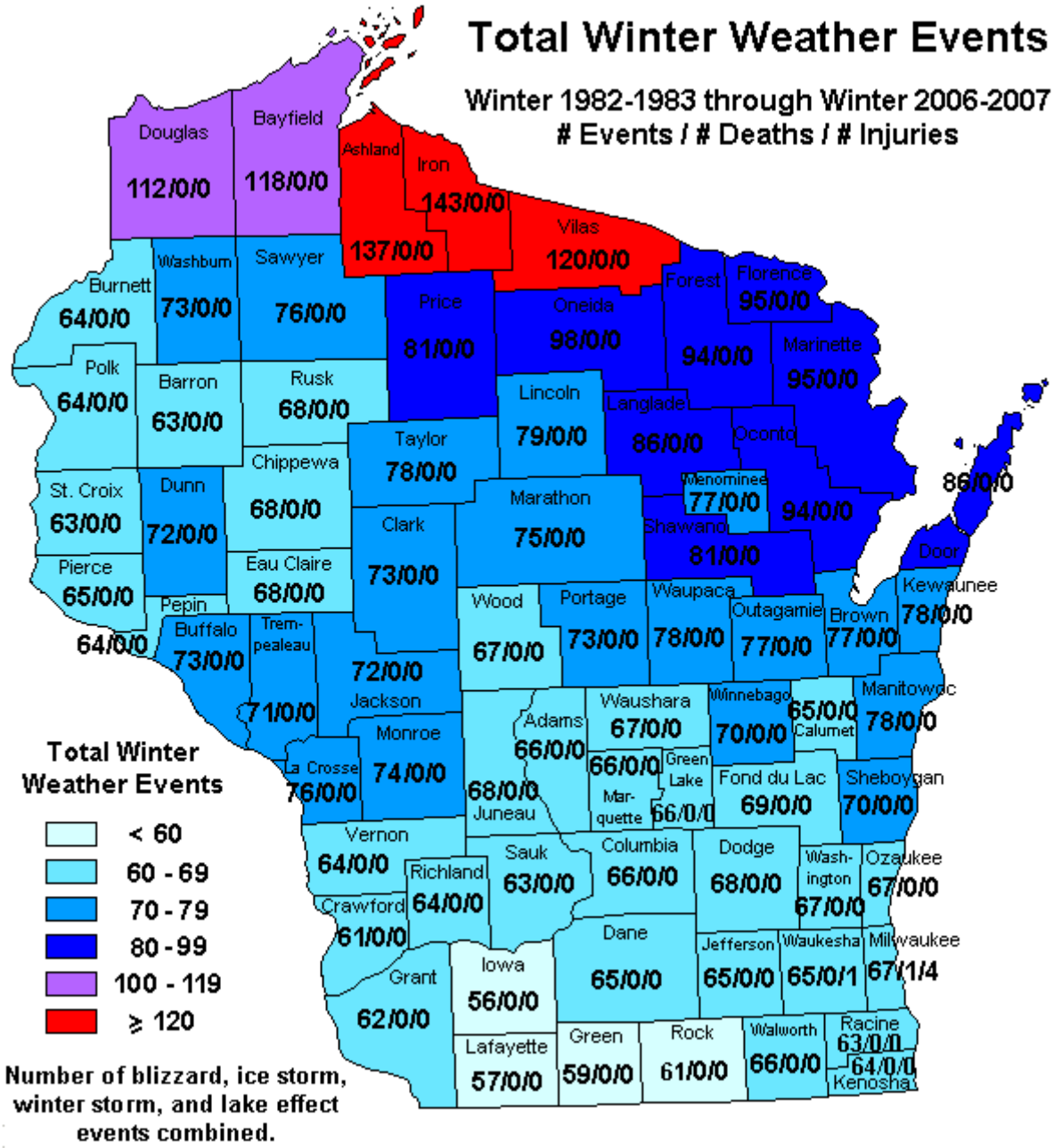

Source: National Weather Service: http://www.weather.gov/mkx



Section TOC

Combining winter storms, blizzards, and ice storms together on a county-by-county basis leads to a bean-count shown in Map 4.2.13 - 5. This map reveals which counties have been affected by some kind of severe winter weather event for the period of 1982 through 2007. The north-central counties of Wisconsin are most likely to experience major winter systems.

**Map 4.2.13 – 5 County-by-County Bean-count of Total Severe Winter Weather Events in Wisconsin**



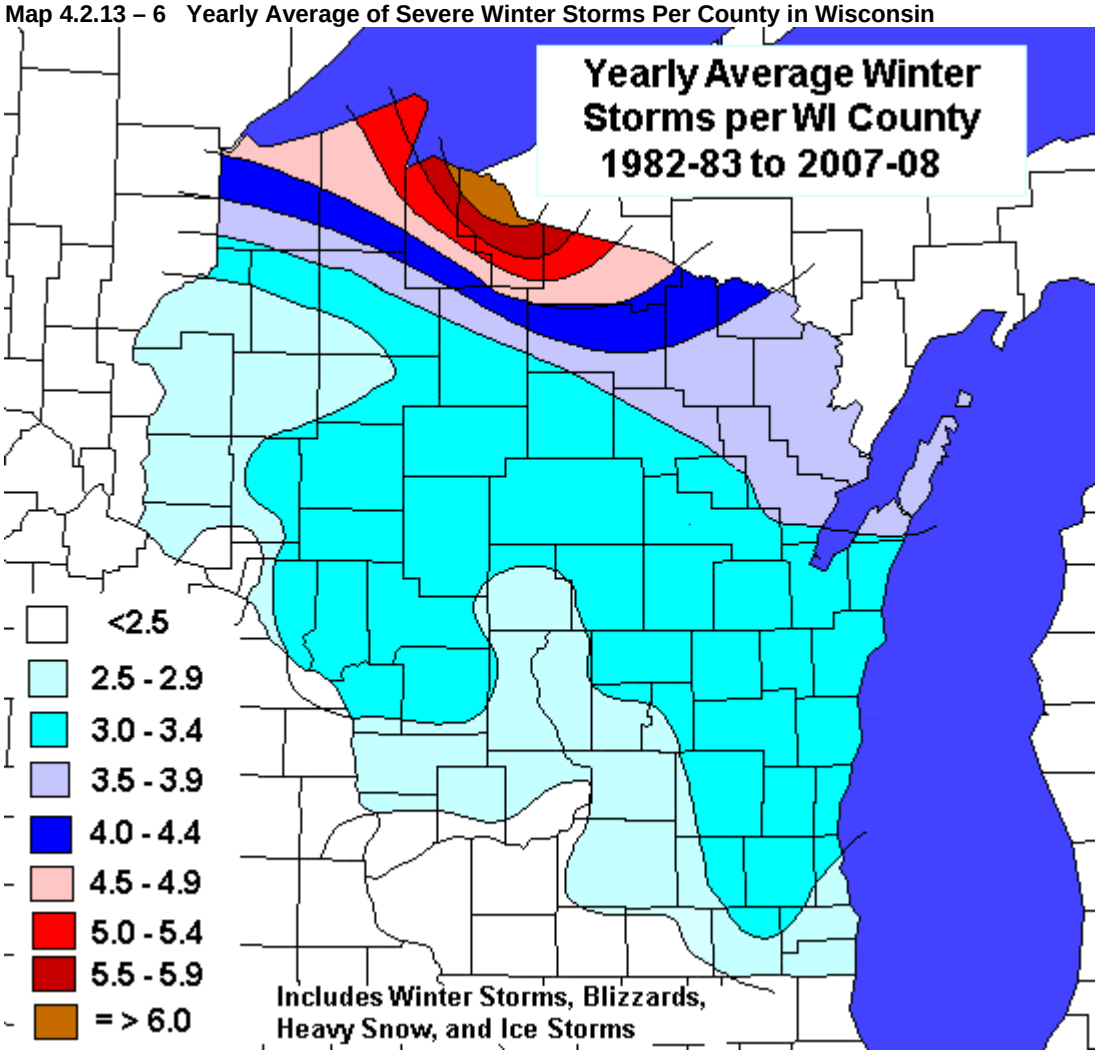

Source: National Weather Service: http://www.weather.gov/mkx



Section TOC

Utilizing the data in shown in Map 4.2.13 – 4, a calculation of roughly how many severe winter weather events (storms) per winter season for per county can be generated by dividing by the number of winter seasons. This result is shown in Map 4.2.13 - 6.

**Map 4.2.13 – 6 Yearly Average of Severe Winter Storms Per County in Wisconsin**




Source: National Weather Service:

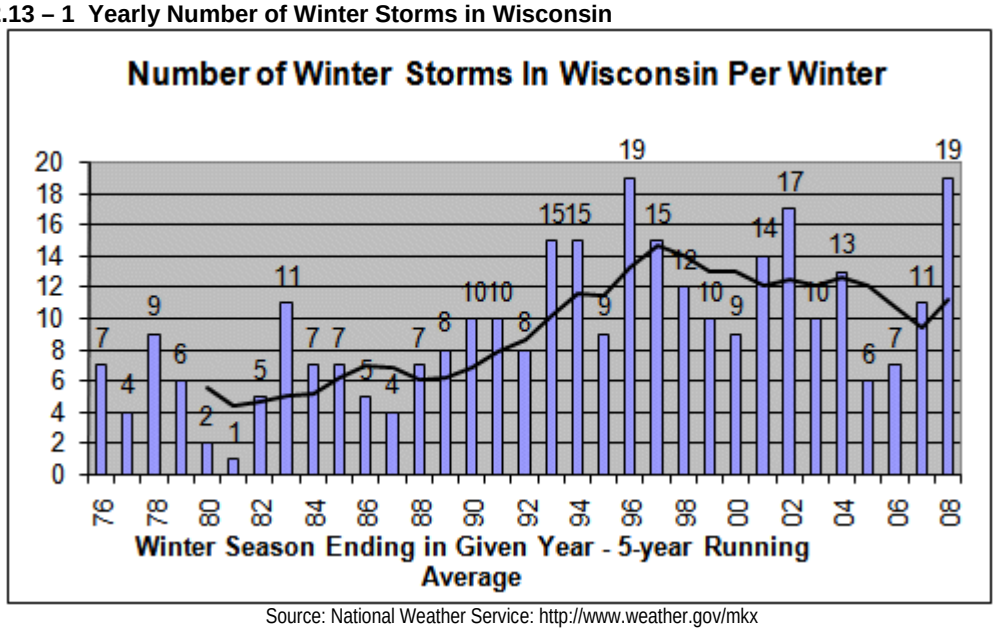
http://www.weather.gov/mkx

In spite of the fact that Wisconsin's winter temperatures have moderated over the past couple decades, the number of severe winter storms showed an increasing trend. This increasing trend may be partially related to better documentation generated by the National Weather Service, but may also be related to the fact that warmer air can hold more moisture which ultimately can fall as snow. Figure 4.2.13 -1 shows the number of severe winter weather events that affected at least one Wisconsin county for the winter seasons of 1974-75 through 2007-08. The thick black line depicts the 5-year running average. Note the increasing trend.



Section TOC

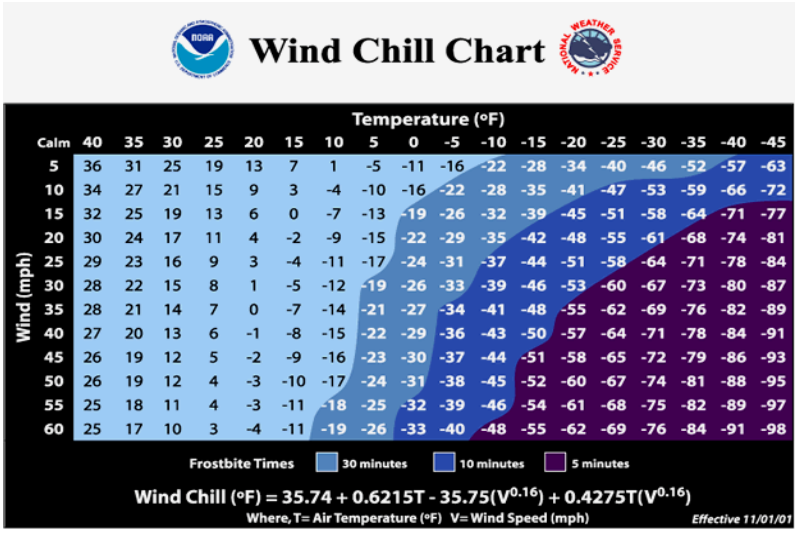
**Figure 4.2.13 – 1 Yearly Number of Winter Storms in Wisconsin**




Source: National Weather Service: http://www.weather.gov/mkx

The wind chill temperature is how cold people and animals feel when outside. Wind chill is based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature. Therefore, the wind makes it feel much colder. If the temperature is 0 degrees Fahrenheit and the wind is blowing at 15 mph, the wind chill is -19 degrees Fahrenheit. At this wind chill temperature, exposed skin can freeze in 30 minutes, as shown in the figure below. In general, the National Weather Service offices that service Wisconsin will issue Wind Chill Advisories when wind chill values are expected to drop to -20 to -34 with winds 10 mph or higher. Similarly, Wind Chill Warnings are issued in Wisconsin for wind chill values of -35 or lower along with winds 10 mph or higher.

**Figure 4.2.13 – 2 Wind Chill Chart**




| Wind (mph) | Calm | 40 | 35 | 30 | 25 | 20 | 15 | 10 | 5 | 0 | -5 | -10 | -15 | -20 | -25 | -30 | -35 | -40 | -45 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | | 36 | 31 | 25 | 19 | 13 | 7 | 1 | -5 | -11 | -16 | -22 | -28 | -34 | -40 | -46 | -52 | -57 | -63 |
| 10 | | 34 | 27 | 21 | 15 | 9 | 3 | -4 | -10 | -16 | -22 | -28 | -35 | -41 | -47 | -53 | -59 | -66 | -72 |
| 15 | | 32 | 25 | 19 | 13 | 6 | 0 | -7 | -13 | -19 | -26 | -32 | -39 | -45 | -51 | -58 | -64 | -71 | -77 |
| 20 | | 30 | 24 | 17 | 11 | 4 | -2 | -9 | -15 | -22 | -29 | -35 | -42 | -48 | -55 | -61 | -68 | -74 | -81 |
| 25 | | 29 | 23 | 16 | 9 | 3 | -4 | -11 | -17 | -24 | -31 | -37 | -44 | -51 | -58 | -64 | -71 | -78 | -84 |
| 30 | | 28 | 22 | 15 | 8 | 1 | -5 | -12 | -19 | -26 | -33 | -39 | -46 | -53 | -60 | -67 | -73 | -80 | -87 |
| 35 | | 28 | 21 | 14 | 7 | 0 | -7 | -14 | -21 | -27 | -34 | -41 | -48 | -55 | -62 | -69 | -76 | -82 | -89 |
| 40 | | 27 | 20 | 13 | 6 | -1 | -8 | -15 | -22 | -29 | -36 | -43 | -50 | -57 | -64 | -71 | -78 | -84 | -91 |
| 45 | | 26 | 19 | 12 | 5 | -2 | -9 | -16 | -23 | -30 | -37 | -44 | -51 | -58 | -65 | -72 | -79 | -86 | -93 |
| 50 | | 26 | 19 | 12 | 4 | -3 | -10 | -17 | -24 | -31 | -38 | -45 | -52 | -60 | -67 | -74 | -81 | -88 | -95 |
| 55 | | 25 | 18 | 11 | 4 | -3 | -11 | -18 | -25 | -32 | -39 | -46 | -54 | -61 | -68 | -75 | -82 | -89 | -97 |
| 60 | | 25 | 17 | 10 | 3 | -4 | -11 | -19 | -26 | -33 | -40 | -48 | -55 | -62 | -69 | -76 | -84 | -91 | -98 |

Source: National Weather Service: http://www.nws.noaa.gov/om/windchill/index.shtml



Section TOC

Wind chill temperature is a unit of measurement that describes the wind chill factor. Wind chill temperature is a measure of the combined cooling effect of wind and temperature. The wind chill temperature is calculated using the following formula:

Wind Chill (ºF) = 35.74 + 0.6215T – 35.75(V^0.16) + 0.4275T(V^0.16)

Where: T = Air Temperature (F)
V = Wind Speed (mph)
^ = raised to a power (exponential)

Although complete documentation isn't available, the National Weather Service offices that service Wisconsin estimate that the State experiences a couple Wind Chill Warning situations and about 4 or 5 Wind Chill Advisory situations per winter season.

**Winter Storm History**

Generally, the winter storm season in Wisconsin runs from October through March. Severe winter weather has occurred, however, as early as September and as late as the latter half of April and into May in some locations.

In March 1976, an ice storm of disastrous proportions occurred in southern Wisconsin. This storm was of such magnitude and caused so significant an amount of damage that a Presidential Disaster Declaration was obtained. The storm affected 22 counties, resulted in extensive power outages, and caused more than $50 million in damage. Map 4.2.13-1 and 4.2.13-2 illustrate historical events and annual mean snow depth, respectively.

Blizzard-like conditions occurred during winter 1981-82 when extremely cold temperatures were accompanied by wind speeds gusting to 50 mph. Wind chill factors reached 100 degrees below zero and severely affected the health and safety of those who ventured outdoors. Near blizzard conditions also existed in January 1979 when record snowfalls were recorded in many areas of Wisconsin and winds gusted to over 30 mph. Many people were isolated from assistance and services as roads drifted shut and highway crews were unable to keep them open. Conditions were extremely hazardous in the City of Milwaukee and Racine County where a Presidential Emergency Declaration was obtained to assist in snow removal operations.

A statewide blizzard occurred December 2-4, 1990, depositing 10 or more inches of snow across the central and southern portions of Wisconsin. Snowfalls of 22 inches were recorded in Juneau and Adams Counties, 20 inches in Marquette County, 19 inches in Dodge and Washington Counties, and 17-18 inches in Columbia and Dane Counties. This excessive snowfall throughout such a large area severely taxed the State's capability to clear and remove snow.

Other notably heavy snowfalls occurred in 1991 and 1994. In February 1994, 15 or more inches of snow were deposited in areas of Vernon, Juneau, Dane, Dodge, and

Columbia Counties. In late November 1991, a snowstorm struck northwestern Wisconsin and left accumulations of 18 to 20 inches in Sawyer County and over 10 inches of snow in Bayfield, Douglas, Burnett, Polk, St. Croix, Barron, Washburn, Ashland, and Iron Counties. A heavy snowstorm the previous week dumped 10 or more inches of snow in a diagonal band from Vernon, La Crosse, and Buffalo Counties in the south to the northern counties of Iron, Vilas, and Forest. Another storm from October 31 to November 2, 1991 left large amounts of snow in northwest Wisconsin, with 35 inches in areas of Douglas County and more than 30 inches of snow in Bayfield, Polk, St. Croix, and Pierce Counties.

The winter of 1998-1999 was quite mild as far as temperatures were concerned. However, a heavy snowfall and blizzard occurred January 1-3, 1999. More than 10 inches fell in most southern counties with parts of Kenosha, Milwaukee, Ozaukee, Walworth, Washington, and Waukesha Counties receiving more than 18 inches. Snow drifts of 4 to 8 feet were reported in southeastern Wisconsin with northeast wind gusts to 45 to 63 mph. This winter storm/blizzard severely tasked snow plow crews and many roads were closed for a day or so.

The record for seasonal snowfall belongs to Hurley, Wisconsin. Over an 8-month period in the winter of 1996-97, a total of 301.8 inches fell in Hurley (Iron County). That's about 25.2 feet of snow! As that winter progressed, it became difficult to clear the streets because there was no place to put the snow.

December 2000, in contrast, was one of the 10 coldest Decembers on record for most of Wisconsin. In addition to low temperatures, record or near-record snow depths of 15 to 34 inches occurred in much of the southern part of the State during December. As a result of record snowfalls, 13 counties received a Presidential Emergency Declaration and were eligible to receive Federal funds for extraordinary expenses associated with clearing roads and emergency response efforts. The counties declared in the snow emergency were Columbia, Dane, Door, Green, Kenosha, Kewaunee, Manitowoc, Milwaukee, Racine, Rock, Sheboygan, Walworth, and Waukesha Counties.

The first significant winter event of 2001 was an ice storm that left a ¼ inch of ice over large portions of Oneida and Forest Counties. In addition, several heavy snowfalls were recorded in northern Wisconsin in 2001. The first heavy snow of the year occurred February 24-25, covering Douglas County with 20 inches of snow. A November 26-28 storm left 12 to 20 inches in a band from Burnett to Vilas County. A series of lake-effect snowfalls from Lake Superior left accumulations of 1 to 4 feet from Douglas to Vilas County.

In February 2003, two waves of snow pushed through the northern part of Wisconsin when a low-pressure system passed through the region. Totals reached up to 16.5 inches at Presque Isle/Vilas County and 12 inches at Phelps/Vilas County. Reports of 12 to 20 inches were received to the northeast of Park Falls/Price County. In the southeast portion of the State, light freezing rain and drizzle glazed roadways and

caused multiple accidents. Ice thickness reached up to nearly 4 inches near la Valle/Sauk County.

A major winter storm with lake-effect enhancement during the period of December 11-13, 2004, buried Iron County with up to 26 inches of snow at Upson and 22 inches in the Hurley area. Yet another major winter storm on March 18-19, 2005, plastered west-central Wisconsin with 14 to 16 inches, but 18 to 23 inches fell in parts of Buffalo and Jackson Counties.

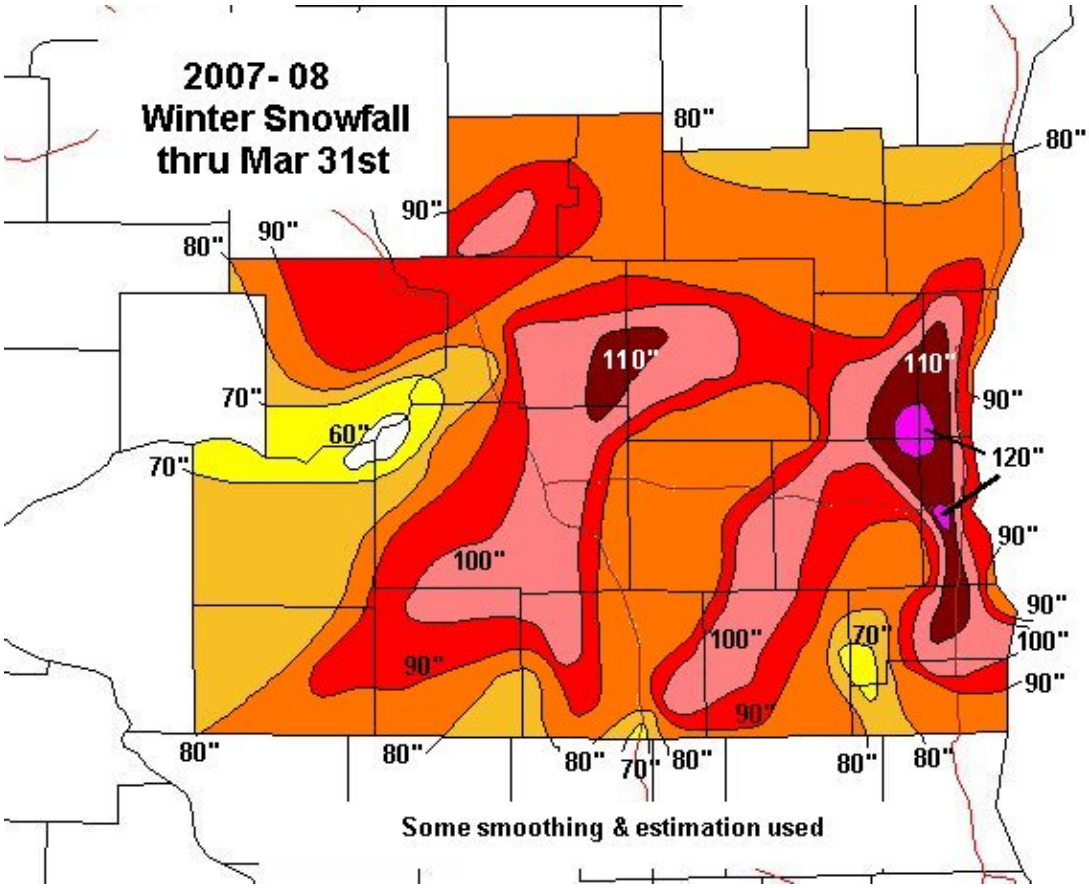
A powerful two-day winter storm on March 13-14, 2006, buried northwestern Wisconsin under 17 to 24 inches of snow from St. Croix County up to Iron County. Gile in Iron County measured 32 inches in this storm.

Three rounds of winter storms with heavy snow and blowing snow affected much of Wisconsin during the period of February 23-26, 2007. The first two rounds each left from 6 to 15 inches, while the third round affected mostly northeastern Wisconsin with 6 to 14 inches. Collectively the three rounds of snow severely tasked snowplow crews.

The 2007-08 winter season was “one-for-the ages.” Numerous winter storms, including a couple blizzards and 4 ice storms, pounded the southern half of the state. Winter snowfall totals of 70 to 122 inches across the southern counties established new all-time winter snowfall records at many locations. These totals were roughly 200 to 240% of normal, and many communities simply ran out of salt, or were unable to purchase additional supplies due to increased demand. The worst storm of the winter occurred on February 5-6, 2008 southeast of a line from Dubuque, Iowa to Madison to Sheboygan when 12 to 21 inches of snow combined with northeast winds of 20 to 30 mph and some gusts to 50 mph to create near-blizzard conditions. Major vehicle backups occurred in both southbound and northbound lanes on Interstate 39/90 in Dane and Rock Counties after several trucks could not make it up hills during intense thunder snowfall rates of 1 to 2 inches per hour at the height of the storm. At least 1,548 vehicles and trucks were stranded for 10 to 20 hours thanks to snowfalls of 18 to 21 inches in that area. Orfordville and 9 miles WNW of Beloit in Rock County measured the maximum amount of 21 inches. Up to around 20 I nches fell in the Saukville area of Ozaukee County and Jackson area in Washington County. Several other roads in southeast Wisconsin were closed by the intense snowfalls and blowing snow.

The 2007-08 winter season snowfall totals through the end of March, 2008, across southern Wisconsin are shown in Map 4.2.13 – 7. Additional snowfalls of 0.5 to 1.5 inches occurred in April 2008; therefore, Map 4.2.13 – 7 is essentially unchanged when considering the entire 2007-08 winter snowfall.

**Map 4.2.13 –7 Total Winter Snowfall Accumulations Through March 31, 2008**




Source: National Weather Service: http://www.weather.gov/mkx

By the end of May, 2008, the total 2007-08 winter season snowfall reached 122.1 inches in West Allis, Milwaukee County, which was the highest value in southern Wisconsin, and a new all-time winter season record for West Allis. Likewise, the 101.4 inches measured at Truax Field in Madison smashed the old winter season record of 76.1 inches set in 1978-79. The winter snowfall at Milwaukee Mitchell Field of 99.1 inches was the second highest winter total on record.

Based on snowfall totals across southern Wisconsin during the 2007-08 winter season, it is possible that winter-season totals of 150 inches or more can occur across southern and central Wisconsin. However, this would be a rare occurrence.

## Probability of Occurrence

Heavy snowfalls are most likely to occur in northern Wisconsin. However, blizzards are more likely to occur in eastern Wisconsin. The qualitative rating for severe winter weather is high in the table 4.2 – 3.



Section TOC

## Sources

Federal Emergency Management Agency.1997. “Multi-Hazard Identification and Risk Assessment: A Cornerstone of the National Mitigation Strategy.” Accessed from the World Wide Web at http://www.fema.gov/fhm/dl_mhira.shtm.

Department of Military Affairs, Wisconsin Emergency Management. 2002. “Hazard Analysis for the State of Wisconsin.”

National Weather Service Forecast Service, Milwaukee/Sullivan Office. Winter Events. Accessed from the World Wide Web at http://www.crh.noaa.gov/mkx/

## 4.3 LOSS ESTIMATIONS FOR SELECTED HAZARDS, STATE-OWNED AND OPERATED, CRITICAL FACILITIES STATEWIDE

This section of the Wisconsin risk assessment is intended to meet IFR requirements at subsection 201.4 (c) (2) (iii). See Appendix O for a copy of the IFR. The IFR states that the State Hazard Mitigation Plan:

> "(S)hall include (a)n overview and analysis of potential losses to the identified vulnerable structures, based on estimates provided in local risk assessments as well as the State risk assessment. The State shall estimate the potential dollar losses to State owned or operated buildings, infrastructure, and critical facilities located in the identified hazard areas."

**The 2005 plan included a flood, tornado, and straight-line wind risk assessment of State-owned and operated critical facilities that used data at the facility level. Wisconsin Emergency Management (WEM) is currently in the process of completing a Statewide, State-owned and operated critical facilty project. The completed project will allow WEM to do a more comprehensive risk assessment on State-owned and operated critical facilities.**

### 4.3.1 Flood Risk

Flood risk is highly site and building-specific and truly accurate risk calculations can be accomplished only when there is detailed information about floodplain characteristics and the various aspects of an asset that could be damaged by floods. The flood risk assessment is done by two methods, discussed immediately below and in the more detailed sections below. Note that unlike some other hazards (tornadoes for example), flood risk assessments must be conducted at the level of specific buildings, assets or sites in order to be accurate. The method used in this section do provide a general idea of risk under pre-determined flood scenarios, do not use site-specific flood risk data such as Flood Insurance Studies or Flood Insurance Rate Maps. Because of this, there is no way to accurately determine the probability of floods occurring there. As discussed elsewhere in this report, probability is an essential feature of accurate risk assessment, so the results of this assessment should be considered only a general guide to risk under certain flood scenarios. The information should be used to prioritize those facilities that appear to have the most risk, i.e. the most significant potential future losses, and those facilities should be provided more detailed risk assessments in the future.

The 2005 plan included a flood risk assessment of State-owned and operated critical facilities that used data at the facility level. Wisconsin Emergency Management (WEM) is currently in the process of completing a Statewide, State-owned and operated critical facilty project. The completed project will allow WEM to do a more comprehensive risk assessment on State-owned and operated critical facilities.

**Data Management**

Two kinds of data are required for risk assessments:

1. **probability and severity of the hazard**
2. **physical and operational characteristics of vulnerable assets**

Section 4.2 provides a general discussion of risk and vulnerability. The primary source of information about the State-owned and -operated facilities considered in this section was a database provided by Wisconsin Emergency Management (WEM) in the form of a spreadsheet that included approximately 6,500 assets Statewide. The accuracy and completeness of this database was not independently verified as part of this risk assessment.

The data provided by WEM included a wide range of State assets that were determined by the state to be critical facilities. Based on the limited data available on state owned buildings provided by the Department of Administration WEM reviewed the inventory and to the best of their ability identified those buildings that could be considered critical facilities. In determining if a building or structure potentially was a critical facility, WEM looked at its purpose and function and whether the facility's operation was critical to state operations, or critical in protecting the public health and safety of the citizens and

property during a disaster. The structures identified fell into the following types of facilities.

1. A facility or structure related to communications. This included radio and television facilities for EAS, communications towers, etc.
2. A facility or structure that generated electrical power, provided heating, wastewater treatment, or water sources.
3. Hospitals, homes and other medical type facilities.
4. Correctional facilities.
5. Major state government facilities that house key state operations.
6. Critical military facilities.
7. Emergency response facilities related to law enforcement, security, fire, etc.

Based on this methodology, WEM identified an initial list of 460 critical facilities. The list was reduced to 452 for analyses because eight of the facilities did not have sufficient basic data to conduct the calculations.

**Table 4.3.1–1 Number of State-owned and operated critical facilities included in risk calculations, sorted by replacement value.**

| Category | Replacement Value Range | Initial List; Facilities by Category | Facilities selected by WEM |
|---|---|---|---|
| 1 | $100,000 - $599,999 | 1404 | 0 |
| 2 | $600,000 - $1,000,000 | 238 | 52 |
| 3 | $1,000,000 + | 1223 | 408 |
| | Less than $100,000 | 3,595 | 0 |
| **Total** | | 6460 | 460 |

### Asset Name Data

The Asset Name field in the database was fully populated in the initial version and required no adjustment.

### Year Occupied Data

The Year Occupied field in the database was mostly populated, with only a few entries missing in the initial version. This is not a critical field for analysis except in cases where it is used in conjunction with the use field to populate the construction type field by algorithm (see notes below).

### Gross Square Footage Data

The Gross Square Footage field in the database was partially populated in the initial version of the database. Several facilities did not list the Gross Square Footage (GSF). In that case, the GSF for each facility was estimated based on similar facilities in the database. If there was no comparable facility, that particular facility was removed from the database, which was the case for eight facilities (2 lightly engineered and 6 fully

engineered buildings). The total number of structures considered in the risk assessment is 452. The gross square footage data was used to estimate the building occupancy which is included in the injury and mortality calculations.

**Replacement Value Data**

The Replacement Value field was populated in the initial version of the database. The data was used verbatim in the analysis.

**Flood Probability**

The basis of the calculation is that the State-owned assets are subject to a two-foot flood. This is in turn based on an assumption the the facilities are within the boundaries of the 100-year floodplain. As discussed earlier, true flood risk assessments must be based on local conditions, i.e. flood probabilities in specific places. A single 1% annual probability is used for the present calculation. In fact, all floodprone sites are subject to a range of floods annually, and a comprehensive risk assessment would consider the annual probability of each flood event, and use an integrated calculation to determine the true risk. The figures generated by this method are best characterized as “potential flood exposure” rather than an absolute measure of risk.

**Calculation Methodology**

As noted, flood risk calculations are performed by assuming a two-foot flood in State-owned (and operated) assets. The calculation uses a simple 1% probability flood (the 100-year flood) to determine damages. The damages from this event are then projected to a 30-year horizon using the OMB-mandated methodology.

The facilities were sorted into one of five building types, as shown in the table below. These building types are manufactured housing, non-engineered wood frame, lightly engineered, non-engineered masonry, and fully-engineered. Many of the state-owned and –operated structures in the Wisconsin database provided by WEM included an “ISO building type”, but this classification system could not be readily translated to flood (or wind, in later sections) damage functions, so it was necessary to assign more appropriate building types to the structures in the database. The assignment of building types to the structures was based on a combination of construction date, use (as determined by the name of the building, appeared generally representative of the use in most cases) and size. Table 4.5.3.1-3 includes a summary of the building type and the number of these buildings that are included in the risk assessment database.

**Table 4 3.1–3 Summary of Building Type and Number in Database**

| Asset Type | # in database |
|---|---|
| Manufactured Housing | 0 |
| Non-engineered Wood Frame | 38 |
| Lightly Engineered | 290 |
| Non-engineered Masonry | 0 |
| Fully-engineered | 124 |
| Total | 452 |

The occupancy load of each facility was determined by estimating the number of people per square foot that would occupy the facility. Then this number was divided by the total gross square footage per facility. For example, in living quarters the square foot estimated per person may be 100 square feet whereas the square foot space for a communications tower could be 5,000 square feet per person.

The database of State-owned and –operated facilities was organized by building class and presence or absence of a basement. Building flood damage functions are extracted from the FEMA Full-Data Benefit-Cost Analysis Module, and adjusted for the different building types in the State database. The functions are estimates based on judgment. Since there are no standard damage functions for non-residential buildings, the analysis is based on adapting standard FEMA/NFIP damage functions to the facilities database provided by WI. Table 4.3.1-4 includes the damage functions at a two-foot flood depth.

**Table 4.3.1–4 Damage functions at Two-Foot Flood Depth for Selected Building Types in State-owned Facilities Database**

| | Damage % in Two-Foot Flood Depth | |
|---|---|---|
| **Building Type** | **Without Basement** | **With Basement** |
| Manufactured Housing | 40 | NA |
| Non-engineered Wood Frame | 20 | 30 |
| Lightly Engineered | 15 | 25 |
| Non-engineered Masonry | 15 | 25 |
| Fully-engineered | 15 | 25 |

The nature of the contents in the assets in the State database is not known. Therefore, damages to contents are calculated by simply assuming their value is 30% of the value of the structure itself, and that the damage function is the same as the structure. The results of this method should be used only to get a general idea of flood risk, not as the basis for mitigation actions for individual facilities.

**Calculate Annual Damages with Probabilities and Damage Functions**

The calculation is performed as:

$$P*(RV_b)*(F_d)*(1.3) = D$$

Where:

P is the flood probability, assumed to be 1%
RVb is the replacement value of the building in dollars
$F_d$ is the flood damage function
1.3 accounts for the additional value of contents
D is the total expected damages in a two-foot flood

For example: consider a non-engineered wood frame building with a basement and replacement value of $1,000,000.

0.01 (Flood Probability) x $1,000,000 (Replacement Value) x 0.20 (Damage Function from Table 4.5.3.1) x 1.3 (Contents Value) = $2,600 (Total Expected Damages in a two-foot flood)

The calculation of future risk from this flood scenario is done as:

$$D*12.41 = D_{npv}$$

Where D is the total expected damages in a two-foot flood
12.41 is the present value coefficient for a 30-year horizon using a 7% discount rate

Dnpv is the net present value of damages for a 30-year horizon

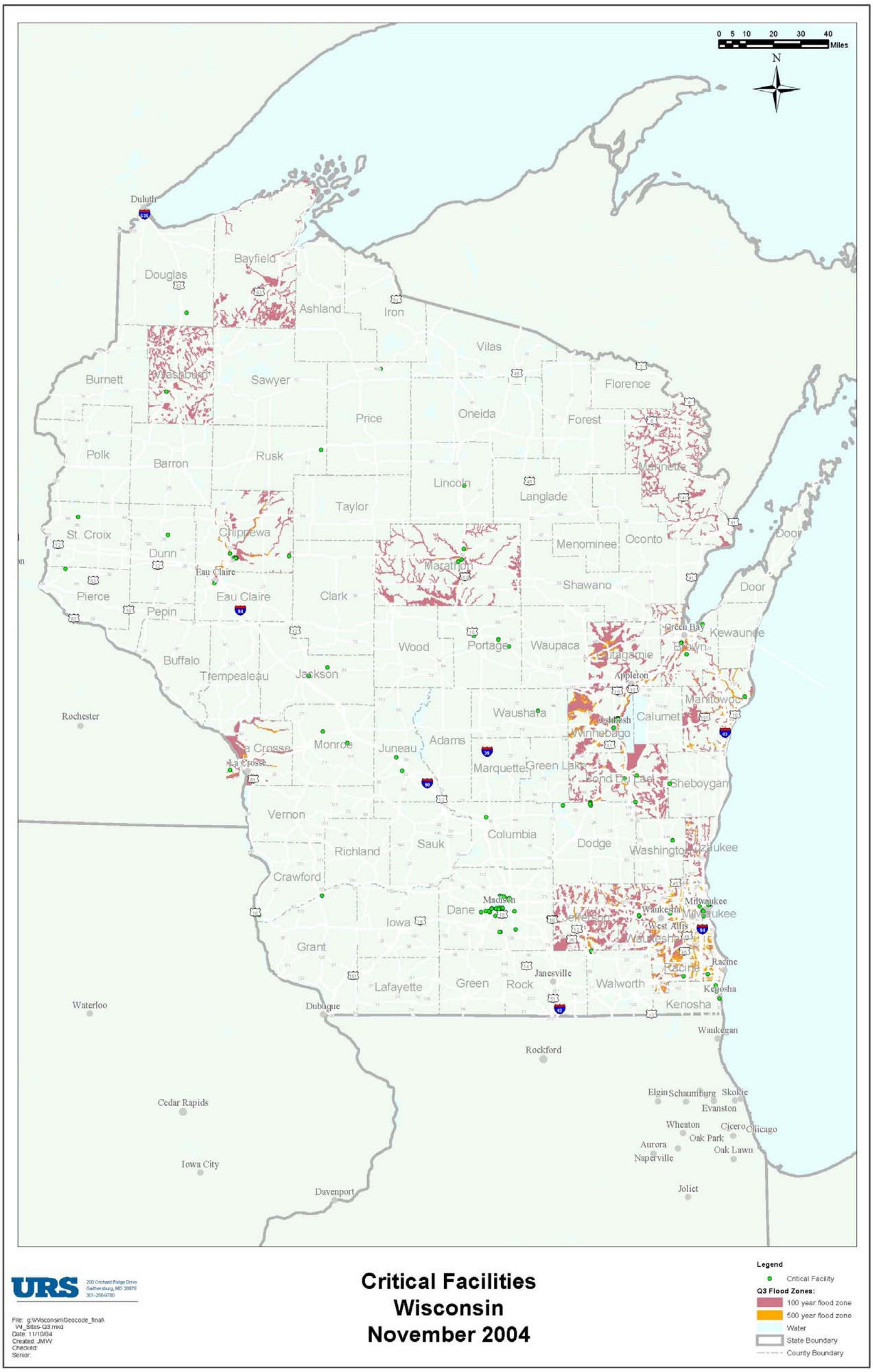
For example: consider the previous damage calculation
$2,600 (Total Expected Damages in a two-foot flood) x 12.41 (Present Value Coefficient) = $32,266 (Net Present Value of Damages for a 30-Year Horizon)

## Results

The results summarized in Table 4.3.1 – 5 are based on the methodogy described above.

**Table 4.3.1-5 Damages to Range of Building Types in 2' Benchmark Flood, and Future Risk**

| Building Type | # in database | Total Damages in 2' | Future Risk |
|---|---|---|---|
| Manufactured Housing | 0 | 0 | 0 |
| Non-engineered Wood Frame | 38 | $182,919 | $2,270,022 |
| Lightly Engineered | 290 | $5,694,992 | $70,674,847 |
| Non-engineered Masonry | 0 | 0 | 0 |
| Fully-engineered | 124 | $3,102,789 | $38,505,611 |
| Total | 452 | $8,980,700 | $111,450,480 |


0 5 10 20 30 40
Miles
N
Duluth
Douglas
Bayfield
Ashland
Iron
Vilas
Florence
Burnett
Washburn
Sawyer
Price
Oneida
Forest
Polk
Barron
Rusk
Taylor
Lincoln
Langlade
Marinette
St. Croix
Dunn
Chippewa
Eau Claire
Marathon
Menominee
Oconto
Door
Pierce
Pepin
Eau Claire
Clark
Shawano
Door
Buffalo
Trempealeau
Jackson
Wood
Portage
Waupaca
Outagamie
Green Bay
Brown
Kewaunee
Appleton
Rochester
La Crosse
Monroe
Juneau
Adams
Waushara
Winnebago
Oshkosh
Calumet
Manitowoc
Marquette
Green Lake
Fond du Lac
Sheboygan
Vernon
Richland
Sauk
Columbia
Dodge
Washington
Ozaukee
Crawford
Dane
Madison
Waukesha
Milwaukee
Iowa
Jefferson
West Allis
Grant
Lafayette
Green
Rock
Janesville
Walworth
Racine
Kenosha
Waterloo
Dubuque
Waukegan
Rockford
Cedar Rapids
Elgin
Schaumburg
Skokie
Evanston
Wheaton
Cicero
Chicago
Oak Park
Aurora
Oak Lawn
Naperville
Iowa City
Davenport
Joliet
URS
200 Orchard Ridge Drive
Gaithersburg, MD 20878
301-258-8780
File: g:\Wisconsin\Geocode_final\
WI_Sites-Q3.mxd
Date: 11/10/04
Created: JMW
Checked:
Senior:
Critical Facilities
Wisconsin
November 2004
Legend
Critical Facility
Q3 Flood Zones:
100 year flood zone
500 year flood zone
Water
State Boundary
County Boundary

Section TOC

### 4.3.2 Tornado Risk

#### Background

The 2005 plan included a tornado risk assessment of State-owned and operated critical facilities that used data at the facility level. Wisconsin Emergency Management (WEM) is currently in the process of completing a Statewide, State-owned and operated critical facilty project. The completed project will allow WEM to do a more comprehensive risk assessment on State-owned and operated critical facilities.

Without evaluations of individual buildings by qualified structural engineers or architects, even qualified and general estimates of wind damage functions using the limited data available in the Wisconsin database is certain to include errors. The State will use the output of this analysis only to prioritize its mitigation actions in a relative sense, i.e. in comparisons among buildings within the State, not to determine if it is worthwhile to perform mitigation actions on particular facilities. This will form the basis of an initial prioritization that will begin the process of identifying the most at-risk structures for further examination and potential mitigation efforts.

#### Calculation Methodology

Expected damages, injuries and deaths at each State-owned facility are calculated in the following steps, which are discussed in detail below.

1. Determine building type
2. Determine building occupancy load
3. Determine building size (footprint)
4. Determine annual probability of impact by range of tornadoes
5. Develop damage, injury and mortality functions for building type classes
6. Calculate expected annual damages using damage functions and probabilities
7. Project future damages to 30-year horizon using OMB-mandated method

#### Building Type

The facilities identified by WEM (approximately 460) were sorted into one of five building types, which are identified in the FEMA Full Data Benefit-Cost Analysis Module for floods. These building types are manufactured housing, non-engineered wood frame, lightly engineered, non-engineered masonry, and fully-engineered. The criteria used to determine the building type are gross square footage, replacement value and use. The sort was conducted based on judgement of the available data. Table 4.3.2-1 includes a summary of the building type and the number of these buildings that are included in the risk assessment database.

**Table 4.3.2–1 Summary of Building Type and Number in Database**

| Asset Type | # in database |
|---|---|
| Manufactured Housing | 0 |
| Non-engineered Wood Frame | 38 |
| Lightly Engineered | 290 |
| Non-engineered Masonry | 0 |
| Fully-engineered | 124 |

## Occupancy Load

The occupancy load of each facility was determined by estimating the number of people per square foot that would occupy the facility. Then this number was divided by the total gross square footage per facility. For example, in living quarters the square foot estimated per person may be 100 square feet whereas the square foot space for a communications tower could be 5,000 square feet per person. The occupancy load will be used in the injury and mortality functions.

## Building Size (Gross Square Footage Data)

The Gross Square Footage field in the database was partially populated in the initial version of the database. Several facilities did not list the Gross Square Footage (GSF). In that case, the GSF for each facility was based on similar facilities in the database. If there was no comparable facility, that particular facility was removed from the database.

## Tornado Probability by Fujita Class

The meaning of the Fujita classes was discussed in the hazard profile sections and will not be reviewed here. Tornado probability data was obtained from FEMA's Tornado Wind Benefit-Cost Analysis Module. The metadata used in the software was obtained from NOAA records, and is documented in the technical materials for the program. In this assessment, a proportional risk methodology was employed, as described below in steps. The purpose of these steps is to determine the annual probability of each F-class impacting the individual State-owned buildings in the data set.

1. Extract probability metadata from the FEMA software. This data indicates the area (in acres) that tornadoes of all the F-classes affect in Wisconsin every year. The data is expressed in acres of impact.
2. Determine the percentage of area in the State that is impacted by various tornado classes annually.
3. Determine the footprint area of buildings in the State-owned facilities database.
4. Determine the likelihood of buildings being impacted by the various F-classes each year by proportion.

**Table 4.3.2–2 Tornado Areas of Impact in Wisconsin by Fujita Class**

| Data Parameter | Tornado Fujita Class | | | | | |
|---|---|---|---|---|---|---|
| | F0 | F1 | F2 | F3 | F4 | F5 |
| Number in sample | 130 | 315 | 255 | 57 | 13 | 2 |
| Percentage of sample | 16.84% | 40.80% | 33.03% | 7.38% | 1.68% | 0.26% |
| Total area of impact in reporting period (acres) | 545 | 11710 | 45674 | 85193 | 42398 | 12611 |
| Average area of impact per event | 4.19 | 37.17 | 179.11 | 1494.61 | 3261.38 | 6305.50 |
| Average annual area of impact | 11.85 | 254.57 | 992.91 | 1852.02 | 921.70 | 274.15 |
| Annual Probability | 0.0000283% | 0.000607% | 0.002368% | 0.004418% | 0.002199% | 0.000654% |

## Building Wind Damage Functions

Based on the building type categories described earlier, building damage functions were developed for each of the identified types. Damage functions describe the percentage to which buildings or other assets are damaged at various wind stress levels, in the case of tornadoes at various Fujita class wind speeds. The damage functions are expressed as percentages of damages, and are multiplied by building replacement value to determine expected damage under given wind loads. It is important to recognize that there exist no nationally-recognized wind damage functions based on building classification. The wind damage functions in this are estimated, using professional judgment and reference to FEMA's Hurricane Wind Benefit-Cost Analysis Module.

**Table 4.3.2–3 Wind Speeds Comparison of Saffir-Simpson Hurricane Scale vs. Fujita Tornado Scale; (mph units)**

| Classification (S-S or F) | Saffir-Simpson Wind Speed | Fujita Wind Speed |
|---|---|---|
| 0 | 60-73 | 40-72 |
| 1 | 74-95 | 73-112 |
| 2 | 96-110 | 113-157 |
| 3 | 111-130 | 158-206 |
| 4 | 131-155 | 207-260 |
| 5 | >155 | 261-318 |

Table 4.3.2 - 4 below shows the wind damage function defaults in FEMA's Hurricane Wind Benefit-Cost Analysis Module. Because the Fujita classifications for Tornado wind speeds are calibrated on a much higher scale (i.e. wind speeds up to 318 mph), there is no reliable method for directly converting hurricane categories to the Fujita scale for tornadoes.

**Table 4.3.2–4 Table of Wind Damage Functions for *Hurricane* Class by Building Type (initial part of conversion to tornado damage functions)**

| Building Type | Percent Damage by Hurricane Category | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| Manufactured Housing | 10 | 25 | 50 | 80 | 100 | 100 |
| Non-engineered Wood Frame | 0 | 7.5 | 20 | 50 | 90 | 100 |
| Lightly Engineered | 0 | 5 | 15 | 40 | 80 | 100 |
| Non-engineered Masonry | 0 | 5 | 15 | 40 | 80 | 100 |
| Fully-engineered | 0 | 2.5 | 5 | 20 | 40 | 60 |

Table 4.3.2 – 5 below provides wind damage functions by Fujita class based on an estimated conversion from hurricane category functions. As noted above, the conversion is based on professional judgment, and the results of this analysis should be considered reliable only in relative terms, i.e. for comparisons in the State of Wisconsin.

**Table 4.3.2–5 Table of Wind Damage Functions for Tornado Fujita Class by Building Type**

| Building Type | Percent Damage by Fujita Class | | | | | |
|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 |
| Manufactured Housing | 10 | 35 | 75 | 100 | 100 | 100 |
| Non-engineered Wood Frame | 5 | 30 | 50 | 100 | 100 | 100 |
| Lightly Engineered | 0 | 15 | 25 | 65 | 100 | 100 |
| Non-engineered Masonry | 0 | 15 | 30 | 80 | 100 | 100 |
| Fully-engineered | 0 | 10 | 25 | 60 | 100 | 100 |

## Injury and Mortality Functions

Injury and mortality functions are estimates of how many people will be injured and killed by tornadoes. As is the case with building wind damage functions, there is no nationally-recognized method or proven source of data for these functions. The risk of tornado deaths and injuries (i.e. the dollar value of future risk) depends on several inter-related factors including those shown below. Given the number of State-owned facilities included in this assessment, it was not possible to determine items 4 and 5 in the list below with any certainty, so these were not taken into account.

1. Tornado probability by Fujita class
2. The number of people in a facility
3. The performance of the building that individuals are in during the tornado (if they are inside), i.e. the building damage function
4. The availability of advance warning about the event
5. The availability and accessibility of appropriate shelter

The figures used for valuation of deaths and injuries are approximations based on FEMA guidance used in benefit-cost analysis of hazard mitigation measures. Major and minor injuries are combined in the NOAA data, so it was necessary to use a blended number in the valuation.

**Table 4.3.2–6 Monetary Conversion Values for Injuries and Mortality**

| Damage Category | Value for Monetary Conversion |
|---|---|
| Injury (blended major and minor) | $7,500 |
| Death | $3,000,000 |

Table 4.3.2 – 7 shows injury and mortality functions by building type. The functions are linked to the performance of the various building types during tornadoes. These figures are estimates that are based on judgment, and should not be used in any context other than the State Hazard Mtigation Plan. In order to accurately assess the expected mortality and injuries in specific buildings, it would be necessary to assess numerous aspects of those buildings, and to ascertain if occupants had adequate warning and shelter, as discussed previously. The figures in the table are used to calculate future risk for comparison among building types and uses in the Wisconsin database. The results of the calculations should be used only to gauge the relative risk as a part of the mitigation planning process.

**Table 4.3.2-7 Injury and Mortality Functions by Building Type; indicated as an Estimated Percentage of Occupants Injured or Killed**

| Fujita Tornado Class | F0 | | F1 | | F2 | | F3 | | F4 | | F5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Building Type** | **I** | **M** | **I** | **M** | **I** | **M** | **I** | **M** | **I** | **M** | **I** | **M** |
| Manufactured Housing | 20 | 0 | 30 | 0 | 50 | 20 | 25 | 75 | 10 | 90 | 0 | 100 |
| Non-engineered Wood Frame | 10 | 0 | 15 | 0 | 30 | 0.5 | 50 | 50 | 10 | 90 | 0 | 100 |
| Lightly Engineered | 5 | 0 | 5 | 0 | 25 | 0 | 40 | 40 | 65 | 80 | 10 | 100 |
| Non-engineered Masonry | 0 | 0 | 5 | 0 | 25 | 0 | 40 | 40 | 65 | 80 | 10 | 100 |
| Fully-engineered | 0 | 0 | 0 | 0 | 10 | 0 | 30 | 0 | 35 | 50 | 50 | 30 |

## Calculate Annual Damages with Probabilities and Damage Functions

The basic damage calculation is accomplished by multiplying the values of buildings, injuries and deaths by the probabilities of various classes of tornadoes impacting the structure in question. Since the probabilities are calculated proportionally, they are not performed using an integration methodology, but are rather compiled as individual scenario events and added together.

The tornado risk calculation is performed as:

$$P_a((RV(1.3)*DF_c) + ((ODF_i) + (ODF_m))) = D_a$$

Where

$P_a$ is Annual event probability
RV is the replacement value of the asset, in dollars per square foot

$DF_c$ is the damage function for the various building classes in the database
O is the occupancy of the asset
$DF_i$ is the injury function
$DF_m$ is the mortality function
$D_a$ is the annual expected damage

The 1.3 multiplier on the replacement value reflects the value of contents. Given the size of the database there is no way to accurate assess the value or damage functions of the various contents. In these calculations the value figure is calculated by algorithm as 30% of the value of the structure, and the damage function is assumed to be the same as the structure.

For example: consider a non-engineered wood frame building with a basement and replacement value of $1,000,000 and occupancy 10, 0.000000283 (Probability F0) * $1,000,000 (Replacement value) * 0.05 (damage function from Table 4.3.2-5) * 1.3 (Contents value) + (10 (Occupancy) * 0.10 (Injury Function Table 4.3.2-7) * $7,500 (blended injury dollar value)) +(10 (Occupancy) * 0 (Mortality Function Table 4.3.2-7) * $3,000,000 (mortality dollar value)) = complete for all F class and add = Total Expected Damages

**Project future damages to 30-year horizon**

In accordance with Office of Management and Budget guidelines found in Circular No. A-94, future expected damages are expressed as net present value with a 7% discount rate. For this report, a 30-year time horizon is employed, although this figure can be adjusted using different present value coefficients. In the present calculations, the annual risk from tornadoes is multiplied by a present value coefficient of 12.41 to determine future risk at a 7% discount, as required. The calculation is

**$D_a$PVC=R**

Where

$D_a$ is the annual expected damage
PVC is the present value coefficient (7% discount rate, 30-year horizon)
R is the risk (i.e. the cumulative losses over the 30-year horizon, discount to present value)

The applicable OMB guidance, found in Circular No. A-94 can be found at www.omb.gov.

**Results**

Table 4.3.2-8 below shows tornado risk to the State-owned and –operated critical facilities in the database provided by WEM. The methodologies are explained above.

**Table 4.3.2–8 Tornado Risk to State-owned and operated Facilities in Wisconsin**

| Building Type | Number in State | Structural and Contents Damage | Injury and Mortality Damage | Annual Risk | Future Risk |
|---|---|---|---|---|---|
| Manufactured Housing | 0 | 0 | 0 | 0 | 0 |
| Non-engineered Wood Frame | 38 | $6,282 | $400,708 | $406,990 | $5,050,741 |
| Lightly Engineered | 290 | $172,118 | $10,310,741 | $10,482,859 | $130,092,280 |
| Non-engineered Masonry | 0 | 0 | 0 | 0 | 0 |
| Fully-engineered | 124 | $87,480 | $957,034 | $1,044,514 | $12,962,418 |
| Total | 452 | $265,880 | $11,668,483 | $11,934,363 | $148,105,439 |

This page intentionally blank

### 4.3.3 High Wind Risk

As discussed in the Hazard Profile section of this report, high winds are winds unrelated to tornadoes. These are typically created by downbursts from thunderstorms or by strong weather fronts. Although Wisconsin has a history of these events, by nature they are very difficult to predict, particular on a site-specific basis. In its ASCE 7-98 publication the American Society of Civil Engineers provides design guidelines for structures based on anticipated windspeeds in various parts of the U.S. For most of the country (including Wisconsin) the "design wind speed" is 90 mph. This figure is the 3-second peak gust at 33 feet above ground level. This wind speed is calculated as a 50-year event, i.e. one with a 2% annual recurrence probability.

The 2005 plan included a high wind risk assessment of State-owned and operated critical facilities that used data at the facility level. Wisconsin Emergency Management (WEM) is currently in the process of completing a Statewide, State-owned and operated critical facilty project. The completed project will allow WEM to do a more comprehensive risk assessment on State-owned and operated critical facilities.

#### Methodology

#### Calculation Methodology

The methodology used to calculate damages (including injuries and deaths) from high winds is identical to that used for tornadoes, except that there is only one probability function required. The calculation sequence is as follows:

1. Determine building type
2. Determine building occupancy load
3. Determine building size (footprint)
4. Determine annual probability of impact
5. Develop damage, injury and mortality functions for building type classes
6. Calculate expected annual damages using damage functions and probabilities
7. Project future damages to 30-year horizon using OMB-mandated method

All these items are discussed in the tornado section above, and are not revisited here, except for a few brief comments on probability and wind damage functions in the sections immediately below.

#### High Wind Probability

The probability calculation is done as a simple annual return frequency of 2%, or a 0.02 annual probability.

## Building Wind Damage Functions

For this risk assessment, building wind damage functions are simply derived from the equivalent tornado wind damage functions by equating the baseline 90-mph wind to a Fujita Class 1 tornado. Table 4.3.3 – 1 below shows the percentage of building damage for the 90-second peak gust.

**Table 4.3.3 – 1 Table of Wind Damage Functions for 90-mph Peak Wind Gust; Estimated as Equivalent to Fujita Class 1 Tornado**

| Building Type | Building Damage |
|---|---|
| Manufactured Housing | 35 |
| Non-engineered Wood Frame | 30 |
| Lightly Engineered | 15 |
| Non-engineered Masonry | 15 |
| Fully-engineered | 10 |

Table 4.3.3 – 2 shows injury and mortality functions by building type. The functions are linked to the performance of the various building types during tornadoes. These figures are estimates that are based on judgment, and should not be used in any context other than the State Hazard Mtigation Plan. In order to accurately assess the expected mortality and injuries in specific buildings, it would be necessary to assess numerous aspects of those buildings, and to ascertain if occupants had adequate warning and shelter, as discussed previously. The figures in the table are used to calculate future risk for comparison among building types and uses in the Wisconsin database. The results of the calculations should be used only to gauge the relative risk as a part of the mitigation planning process.

The figures in this table match the injury and mortality functions for Fujita Class 1 tornadoes.

**Table 4.3.3 – 2 Injury and Mortality Functions by Building Type; indicated as an Estimated Percentage of Occupants Injured or Killed in 90-mph Peak Gust**

| | Percent Injured and Killed | |
|---|---|---|
| **Building Type** | **Injured** | **Killed** |
| Manufactured Housing | 30 | 0 |
| Non-engineered Wood Frame | 15 | 0 |
| Lightly Engineered | 5 | 0 |
| Non-engineered Masonry | 5 | 0 |
| Fully-engineered | 0 | 0 |

## Calculate Annual Damages with Probabilities and Damage Functions

The basic damage calculation is accomplished by multiplying the values of buildings, injuries and deaths by the probability of an Fujita class 1 tornado impacting the structure in question.

The high wind risk calculation is performed as:

$$P_a\{[RV(1.3)*DF_c] + [(ODF_i) + (ODF_m)]\} = D_a$$

Where:

$P_a$ is Annual event probability
RV is the replacement value of the asset, in dollars per square foot
$DF_c$ is the damage function for the various building classes in the database
O is the occupancy of the asset
$DF_i$ is the injury function
$DF_m$ is the mortality function
$D_a$ is the annual expected damage

The 1.3 multiplier on the replacement value reflects the value of contents. Given the size of the database there is no way to accurate assess the value or damage functions of the various contents. In these calculations the value figure is calculated by algorithm as 30% of the value of the structure, and the damage function is assumed to be the same as the structure.

For example: consider a non-engineered wood frame building with a basement and replacement value of $1,000,000 and occupancy of 10.

0.02 (Probability) * $1,000,000(Replacement value) * 0.30 (damage function from Table 4.3.3-1) * 1.3 (Contents value) + (10 (Occupancy) * 0.15 (Injury Function Table 4.3.3-2) * $7,500 (blended injury dollar value)) +(10 (Occupancy) * 0 (Mortality Function Table 4.3.3-2) *$3,000,000 (mortality dollar value)
= Total Expected Damages

**Project future damages to 30-year horizon**

In accordance with “Office of Management and Budget” guidelines found in Circular No. A-94, future expected damages are expressed as net present value with a 7% discount rate. For this report, a 30-year time horizon is employed, although this figure can be adjusted using different present value coefficients. In the present calculations, the annual risk from high wind is multiplied by a present value coefficient of 12.41 to determine future risk at a 7% discount, as required. The calculation is:

$$D_aPVC=R$$

Where

$D_a$ is the annual expected damage
PVC is the present value coefficient (7% discount rate, 30-year horizon)



Section TOC

R is the risk (i.e. the cumulative losses over the 30-year horizon, discount to present value)

The applicable OMB guidance, found in Circular No. A-94 can be found at www.omb.gov.

## Results

Table 4.3.3 – 3 below shows high wind risk to the State-owned and –operated buildings in the database provided by WEM. The methodologies are explained above.

**Table 4.3.3 – 3 High Wind Risk to State-owned and operated Facilities In Wisconsin**

| Building Type | Number in State | Structural and Contents Damage | Injury and Mortality Damage | Annual Risk | Future Risk |
|---|---|---|---|---|---|
| Manufactured Housing | 0 | 0 | 0 | 0 | 0 |
| Non-engineered Wood Frame | 38 | $436,328 | $60,439 | $496,767 | $6,164,874 |
| Lightly Engineered | 290 | $8,058,825 | $615,248 | $8,674,073 | $107,645,247 |
| Non-engineered Masonry | 0 | 0 | 0 | 0 | 0 |
| Fully-engineered | 124 | $2,842,064 | 0 | $2,842,064 | $35,270,017 |
| Total | 452 | $11,337,217 | $675,687 | $12,012,904 | $149,080,139 |

### 4.3.4 Risk Assessment Summary and Recommendations

To have true accurate risk assessments for any of the hazards it requires site and hazard specific information. For instance to achieve an accurate risk assessment for flooding, site specific information is needed for structures such as elevation of lowest floor and if they have a basement or not. In addition, you need additional information from the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM) for further detailed analysis. For tornado or wind risk assessment, again, you need to have specific information such as the type of structure and approximate construction date, building use and occupancy. Other information needs to be included such as the frequency and probability of occurrence. This type of information is typically collected during mitigation project development and for the detailed benefit-cost analysis. It is unrealistic to expect this detailed information to be included in an overview of the State's vulnerability to the hazards and in estimating potential damages and losses. It is further unrealistic to expect this detailed information even in the local all hazard mitigation plans at least for the first version of the plans.

The State Risk Assessment at least for this version of the Plan includes a very basic and general analysis of vulnerability and loss estimation both at the county level analysis and state level for state owned and operated buildings, critical facilities, and infrastructure. The State Risk Assessment will be improved upon in subsequent updates of the plan.

FEMA has approved 11 single jurisdictional, 35 county wide and four (4) tribal hazard mitigation plans to date. The number of plans and the area they represent will provide more information to influence both the State Risk Assessment and Mitigation Strategy portions of the State Plan.

To determine which state-owned and operated buildings, critical facilities and infrastructure is at most risk from the identified hazards, again site-specific information is required. There are nearly 6,500 structures included on the State Facility Database. The information included on the database includes:

- Building name and number
- State Agency
- Asset Number
- Institution Name
- Address
- Building Contacts
- County and Municipality
- Type of Construction
    - Windows
    - Walls
    - Roof
- Foundation

- Condition of the structure
- Additions
- Number of floors above and below ground
- Gross Square Footage
- Replacement Value
- Completion Date for some buildings, but not all
- Indication if the structure is located in a floodplain
- Fire Detection and Suppression System
- Occupancy and Use
- FIRM Information
- Exposure to Wind

As stated above, to get an accurate risk assessment there needs to be site-specific information. The information in the State Facility Database is a good start, but additional information is required to determine hazard vulnerability for each building and to further develop a strategy to mitigate the losses from identified hazards. Below is the strategy for improving this data for the three-year and beyond updates of the State of Wisconsin Hazard Mitigation Plan.

### 4.3.4.1 Strategy for Improving the Wisconsin Risk Assessment

#### County Level Risk Assessment

As stated above, the number of local hazard mitigation plans under development and the area they represent will provide more information to influence the State Risk Assessment of the State Plan. We may not see more detailed local risk assessments until the five and ten year updates of the local plans.

WEM mitigation staff will develop a process for incorporating local risk assessment information from the local plans into the State Risk Assessment along with utilizing the information that we know on the past history and probability of future occurrence. We anticipate the six-year update of the State Plan will have an even better overview of local risk assessment than the three-year update as there should be additional information from the five-year update of the local plans.

#### Risk Assessment of State-Owned and Operated Buildings, Critical Facilities and Infrastructure

The following strategy has been developed for future updates of the State of Wisconsin Hazard Mitigation Plan in developing a comprehensive database of the State-owned and operated buildings, critical facilities and infrastructure.

1. Through the Wisconsin Hazard Mitigation Team and the Governor's Homeland Security Council's Interagency Working Group conduct more in-depth analysis to determine the state facilities that are considered critical facilities.

2. Through the Wisconsin Hazard Mitigation Team and the Governor's Homeland Security Council's Interagency Working Group conduct more in-depth analysis to identify critical state infrastructure.

3. Through the Wisconsin Hazard Mitigation Team and the Governor's Homeland Security Council's Interagency Working Group determine the state facilities that are very low priority for further analysis or data collection. This would include such structures as outhouses, sheds, i.e., those facilities that are not critical or essential to state operations and would not have a great affect if impacted by a disaster.

4. Prioritize by county for further analysis and data collection. This would be based upon the following:

    - Number of state facilities
    - Number of state critical facilities
    - Number of time county declared a federal disaster area
    - Total value of the state facilities
    - Total value of the critical facilities
    - If there is Q3 floodplain data available.

5. Work with state agencies to come up with the proper building contacts for the critical facilities

6. Send out the finalized Wisconsin Risk Assessment Date Collection Worksheet to each contact at the critical facilities

7. Work with DOA Risk Management staff to create an access database that can be easily accessed and also be properly secure for completed data collection worksheets

8. Have hired staff to conduct site visits to collect additional data for the facilities that have not completed the data collection worksheet based on the above priority.

9. Develop a process for analyzing the data to determine vulnerability and risk from natural and/or technological hazards based on probability. This may include utilizing HAZUS-MH if staff obtain adequate training and receive technical support.

10. Coordinate with the Wisconsin Hazard Mitigation Team in identifying and prioritizing potential mitigation measures beginning with the critical facilities and infrastructure.

11. Incorporate identified potential mitigation measures into the Mitigation Strategy and Action Plan of the State of Wisconsin Hazard Mitigation Plan, as well as local hazard mitigation plans where appropriate.

12. Working with the Wisconsin Hazard Mitigation Team and other state agencies, apply for potential funding to implement mitigation measures for identified state facilities, critical facilities and infrastructure.

There is approximately 6,500 state facilities not counting infrastructure. It would take one person working full-time nearly 28 years to visit every facility. Therefore, the above strategy has been developed to obtain needed site specific information on those facilities and infrastructure that are most critical and may be at most risk from future disasters. There has been steps made to accomplishing the before mentioned strategy. Contacts are being made with the Department of Corrections to start the questionnaire and data collecting process.

WEM along with the Department of Administration has created a Wisconsin Risk Assessment Data Collection Worksheet that will be as a basis for collecting information from each of the determined critical facilities. The collection worksheet covers everything from general information, such as location, to more detailed questions involving construction materials. All of this data is needed to create an accurate risk assessment.

## Natural Hazard Vulnerability Assessment on State Owned Buildings

### Field Description

Name of Data Collector _____ Date _____

### General Information

1. ID Number
   _____
2. Agency (name)
   _____
3. Institution
   _____
4. Asset Number
   _____
5. Name of Building (alternate name)
   _____
6. Street Address of the Building
   _____
7. City, Village, Town
   _____
8. County
   _____
9. State
   _____
10. Zip Code (+4)
    _____
11. Institution Contact Name
    _____
12. Contact Phone Number
    _____
13. Building Contact Persons Name
    _____
14. Contact Phone Number
    _____

**Sketch**

**Physical Building Properties**

15. Latitude (decimal degree)

_____

16. Longitude (decimal degree)

_____

17. Photograph Numbers: Number photo locations on sketch above

_____
_____
_____
_____
_____

18. Critical Facility

0 = Unknown
1 = Yes
2 = No

19. Original Year of Construction

_____



Section TOC

20. Year of Additions

_____
_____
_____

21. Name of each addition if different from building name

_____
_____
_____

22. Gross Square Feet (outside dimensions)

_____

23. Number of Stories Above Ground

_____

24. Number of Stories Below Ground

_____

25. Number of occupied floors

_____

26. Square Footage of each Story

_____

27. Building Value ($)

_____

28. Valuation Year

_____

29. Contents Value ($)

_____

30. Building Condition

0 = Unknown
1 = Excellent
2 = Good
3 = Fair
4 = Poor

31. Building Structure Type Bldg Type (drop down box) IBC Construction Type covers frame type, walls, floor construction, roof construction.

    Type I
    Type II
    Type III
    Type IV
    Type V
    Unknown

32. Foundation Type

    0 = Unknown
    1 = Slab
    2 = Perimeter (shallow)
    3 = Combined Footing
    4 = Single Column Footing
    5 = Pile
    6 = Drilled Pier
    7 = Elevated Pier
    8 = Caisson
    9 = None

33. Substructure Type

    0 = Unknown
    1 = Slab
    2 = Fill
    3 = Crawlspace
    4 = Basement
    5 = Pier (Post or Beam)
    6 = Pile (or column)

**Roof**

34. Roof Covering

0 = Unknown
1 = Asphalt Shingle
2 = Wood Shingle
3 = Wood Shake
4 = Barrel Clay Tile
5 = Flat Tile
6 = Concrete Flat Tile
7 = Slate
8 = Metal Shingle
9 = Metal Panel
10 = Built-up with gravel
11 = Built-up without gravel
12 = Modified Bitumen
13 = Single Ply Membrane – Mechanically Attached
14 = Single Ply Membrane – Adhered
15 = Single Ply Membrane – Gravel Ballast
16 = Other

35. Roof Wall Anchorage

0 = Unknown
1 = Toe nail
2 = Anchor Bolt
3 = Strap
4 = Weld
5 = None

36. Shielding Height

0 = Unknown
1 = Taller Buildings
2 = Similar Buildings
3 = Shorter Buildings
4 = Taller Trees
5 = Tree Height Similar to Building Height
6 = Shorter Trees
7 = None

37. Roof Slope (degrees)

    0 = Unknown
    1 = Less than 10 degrees
    2 = 11 to 20 degrees
    3 = 21 to 30 degrees
    4 = 31 to 45 degrees
    5 = 46 to 60 degrees
    6 = Greater than 60 degrees

38. Gable Ends Braced

    0 = Unknown
    1 = Braced
    2 = Unbraced
    3 = NA

39. Roof Sheathing

    0 = Unknown
    1 = Plywood
    2 = Oriented Strand Board (OSB)
    3 = Plank
    4 = Metal Deck
    5 = Concrete Slab
    6 = Batten Deck
    7 = Other

40. Roof Perimeter Architecture

    0 = Unknown
    1 = Roof overhang < 2 feet
    2 = Roof overhang > 2 feet
    3 = Braced parapet
    4 = Unbraced parapet
    5 = Overhand and braced parapet
    6 = Overhand and unbraced parapet
    7 = None
    8 = other

**Walls, Windows & Doors**

41. Wall Cladding Type

0 = Unknown
1 = Reinforced Masonry or Reinforced Concrete
2 = Unreinforced Masonry
3 = Brick Veneer
4 = Composite Materials Siding
5 = Vinyl
6 = Metal Panel
7 = Wood
8 = Stucco
9 = EIFS
10 = Glass
11 = Other

**Fire Detection and Suppression System**

42. Fire Alarms
    Automatic
    Manual
    None

43. Smoke Detectors
    Hardwired
    Hardwired and Interconnected
    Battery powered
    None

44. Sprinkler System
    Complete
    Partial _____%
    None

**Emergency Electric Power**

45. Building Connected to an Emergency Generator
    Yes – Institution wide generator(s)
    Yes – Building generator(s)
    No generator connection

46. Generator Fuel Type
    Diesel or Gas
    Natural Gas
    Propane or LP
    Secondary electric supply



**Section TOC**

**Waste Water Disposal and Treatment**

47. Waste Water Treatment System:
    - Municipally Owned Waste Water Treatment Plant
    - Institution Operated Waste Water Treatment Plant
    - Septic System:
        - Serving only this building or multiple buildings at institutions
        - Pumped to drain field or gravity flow to drain field

48. Is waste water pumped from the building to the collection system or septic tank?
    - Yes
    - No

**Water Supply and Distribution System**

49. Water Supply:
    - Municipally owned water system
    - Institution operated water well(s):
        - Number of currently operating well(s) on property:_____
    - Institution operated water tower(s) or reservoir(s)
        - Total storage capacity: _____ gallons
        - Booster station:
            - Yes
            - No

50. Water Distribution:
    - Municipally owned distribution system and service line to this building
    - Institution owned distribution system and service line to this building
    - Well with service directly to this building

**Occupancy and Use**

51. Occupancy Class IBC Chapter 3

- Assembly
  - A-1
  - A-2
  - A-3
  - A-4
  - A-5
- Business
  - B
- Educational
  - E
- Factory & Industrial
  - F-1
  - F-2
- High Hazard
  - H-1
  - H-2
  - H-3
  - H-4
  - H-5
- Institutional
  - I-1
  - I-2
  - I-3
  - I-4
- Mercantile
  - M
- Residential
  - R-1
  - R-2
  - R-3
  - R-4
- Storage
  - S-1
  - S-2
- Utility
  - U

52. Daytime Occupants (number of people)

**Week Day:** _____

**Weekend Day:**_____

53. Nighttime Occupants (number of people)

    **Week Day:** _____

    **Weekend Day:** _____

54. Kitchen Facilities

    0 = Unknown
    1 = Yes
    2 = No

55. Kitchen Capacity (meals per day)
    _____

56. Dining Facilities

    0 = Unknown
    1 = Yes
    2 = No

57. Dining Capacity (number of seats)
    _____

58. Sleeping Facilities

    0 = Unknown
    1 = Yes
    2 = No

59. Sleeping Capacity (number of beds)
    _____

60. Number of Hospital Beds
    _____

61. Hazardous Materials Stored On-Site

    0 = Unknown
    1 = Yes
    2 = No

**Flood**

62. FIRM Panel Number

_____

63. FIRM Community Number

_____

64. FIRM Effective Date (mm/dd/yyyy)

_____

65. Flood Hazard Zone

1 = A1 – A30
2 = AE
3 = AH
4 = A (with BFE)
5 = A (without BFE)
6 = AO
7 = AR
8 = AR/A
9 = AR/AE
90 = AR/A1 – A30
91 = AR/AH
92 = AR/AO
93 = VE
94 = V1 – V30
95 = V (with BFE)
96 = B
97 = C
98 = D
99 = X (shaded)
991 = X (unshaded)
992 = X500
999 = Unknown

66. Base Flood Elevation

_____

67. Vertical Datum for Flood elevation

0 = Unknown
1 = NGVD (or MSL NGVD)
2 = NAVD (or MSL NAVD)
3 = Other

68. Other Vertical Datum Definition

_____

69. Lowest Adjacent Grade Elevation

_____

70. Post-FIRM

0 = Unknown
1 = Yes
2 = No

71. Elevation of Lowest Finished Floor

_____

72. Lowest Floor Below Grade on all sides

0 = Unknown
1 = Yes
2 = No

73. Mechanical Equipment Height Relative to Lowest Floor (feet)

_____

74. Percentage of Contents Value on First Floor (%)

_____

75. Percentage of Contents Value Below Grade (%)

_____

76. Building Flood Proofed

0 = Unknown
1 = Yes
2 = No

**Wind**

77. Wind Exposure Class

0 = Unknown
1 = Costal Front
2 = Open Land
3 = Forested
4 = Suburban
5 = Urban

6 = Major City Center

78. Topography

0 = Unknown
1 = Flat
2 = Valley
3 = Ridge
4 = Slope

79. Wind Shielding

0 = Unknown
1 = None
2 = One Side
3 = Two Sides
4 = Three Sides
5 = Surrounded

80. Glass Door and Window Opening (%)

0 = Unknown
1 = 0 to 10%
2 = 11 to 20%
3 = 21 to 30%
4 = 31 to 40%
5 = 41 to 50%
6 = 51 to 60%
7 = Greater than 60%

81. Other Door Area (%) (excludes glass doors)

0 = Unknown
1 = 0 to 10%
2 = 11 to 20%
3 = 21 to 30%
4 = Greater than 30%

82. Garage Doors (number of doors)

0 = Unknown
1 = None
2 = 1 Door
3 = 2 Doors
4 = 3 Doors
5 = 4 Doors
6 = 5 Doors
7 = Greater than 5 doors

83. Roll-up doors (number of doors)

0 = Unknown
1 = None
2 = 1 Door
3 = 2 Doors
4 = 3 Doors
5 = 4 Doors
6 = 5 Doors
7 = Greater than 5 doors

84. Door Protection

0 = Unknown
1 = Wood
2 = Metal
3 = Plywood
4 = None
5 = Other

**Manufactured Housing**

85. Manufactured Housing – Tie Downs

0 = Unknown
1 = Yes
2 = No

**Damage History**

86. Has the building received damages in the past from natural hazards?

0 = Unknown
1 = Yes
2 = No

87. If answered yes to question 86, from what hazard:

0 = Unknown
1 = Flood
2 = Wind
3 = Tornado
4 = Forest or Wildland Fire
5 = Extreme Cold
6 = Extreme Heat
7 = Snow/Ice
8 = Lightning
9 = Hail
10 = Coastal Erosion
11 = Other

88. If answered yes to question 86, please describe the damages, when they occurred, and estimated cost.

_____
_____
_____
_____
_____

89. Additional Comments.

_____
_____
_____
_____
_____
_____
_____

An Access database has also been created to house the questionnaire answers. This database will aide in the creation and implementation of a ranking system used to rank each facility. The ranking system will be based off of data collected from the questionnaires on a low to high hierarchy.

## 4.4 LIFELINES

Lifelines are critical to the health and well being of all Wisconsin residents. Lifelines, such as highways, railroads, power transmission lines, and water supply pipelines, tend to be linear in nature with key facilities, such as pumping stations, located at specific points. Due to the extensive geographic distances covered by lifelines, they tend to be exposed to a full range of natural hazards in the environment. By their nature, some lifelines are more hardened than others to specific hazards. For example, buried transmission lines have an extremely low vulnerability to wind damage. On the other hand, all of them have some level of vulnerability to earthquakes.

The purpose of this section is to provide a listing of the general types of lifelines and their components and identify the major natural hazards to which the lifelines are most vulnerable. It is beyond the scope of this effort to attempt to provide a detailed vulnerability assessment and loss estimation for lifelines. Based upon American Lifelines Alliance's categorization, Table 4.4-1 provides a listing of the major types of lifelines and their key components. For each lifeline component a "*" symbol indicates if this particular component has a high level of vulnerability to a given natural hazard. This assessment is intended to provide a relative indication of risk and is not intended to represent a quantitative valuation of risk. The focus of Table 4.4-1 is to highlight key vulnerabilities.

This page intentionally blank

**Table 4.4-1: Vulnerability of Lifelines to Selected Natural Hazards (Based on the American Lifeline Alliance, 2003)**

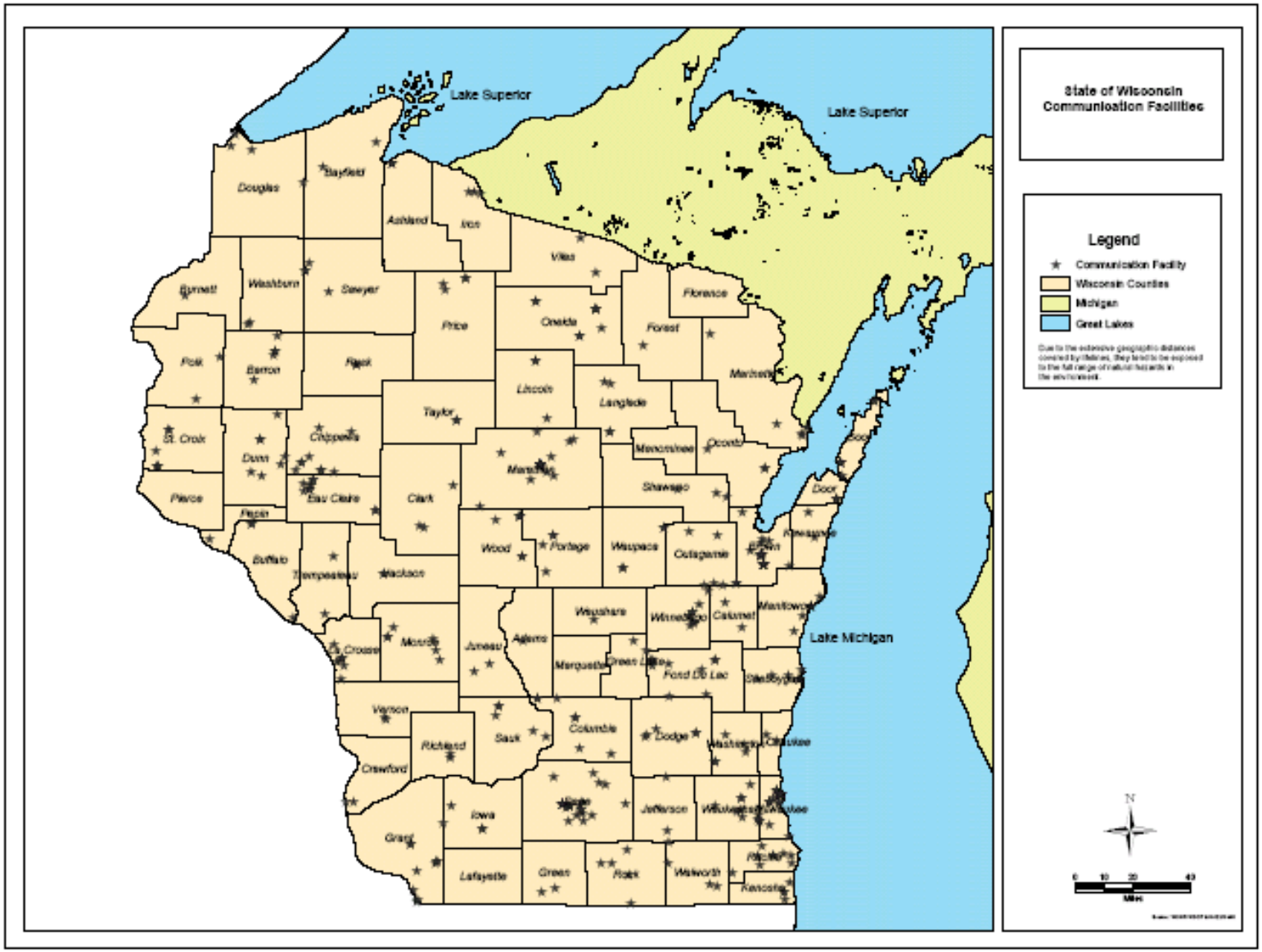
| Category | Description | Number/Line Miles | Flood | Wind | Earthquake | Snow | Ice | Landslide |
|---|---|---|---|---|---|---|---|---|
| Communications Facility | Communication Lines, Control Vaults, Switching Stations, Radio/TV Stations, Weather Station | 362 | * | * | * | * | * | * |
| Waste Water Facility | Treatment Plants, Control Vaults, Stations | 500 | * | * | * | * | * | |
| Potable Water Facility | Pipelines, Treatment Plants, Control Vaults and Control Stations, Wells, Storage Tanks and Pumping Stations | 5 | * | * | * | * | * | |
| Oil Facility | Pipelines, Refineries, Control Vaults and Control Stations, and Tank Farms | 6 | * | * | * | | | |
| Electric Power Facility | Generating Plants, Substations, Distribution Circuits, and Transmission Towers | 56 | * | * | * | * | * | * |
| Electric Transmission Lines | Electric Transmission Lines | 6,151 Miles | * | * | * | * | * | * |
| Natural Gas Facility | Pipelines Control Vaults and Control Stations, and Compressor Stations | 6 | * | * | * | | | |
| Natural Gas Pipelines | Ductile and Brittle Pipe | 85,737 Miles | * | * | * | | | |
| Railroad Systems | Tracks, Bridges, Tunnels, Stations, Fuel, Dispatch and Maintenance Facilities | 99 / 6,821 miles | * | * | * | * | * | * |

| Category | Description | Number/Line Miles | Flood | Wind | Earthquake | Snow | Ice | Landslide |
|---|---|---|---|---|---|---|---|---|
| Port Facility | Water Front Structures, Cranes/Cargo Handling Equipment, Warehouses and Fuel Facilities | 142 | * | * | | | | |
| DOT Highways | Roadways, Bridges and Tunnels | 11,753 state miles / 19,665 county trunk highway miles | * | | * | * | * | * |
| Airports | Control Towers, Runways, Terminal Buildings, Parking Structures, Fuel Facilities, and Maintenance and Hanger Facilities | 150 | * | * | * | * | * | |
| Hospital | Medical Centers and Hospitals | 230 | * | | * | | | |

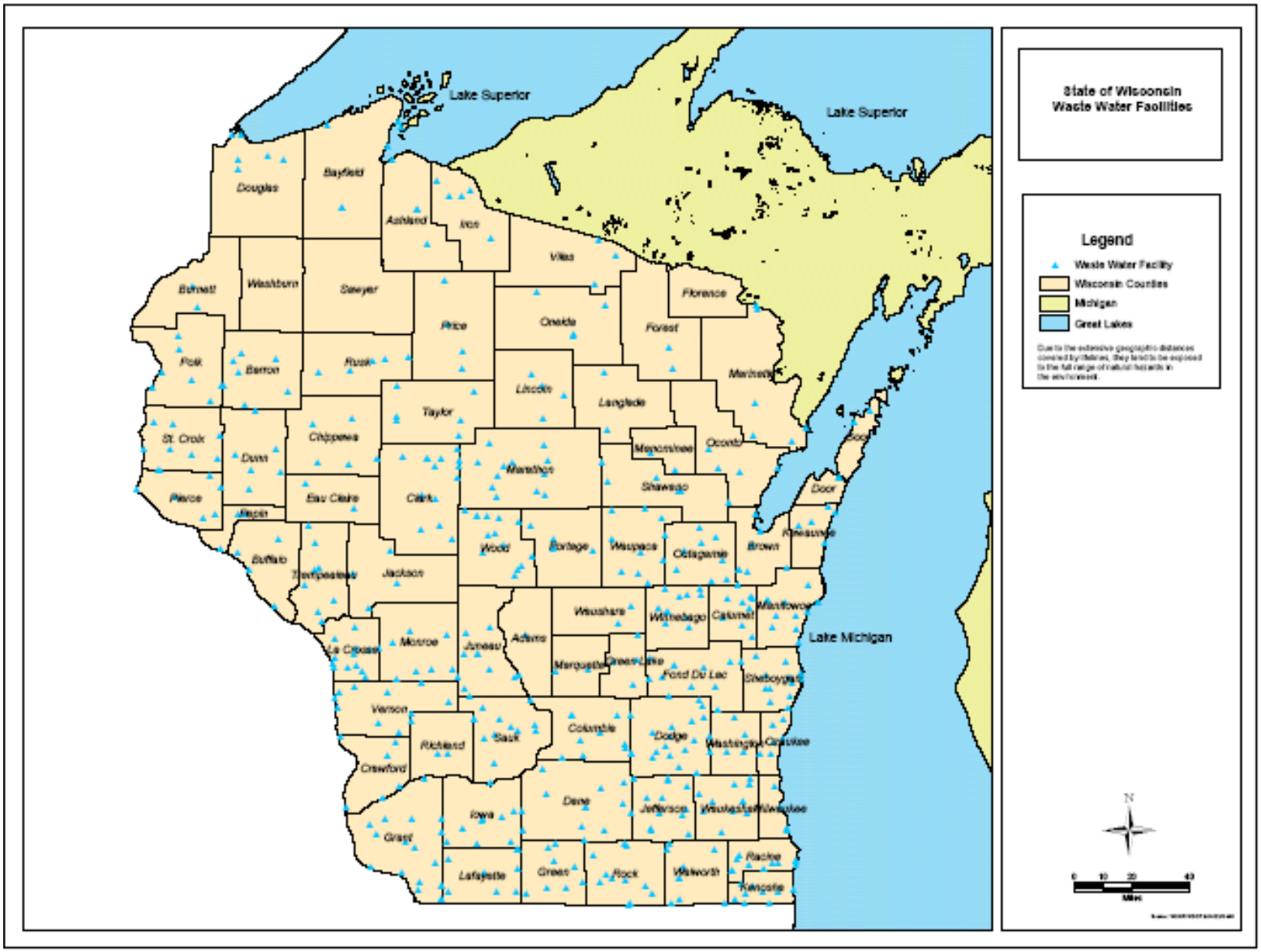
Source: HAZUS-MH

The natural hazards threat to lifelines has two components. The first is direct damage to the lifeline from a natural hazard that causes significant physical damage. The second is a denial of use or loss of function due to a natural hazard event. Snow and ice events on roadways are a significant and common example of this type of threat. Typically, such threats are temporary and do not result in a high level of physical damage to the lifeline. Maps 4.4-1 to 4.4-15 shows the location of at-risk Wisconsin lifelines.

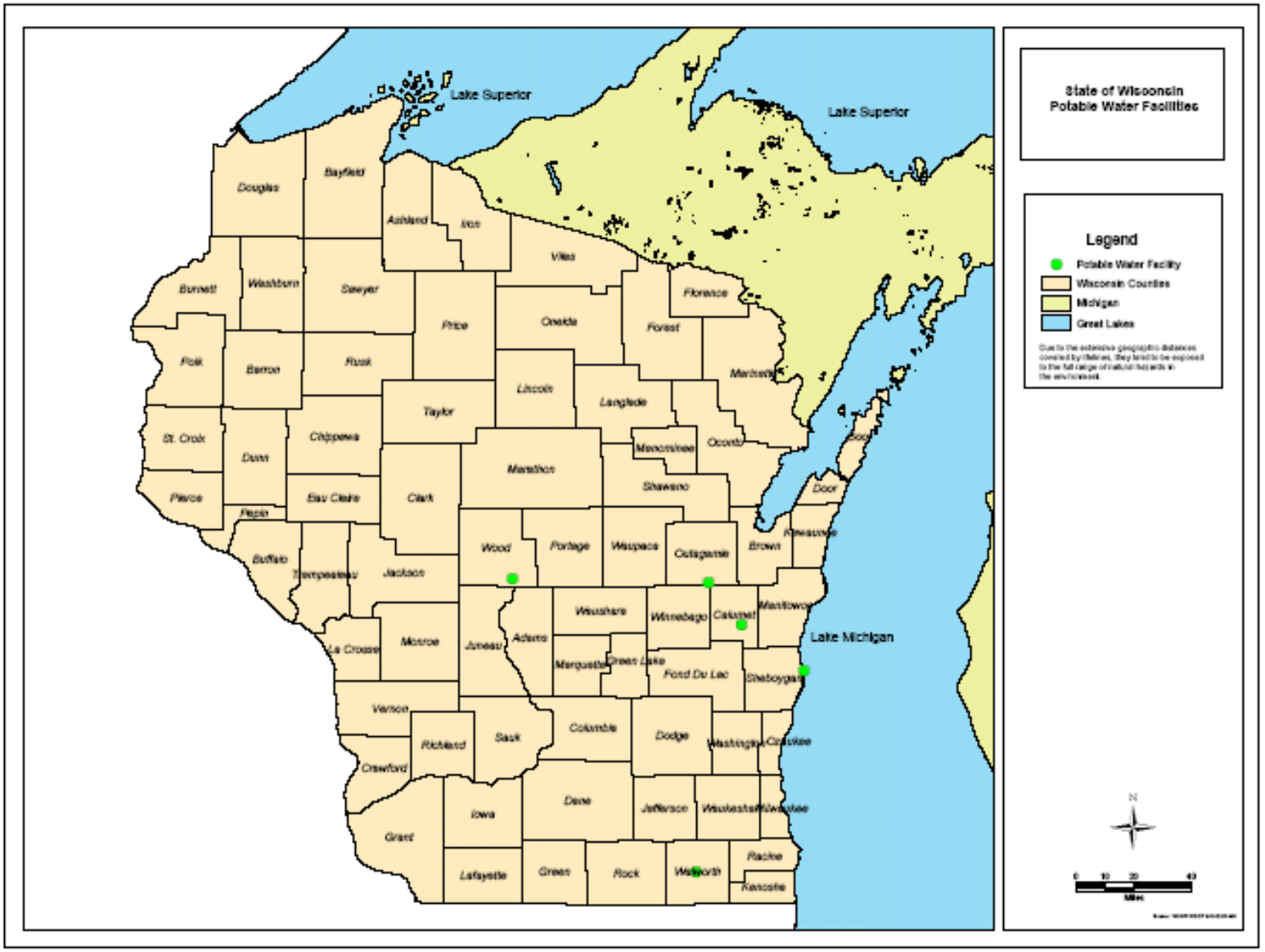
**Map 4.4-1: State of Wisconsin Communication Facilities**



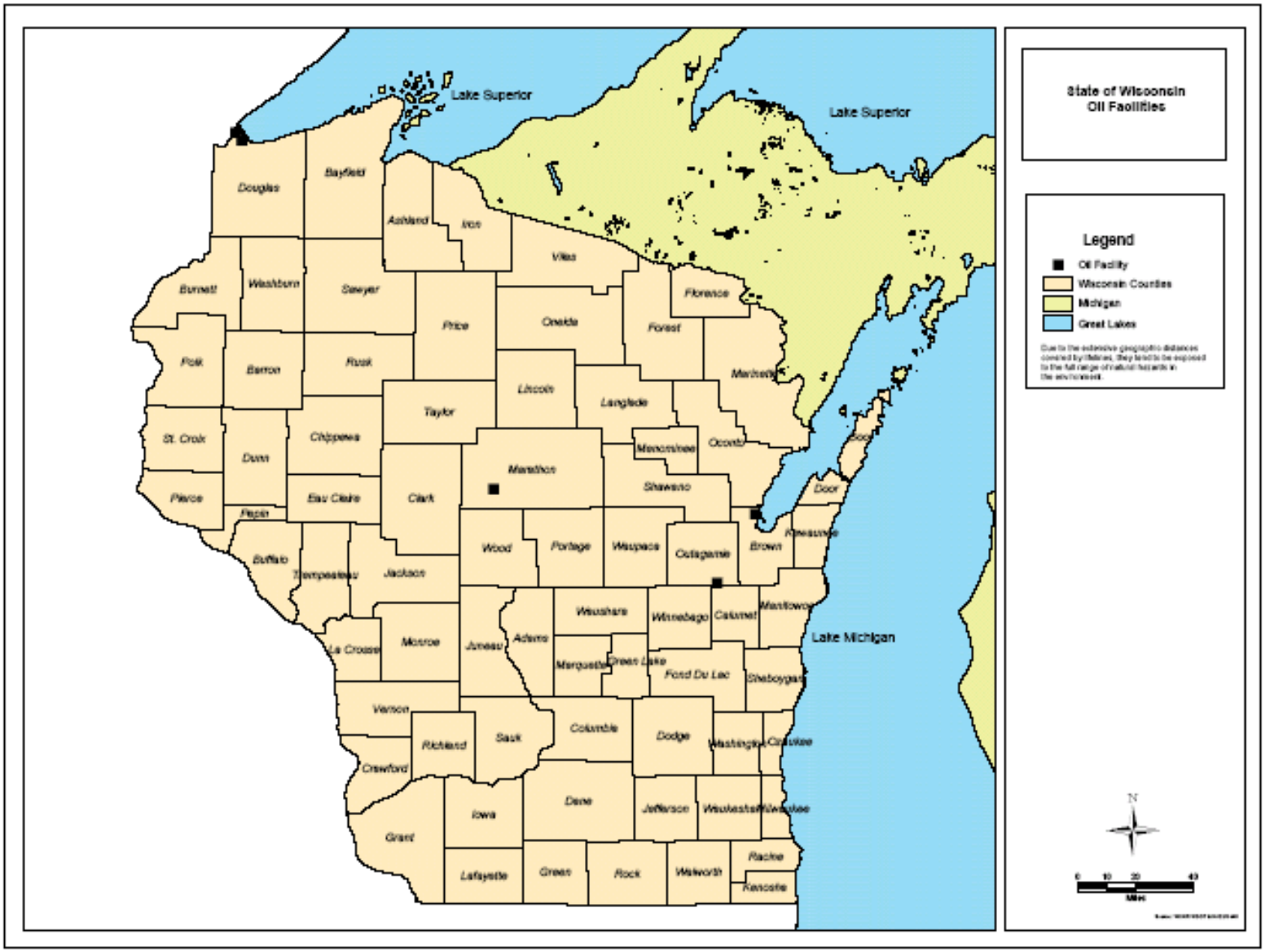
**Map 4.4-2: State of Wisconsin Waste Water Facilities**



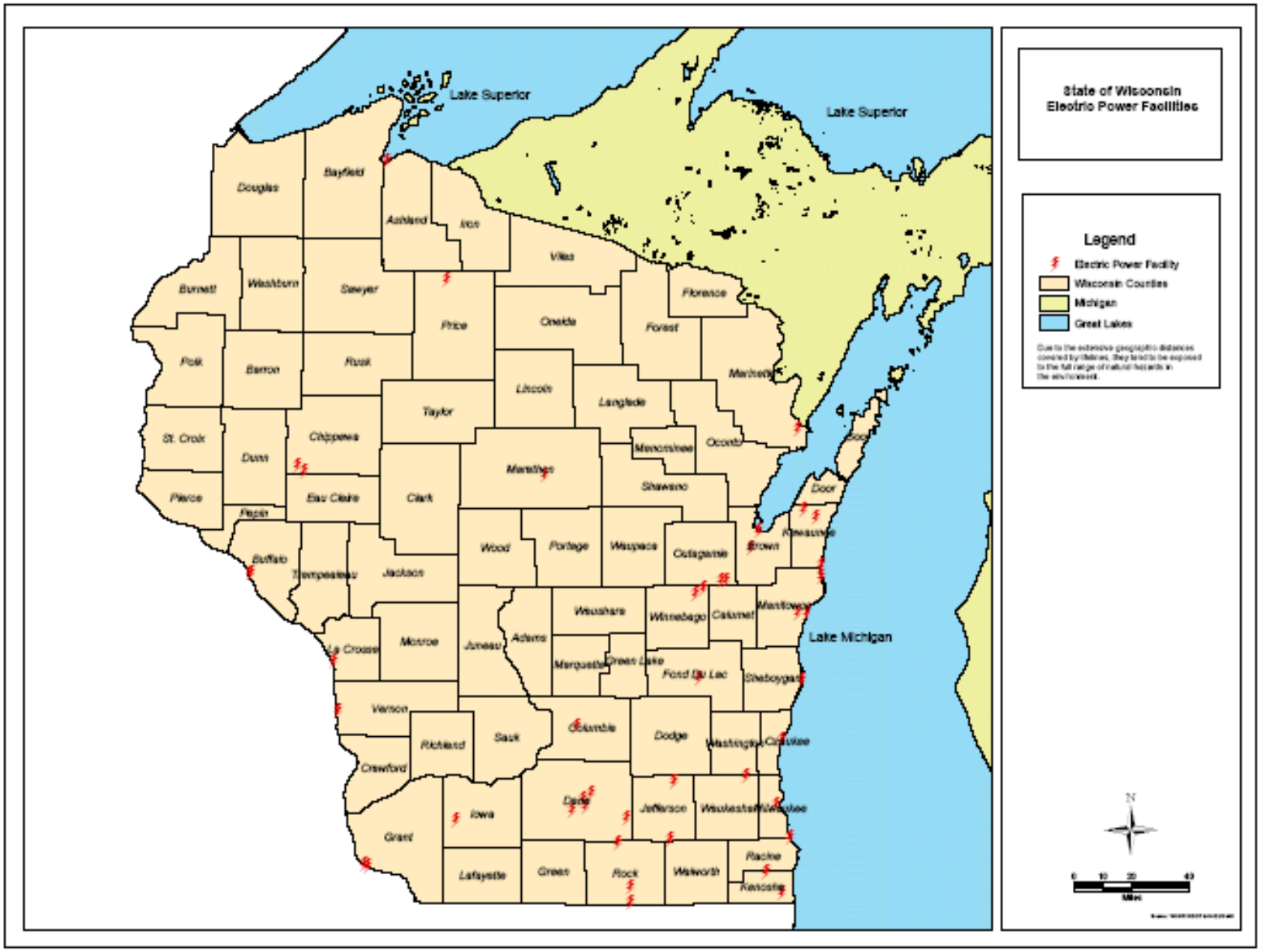
**Map 4.4-3: State of Wisconsin Potable Water Facilities**



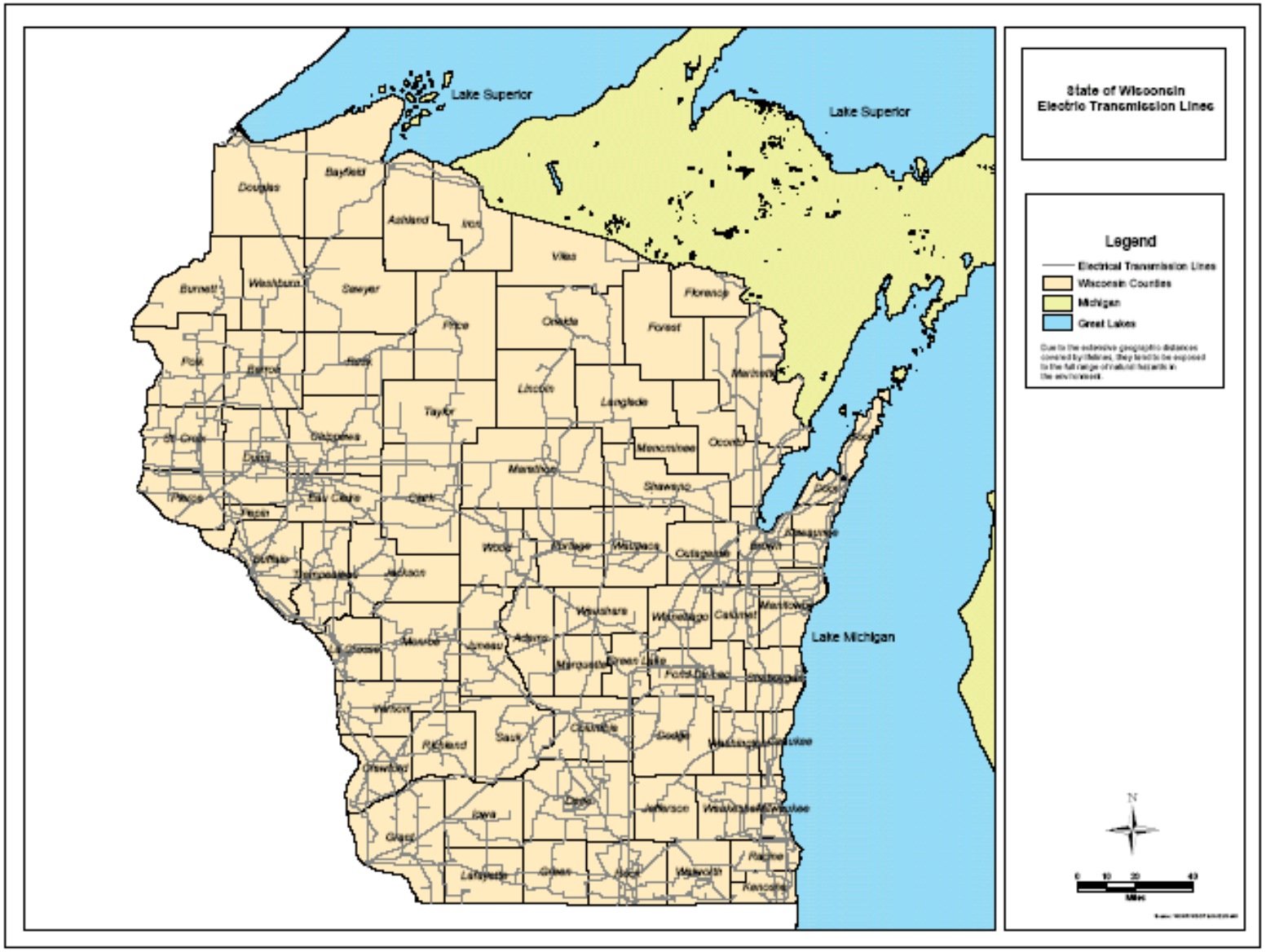
**Map 4.4-4: State of Wisconsin Oil Facilities**



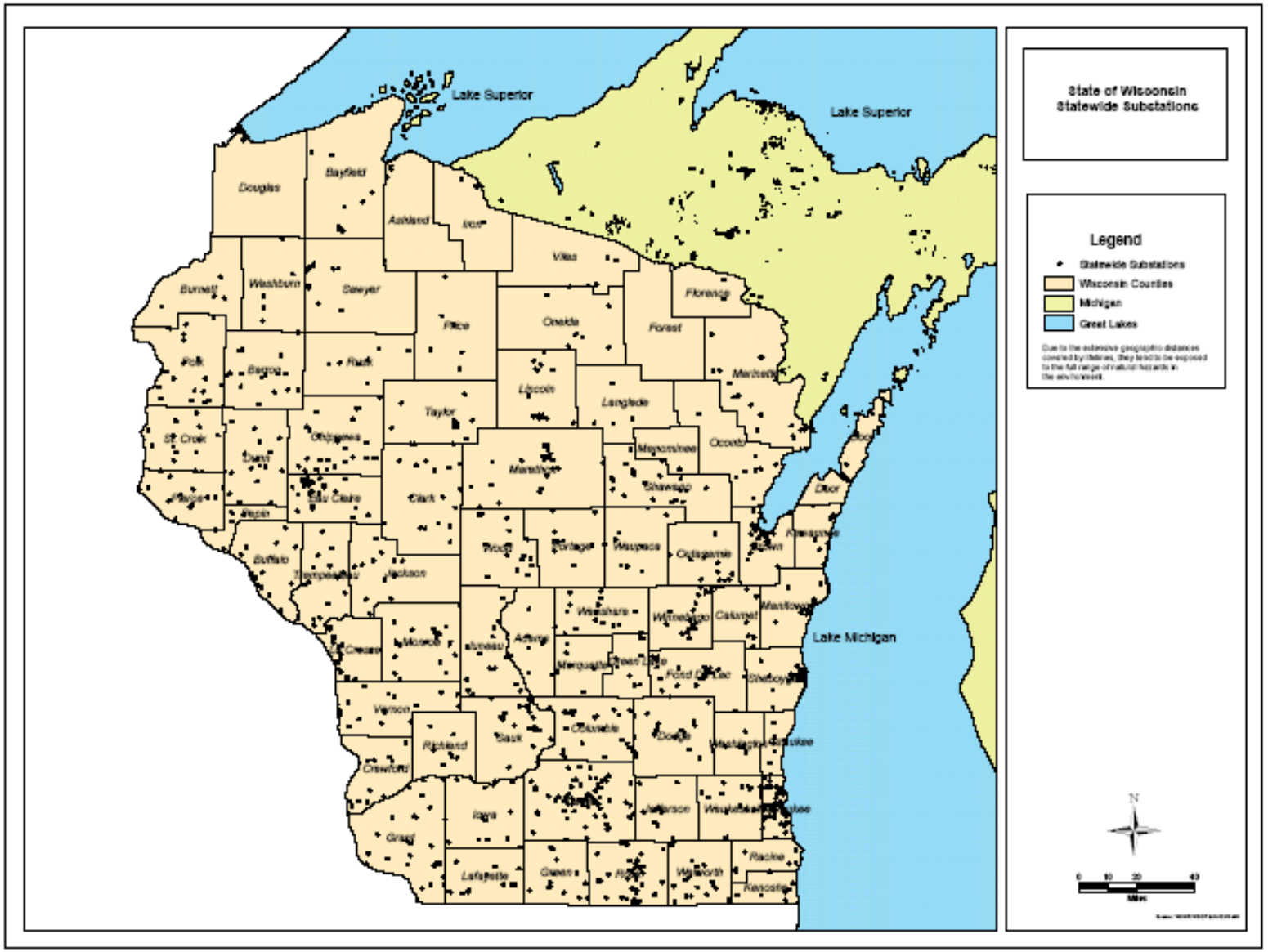
**Map 4.4-5: State of Wisconsin Electric Power Facilities**



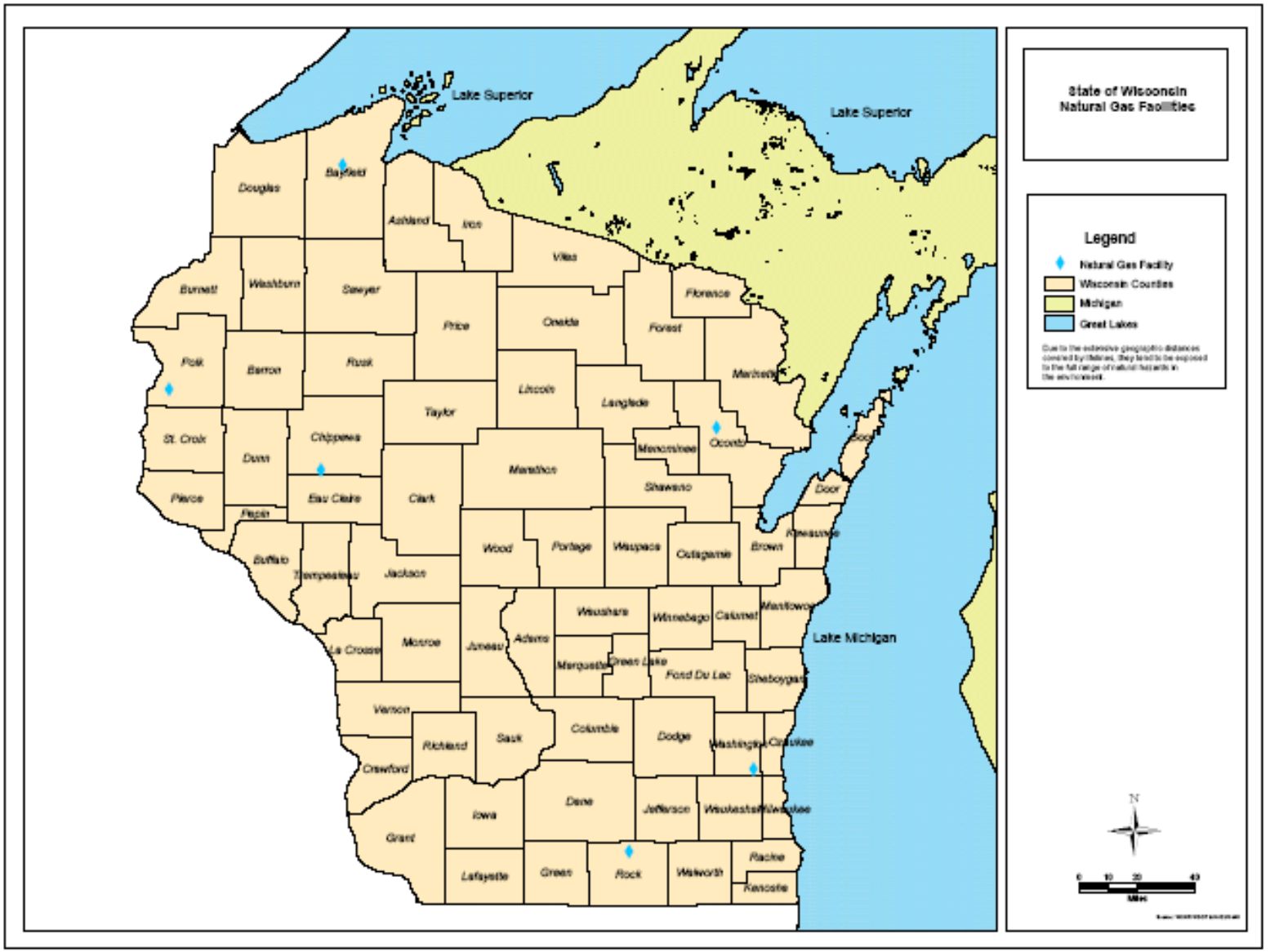
**Map 4.4-6: State of Wisconsin Electric Transmission Lines**



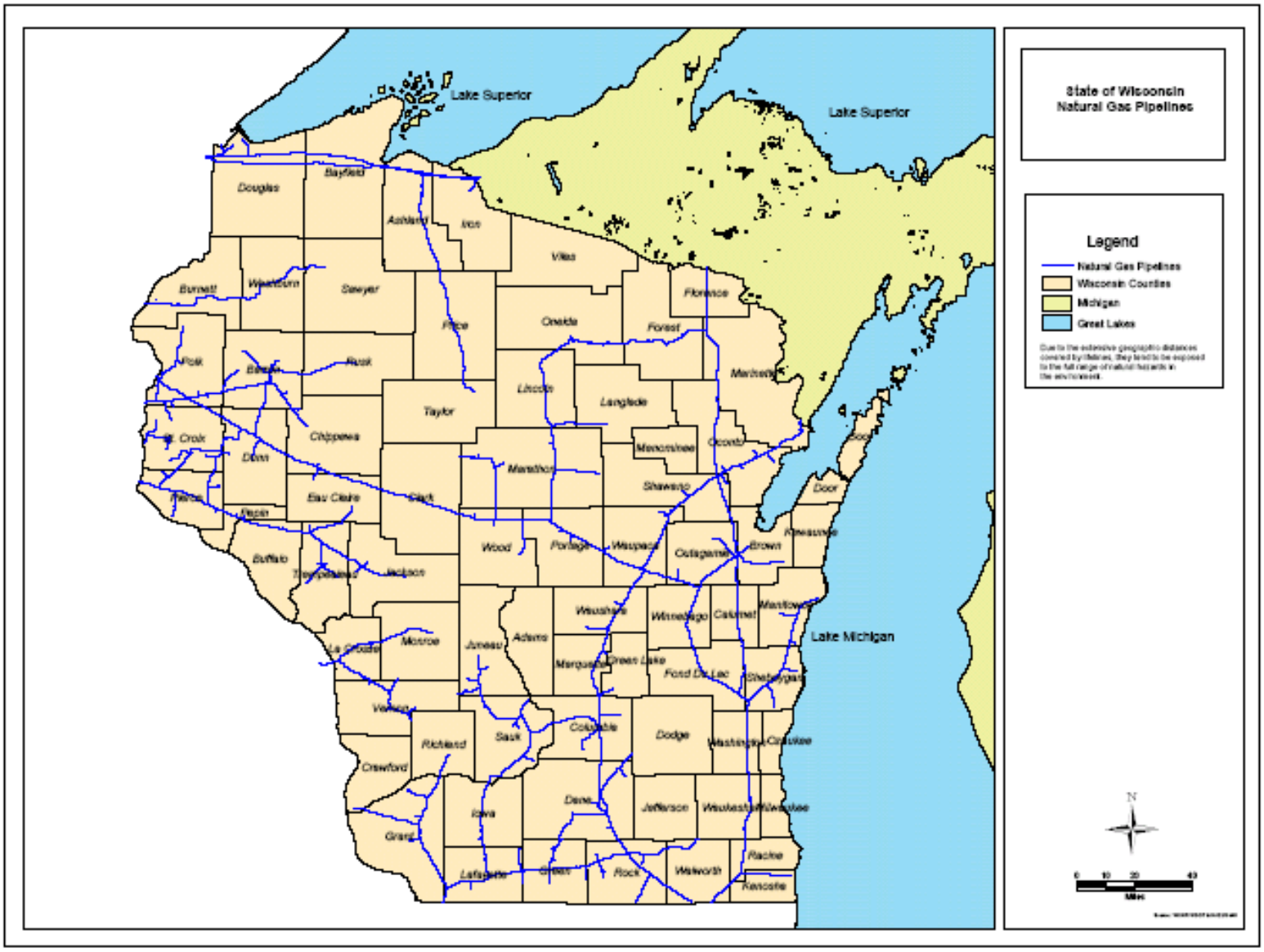
**Map 4.4-7: State of Wisconsin Statewide Substations**



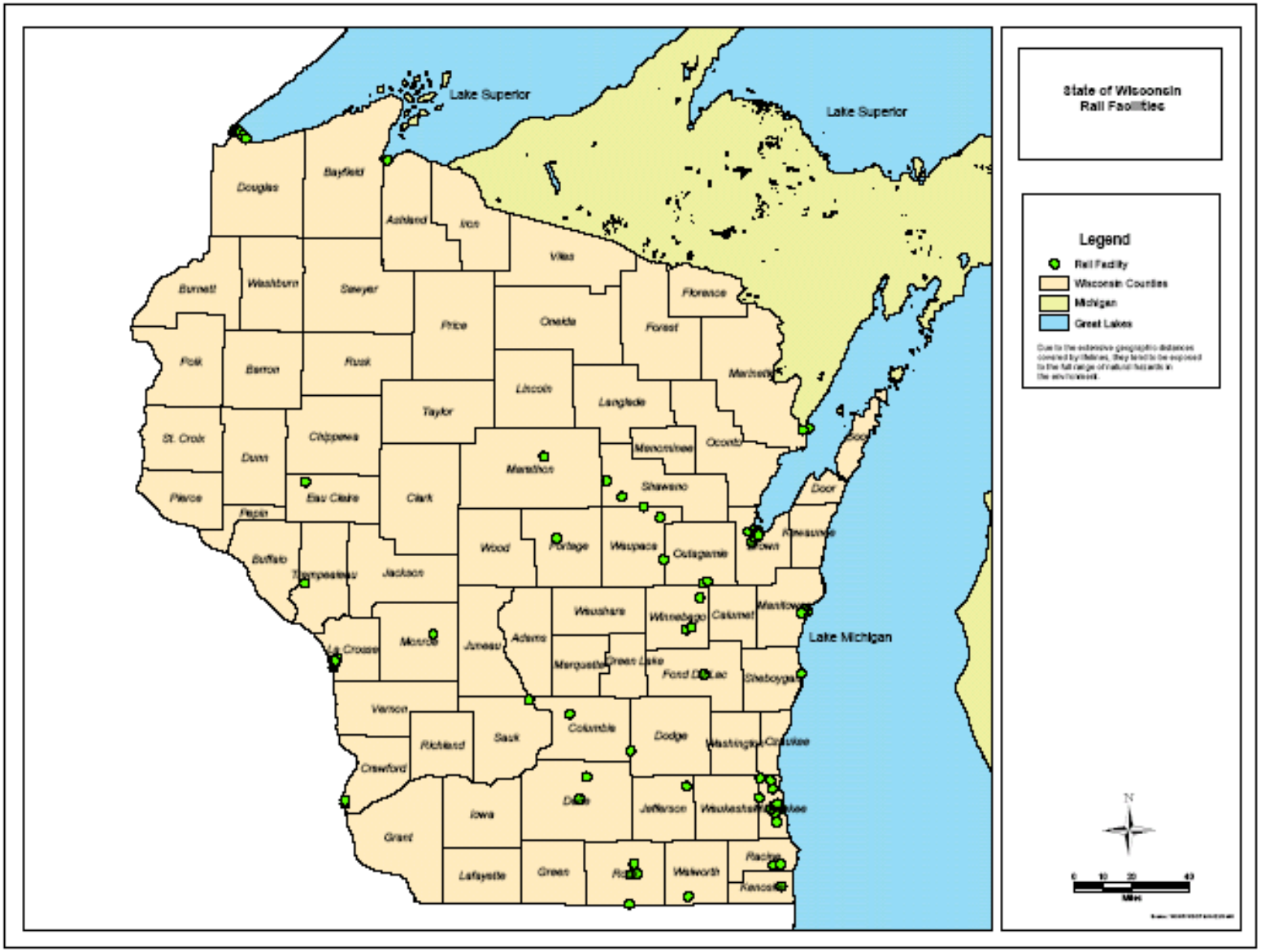
**Map 4.4-8: State of Wisconsin Natural Gas Facilities**



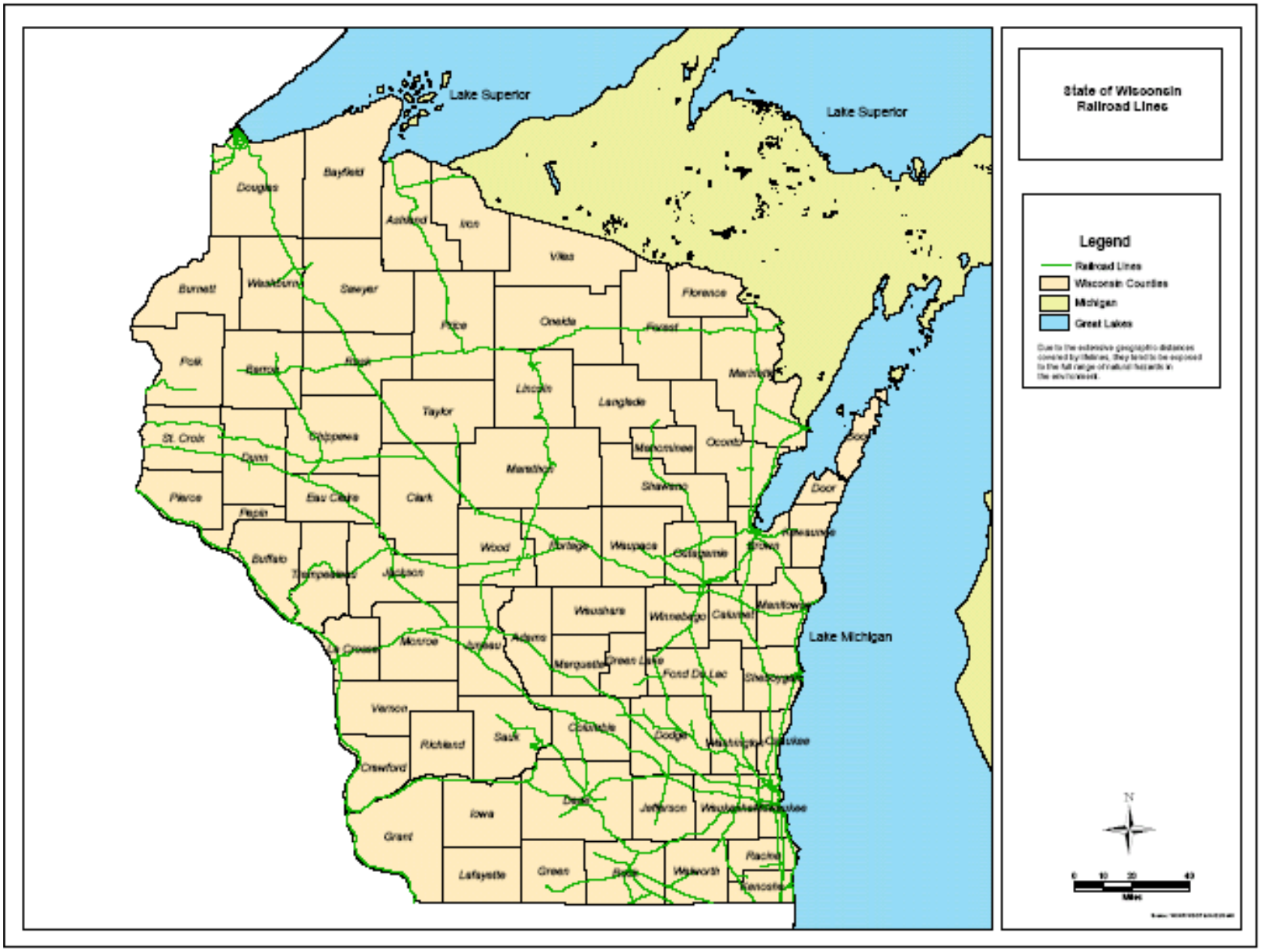
**Map 4.4-9: State of Wisconsin Natural Gas Pipelines**



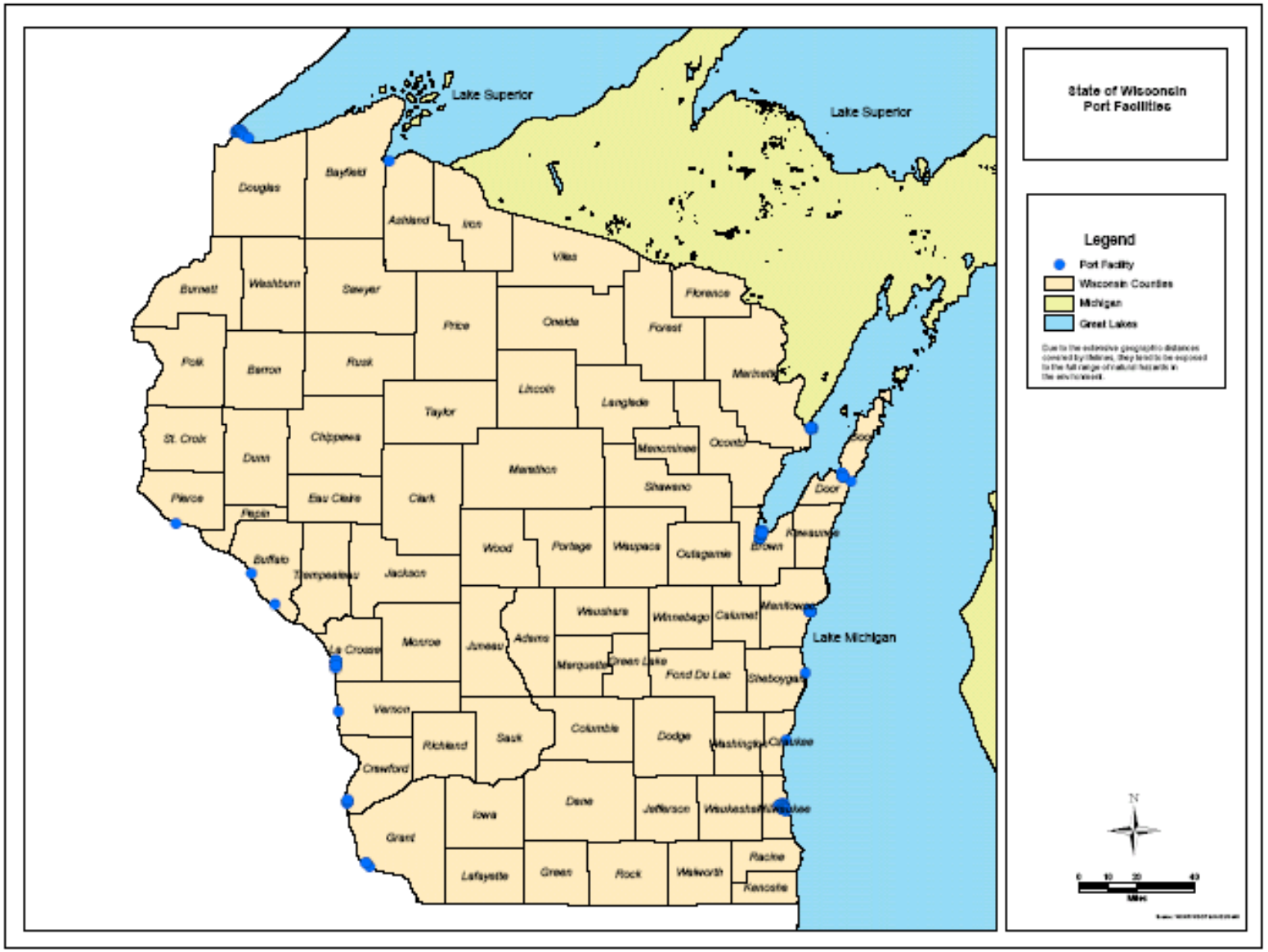
**Map 4.4-10: State of Wisconsin Rail Facilities**



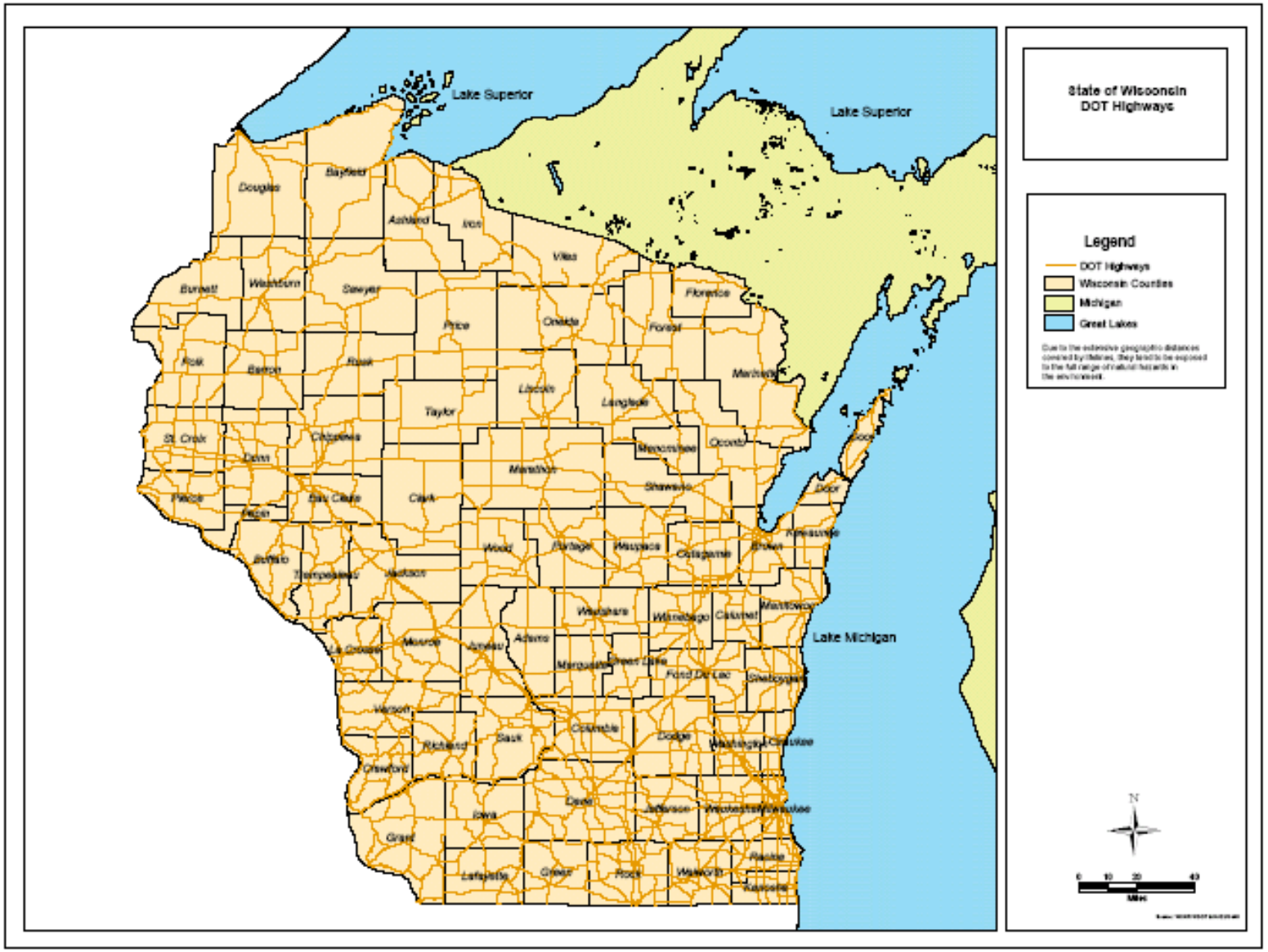
**Map 4.4-11: State of Wisconsin Railroad Lines**



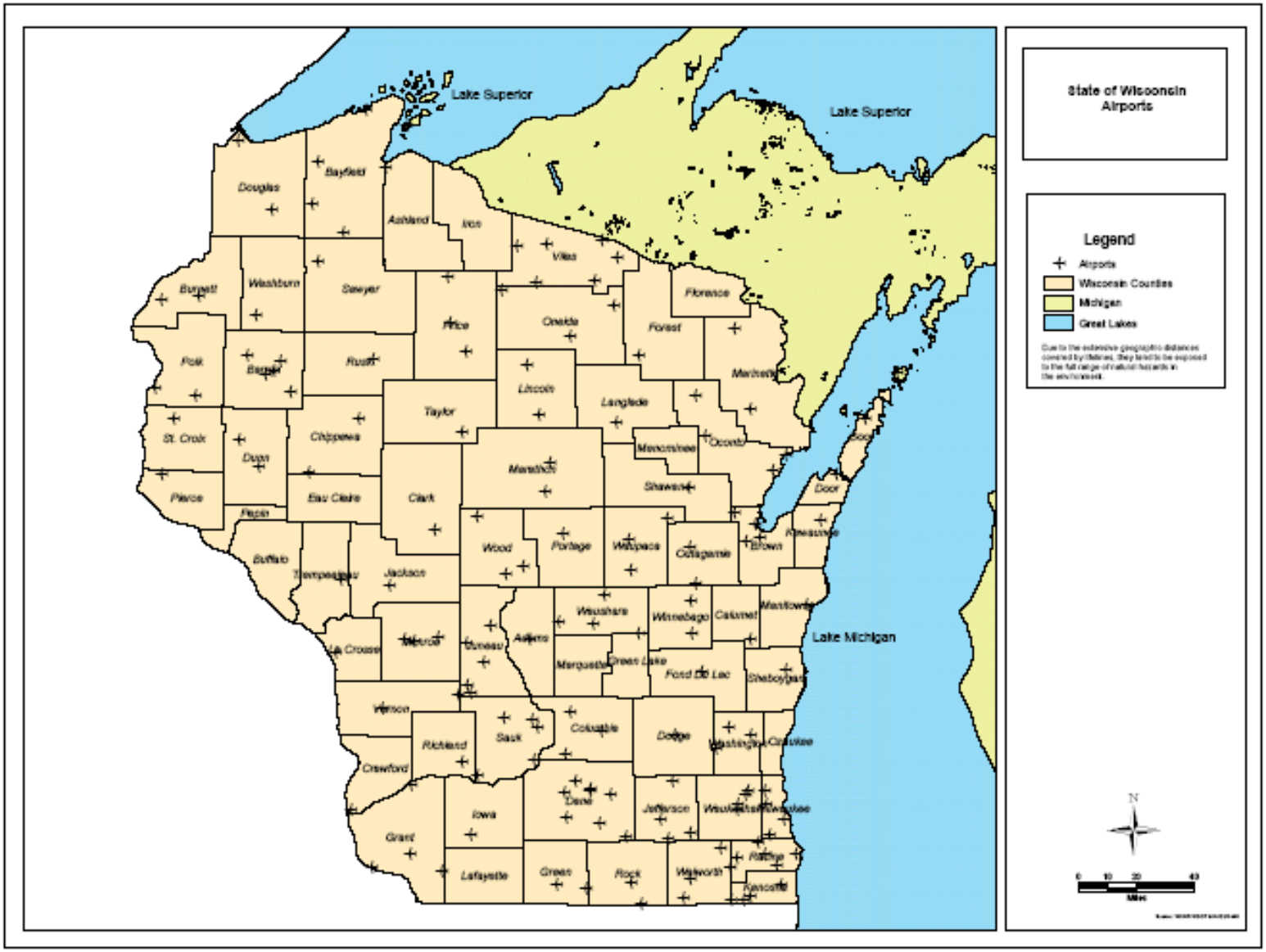
**Map 4,4-12: State of Wisconsin Port Facilities**



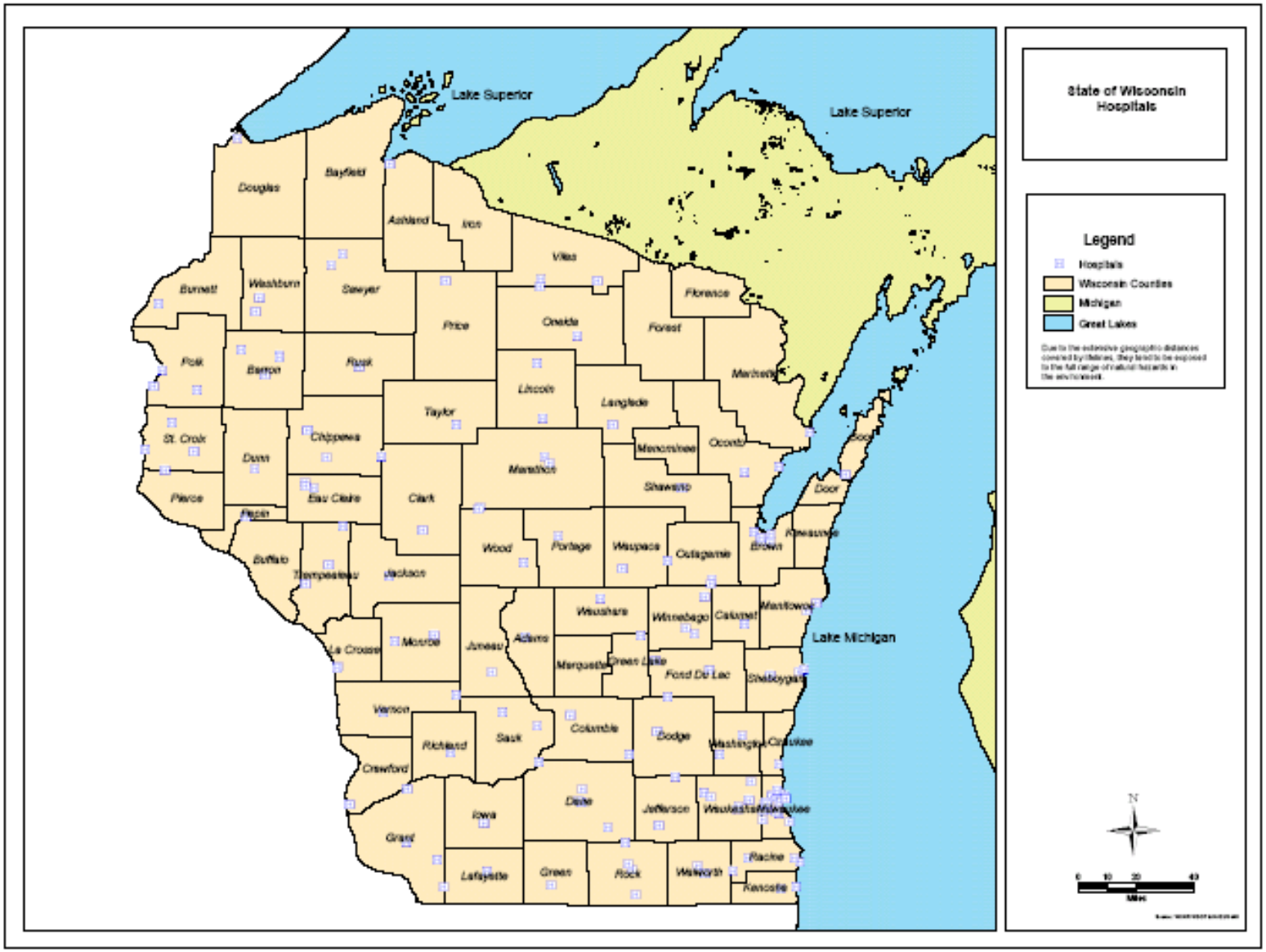
**Map 4.4-13: State of Wisconsin DOT Highways**



**Map 4.4-14: State of Wisconsin Airports**



**Map 4.4-15: State of Wisconsin Hospitals**



## Data Limitations

As stated previously, this section will provide a listing of the general types of lifelines and their components and identify the major natural hazards to which the lifelines are most vulnerable. A detailed vulnerability assessment and loss estimation for lifelines is beyond the scope of this effort. At this time, the risk assessment for lifelines is included in Table 4.4-1, which provides a general indication of risk to lifelines based on the American Lifelines Alliance.

A risk assessment for infrastructure might include creating some High/Medium/Low risk ratings at the county level based on past tornado probability. Without significant additional data, this methodology would not be advisable for the following reasons.

First, as the probability sample decreases from the state to county level, the validity of the results decreases. On a statewide scale it is possible to make fairly accurate estimates of the numbers of tornadoes that will occur from year to year, although there will be some variation. However, reducing the scale introduces a great deal of uncertainty into the equation, and potentially creates large errors in the results. Although particular counties may have experienced two or three times the number of tornadoes than other counties have, there is probably no reason for this except bad luck, unless there is some geographic, meteorological or topography feature/s that explains the deviation, i.e. that an area is subject to atmospheric uplift because of mountains, or because of proximity to a coastal area that is prone to hurricanes (just by way of example, we know Wisconsin is not subject to hurricanes). Also, the size of the tornado probability sample at the county level is not large enough to draw any significant conclusions.

The second point about the tornado risk assessment is that there are significant differences among infrastructure elements, not only in terms of their physical characteristics, but also in terms of their importance to the state. For example, with the same type of structure and the same potential for damage (i.e. same probability/severity of event) a bridge that carried twice as much traffic as another would be at about twice the risk, because there are more people to be injured and more function that would be lost if the bridge was damaged. This also applies to other kinds of infrastructure and lifelines. It would be possible for the state to prioritize the lifelines and infrastructure based on value, occupancy or use, or some combination thereof, as the basis for more risk assessment work.

## 4.5 SUMMARY OF JURISDICTIONS MOST THREATENED AND VUNERABLE TO DAMAGE AND LOSS

This section of the plan addresses requirements of the Final Rule Section 201.4(c)(2)(ii). A copy of the Final Rule is provided for reference in Appendix O of this document.

The subsection 201.4 (c)(2)(ii) requires that the State risk assessment include an "overview and analysis of the State's vulnerability to the hazards described in this paragraph (c)(2), based on estimates provided in local risk assessments…The State shall describe vulnerability in terms of the jurisdictions most threatened by the identified hazards, and most vulnerable to damage and loss associated with hazard events…" Ultimately, the State shall describe which jurisdictions are most threatened and vulnerable to hazards and the process used to identify them. Identification of these jurisdictions shall be based on an analysis of available local risk assessments conducted throughout the State, and where not available, on State risk assessments.

This section will examine the local risk assessments from the local hazard mitigation plans and integrate into the State Plan. Next, the section will review and analyze the HAZUS Flood Hazard Analysis by county, the Tornado risk assessment by county, and the Wildfire and Coastal Hazard Analyses. Once complete, the results will be compared to the Natural Disaster Activity by County – 1990-2008 Map found in Appendix A. The comparison will determine whether the risk analysis substantiates the actual natural disaster events.

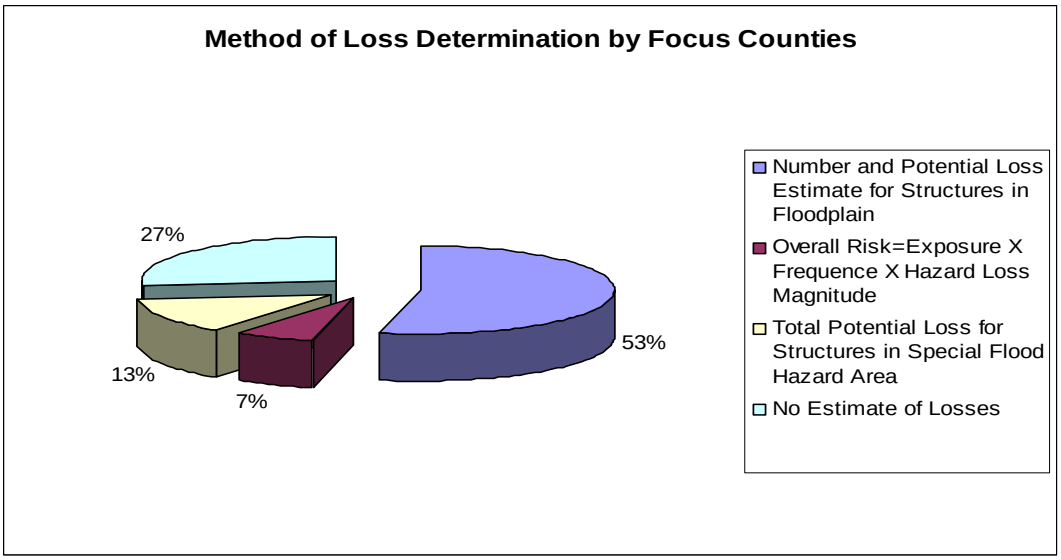
### 4.5.1 Local Risk Assessment Integration

In this three-year update of the State of Wisconsin Hazard Mitigation Plan, Wisconsin Emergency Management (WEM) chose to focus on integrating the local mitigation plans of those communities located along major rivers and southeast counties that were higher risk and more vulnerable based on past events, number of repetitive loss properties and the number of disaster declarations. Those major rivers include the Wisconsin River and the Mississippi River, and the south east counties of Racine, Milwaukee, and Kenosha. Due to the number of completed and approved local mitigation plans within the State of Wisconsin, it would have been an overwhelming task to review and incorporate all forty-nine (49) approved local plans. In the next State Hazard Mitigation Plan update, more local jurisdiction plans will be included in the local risk assessment integration as they are approved.

Map 4.5-1 illustrates the *focus counties* used for the local risk assessment integration. Of the twenty-one (21) counties in this area, fifteen (15) have approved plans, four (4) have plans in development, and two (2) do not have plans and are not active in the planning process. Of the 21 focus counties, only the 15 counties with approved plans are used in the local risk assessment analysis.

In the local risk assessment integration analysis, potential losses and top hazards (as identified by the focus county) were reviewed. It was difficult to compare each of the counties' potential losses plan component because the State of Wisconsin does not require a standardized plan template. Therefore, each county had the liberty to create its own methodology for determining potential losses. However in some instances, multiple county plans were written by the same consultants or Regional Planning Commissions (RPCs) and do utilize the same potential loss methodology. Figure 4.5-1 demonstrates the various methods of potential loss calculations used by the focus counties. (An important point to keep in mind is that estimating potential losses is not a *required* element in a plan but rather a *recommended* one so all county plans do not include an estimate of losses.)

**Figure 4.5-1. Loss Determination Method**

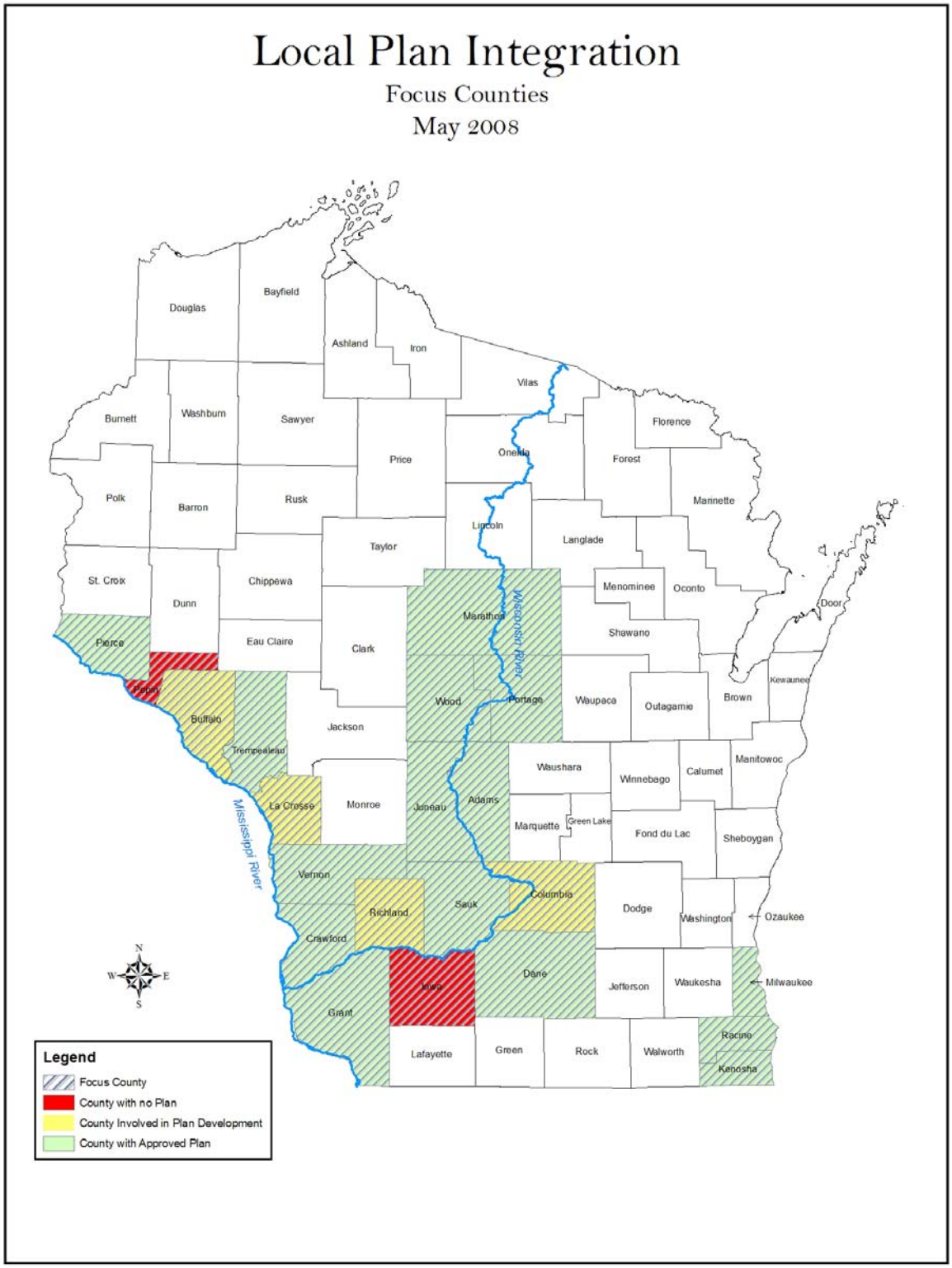



Source: WEM, 2008



**Section TOC**

**Map 4.5-1 Map of Focus Counties Plan Status**




Source: WEM, 2008



**Section TOC**

Table 4.5-1 notes the potential flooding losses for the focus counties. According to the potential loss analysis, Milwaukee County (predictably because of the largest population and correspondingly highest property value) forecast the highest potential flooding loss of the 15 focus counties. Milwaukee County determined their potential flood losses by:

Overall Risk=Exposure x Frequency x Hazard Loss Magnitude (Building Risk)

In addition to determining the potential flood loss in this manner, Milwaukee County also determined losses from winter storms, tornadoes, and wind/hail storms.

The counties of Marathon, Portage, Adams, Grant, Racine, Kenosha, Crawford, and Vernon determined potential losses by identifying the number of structures in the 100-year floodplain and subsequently estimating the potential losses of the structures. Marathon had a staggering 3,336 structures in the floodplain, which was more than any of the other counties that utilized this methodology. Consequently, Marathon County also had the greatest potential loss estimate for structures in the floodplain with approximately $80,000,000.

Pierce County and Wood County calculated potential losses by identifying the number of commercial and residential structures in the Special Flood Hazard Area (SFHA) and then determined the total potential loss for structures in the SFHA. Wood County has 2,100 residential structures and 24 commercial structures in the SFHA. The potential losses for residential and commercial structures in Wood County are $35,000,000 and $13,000,000 respectively.

Of the 15 focus counties with approved local mitigation plans, four did not determine the potential loss in their communities, most likely because of insufficient data but also possibly because it is not a *required* element in the plan. It is expected that the county potential losses will be addressed in the five-year update. Dane County did complete a potential flood loss analysis as part of the FMA plan, however, that plan was not included in this analysis. In addition, Dane County only had 13 of 60 jurisdictions participate in the initial plan development. Dane County's plan update intends to include the rest of the jurisdictions.

| Table 4.5 -1 Potential Flooding Losses as Determined by Focus Counties | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Methodology | Pierce | Trempealeau | Marathon | Wood | Portage | Juneau | Adams | Grant | Racine | Kenosha | Milwaukee | Crawford | Sauk | Dane | Vernon |
| **Overall Risk**<br><br>**= Exposure x Frequency x Hazard Loss Magnitude (building risk)** | | | | | | | | | | | **$17,287,392,868** | | | | |
| **Flooding** | | | | | | | | | | | **$15,086,221,962** | | | | |
| **Winter Storms** | | | | | | | | | | | **$2,052,596,334** | | | | |
| **Tornadoes** | | | | | | | | | | | **$53,716,478** | | | | |
| **Wind/Hail Storms** | | | | | | | | | | | **$91,826,678** | | | | |
| **Potential Loss Est. of Structures in Floodplain** | | | $79,897,200 | | **$52,787,100** | | **$20,568,606** | **$13,876,811** | **$11,561,860** | **$13,525,840** | | **$28,158,081** | | | **$10,542,448** |
| **Number of Structures in Floodplain**<br><br>**(100 yr.)** | | | 3,336 | | **537** | | **466** | **221** | **639** | **396** | | **632** | | | **292** |
| **Total Potential Loss (Residential) for Structures in the SFHA (2 ft. flood)** | **$20,745,577** | | | **$34,517,527** | | | | | | | | | | | |

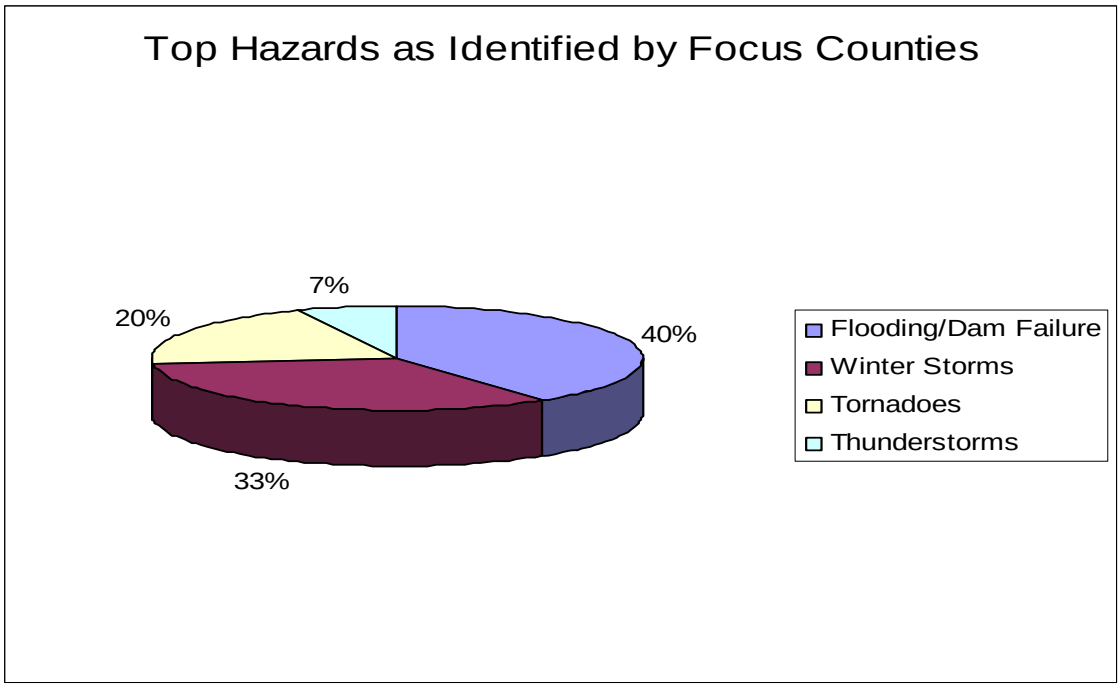
| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Number of Structures in SFHA** | **897** | | | **2,107** | | | | | | | | | | | |
| **Total Potential Loss (Commercial) for Structures in the SFHA (2 ft. flood)** | **$1,611,082** | | | **$12,810,919** | | | | | | | | | | | |
| **Number of Structures in SFHA** | **4** | | | **24** | | | | | | | | | | | |
| **No Determination of Potential Losses** | | **X** | | | | **X** | | | | | | | **X** | **X** | |

Source: WEM and Focus County plans, 2008

In addition to examining the potential *flood* losses, the local risk assessment integration analysis identified the *top hazards* as determined by the focus counties.

Figure 4.5-2 highlights the top hazards as identified by the 15 focus counties. Most of the counties noted that either flooding/dam failure or winter storms were the most precarious natural hazard they faced. However, thunderstorms and tornadoes also posed a significant threat to some counties.

**Figure 4.5-2 Top Hazards as Identified by Focus Counties**




Source: WEM, 2008

Table 4.5-2 notes all of the significant hazards identified by the respective counties. The "X" with the asterisk denotes the top hazard perceived by the community. As expected, all of the counties experience flooding to some degree. In addition, almost all of the counties identified winter storms and tornadoes as a significant hazard. These two hazards are more likely to be identified as significant because they have a higher probability of occurrence. Winter storms have traditionally posed little risk for damage; however, tornadoes damages can be devastating. WEM staff will examine this relationship of probability versus actual damage in the next update. However, the remaining hazards are not as widespread. In fact, the hazards start to develop a regional pattern. For instance, forest and wild land fires were determined to be significant hazards in central and northern Wisconsin.



**Section TOC**

| Table 4.5-2 Top Hazards as Identified by Focus Counties | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hazard** | **Pierce** | **Trempealeau** | **Marathon** | **Wood** | **Portage** | **Juneau** | **Adams** | **Grant** | **Racine** | **Kenosha** | **Milwaukee** | **Crawford** | **Sauk** | **Dane** | **Vernon** |
| **Flooding/Dam Failure** | X* | X | X | X | X | X* | X* | X* | X* | X | X* | X | X | X | X |
| **Winter Storms** | | X* | X* | X | X | X | X | X | X | X* | X | X* | X | X | X* |
| **Tornadoes** | X | X | X | X* | X* | X | X | X | | X | X | X | X | X* | X |
| **Wind/ Hail Storms** | X | X | | | X | | | | X | | X | X | | X | X |
| **Extreme Temps** | | X | | X | X | X | | X | X | X | | | | | |
| **Forest Fires** | | | X | X | X | X | X | X | | | | | | | |
| **Drought** | X | | X | X | | X | X | X | X | | | | | | |
| **Thunderstorms/ Lightning** | X | X | X | X | | | X | X | | X | | X | X* | | X |
| **Coastal Erosion** | | | | | | | | | | X | | | | | |
| **Landslides/ Subsidence** | | | | | | | | X | | | | | | | |
| **Fog** | | | | | | | | | | | | | X | | |

Source: WEM, 2008 *X* - Top hazard as identified by County*

### 4.5.2 Jurisdictions Most Vulnerable to Damage and Loss from Floods (includes physical damages)

As described in Section 4.3, the loss estimation was performed using HAZUS-MH. The HAZUS-MH flood modeling was performed one county at a time. A stream network was delineated for every square mile within the county. The HAZUS-MH flood model performs an area weighted assessment of flood damage.

Tables 4.5-3 through 4.5-5 summarize the results of the HAZUS-MH flood analysis. It is not a surprise that Milwaukee County is the county with the highest total of building exposure (Table 4.5-3). The sheer volume of structures and the number of rivers within Milwaukee County allow for almost $79 million in building exposure. Dane County and Waukesha County also have high building exposure totals, but do not come close to Milwaukee County. When examining total economic loss from flooding (Table 4.5-4), Brown County had the highest total of $921,418. Once again, Waukesha County and Milwaukee County find themselves in the top three counties; however, Eau Claire County also had a high economic loss total.

Brown County also had the highest risk of building loss (Table 4.5-5). However, Eau Claire rose to the second county in the building loss table. Waukesha and Milwaukee Counties were again in the top four counties. It is apparent from the Flood Risk Analysis, Brown County, Milwaukee County, Waukesha County, Eau Claire County, and Dane County pose the greatest risk for losses in economics and structures due to flooding.

**Table 4.5-3 Total Building Exposure**

| Total Building Exposure (above $10,000) | |
|---|---|
| Milwaukee County | $ 78,904,721 |
| Dane County | $ 37,942,411 |
| Waukesha County | $ 35, 955,764 |
| Brown County | $ 19,969,696 |
| Racine County | $ 15,693,961 |
| Rock County | $ 12,746,145 |
| Winnebago County | $ 12,530,045 |
| Kenosha County | $ 12,467,944 |
| Outagamie County | $ 12,467,944 |
| Washington County | $ 10,613383 |
| Sheboygan County | $ 10,241,080 |
| Marathon County | $ 10,032,014 |

**Table 4.5-4 Total Economic Loss**

| Total Economic Loss (above $250,000) | |
|---|---|
| Brown County | $ 921,418 |
| Waukesha County | $ 739,788 |
| Milwaukee County | $ 732,195 |
| Eau Claire County | $ 709,564 |
| Dane County | $ 460,477 |
| Marathon County | $ 365,012 |
| Washington County | $ 351,573 |
| Rock County | $ 316,841 |
| Fond du Lac County | $ 300,969 |
| La Crosse County | $ 294,438 |
| Ozaukee County | $ 257,259 |
| Kenosha County | $ 250,736 |

**Table 4.5-5 Building Loss**

| Building Loss (above $100,000) | |
|---|---|
| Brown County | $ 430,304 |
| Eau Claire County | $ 363,228 |
| Waukesha County | $ 291,616 |
| Milwaukee County | $ 286,370 |
| Dane County | $ 180,345 |
| Marathon County | $ 146,104 |
| St. Croix County | $ 138,451 |
| Washington County | $ 134,719 |
| Columbia County | $ 130,669 |
| Walworth County | $ 120,010 |
| La Crosse County | $ 112,867 |
| Racine County | $ 106,819 |

### 4.5.3 Jurisdictions Most Vulnerable to Damage and Loss from Tornadoes (includes both physical damages and casualties)

Tables 4.5-6 through 4.5-9 were complied using historic data from the National Climatic Data Center (NCDC). The tornado risk assessment reviewed the average damage amounts per tornado and the annual probability of tornadoes to determine the estimated future annual loss. In addition, injury and death were calculated using the 2008 figures from the Benefit-Cost Analysis Inflation Calculator. Ultimately, higher risks are associated to areas with increased populations as well as residential growth.

Table 4.5-6 highlights Dane County as the county with the highest estimated future annual loss. Over the last 58 years, Dane County has had 44 tornadoes totaling approximately $69 million in damages. When considering the probability, Dane County can estimate that it may incur $1.2 million a year in tornado losses. Fond du Lac



Section TOC

County and Dunn County also have high estimated future annual losses because of the previous number of tornadoes and previous total damages, respectively.

**Table 4.5 - 6 Tornado Loss Estimate by County**

| Tornado Loss Estimate by County (1950-5/31/08) | |
|---|---|
| **County** | **Estimated Future Annual Loss** |
| Dane County | $ 1,204,338 |
| Fond du Lac County | $ 1,049,094 |
| Dunn County | $ 1,015,627 |
| Oneida County | $ 891,655 |
| St. Croix County | $ 648,606 |
| Chippewa County | $ 642,735 |
| Washington County | $ 527,526 |
| Waushara County | $ 502,265 |
| Dodge County | $ 488,815 |
| Wood County | $ 461,847 |
| Vilas County | $ 460,801 |
| Price County | $ 459,634 |

Table 4.5-7 takes into account the loss of life and the number of injuries from tornadoes. Dunn County has had the most injuries (77) and the most deaths (21) over the last 58 years. These factors contribute to its high estimate of total damages. Dane County had 66 injuries and 4 deaths while Oneida County has 36 injuries and 5 deaths. The final factor that contributes to the estimated annual loss number is the estimated annual loss for property damage (Table 4.5-6). Both Dane and Dunn ranked in the top three counties because of the number of tornadoes.

It is interesting to note that Iowa County had a staggering 206 injuries and 9 deaths over the last 58 years, but because of it is relatively low estimated annual loss for property damage, it ranked lower than Dane and Dunn Counties.

**Table 4.5 – 7 Tornado Loss Estimate by Total Damages**

| Tornado Loss Estimate by Total Damages (Death, Injury, & Property Damage) | |
|---|---|
| **County** | **Estimated Annual Loss** |
| Dunn County | $ 2,249,313 |
| Dane County | $ 1,448,779 |
| Oneida County | $ 1,188,575 |
| Fond du Lac County | $ 1,169,493 |
| Chippewa County | $ 949,582 |
| St. Croix County | $ 771,028 |
| Washington County | $ 712,319 |
| Green Lake County | $ 692,190 |
| Eau Claire County | $ 627,319 |
| Iowa County | $ 598,775 |
| Waushara County | $ 566,509 |
| Dodge County | $ 495,434 |

Table 4.5-8 takes into account the types of housing (i.e. manufactured housing, non-engineered wood frame, etc.) to determine the loss estimate for structures and contents. Predictably, Milwaukee County has a high number of non-engineered wood frame structures which contributes to the high total annual damage. In addition, Dane and Waukesha Counties also have high numbers of non-engineered wood frame structures. Coupled with high populations and potential for growth, Milwaukee, Dane, and Waukesha Counties have the highest estimates for total annual damage.

**Table 4.5 – 8 Tornado Loss Estimate**

| Tornado Loss Estimate (Structural and Contents Damage) | |
|---|---|
| **County** | **Total Annual Damage** |
| Milwaukee County | $ 171,688,144 |
| Dane County | $ 79,529,329 |
| Waukesha County | $ 67,812,413 |
| Brown County | $ 42,193,063 |
| Racine County | $ 34,828,196 |
| Outagamie County | $ 30,092,339 |
| Winnebago County | $ 29,034,413 |
| Rock County | $ 28,202,996 |
| Kenosha County | $ 27,919,580 |
| Marathon County | $ 23,314,121 |
| Washington County | $ 22,108,865 |
| Sheboygan County | $ 20,849,929 |

Table 4.5-9 was determined by considering the total annual damage and the total future risk for both manufactured and non-engineered wood framed homes. These calculations determined the total loss estimate for future risk. As Table 4.5-8 noted, Milwaukee, Dane, and Waukesha Counties have very high numbers of manufactured housing and non-engineered wood frame homes. However, when the rest of the counties are examined in Table 4.5-9, it is important to note that all of the counties have the highest population totals in the state. Once again this demonstrates that elevated risks are associated with areas that have high populations and residential growth.

**Table 4.5 – 9 Tornado Loss Estimate**

| Tornado Loss Estimate (Future Risk) | |
|---|---|
| **County** | **Total Future Risk** |
| Milwaukee County | $ 2,130,649,871 |
| Dane County | $ 986,958,972 |
| Waukesha County | $ 841,552,050 |
| Brown County | $ 523,615,915 |
| Racine County | $ 432,217,911 |
| Outagamie County | $ 373,445,931 |
| Winnebago County | $ 360,317,060 |
| Rock County | $ 349,999,175 |
| Kenosha County | $ 346,481,984 |

| | |
|---|---|
| Marathon County | $ 289,328,243 |
| Washington County | $ 274,371,009 |
| Sheboygan County | $ 258,747,614 |

### 4.5.4 Jurisdictions Most Vulnerable to Damage and Loss from Wildfires

According to the Wildfire Risk Assessment found in Section 4.2, the approach used in the risk assessment model is based on the "Methodology" developed in the NASF Field Guidance document. It recommends that assessment and mapping include four factors: 1) Historic Fire Occurrences, 2) Hazard, 3) Values Protected, and 4) Protection Capabilities. Modifications to the methodology were made to fit the data layers available for Wisconsin. The Wisconsin DNR used three factors to assess the Communities-at-Risk (CAR) to wildfire damage: 1) Hazard (40%), 2) Wildlife-Urban Interface (30%), and 3) Ignition Risk (30%). Definitions of these three factors can be found in Section 4.2.

Unlike many hazard risk assessments (such as the tornado risk assessment) that rely solely on population, the Wildfire Risk Assessment primarily weighed the relative likelihood that an ignited wildfire will achieve sufficient intensity to threaten life or property base on land cover type and historic fire regime. More importantly, it also examined the vulnerability of each 2000 census block to wildfire damage based on housing density and spatial relationship with undeveloped vegetation based on density and proximity to vegetation (which is referred to as Wisconsin's Wildlife-Urban Interface.)

Communities-at-Risk are reported at the municipal civil division (MCD) level. MCD was chosen due to its identifiable legal boundaries, ease in reporting, and use in the development of Community Wildfire Protection Plans (CWPP). For all intensive purposes, each of Wisconsin's 1,864 towns, villages, and cities were defined as a community. Using the combination of natural breaks and filed verification, quantitative markers were assigned for five threat levels: very low, low, moderate, high, and very high. Ultimately, those communities determined to have a high or very high threat of wildfire were considered Communities-at-Risk. Three hundred and thirty-seven communities met the requirements for being at risk.

Using the map found in Section 4.2 "Communities-at-Risk Communities-of-Concern," Table 4.5-10 was derived. The red jurisdictions (Communities-at Risk, Very High) were counted for each county and the results were tabulated below. Adams and Burnett Counties had the most Communities-at-Risk, Very High (12). Waushara and Washburn Counties also had a number of CARs with 8 and 7, respectively.

**Table 4.5 – 10 Communities-at-Risk**

| Communities-at-Risk | |
|---|---|
| **County** | **Number of Communities (Very High)** |
| Adams County | 12 |
| Burnett County | 12 |
| Waushara County | 8 |
| Washburn County | 7 |
| Juneau County | 6 |
| Jackson County | 4 |
| Oneida County | 4 |
| Douglas County | 3 |
| Marquette County | 3 |
| Vilas County | 3 |

### 4.5.5 Jurisdictions Most Vulnerable to Damages and Loss from Coastal Hazards

Table 4.5-11 and 4.5-12 identify the counties with high and low coastal erosion risk. The data used for the coastal erosion analysis were derived from existing maps depicting rates of coastal erosion and the FEMA HAZUS-MH inventory of structures in the coastal zone.

High erosion risk is defined as the area within a one-quarter mile of the coast and low erosion risk is defined as the area within a half mile. Tables 4.5-11 and 4.5-12 depict the total structures and loss estimation for residential, commercial, and governmental structures within the high or low erosion risk area. The tables are arranged from greatest to least in the loss estimation category.

Milwaukee County's high population and sheer amount of structures make it the county ranked first in both the low and high erosion categories. Door County located on the eastern peninsula of Wisconsin, it a popular tourist destination for the Midwest. It has many primary and secondary residences, as well as commercial structures, along the coast. Door County also has a great risk in both low and high erosion categories. While Kenosha County has a greater potential for coastal losses in the high erosion risk area, Sheboygan County has a greater potential for coastal losses in the low erosion risk area.

**Table 4.5-11 High Erosion Risk Loss Estimation**

| High Erosion Risk Loss Estimation | | |
|---|---|---|
| County | Total Structures in Boundary | Loss Estimation |
| Milwaukee County | 6,513 | $ 313,488,140 |
| Door County | 7,956 | $ 254,193,420 |
| Ozaukee County | 2,225 | $ 119,171,780 |
| Racine County | 4,168 | $ 97,102,480 |
| Kenosha County | 2,295 | $ 56,953,700 |

**Table 4.5-12 Low Erosion Risk Loss Estimation**

| Low Erosion Risk Loss Estimation | | |
|---|---|---|
| County | Total Structures in Boundary | Loss Estimation |
| Milwaukee County | 15,977 | $ 1,243,893,400 |
| Door County | 9,747 | $ 604,386,720 |
| Ozaukee County | 3,867 | $ 395,163,640 |
| Racine County | 7,401 | $ 396,492,600 |
| Sheboygan County | 5,409 | $ 211,743,360 |

### 4.5.6 Summary

In Appendix A, the Natural Disaster Activity by County (1990-2008) Map depicts the counties and the natural disaster events that occurred. Each of the events had a request for a Presidential Declaration; however, not all requests were approved. Most, if not all, of these events were due to a flood, severe storm, or tornado.

Table 4.5-13 highlights Dane County having 13 natural disaster events over the last 18 years. Vernon County had 11, while Crawford, Green, and Milwaukee County had 10 events. In fact, all of the counties in Table 4.5-13 are located in the southern part of Wisconsin and were all part of the 2008 Flooding declaration. The southern part of Wisconsin, comparatively to the rest of the state, receives strong storms and high rainfall amounts.

**Table 4.5-13 Natural Disaster Activity by County**

| Natural Disaster Activity by County (1990-2008) | |
|---|---|
| County | Number of Events |
| Dane County | 13 |
| Vernon County | 11 |
| Crawford County | 10 |
| Green County | 10 |
| Milwaukee County | 10 |
| Richland County | 9 |
| Rock County | 9 |
| Sauk County | 9 |
| Waukesha County | 9 |
| Columbia County | 8 |
| Grant County | 8 |
| Jefferson County | 8 |
| Racine County | 8 |
| Kenosha County | 8 |

The counties that consistently reappeared in the various hazard risk assessments include Milwaukee, Dane, Waukesha, Racine, Kenosha, Brown, Eau Claire, and



Section TOC

Marathon. All of these counties are among the most populated in the state and have a substantial amount of residential, commercial, industrial, and governmental structures. When determining risk in terms of loss of building structures and human life, the most populated counties typically will have the highest risk.

However, certain hazards' risks, such as the wildfire hazard, are dependant on the environment in the county. For instance, risk could be defined by examining the housing density and spatial relationship with undeveloped vegetation based on density and proximity to vegetation. While population plays a part in the assessment, it would not be the deciding factor.

Regardless of the methodology of risk assessment, it is important to complete risk assessments. Ultimately, the assessments need to be shared with local governments, state agencies, and most important, the citizens.

# SECTION 5
# MITIGATION STRATEGY

## Table of Contents





Document TOC

# SECTION 5
# MITIGATION STRATEGY

## 5.1 INTRODUCTION

The Wisconsin Hazard Mitigation Team (WHMT) prepared the goals, mitigation actions and Action Plan of the Wisconsin Hazard Mitigation Plan. The goals and mitigation actions were developed based on the experience of Team members and on presentations and discussions on the natural hazards that impact the State and information from the State Risk Assessment, review and discussion of previous mitigation planning and activities; and review and discussions of the mitigation goals of the local mitigation plans approved and/or under development.

Out of the WHMT's planning process, it developed the following mitigation goals for the Wisconsin Hazard Mitigation Plan. The goals guided the development of mitigation actions and the Action Plan, and will foster a vision for hazard mitigation and disaster resistance throughout the State.

## 5.2 STATE MITIGATION GOALS

1. Minimize human, economic and environmental disruption from natural hazards.
2. Enhance public education about disaster preparedness and resistance, and expand public awareness of natural hazards.
3. Encourage hazard mitigation planning.
4. Support intergovernmental coordination and cooperation among federal, state and local authorities regarding hazard mitigation activities.
5. Improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion or renovation.

Goals were developed during the initial planning process for the original Wisconsin Hazard Mitigation Plan completed in 2001. Through the planning process for this Plan update, a Team meeting held on February 21, 2008, the WHMT modified goals 2 and 5.

Based on the goals established by the WHMT mitigation actions and an Action Plan were developed for each agency and organization represented on the Team.

As of May, 2008, the Federal Emergency Management Agency, Region V, had approved 35 county hazard mitigation plans and 14 single jurisdiction plans. Another eight have been submitted to the Region for review and approval. After reviewing the approved plans, as well as a number of draft plans submitted for state review, the WEM mitigation staff determined that the goals of these local plans and the goals of the State Plan closely mirror each other.

For the next update of the State Plan (2011), it is estimated that 87% of the State will be covered by a countywide and/or tribal hazard mitigation plan. WEM is also supporting that the single jurisdiction plans roll into the county plan during the county's plan development or update process. Another issue to the ensure that all existing plans are updated. The plans and the areas they represent will provide ample information to ensure that the Mitigation Strategy of the State Plan reflects the counties, tribal organizations and single jurisdiction goals and strategies.

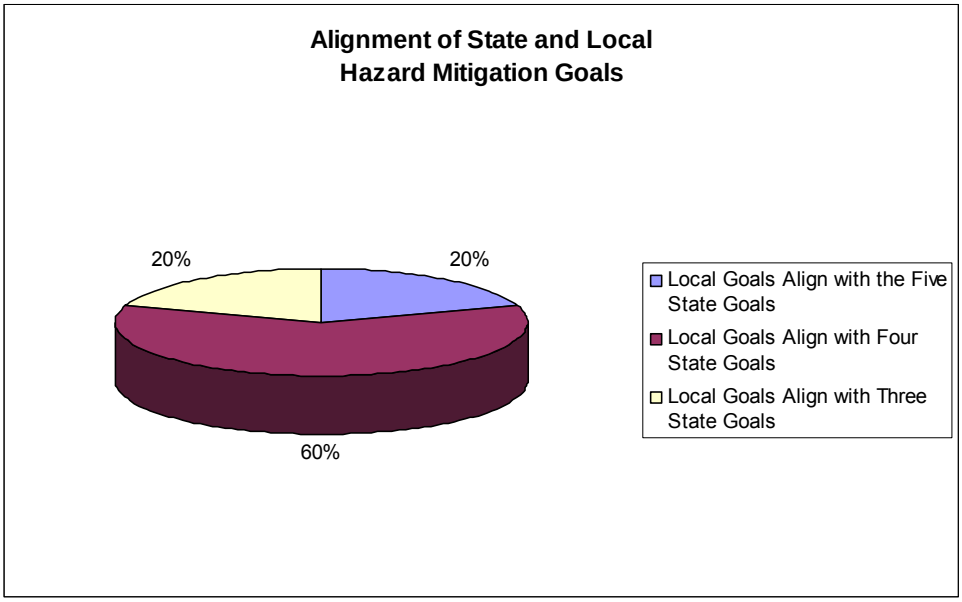
## 5.3 STATE AND LOCAL HAZARD MITIGATION GOAL ALIGNMENT

This three-year update of the State of Wisconsin Hazard Mitigation Plan chose to focus on integrating the local mitigation plans of fifteen (15) communities along major rivers. These rivers include the Wisconsin River and the Mississippi River, and the southeast counties of Racine, Milwaukee, and Kenosha. Due to the number of completed and approved local mitigation plans within the State of Wisconsin, it would have been an overwhelming task to review and incorporate all forty-nine (49) local plans. In the next State Hazard Plan update, more local jurisdiction plans will be included in the local plan integration.

### 5.3.1 Goals, Existing Strategies and Proposed Strategies

After an analysis of the 15 focus counties hazard migration goals, strategies, and projects, it can be surmised that the State of Wisconsin and local governments generally have the same hazard mitigation objectives. In 2005, the State of Wisconsin identified five hazard mitigation goals in its initial plan. Figure 5.3-1 illustrates that most of the focus counties (60% or 9 counties) had at least four of the State of Wisconsin Hazard Mitigation Plan's goals as part of their plans.

**Figure 5.3-1 State & Local Goal Comparison**




Source: WEM, 2008



Section TOC

Table 5.3-1 highlights the State of Wisconsin five goals and how the local plan goals align with the state's goals. In the plan update, all five state goals generally remain the same except for minor word additions. In all 15 county mitigation plans reviewed, each included the state's goals of #1, #4, and #5. Goals #2 and #3 were included by most of the counties. It is important to note that while only six counties included a goal about enhancing public education, most counties did have a public education component as a strategy or mitigation action item.

**State of Wisconsin's Goals**

1. *To minimize human, economic and environmental disruption from natural hazards;*
2. *To enhance public education about disaster preparedness and resistance and expand public awareness of natural hazards;*
3. *To encourage hazard mitigation planning;*
4. *To support intergovernmental coordination and cooperation among federal, state and local authorities regarding hazard mitigation activities; and*
5. *To improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion or renovation.*

**Table 5.3-1 State and Local Goals**

| COUNTY/JURISDICTION | GOAL 1 | GOAL 2 | GOAL 3 | GOAL 4 | GOAL 5 |
|---|---|---|---|---|---|
| Pierce | X | | | X | X |
| Trempealeau | X | X | | X | X |
| Marathon | X | | X | X | X |
| Wood | X | | | X | X |
| Portage | X | | | X | X |
| Juneau | X | | X | X | X |
| Adams | X | X | X | X | X |
| Grant | X | | X | X | X |
| Racine | X | | X | X | X |
| Kenosha | X | | X | X | X |
| Milwaukee | X | | X | X | X |
| Crawford | X | X | | X | X |
| Sauk | X | X | X | X | X |
| Dane | X | X | X | X | X |
| Vernon | X | X | | X | X |

Table 5.3-2 compares the state goals with the local goals from the fifteen focus counties. The first column (state goals) is included for comparison purposes. The second column (local goals) lists the goals from the focus counties and which counties chose those particular goals for their plan.

As you can see from this table, the goal chosen most often by the counties is to protect the safety of the residents and their property. Fourteen of the fifteen counties chose this goal. The next goal most often cited was to reduce impacts from flooding. Flooding

remains the top hazard, especially among these counties which have seen numerous disaster declarations due to flooding. Enhancing public education regarding hazards and their dangers was also one goal that many counties (6) chose.

| Table 5.3-2 General Goals and Objectives By County | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **State Goals** | **Local Goals** | **Pierce** | **Trempealeau** | **Marathon** | **Wood** | **Portage** | **Juneau** | **Adams** | **Grant** | **Racine** | **Kenosha** | **Milwaukee** | **Crawford** | **Sauk** | **Dane** | **Vernon** |
| ***Minimize human, economic, and environmental disruption from natural hazards*** | Reduce Impacts from Flooding | | | X | | | X | X | X | X | X | X | | X | X | |
| ***Enhance public education about disaster resistance and expand public awareness of natural hazards*** | Enhance Early Warning Systems | | X | | | | X | | | | | X | | | | |
| ***Encourage hazard mitigation planning*** | Enhance Emergency Response Capabilities | | | | | | X | | | | | X | | | X | |
| ***Support intergovernmental coordination and cooperation among federal, state, and local authorities regarding hazard mitigation activities.*** | Reduce Impacts of Coastal Erosion | | | | | | | | | X | X | X | | | | |
| ***Improve the disaster resistance of buildings and structures whether new construction, expansion, or renovation.*** | Protect Public Safety and Property | X | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| | Enhance public education | | X | | | | | X | | | | | X | X | X | X |
| | Properly Distribute Various Land Uses to Minimize Hazards and Dangers to Health, Welfare, and Safety | | | | | | | | | X | X | | | | | |
| | Properly Distribute Various Land Uses to Maintain Biodiversity and Provide for the Protection and Wise Use of Natural Resources | | | | | | | | | X | X | | | | | |
| | Integrate the Transportation System to Support Land use, Meet Travel Demands, and Minimize the Potential for Accidents | | | | | | | | | X | X | | | | | |

| Table 5.3-2 General Goals and Objectives By County | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **State Goals** | **Local Goals** | **Pierce** | **Trempealeau** | **Marathon** | **Wood** | **Portage** | **Juneau** | **Adams** | **Grant** | **Racine** | **Kenosha** | **Milwaukee** | **Crawford** | **Sauk** | **Dane** | **Vernon** |
| | Provide High Quality Fire and Police Protection and Emergency Medical Services | | | | | | | | | X | X | | | | | |
| | Identify and Promote Programs to Assist in Communications Interoperability Amongst All First Responders to prevent the Loss of Life and to Save Property | | | | | | | | | | X | | | | | |
| | Maintain minimum disruption to power systems and transportation systems | | | X | | | X | | | | | | | | X | |

Source: WEM, 2008

Similar to having comparable hazard mitigation goals, the state and local governments also share similar views on hazard mitigation strategies and projects. The counties in the State of Wisconsin were already cognizant of mitigation strategies prior to the development and adoption of the Hazard Mitigation Plan. Table 5.3-3 identifies the *existing* mitigation strategies that were emphasized in the counties' plans. While the existing projects highlighted may not be "strict hazard mitigation" projects, (some could be considered preparedness or planning efforts) the counties realized the importance of preventing future loss of lives and/or property.

The most prevalent mitigation strategies that are already being implemented by the Counties include the following:

- Communication: Public Awareness Campaigns/Education
- Communication: NOAA Weather Radio Distribution
- Planning: NFIP Insurance
- Regulations, Laws: Local shoreland and floodplain zoning ordinances
- Structural Mitigation: Safe shelter construction

| Table 5.3-3 Existing Local Mitigation Strategies | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Strategies** | **Pierce** | **Trempealeau** | **Marathon** | **Wood** | **Portage** | **Juneau** | **Adams** | **Grant** | **Racine** | **Kenosha** | **Milwaukee*** | **Crawford** | **Sauk** | **Dane** | **Vernon** |
| Communication: *Public Awareness Campaigns/ Education* | X | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| Communication: *NOAA Weather Radio Distribution* | X | | | | X | X | X | X | X | X | | | X | X | |
| Warnings: *Siren Tests/EAS* | X | | | | X | X | | | X | X | | | | | |
| Planning: Crop Insurance | X | | | | X | | X | X | | | | | | | |
| Planning: *Routine Monitoring of Power Systems* | | | X | | | | | | | | | | | | |
| Planning: *NFIP Insurance* | X | X | | X | | | | | X | | | X | | | X |
| Planning: *Incident Command Training & Practice* | | | X | | | | | | | | | | | | |
| Regulations, Laws: *Local Shoreland/Flood plain Zoning Ordinances* | | | | | | | | X | X | X | | X | X | | X |
| Structural Mitigation: *Safe Shelter Construction* | X | X | | | | X | X | | X | | | X | X | | X |
| Structural Mitigation: *Culvert Maintenance* | | | X | | | | | | | | | | | X | |
| *Structural Mitigation: Stormwater Management* | | | X | | | | | | | | | | | X | |
| *Structural Mitigation: Burying of Lines* | | X | | | | | | | | | | X | | | X |

Source: WEM, 2008 *Milwaukee did not highlight existing local mitigation strategies in their plan. It is not a requirement or recommended element of the Hazard Mitigation Plan.

Table 5.3-4 includes the specific (proposed) strategies and actions that the fifteen counties included in their plans for the future. Column two indicates the state priorities which can be compared with the county priorities to the right. Of the top seven strategies and actions planned by the counties, three aligned with the State plan strategies.

The top seven strategies of the focus counties are listed below. The ones in bold italics are the strategies that coincide with the state priorities:

- ***Communication: Public Education***
- ***Purchase of Houses in Floodplain***
- Warning System: Sirens/Reverse 911/211
- ***Structural Mitigation: Retrofitting Structures***
- Planning: Encourage NFIP or Crop Insurance
- Planning: Update Databases and Maps
- Regulations, Laws and Codes: Strengthen Local Building Codes

After reviewing the fifteen focus counties goals, existing and specific (proposed) strategies and actions, WEM is confident that the state goals and strategies that are included in the plan will coincide closely with what the individual counties hope to accomplish. Providing on-going training, technical and financial support to the counties will assist them in fulfilling their objectives and implementing their strategies.

**Table 5.3-4 Specific Strategies and Actions by County**

| Strategies | State Priorities | Pierce | Trempealeau | Marathon | Wood | Portage | Juneau | Adams | Grant | Racine | Kenosha | Milwaukee | Crawford | Sauk | Dane | Vernon |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Communication: Public Education** | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| **Communication: Multi-Lingual Educational Material** | X | | | | | | | | | | | | | | X | |
| **Purchase of RLS** | X | X | X | X | | | | | | | | X | X | X | | X |
| **Purchase of Houses in Floodplain** | X | X | X | X | | X | X | X | | | X | X | X | X | X | X |
| **Relocation of Buildings (Shoreland/Bluff)** | X | | | | | | | | | | X | | | | | |
| **Flood Proofing** | X | X | | | | | X | | | | X | X | | | X | |
| **Elevations** | X | X | | | | | | | | | X | | | | X | |
| **Warning System: Increase Use of NOAA Weather Radio** | X | X | | | X | | | | X | X | X | | | X | X | |
| **Warning System: Sirens/Reverse 911/211** | | X | | | X | X | X | | | X | X | X | X | X | X | X |
| **Structural Mitigation: Sewer Upgrades/Improve Existing Stormwater Management Systems** | X | | | X | | X | X | | | X | X | X | | | | |
| Structural Mitigation: Flood Walls and Berms | | | | | | | | | | | | X | | | | |
| Structural Mitigation: Culverts | | X | | X | | | X | | | | X | X | | | X | |
| Structural Mitigation: Minor Flood Control/Dams | | | | | | | | | | | | X | | | | |
| Structural Mitigation: Enhance Slope Stability | | | | | | | | | X | | X | X | | | | |

**Table 5.3-4 Specific Strategies and Actions by County**

| Strategies | State Priorities | Pierce | Trempealeau | Marathon | Wood | Portage | Juneau | Adams | Grant | Racine | Kenosha | Milwaukee | Crawford | Sauk | Dane | Vernon |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Structural Mitigation: Retrofitting Structures** | X | | | | | | | | | | X | | | | | |
| **Structural Mitigation: Safe Shelters** | X | X | X | X | | X | | X | X | X | X | | X | X | X | X |
| Non-Structural Mitigation: River/Stream/Lake Maintenance | | | | | | | | | | | X | X | | | X | |
| Non-Structural Mitigation: Wetland Restoration | | | | | | X | | | | | X | | | | X | |
| Planning: Resource Inventory | | | | | | | | | | | | X | | | | |
| **Planning: Locate Vulnerable Facilities** | X | | | | | | | | | | X | X | | | X | |
| Planning: Operations/Drills | | | | | | X | | | | | | | | | | |
| Planning: Development of Emergency MA Agreements | | | | | | | | | | | | X | | | | |
| Planning: Incorporation of All-Hazards Plan into Comp Plan | | X | | | X | X | | X | X | | | | | X | X | |
| **Planning: Encourage NFIP or Crop Insurance** | | X | X | | X | X | X | | | X | X | | X | X | | X |
| **Planning: Update Databases and Maps** | | X | X | X | X | X | X | X | X | | X | | X | X | | |
| Regulations, Laws and Codes: Dissuade Development in Hazard Areas | | X | | | X | X | | | | | | | | X | | |
| Regulations, Laws and Codes: Water Usage | | X | | X | X | | | | | | X | | | | | |

**Table 5.3-4 Specific Strategies and Actions by County**

| Strategies | State Priorities | Pierce | Trempealeau | Marathon | Wood | Portage | Juneau | Adams | Grant | Racine | Kenosha | Milwaukee | Crawford | Sauk | Dane | Vernon |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regulations, Laws and Codes: Shoreland/Floodplain Protection | | | | | | | | | | X | X | | | | | X |
| **Regulations, Laws and Codes: Strength Local Building Codes** | | X | X | X | X | X | X | X | X | X | X | | X | X | X | X |
| Protect Critical Facilities: Utilities | **X** | | X | X | | X | X | | | | X | | X | | | X |

## 5.4 STATE CAPABILITY ASSESSMENT

As part of the State's mitigation strategy, the State Hazard Mitigation Plan includes a discussion of the State's pre- and post-disaster hazard management policies, programs and capabilities to mitigate the hazards in the area, including an evaluation of state laws, regulations, policies and programs related to hazard mitigation as well as to development in hazard-prone areas; and a discussion of state funding capabilities for hazard mitigation projects.

A capability assessment survey was developed to collect information on policies, programs, regulations, authorities, agency initiatives, training and technical assistance that are provided by state agencies that address hazard mitigation. Members of the Wisconsin Hazard Mitigation Team (WHMT) coordinated with staff within their departments to obtain information on all relevant activities. This inventory assisted the WHMT to identify what is currently being done and assess what was working well and to identify where there were unmet needs. Through the capability assessment, the Team determined whether their missions adequately address and support loss reduction at both the state and local levels. Copies of the survey forms are located in Appendix C.

For the three-year plan update, the members of the WHMT were asked to review and evaluate the state capability assessment. Revisions and/or additions were made.

Completing a thorough capability assessment led to the identification and development of specific mitigation recommendations or actions. By evaluating the effectiveness of the existing State capabilities with respect to capabilities of local governments, the State determined the need for additional programs to assist communities in their mitigation efforts, and included those mitigation action items in the Mitigation Action Plan.

Wisconsin Emergency Management has identified PDM-C, HMGP, FMA, RFC, SRL, Comprehensive Planning, NR116, Home Safety Act and the Municipal Flood Control, Riparian Restoration Program and the Firewise Communities Program as having the greatest impact on mitigating damage from natural hazards.

- The Pre-Disaster Mitigation Competitive Program (PDM-C) provides mitigation grants to State and local governments, and tribal organizations for comprehensive all hazards mitigation planning and to implement cost effective mitigation projects.

- The Hazard Mitigation Grant Program (HMGP) provides mitigation grants to State and local governments, eligible private, non-profit organizations, and tribal organizations for comprehensive all hazards mitigation planning and to implement cost effective mitigation projects.

- Increased Cost of Compliance (ICC) coverage provides for the payment of a claim for the cost to comply with State or community floodplain management laws or ordinances after a direct physical loss by flood. When a building covered

by a Standard Flood Insurance Policy under the NFIP sustains a flood loss and the State or community declares the building to be substantially or repetitively damaged, ICC will help pay up to $30,000 for the cost to elevate, floodproof, demolish, or relocate the building.

- The Flood Mitigation Assistance Program (FMA) provides annual funding for the development of comprehensive flood mitigation plans and implementation of cost effective mitigation measures on NFIP insured properties.

- The Repetitive Flood Claims (RFC) Grant Program is designed to reduce or eliminate the long-term risk of flood damage to structures that are insured under the NFIP and have had one or more claim payment(s) for flood damages. RFC funds may only be used to mitigate structures located within a State or community that is participating in the NFIP and cannot meet the requirements of the FMA program due to lack of cost share or lack of capacity to manage the activities.

- The Severe Repetitive Loss (SRL) Program provides funds to assist States, Indian Tribal governments, and local governments participating in the NFIP in reducing or eliminating the long-term flood risks to severe repetitive loss properties, thus reducing outlays from the NFIP.

- NR 116 Local and State Floodplain Standards prohibits construction in floodways and requires elevation and dry-land access in flood fringe areas. Limits improvements to non-conforming structures and requires compensatory storage in flood storage areas.

- Comprehensive Planning requires local governments to have a comprehensive plan for making good land use decisions. It is a synergetic companion to mitigation planning and has added momentum to the mitigation movement by incorporating mitigation into the Comprehensive plans that the jurisdictions are required to create by 2010.

- The Home Safety Act covered the entire state by January 1, 2005. This legislation requires the state's Uniform Dwelling Code be enforced throughout the state. This includes the necessity to have all new construction inspected for compliance with the UDC. This law will improve the construction of homes, by requiring implementation of safety standards. The effect will be a reduction in loss of property and injury from all types of natural hazards.

- The Municipal Flood Control and Riparian Restoration Program provides grants for the mitigation of flood-prone property, restoration of riparian areas and the construction of flood control projects.

- The Firewise Communities program is intended to serve as a resource for agencies, tribes, organizations, fire departments, and communities across the U.S. who are working toward a common goal: reduce loss of lives, property, and

resources to wildland fire by building and maintaining communities in a way that is compatible with our natural surroundings. Firewise Communities is part of the National Wildland/Urban Interface Fire Program.

In Table 5.1, State Capability Assessment, state agency activities that support hazard mitigation are identified and assessed.

Definitions for the last two columns in this table are as follows:

*Financial Support* – Provides funding that help implement mitigation measures.
*Facilitate* – Programs, plans, policies, regulations, etc., that make implementing mitigation measures easier.

Potential funding sources for mitigation activities are identified and listed in Table 5.2. The State relies heavily upon federal hazard mitigation programs available through FEMA to fund state and local hazard mitigation projects. Information regarding the FEMA mitigation programs is available at www.fema.gov/government/grant/fs_mit_grant_prog.shtm.

## 5.5 LOCAL CAPABILITY ASSESSMENT

As part of the State's mitigation strategy, the State Hazard Mitigation Plan shall include a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.

As noted earlier, as of May 2008, 35 county and 14 single jurisdiction plans have been approved to date, with another eight pending approval by FEMA. As noted in Section 5.3, State and Local Hazard Mitigation Goal Alignment, the number and format of the local plans make it difficult to review and incorporate all of the information. Therefore, WEM decided to focus on fifteen counties along the Mississippi and Wisconsin Rivers and in southeast Wisconsin. As most of the local plans become approved, WEM is developing more efficient methods of incorporating the information from the plans. WEM will incorporate that information and analysis in future updates of the State Plan when most of the local plans will be approved.

There are several local regulations or programs that assist counties and communities in addition to several key statewide regulations or initiatives that provide for mitigation capabilities at the local level. These are identified on Table 5.3, Local Capability Assessment. (See the State Capability Assessment, Table 5.1 for more information on additional policies, programs and initiatives that support statewide mitigation.)

In addition to the policies and/or regulations identified in the table, WEM mitigation staff has been actively working with local governments to develop an awareness of mitigation opportunities and to further identify policies, programs and capabilities that exist that may further advance mitigation efforts at the local level. This is done through the following activities.

- Provide information and guidance regarding the benefits of comprehensive hazard mitigation planning and development of long-term, permanent mitigation measures. WEM with assistance of the Organization of Regional Planning Commissions developed mitigation planning guidance *Resource Guide to All Hazards Mitigation Planning in Wisconsin* that has been widely distributed and can be downloaded at WEM's website.

- Developed and conduct All Hazards Mitigation Planning Workshops for interested communities. In addition, hazard mitigation has been included in WEM's training curriculum in several other training opportunities such as the Disaster Response and Recovery Course, Local Damage Assessment, New Directors Series Workshop, and Municipal Planning Course. In addition, hazard mitigation is included in the Local Officials Public Assistance Briefings held after each disaster declaration. WEM staff has also teamed up with Wisconsin DNR staff in presenting at Substantial Damage Workshops.

- Develop and publish articles regarding all hazard mitigation in various newsletters such as the WEM Digest, Department of Natural Resource's Floodplain and Shoreland Management Notes, Wisconsin Association for Floodplain, Stormwater and Coastal Managers (WAFSCM) Water Matters, as well as others when requested.

- Make presentations on all hazard mitigation whenever the opportunity presents itself. This includes the Annual Governor's Conference on Emergency Management, Wisconsin Emergency Management Association, WAFSCM's Annual Conference, Wisconsin Land Information Association, Organization of Regional Planning Commissions, Wisconsin Utilities Association, Wisconsin State Bar Association, the UW-Madison Student Planning Organization, and Great Lakes Tribal organization among others.

- Utilize WEM's website to publish information and guidance on all hazard mitigation. This includes information on the federal mitigation programs, state and local all hazard mitigation planning as well as mitigation success stories and other general information on mitigation. Documenting successful local mitigation stories demonstrates the long-term benefits of mitigation to other communities including the public as well as local policy and decision makers. Documenting these success stories has generated an increase in awareness and interest in mitigation at the local level. Most of the presentation materials from the various workshops (Planning Workshop, Governor's Conference, and Buyout Workshop) are located on WEM's website.

- WEM has developed a mitigation display that identifies the different components of a comprehensive all hazard mitigation program and includes mitigation success stories as examples. The display is used at training functions, conferences, and when other opportunities exist.

- Effectively administer the federal mitigation programs (FMA, HMGP, PDM, RFC, and SRL) in funding cost-effective, environmentally sound, long-term mitigation measures as well as comprehensive all hazard mitigation planning.

- WEM hosted a 2007 Benefit Cost Analysis Workshop and a 2006 HAZUS Workshop conducted by FEMA contractors. Both were very well received and attended.

## 5.6 MITIGATION ACTION PLAN

In developing the mitigation actions the WHMT considered the following:

- The mission of the strategic plan of Wisconsin Emergency Management 2004-2006: Wisconsin Emergency Management (WEM) coordinates effective disaster response and recovery efforts in support of local governments. Through planning, training and exercising we prepare ourselves, our citizens and

response personnel to minimize the loss of lives and property. Further the plan includes the goal to: Develop and evaluate emergency management plans and processes to ensure that they reflect our hazards, risks, capabilities, resources and mitigation opportunities.

- Issues, concerns and recommendations of the Post Event Mitigation Strategies or Action Plans for major disaster declarations 1429, 1432, 1526, 1719 and 1768.

- The mitigation goals and objectives from local plans.

- Impacts from past disaster events.

- Addressing the State's priority hazards; floods and coastal flooding, tornados, straight-line winds, coastal erosion, and forest fires. (See Section 4, Wisconsin Risk Assessment, for more information.)

### 5.6.1 State Mitigation Action Plan

These actions are arranged according to the five mitigation goals outlined in Section 5.2 that the specific action supports. The order that they follow under the goal does not reflect priority or level of importance. Listed with the actions are background information; the agency responsible for implementing the action and the supporting agencies, if any; and the scheduled timeframe for implementation. Members of the WHMT were asked to evaluate and review the action plan and specifically those items they were responsible for and provide a status for the 2008 update. In addition, they were requested to provide new action items as appropriate. The mitigation action plan is summarized in Table 5.4, Action Summary Table. The table includes the priority level for each action as established by the lead agency, i.e., high, medium or low. In addition, projected resources are identified, the rationale for the action, and how the action contributes to the overall State Mitigation Strategy. Table 5.5 summarizes the actions by agency for a quick reference.

**Goal 1 Minimize human, economic and environmental disruption from natural hazards.**

**1.1 Action**: Continue to administer the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) Program and the Pre-Disaster Mitigation (PDM) Program by providing grants for planning and long-term, permanent and cost-effective mitigation measures.

**Lead Agency**: Wisconsin Emergency Management (WEM)
**Supporting Agencies**: Wisconsin Hazard Mitigation Team (WHMT), Regional Planning Commissions (RPC's)
**Implementation**: Current and ongoing.
**Background**: WEM has administered over $40 million (over $56 million in 2008) in HMGP/FMA /PDM funds for projects that eliminate or reduce disaster damages and protect lives and property. WEM, together with the WHMT, will

continue to encourage communities to apply for mitigation planning grants and fund cost-effective projects that reduce disaster costs. WEM will coordinate with other agencies through the WHMT to identify potential funding sources for projects and "package" funding to facilitate implementation of these projects.
**2008 Update Status**: In addition to administering the above-mentioned programs, Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) will also be added to the cadre of programs. Priority will be given to RLP and SRL properties.

**1.2 Action**: Encourage communities to sign-up and participate in the Conservation Reserve Enhancement Program (CREP) to reduce crop losses.

**Lead Agency**: Department of Agriculture, Trade and Consumer Protection (DATCP), USDA-Farm Services Agency (FSA), Natural Resources Conservation Service (NRCS), County Land Conservation Departments
**Supporting Agency:**
**Implementation**: Began in 2001. The sign up period ends in October 2012.
**Background:** The CREP is a federal and state program that focuses on improving water quality. The program promotes reducing non-point pollutant runoff from agricultural lands, reducing sediment, nutrient and pesticide loads, installing riparian buffers, filter strips and grassed waterways and restoring wetlands and prairie grasses. The program helps reduce run-off and peak flows in streams. The project goals were to set aside 100,000 acres. While primarily a water quality program, removing flood prone cropland from production is a secondary benefit.
**2008 Update Status:** Ongoing

**1.3 Action**: Promote use of FEMA's HAZUS hazard analysis GIS-based software as the modules become available. The earthquake module became available in 2002, the flood module became available in 2004 and the wind module in 2006.

**Lead Agency:** WEM
**Supporting:** RPC's
**Implementation:** On-going
**Background**: WEM has not used HAZUS to date because Wisconsin is not vulnerable to earthquakes. However, Wisconsin is vulnerable to flood and wind. Therefore WEM is exploring the use of HAZUS as a hazard analysis tool for improving the State Risk Assessment. Individual from mitigation staff attended training at EMI in September 2004.
**2008 Update Status**: WEM staff has been trained with HAZUS software. In 2006, WEM hosted a HAZUS Workshop conducted by FEMA contractors. In addition, the 2008 State Plan has a comprehensive Flood Risk Analysis that utilized HAZUS software. WEM staff will still attend trainings and become competent users. The wind module is hurricane wind, therefore, not applicable to Wisconsin.

**1.4 Action:** Promote the purchase and use of NOAA weather radios (especially in critical facilities, daycare centers, schools, and hospitals) through the web site(s), public service announcements (PSA), etc.

**Lead Agency:** WEM
**Implementation**: On-going
**Background**: NOAA weather radios have been identified in the plan as a valuable tool for warning people to take shelter during extreme weather events.
**2008 Update Status**: Status Unchanged. Mitigation presentations identify NOAA weather radios as a mitigation option. In addition, WEM has awarded 6 HMGP grants for the purchase and distribution of NOAA weather radios.

**1.5 Action**: Achieve 100% NOAA weather radio tower coverage in the state. WEM will work with the Educational Communications Board to pursue this goal.

**Lead Agency:** WEM
**Implementation:** On-going
**Background**: NOAA weather radios have been identified in the plan as a valuable tool for warning people during extreme weather events. 100% coverage would help warn people in all areas of Wisconsin.
**2008 Update Status**: There is approximately 95% coverage statewide.

**1.6 Action**: Give extra points to communities applying for DNR Stewardship programs if their proposal satisfies multiple objectives including mitigation elements.

**Lead Agency:** Department of Natural Resources (DNR)
**Implementation:** 2005
**Background**: Currently, DNR's Stewardship Program acquires land with environmental and ecological value for conservation. Adding flood mitigation values to the acquisition criteria such as floodwater storage capacity removing floodplain from development consideration could serve to conserve natural resources while helping to reduce flood losses.
**2008 Update Status**: Status unchanged.

**1.7 Action:** Allow mitigation projects to be funded under the Flood Damage Aids statute (§86.34) using the same funding percentage for improvements (50% DOT, 50% local match) in the event that a presidential disaster declaration has been granted, but HMGP funds are not available due to their use on higher priority projects.

**Lead Agency:** Wisconsin Department of Transportation (WisDOT)
**Implementation**: 2004-2005
**Background**: The current statute only allows mitigation or "improvements" after flood damage has occurred to a highway facility. The proposed statute change would allow consideration of mitigation projects, which are already identified during the project worksheet review process, to be funded at a 50% local match if FEMA HMGP funding is not available. A dollar threshold would also be placed on this process, which could be developed through engineering and fiscal analysis prior to submission of a scope statement and specifications sheet.
**2008 Update Status**: Deleted

**1.8 Action:** Develop guidance for businesses, provide information and resources about how businesses could plan to continue their operations if they were affected by the following situations:

(1) without electrical power, gas, telephone and/or other utilities;
(2) inaccessible because of flooding, debris, road or bridge damage, chemical spills, transportation accidents, etc.;
(3) partially or completely destroyed by fire, flood, tornado, etc.; and
(4) if one of their major suppliers (of materials, transportation, information, etc.) were put out of action by disaster.

**Lead Agency:** WEM, University of Wisconsin-Extension (UW-EX)
**Implementation:** Ongoing
**Background:** Need to develop guidance first. Businesses, organizations, and local governments can often continue to operate either at full capacity or a portion thereof, if they have planned for contingencies prior to the events.

**2008 Update Status:** Status unchanged. Due to workload, this item was not completed.

**1.9 Action**: Provide incentives such as awarding additional points for grant proposals competing for state funds when proposals address hazards with appropriate mitigation measures.

**Lead Agency**: All
**Implementation**: Ongoing
**Background**: Many projects funded by state agencies can fulfill multiple objectives. For example, a storm water project that addresses water quality issues can also address flood issues. A bike trail along a river can prevent more intense development in a flood prone area and therefore prevent flood damage. Although state programs are funded as directed by the state legislature and with formulas that cannot be altered by agency staff, it would be beneficial to recognize those projects that accomplish mitigation objectives.
**2008 Update Status***:* Status unchanged

**1.10 Action:** Promote the No Adverse Impact (NAI) floodplain management approach statewide.

**Lead Agency:** DNR
**Supporting Agencies:** Wisconsin Association for Floodplain, Stormwater and Coastal Managers (WAFSCM), WEM
**Other organizations:** Association of State Floodplain Managers (ASFPM), Zoning Administrators Association
**Implementation:** Beginning in 2005 and then ongoing
**Background:** With over $6 Billion of flood damages annually, the drain on all levels of resources needs to be reduced. With intensifying development within watersheds and floodplains, the rationale is to manage that type of development more fervently. No Adverse Impact (NAI) approach makes sense and will result in reduced damages. By using NAI, you will have a tool to increase support for watershed management as it promotes multi objective management strategies,

which appeal to wider range of interests. This increases support for any actions proposed or taken for flood management.
**2008 Update Status**: Ongoing. Promote NAI at workshops, meetings, conferences and through newsletter. Plan to incorporate NAI principles into NR 116 revisions. NAI training session planned for the 2008 WAFSCM (Wisconsin Association of Floodplain, Stormwater and Coastal Managers) conference.

**1.11 Action**: Review licensing requirements for medical and residential care facilities for promoting disaster resistant health care facilities. Review resistance to all hazards.
**Lead Agency**: Department of Health and Family Services (DHFS)
**Implementation**: 2005
**Background**: Health care facilities are of critical importance to the community especially during times of emergency or disaster. Thus, it is important that these facilities are disaster resistant. However, there is no evidence that a review is needed. Guidance for review would need to be developed first if a review were to be performed. This is an idea worth considering for the future should there be any evidence that a review is necessary.
**2008 Update Status**: Status unchanged.

**Goal 2 Enhance public education about disaster preparedness and resistance and expand public awareness of natural hazards.**

**2.1 Action**: Distribute hazard mitigation materials at housing workshops, training and orientation sessions.
**Lead Agency**: Department of Commerce-Division of Housing and Community Development (Comm-DHCD)
**Supporting Agencies**: WEM
**Implementation**: Continue to distribute hazard mitigation materials at its workshops in 2008 and annually thereafter.
**Background**: WEM will provide hazard mitigation materials and the Division of Housing and Community Development will distribute these materials at CDBG and HOME workshops and training sessions.
**2008 Update Status**: Status unchanged.

**2.2 Action**: The Wisconsin Coastal Management Program (WCMP) will continue to raise awareness of coastal hazards through activities such as Coastal Awareness Month, training and workshops, and include concepts of disaster resistant communities to promote hazard mitigation.(2008 updated strategy)
**Lead Agency**: DOA -The Wisconsin Coastal Management Program (WCMP)
**Supporting Agencies**: WEM and DNR
**Implementation**: Current and Ongoing. WCMP will support activities to raise awareness of coastal hazards.
**Background**: The WCMP seeks to prevent and minimize potential threats posed by coastal hazards through outreach efforts, grant programs, and agency partnerships.

**2008 Update Status**: Status unchanged. WAFSCM, WEM and WCMP sponsored a Coastal Hazards Workshop in Ashland in 2006.

**2.3 Action**: Move the Disaster Health and Safety Tips web page to a prominent location on DHFS' web site. Add links to and from the WEM web site.

**Lead Agency**: DHFS
**Supporting Agencies**: WEM
**Implementation**: This web page was moved to the Programs and Services page on DHFS' web site in 2000. Links to the WEM web site will be created in 2005.
**Background**: Information, designed to prevent or minimize adverse health impacts, and associated with different types of disasters or emergencies, is provided and readily available to a wide range of persons and agencies. DHFS will move this information from its current location (www.dhfs.state.wi.us/DPH_EMSIP/InjuryPrevention/Disaster/Disasterindex.htm) to a more visible and accessible site.
**2008 Update Status**: Status unchanged.

**2.4 Action**: Survey healthcare facilities to determine if they have NOAA weather alert radios and severe weather response plans. Provide information about NOAA radios and seek sources of funding to obtain NOAA radios for those facilities that lack them.

**Lead Agency:** DHFS
**Supporting Agencies**: WEM
**Implementation**: DHFS has surveyed the healthcare facilities that it regulates. Staff from the Divisions of Supportive Living (DSL), Children and Family Services (DCFS) and Care and Treatment Facilities (DCTF) will survey the facilities and provide information, including potential sources of funding, for facilities that lack them.
**Background**: NOAA weather alert radios are a cost-effective way of alerting the facilities of dangerous weather conditions. DHFS will explore ways to provide radios that are not currently used in health care facilities.
**2008 Update Status**: Status unchanged.

**2.5 Action**: Provide workshops and distribute informational materials to improve understanding and enforcement of floodplain, coastal, shoreline and wetland regulations, including mitigation techniques.

**Lead Agency**: DNR
**Supporting Agencies**: WCMP, UW-Sea Grant institute, WEM
**Implementation**: Current and ongoing. DNR will coordinate with WCMP to improve coastal hazard awareness, coastal hazard mitigation and on floodplain, shoreline and wetland regulations. Staff will continue to have workshops on floodplain management regulations, substantial damage, flood insurance and compliance. They will conduct Community Assistance visits to assess local floodplain management performance and compliance.
**Background:** Educating the public on flood hazards is one of the first duties and greatest challenges of any flood mitigation and prevention program.

**2008 Update Status**: Conduct 10 annual floodplain management workshops and attend 10 or more meetings of local government officials, realtors, insurance agents and the general public to promote floodplain management and hazard reduction. Attend two WCCA conferences and one WAFSCM conference. Publish three newsletters and other informational materials on these topics. Conducted substantial damage determination workshops for local officials after the 2007 and 2008 flooding. Provided technical assistance to communities for substantial damage determinations.

**2.6 Action**: Continue to educate the public about safety issues related to natural hazards at electric and natural gas utilities.

**Lead Agency**: Public Service Commission (PSCW)
**Implementation**: Current and ongoing
**Background**: The PSCW prepares a wide variety of public information brochures. The Commission publishes several brochures and makes them available to the public on its website at http://psc.wi.gov/consumer/brochure. Brochures that relate to safety and hazard issues include topics such as: Air Quality Issues for Electric Generation; Electric Transmission Lines; Electric Plant Decommissioning and Radioactive Waste Disposal; Underground Electric Transmission Lines; Natural Gas Pipeline Safety. These brochures are updated and others are produced on an as-needed basis.
**2008 Update Status**: Status unchanged.

**2.7 Action**: Promote mitigation for the general public using the WEM web site. Link to other agencies as appropriate including the FEMA, DNR, DOA and other web sites.

**Lead Agency:** WEM
**Supporting Agencies**: WCMP, OCI, DNR, DHFS, DATCP, COMM, and RPC's
**Implementation**: On-going
**Background**: There is useful information appropriate for managing natural hazard risk currently available through the various state agencies' web sites. Advertising these links would help address many hazard awareness objectives. WEM's web page will be utilized to the fullest extent to educate all on the benefits of mitigation. The State Hazard Analysis, the State Hazard Mitigation Plan, including the mitigation activities of the communities and mitigation program information are included on the web. Staff will foster linkages between these agencies and areas of expertise:

DNR – Municipal Flood Control and riparian Restoration Program
DNR – Dam Safety
DNR – Wisconsin Waters Initiative
FEMA's – NFIP map site and FIMA
DOA – Comprehensive Planning
DNR – Stewardship Programs
DATCP – Conservation Reserve Enhancement Program (CREP)

**2008 Update Status**: Status unchanged

**2.8 Action**: Participate in conferences and give presentations to promote mitigation to local interest groups and associations. These groups could include but are not limited to Wisconsin Land Information Associations (WLIA), Wisconsin Chapter of the American Planning Association (WAPA), the League of Wisconsin Municipalities, Wisconsin Counties Association, Wisconsin Emergency Management Association and the Wisconsin Manufactured Housing Association.

**Lead Agency:** WEM
**Supporting Agencies:** DNR, UW-EX, DOA-WCMP, and RPC's
**Implementation**: Ongoing.
**Background:** While the awareness and the importance of mitigation has improved in recent years, more can be done. Recognizing that mitigation activities occur at the local level, WEM staff will be able to reach local audiences by attending and participating in conferences sponsored by various organizations.
**2008 Update Status:** Working with the WCA and Wisconsin County Highway Commissioners organization to promote mitigation for road and bridge projects. Expanding outreach on this topic with other groups. Presentations were made at the WAFSCM (Wisconsin Association of Floodplain, Stormwater, and Coastal Managers) Annual Conferences and WEM County Emergency Management Directors Annual Meeting.

**2.9 Action**: Continue to develop and use the WEM mitigation information display at training sessions, conferences, workshops and other public awareness activities.

**Lead Agency:** WEM
**Supporting Agency:** RPC's
**Implementation:** Ongoing
**Background**: Educating individuals about hazard mitigation will help to promote how hazard mitigation can help their communities. A display that is portable and clearly conveys these concepts will help communicate these concepts.
**2008 Update Status**: Display was updated to include new mitigation projects and mitigation material.

**2.10 Action**: Provide sewer back flow prevention information and other flood proofing measures to affected communities through public information programs.

**Lead Agency**: DNR
**Supporting Agencies:** WEM, OCI and insurance industry
**Implementation**: Ongoing
**Background**: Sewer back flow has been identified as a major cause of damage in during heavy rain events in Wisconsin's urbanized areas. Thus, it is important to provide information in these areas on how to prevent losses. Producing a pamphlet and or web page about the insurance and property protection options a homeowner has to minimize risk from sewer back-up and basement flooding could do this.
**2008 Update Status**: Will coordinate with MMSD on expanding distribution of its brochure to other parts of the state.

**2.11 Action**: Seek out opportunities to sponsor low-cost hazard mitigation demonstration projects.

**Lead Agency:** All
**Implementation:** Ongoing
**Background**: Organizing low-cost mitigation demonstration projects at the state level helps lead by example and epitomizes a disaster resistant community approach.
**2008 Update Status**: Status unchanged

**2.12 Action:** Include the Hazard Mitigation Planning workshop into WEM's training curriculum and the Emergency Managers certification program, and hold at least one workshop annually.

**Lead Agency:** WEM
**Supporting Agency:** RPC's
**Implementation:** Beginning in 2005 and annually thereafter
**Background:** Beginning November 1, 2004, communities are required to have an approved all hazards mitigation plan that meets 44 CFR Part 201 in order to be eligible for funds through the FEMA mitigation programs. WEM mitigation staff has developed a curriculum for an All Hazards Mitigation Workshop and have conducted 5 workshops to date. Since mitigation planning will be a requirement, it is important that this workshop become a part of the Emergency Managers certification program. Therefore, the course must be held at least once a year to provide an opportunity for the training, and to provide valuable information to communities developing such plans.
**2008 Update Status:** Workshops are conducted annually in the spring and part of the certification program. A total of 10 planning workshops have been held. Workshops will continue to be held annually.

**2.13 Action:** Target business related mitigation materials to Wisconsin businesses, especially in vulnerable areas.

**Lead Agency**: COMM-Division of Business Development (DBD)
**Implementation:** Ongoing
**Background**: Businesses are excellent and important partners to community mitigation efforts. To encourage business participation in disaster mitigation activities, it should be useful to concentrate efforts in areas with flood vulnerability to reduce future losses and build strong partnerships.
**2008 Update Status**: Status unchanged.

**2.14 Action:** Develop household preparedness survey to utilize as a tool to educate the public about hazard mitigation and measure the public's knowledge of natural disasters as well as their interest in mitigation opportunities. The survey will be included on WEM's website and be interactive.

**Lead Agency:** WEM
**Implementation:** Spring 2004 on website; interactive 2005 and on-going
**Background:** One of the tools or ways to solicit input from the public on hazard mitigation goals and initiatives is through the development of a survey. This

survey will provide information to mitigation staff on the public's views of hazards and mitigation activities, which will assist in further development and refinement of state goals and mitigation actions.
**2008 Update Status:** Collected survey information was used in the 2008 Plan Update. A qualitative section will be added to the survey in hopes of explaining quantitative responses.

**2.15 Action**: Develop and document mitigation success stories. Publish reports and include on WEM's website and in WEM's Mitigation Display.
**Lead Agency:** WEM
**Supporting Agencies:** FEMA
**Implementation:** Ongoing
**Background:** WEM has administered over $40 million (over $56 million in 2008) in mitigation grants over the last 15 years. In some instances, those mitigation measures have been tested through recent events. It is important to document the damages that have been avoided through these mitigation measures by the development and advertisement of these successes. Documentation of the damages averted by these mitigation measures is provided to Congress to demonstrate the need for the continuation of mitigation programs. In addition, 44 CFR 201.5(b)(2)(iv) requires the State to have a system and strategy by which it will conduct an assessment of completed mitigation actions.
**2008 Update Status:** All mitigation success stories are published on WEM's website. In addition, mitigation success stories are posted on the Mitigation display. WEM staff will continue to develop success stories or best practices as they present themselves. In addition, WEM will work on developing loss avoidance studies where possible. For the 2008 event looking at loss avoidance studies for Kenosha and Jefferson Counties as well as the Crawford County Highway Department.

**Goal 3 Encourage hazard mitigation planning.**

**3.1 Action:** Coordinate and incorporate hazard mitigation planning concepts in future updates to the State Guide on Developing the Natural Resources Element of the Comprehensive Planning Guides.
**Lead Agency**: DOA
**Supporting Agencies**: WEM, DNR and UW-Sea Grant Institute.
**Implementation**: Ongoing.
**Background**: Wisconsin Comprehensive Planning legislation was created in 1999 to address the planning needs of Wisconsin communities. Many communities have outdated plans, inconsistent plans or no plans at all. This legislation requires communities that engage in zoning, subdivision regulations, or official mapping to have a comprehensive plan in place by January 1, 2010. Communities must address nine elements within the comprehensive plan.
**2008 Update Status**: Status unchanged. Mitigation planning information was provided to DOA by WEM.

**3.2 Action**: The Wisconsin Coastal Management Program (WCMP) will seek to develop and implement shoreline and bluff erosion policies.

**Lead Agency**: DOA-WCMP
**Supporting Agencies**: WEM, DNR, UW-Sea Grant Institute
**Implementation**: Current and ongoing. WCMP will see to increase the number and the effectiveness of policies regulating coastal hazards in Wisconsin.
**Background**: The WCMP continues to work to update methodologies and technical information regarding coastal erosion in the Great Lakes. This information is intended to help devise mitigation activities, update current ordinances and other policies, and raise awareness of stakeholders in the coastal zone regarding risks posed by coastal erosion.
**2008 Update Status**: Status unchanged

**3.3 Action:** Place all hazards emergency management guidelines on DHFS websites to facilitate the education of healthcare facilities in emergency management activities. In this fashion can provide on-going guidance to healthcare facilities to access information.

**Lead Agency**: DHFS
**Implementation:** Ongoing
**Background**: Healthcare facilities (hospitals, nursing homes, community-based residential facilities, etc.) house residents are at increased risk due to their individual needs. These facilities must be identified and integrated into the local community's emergency planning, response, recovery and mitigation activities. Special consideration should be given to the care and protection of both residents and their caregivers when local emergencies arise. Two websites have been established on Hospital Disaster Planning and Nursing Home Disaster Planning.
**2008 Update Status**: Status unchanged.

**3.4 Action**: The Wisconsin Historical Society (WHS) is using GIS to identify and map locations of known historical and archeological sites in floodplains.

**Lead Agency**: WHS
**Supporting Agencies**: DOA and DNR
**Implementation**: Ongoing--The WHS completed digitizing historical and archeological site locations in 2001.
**Background**: Section 106 of the National Historic Preservation Act requires federal agencies, and the programs that they fund avoid the alteration, damage or destruction of significant historical and archeological sites. Knowing that an area contains significant historical or archeological sites is considered when determining the appropriate treatment of these resources before, during and after a disaster. This statewide Geographic Information System (GIS) database contains the locations of significant historical and archeological sites making information on these resources more widely available. Mitigation planning can help protect these resources and critical historical facilities. The WHS site

lists/maps for all properties listed in the National Register of Historic Places as it becomes available. Staff has developed agreements on data access and use.
**2008 Update Status**: Status unchanged.

**3.5 Action:** Utilizing the State Historical Society's GIS data base on historical and archeological sites, develop a GIS layer identifying those that are located within a 100-year floodplain.

**Lead Agency:** WEM
**Supporting Agencies:** WHS, DNR, FEMA
**Implementation:** Six year plan update - 2010 or before
**Background:** Developing a GIS floodplain layer on state historical and archeological sites will assist in state and local risk assessments for flood hazard. It will help to identify the most vulnerable structures and assist in developing appropriate mitigation actions for these structures and sites. In addition, it will expedite environmental reviews in the post-disaster recovery as well as in implementing mitigation measures.
**2008 Update Status:** Status unchanged.

**3.6 Action**: Integrate hazard mitigation concepts into Extension programs for community development, lake and watershed management, farm management and housing.

**Lead Agency**: UW-EX
**Supporting Agencies**: WEM, WCMP, DOA and DNR
**Implementation**: Ongoing. Obtain and integrate hazard mitigation materials into these curricula. Update the information as appropriate. County extension agricultural faculty and emergency management directors are forming new partnerships to accomplish these efforts.
**Background:** UW-Ex develops and provides educational programming for community, agricultural, family, youth, business, non-profit organizations and local governments statewide. Some important programming areas that support hazard mitigation practices, include community, natural resource and economic development; lake and watershed management; farm management; and housing. Extension programs are delivered via face-to-face presentations, distance learning, printed material and the media. When appropriate, Extension educators integrate material on major state initiatives into educational programs. UW-EX staff will prepare and adapt materials and update educational programs to include education and information on hazard mitigation.
**2008 Update Status**: Ongoing. Staff gave Disaster Mitigation Act education and awareness presentations to county officials representing about thirty Wisconsin counties. They've had ongoing discussions to secure funding for business focused hazard planning education program. Hazard planning is being integrated in the security assessment efforts in many Wisconsin counties.

**3.7 Action**: Continue to develop guidance and resource information that will assist with the development of local mitigation plans to meet the federal planning criteria for All Hazard Mitigation plans.

**Lead Agency:** WEM
**Supporting Agency:** RPC's
**Implementation**: April 1, 2001 and ongoing
**Background**: Beginning November 1, 2004, communities are required to have an approved all hazards mitigation plan that meets 44 CFR Part 201 in order to be eligible for funds through the FEMA mitigation programs. To assist the local governments in developing such plans, WEM worked with the Council of Regional Planning Organizations in the development of the Resource Guide to All Hazards Mitigation Planning in Wisconsin. In addition, WEM developed a curriculum for an All Hazards Mitigation Planning Workshop, provide guidance through its website, and mails guidance electronically to local governments. As information becomes available, WEM continues to develop and share guidance with the local governments.
**2008 Update Status**: An All-Hazard Mitigation Resource Guide was developed and posted to the WEM website as well as other planning tools. In addition, WEM regularly provides planning information to the local governments.

**3.8 Action:** Research and identify GIS resources that would assist not only WEM but the local governments in the development of their mitigation programs.
**Lead Agency**: WEM
**Supporting Agency:** RPC's
**Implementation:** Ongoing
**Background:** WEM recognizes that GIS can be a valuable tool in the hazard mitigation planning process, implementation of mitigation measures, and monitoring mitigation progress at both the state and local levels. To further this effort, WEM needs to continue to identify resources and provide for staff needs in the area of GIS development.
**2008 Update Status:** Status unchanged.

**3.9 Action**: Identify and develop GIS applications to be used as a mitigation tool.
**Lead Agency:** WEM
**Supporting Agencies:** DNR, and RPC's
**Implementation:** Beginning in 2004
**Background:** Once GIS resources have been identified and provided, WEM can begin to develop GIS applications. Possible GIS applications include mapping repetitive loss properties; grants management; public education and outreach activities; success stories; mitigation planning; post disaster project development and recovery to name a few.
**2008 Update Status:** WEM hired a GIS Specialist and has used the technology for projects and planning. In the process of developing a GIS map of repetitive loss properties. Would also like to develop a GIS database and map of mitigated properties (acquisition, demolition, relocation and elevated).

**3.10 Action:** Update the State Hazard Mitigation Plan to include technological and man-made hazards.
**Lead Agency**: WEM

**Supporting Agencies:** WHMT
**Implementation:** Ongoing and to be completed for the 3 year update
**Background:** 44 CFR Part 201 requires that the State Hazard Mitigation Plan address natural hazards that impact the State. However, the State recognizes that technological and manmade hazards also pose a risk to citizens and facilities. Therefore, the State Hazard Mitigation Plan will begin to include technological and manmade hazards, based on available data, in future updates of the State Hazard Mitigation Plan.
**2008 Update Status:** Status unchanged. Due to workload, this item was not completed for this update. However, this remains a recommendation for subsequent updates and for EMAP accreditation requirements.

**3.11 Action:** Incorporate mitigation into WEM's Strategic Plan (short-term) and work with other state agencies (long-term) to incorporate mitigation into their strategic plans where appropriate.

**Lead Agency:** WEM
**Supporting Agencies:** WHMT
**Implementation**: Ongoing
**Background:** In 2004 WEM updated its Strategic Plan and included mitigation as a component. To further the State's mitigation efforts, mitigation should become part of the State agency's day-to-day activities and considered in decision-making. Therefore, mitigation needs to become a component of all state agencies' strategic plans. This will be a long-term project for WEM to work with State agencies through the WHMT to further these efforts.
**2008 Update Status:** Ongoing. The Department of Military Affairs' Strategic Plan identified an item to reach the goal of 90% of the state having approved hazard mitigation plans.

**3.12 Action:** Encourage hazard mitigation planning by conducting an inventory of the status of coastal protective structures along Racine County.

**Lead Agency:** DOA-WCMP
**Supporting Agencies:** Southeastern Wisconsin Regional Planning Commission, DNR
**Implementation:** Ongoing
**Background:** Protecting the State's coastal shoreline along the Great Lakes is a high priority. The WCMP has been conducting inventories of the coastline and offering community workshops on how to protect our coastline resources.
**2008 Update Status:** Completed

**3.13 Action**: Attend training on the HAZUS-MH and determine its feasibility for use in Wisconsin.

**Lead Agency:** WEM
**Supporting Agencies:** FEMA and RPC's
**Implementation:** 3 year update (2007)
**Background:** HAZUS-MH is a GIS-based multi-hazard risk assessment and loss estimation software developed by FEMA to help communities prepare and

plan for safer and stronger communities. The software can help communities complete the Risk Assessment portion of the local all hazard mitigation plans by estimating potential losses for wind, flood, and earthquake hazards. WEM staff will need to obtain adequate training before they can determine its use and extent of that use in Wisconsin at the State and local level.
**2008 Update Status:** Completed

**3.14 Action:** After HAZUS-MH training, provide information to local governments as a tool in mitigation planning and provide training and technical assistance.
**Lead Agency:** WEM
**Supporting Agencies:** WHMT and RPC's
**Implementation:** 2004 and Ongoing
**Background:** HAZUS-MH is a GIS-based multi-hazard risk assessment and loss estimation software developed by FEMA to help communities prepare and plan for safer and stronger communities. The software can help communities complete the Risk Assessment portion of the local all hazard mitigation plans by estimating potential losses for wind, flood, and earthquake hazards. Upon completion of adequate training on HAZUS-MH, WEM staff will determine the feasibility of its use and extent of that use in Wisconsin at the State and local level. Information will then be provided to local governments so they can make a determination as to its use within their community.
**2008 Update Status:** Completed. WEM hosted a HAZUS Workshop for local governments in 2006. Continue to provide training when opportunities arise.

**3.15 Action:** As local and tribal plans are completed, incorporate information and make linkages to the State Hazard Mitigation Plan.
**Lead Agency:** WEM
**Supporting Agencies:** WHMT
**Implementation:** Ongoing
**Background:** 44 CFR Part 201 requires that the State Hazard Mitigation Plan and hazard mitigation actions contain linkages to local hazard mitigation thus providing a complete assessment of state and local hazard mitigation priorities.
**2008 Update Status:** Completed. More jurisdictional plans will be included in the next update.

**3.16 Action:** Develop a state structure inventory of state owned buildings, structures and facilities and complete a risk assessment based on data collected specific to each building. Priority given to those structures considered a critical facility.
**Lead Agency:** WEM and DOA
**Supporting Agencies:** State agencies
**Implementation:** Beginning in 2007 and ongoing
**Background:** 44 CFR Part 201 requires that the State Hazard Mitigation Plan include an overview and analysis of potential losses to state owned or operated buildings, infrastructure and critical facilities located in identified hazard areas. There are an estimated 6,500 state owned buildings, structures and facilities identified on the State Facility Database. WEM applied for and received a FFY05

PDM-C planning grant to begin to conduct a statewide-structure inventory and risk assessment of state-owned buildings beginning with those that were considered a critical facility. Part of the grant was hiring an individual to oversee this project, who started in September 2007. To date, the information to be collected has been determined and a database developed. This is a joint effort between WEM and DOA.
**2008 Update Status:** New action item.

**3.17 Action:** Develop an annex to the State Plan for the rural electric cooperatives statewide.
**Lead Agency:** WEM and Rural Electric Cooperatives
**Supporting Agencies:** None
**Implementation:** 2009
**Background:** WEM recognizes that considerable damages occur to rural electric cooperatives throughout the state during wind, tornado, ice and snow events. Working with the rural electric cooperatives, WEM is developing an annex to the State Plan meeting FEMA requirements. Once the annex is completed and approved by FEMA the rural electric cooperatives will be eligible to apply for HMGP funds. In addition, the annex will be shared with the counties for inclusion in the local hazard mitigation plans, which will make the cooperatives eligible for the other mitigation programs through the State or local government as the subgrantee.
**2008 Update Status:** New action item.

**3.18 Action**: Work with Wisconsin universities to develop Disaster Resistant University (DRU) Plans.
**Lead Agency**: WEM
**Supporting Agencies**: None
**Implementation**: Ongoing
**Background**: In order to assist the state with 44 CFR Part 201 (which requires that the State Hazard Mitigation Plan include an overview and analysis of potential losses to state owned or operated buildings, infrastructure and critical facilities located in identified hazard areas), State Universities will need to participate. In turn, the structure information gathered may be used to assist the universities in the development of the Disaster Resistant University plan.
**2008 Update Status**: New action item.

**3.19 Action**: Wisconsin Coastal Hazards Team will continue to expand technical tools and technology transfer on coastal hazards for Lake Superior and Lake Michigan.
**Lead Agency**: Wisconsin Coastal Hazards Team
**Supporting Agencies**: WCMP-DOA, UW-Sea Grant and DNR
**Implementation**: Ongoing
**Background**: The most recent GIS effort that supports the work of the Hazards Team involves the visualization of coastal erosion processes. UW Sea Grant collaborated on a project funded by NASA to apply remote sensing to local government problems. The Wisconsin State Cartographer approached UW Sea

Grant and UW-Madison Geography Dept. about the use of visualization software to communicate the risks of coastal erosion to development in Ozaukee County, WI. Their work has helped to emphasize the role that imagery and animation have in public understanding and decision-making about coastal erosion. This work has helped make sense of a large volume of scientific and spatial data and has helped identify the most suitable software tools for representing dynamic coastal processes.
**2008 Update Status**: New action item.

**Goal 4 Support intergovernmental coordination and cooperation among federal, state and local authorities regarding hazard mitigation activities.**

**4.1 Action**: The Wisconsin Coastal Management Program (WCMP) will continue to coordinate the Coastal Hazards Workgroup and to look to expand hazard mitigation activities.

**Lead Agency:** WCMP
**Supporting Agencies**: WEM, Sea Grant Institute, DNR
**Implementation**: The WCMP will continue to hold Coastal Hazards Workgroup meetings as needed.
**Background**: The WCMP works with its partner agencies Coastal Hazards Workgroup. The Workgroup provides an opportunity for agencies to discuss current challenges and potential projects relevant to coastal hazards.
**2008 Update Status:** The Coastal Hazards workgroup and its partner agencies have developed tools to convey the challenges of coastal erosion. One tool is a successful educational website (http://www.geography.wisc.edu/coastal) that bridges the gap between scientific understanding and public perception of coastal hazards. Using 3D animations of bluff erosion coastal landowners can see the complex changes that happen as coastal bluffs erode.

**4.2 Action**: Continue to provide technical assistance to non-National Flood Insurance Program (NFIP) communities that have had flood damage and encourage them to join the NFIP.

**Lead Agency**: DNR
**Supporting Agency**: WEM
**Implementation**: Current and ongoing. The department has coordinated with several communities interested in joining the NFIP. Community Assistance Visits (CAVs) were conducted in these communities. In addition, the department is working with other newly incorporated communities. The remaining HMGP communities will receive CAV's in 2004.
**Background**: Although most communities that are not in the NFIP are not high-risk communities for flooding, many of these communities do have some flood risk and need to establish a community flood mitigation program to clearly identify and mitigate flood risk.
**2008 Update Status**: Ongoing. Five communities have joined the NFIP in the past two years and several more are in the process. Working with other



Section TOC

communities through the map revision process. DNR and FEMA staff contacted non-participating communities in the declared areas after the 2007 and 2008 flooding to provide information on joining the program.

**4.3 Action**: Work with local communities to encourage mapping of floodplains and coastal areas. DNR will help identify flood hazard and coastal erosion areas, especially in those communities where mapping of hazard areas is most needed.

**Lead Agencies**: DNR

**Supporting Agency**: WEM, RPC's, WCMP

**Implementation**: Ongoing. Each year DNR will try to have at least one priority community map its flood hazard areas. DNR will coordinate with WCMP to identify areas of coastal erosion. Coastal mapping activities will continue in 2004. Staff conducted a pilot project to update coastal erosion information for Bayfield County on Lake Superior. The department has identified and is currently working with seven counties, Milwaukee, Ozaukee, Rock, Washington, Waukesha, Dane and Brown to update floodplain maps. This is part of a larger, statewide process to completely update Wisconsin's floodplain map base. The remaining 490 Wisconsin NFIP communities will receive new maps over the next five years; many currently unmapped communities will also receive maps through this process.

**Background**: Many developing areas of Wisconsin have flood and erosion risk but are poorly mapped for these risks or not mapped at all. Promoting hazard mapping is key to empowering local communities and individuals to manage and reduce their risks.

**2008 Update Status**: Fifty-two (52) Wisconsin counties will receive updated mapping through the Map Modernization process. More counties may be added if additional funds are appropriated by the U.S. Congress. Coastal erosion is being addressed in updated mapping in the following counties: Brown, Door, Manitowoc, Milwaukee, Kenosha, Oconto, Ozaukee, Racine and Sheboygan. No funding is available at this time for Ashland, Bayfield, Douglas, Iron, Kewaunee or Marinette.

**4.4 Action**: Coordinate with WEM to sponsor a workshop for WisDOT engineers, technicians and other staff to review the components of post-disaster damage and mitigation programs.

**Lead Agency**: DOT

**Supporting Agencies**: WEM, FEMA

**Implementation**: WisDOT will coordinate with WEM to plan a disaster damage mitigation workshop to review mitigation components of the Public Assistance, Emergency Relief and Flood Damage Aids programs. WEM, WisDOT and FEMA will all provide support to the workshop with presentations and materials. WisDOT has already incorporated a small mitigation element with its Flood Damage Aids (FDA) training course which last took place in October 2003.

**Background**: DOT provides engineers and technicians to assist local governments with post-disaster damage assessments of roads, bridges and public works facilities. Their expertise is needed to implement all three highway

emergency aid programs mentioned above, which all include mitigation components.
**2008 Update Status**: On permanent hold due to higher work priorities.

**4.5 Action**: Provide ongoing support and coordination with WHMT in developing, establishing and implementing permanent and viable statewide mitigation programs including distribution of hazard mitigation materials to companies, agencies and consumers.

**Lead Agency:** OCI
**Implementation**: Annually. OCI's support of the WHMT is ongoing as is OCI's insurance regulatory responsibilities. These responsibilities include regulating insurance companies and agents and educating consumers about insurance products. The OCI will continue to publicize information on insurance and oversee the activities of insurance agents and companies including distributing hazard mitigation materials.
**Background**: As the regulatory agency for insurance and insurance carriers, OCI serves as an expert in the field of insurance. Staff cooperates with other agencies to encourage loss prevention, enhance consumer protection through the licensing and education of insurance agents and carriers. They inform businesses and individuals on insurance matters. OCI requires continuing education for agents and credit can be obtained through flood insurance courses provided by the NFIP.
**2008 Update Status**: Status unchanged

**4.6 Action**: Provide ongoing support and coordination with the WHMT in developing, establishing and implementing permanent and a viable statewide mitigation program while protecting historical and cultural resources.

**Lead Agency**: WHS
**Implementation**: Ongoing
**Background:** Section 106 of the National Historic Preservation Act requires federal agency programs, avoid the alteration, damage or destruction of significant historical and archeological sites. Coordination with WEM on hazard mitigation activities will help fulfill this mission.
**2008 Update Status:** Status unchanged.

**4.7 Action**: Continue to lead the WHMT in establishing and implementing a long-term, permanent and viable statewide mitigation program.

**Lead Agency:** WEM
**Implementation**: Ongoing
**Background**: The Wisconsin Interagency Disaster Recovery Group was organized in response to the 1993 Midwest Flood to coordinate relief and recovery efforts and to prevent duplication of efforts. The success of the group has been demonstrated by the various mitigation projects completed often with multi-agency funding and technical assistance provided. The IDRG was a "reactive" group that was activated after a disaster. Staff recognized the need to formalize a group and designate a State Hazard Mitigation Team (SHMT) that

would be an expansion of the IDRG with policy-making authority. The SHMT was responsible for the development of a statewide mitigation strategy as part of the State Hazard Mitigation Plan. Both groups played a vital role in furthering mitigation efforts in the state. In 2004, WEM consolidated these groups into the Wisconsin Hazard Mitigation Team (WHMT). WEM will further define the roles and responsibilities of the group; continue the development, implementation and update of the State Hazard Mitigation Plan; expand the viable ongoing mitigation program in the state; educate state, federal and local agencies regarding mitigation; and provide support to the WHMT.
**2008 Update Status**: Status unchanged. After the 2008 Flooding event, the State of Wisconsin created the Wisconsin Recovery Task Force. One of the subgroups of that Task Force is Mitigation. WHMT are members of the Mitigation Subcommittee.

**4.8 Action**: Invite a representative from the Regional Planning Commission and the Wisconsin Association for Floodplain, Storm water and Coastal Managers (WAFSCAM) to participate on the WHMT.

**Lead Agency**: WEM
**Implementation**: Extend invitation by January 1, 2004.
**Background**: The Regional Planning Commissions conduct research and analysis, provide planning services, assist in grant writing as well as provide advise to local governments. Thus, they can be a valuable resource to not only the local governments, but also to the WHMT. WEM invited these groups to serve as a liaison to represent all nine Regional Planning Commissions and the association. Established in 2002, the WAFSCAM members can offer technical assistance to the WHMT on important topics that the WHMT needs to share with local governments and associations.
**2008 Update Status**: Completed. In addition, a VOAD and NWS representative have joined the Team.

**4.9 Action**: Promote hazard mitigation planning by maintaining a close relationship with the Comprehensive Planning Grant Program.

**Lead Agency**: DOA
**Supporting Agency**: RPC's
**Implementation:** Staff will provide an annual update on the communities developing Comprehensive Planning Grants so that, if possible, local communities can use the information from Comprehensive Plans for the development of local hazard mitigation plans.
**Background:** The Comprehensive Plans for local communities contain information that can be used in Hazard Mitigation planning such as floodplain maps, future land use maps, contaminated sites, wetlands maps, stream corridors, etc.
**2008 Update Status:** Status unchanged

**4.10 Action:** Promote hazard mitigation planning by including information in the directory for comprehensive planning.

**Lead Agency:** DOA
**Supporting Agency:** RPC's
**Implementation:** This web-based directory will be available in the spring 2005.
**Background:** The directory is a planning tool that will contain resource information for local governments in developing comprehensive and/or hazard mitigation plans.
**2008 Update Status:** There are no plans to update October 2003 version of directory for comprehensive planning.

**4.11 Action**: Promote hazard mitigation planning by cooperating with the Comprehensive Planning Grant Administrator.

**Lead Agency**: DOA
**Supporting Agencies**: WEM
**Implementation**: Each fall staff from DOA host a series of workshops around the state on Comprehensive Planning. WEM staff could attend and give presentations on hazard mitigation planning. DOA staff has also offered to distribute hazard mitigation planning materials. Participate in the WLIA annual conference.
**Background**: Hazard mitigation principles compliment elements of the Comprehensive Plans. Incorporate information on hazard mitigation planning on the DOA CD proceedings. The information from the conference will go to participating municipalities, planners, GIS experts, etc.
**2008 Update Status**: The DOA holds workshops on how to apply for a comprehensive planning grant in August and September.

**4.12 Action:** Provide a link from DOA'S web-site to WEM's web-site to access information on hazard mitigation planning**.**

**Lead Agency:** DOA
**Implementation:** 2005, DOA could link information to the WEM site allowing municipalities developing comprehensive plans access to hazard mitigation principles.
**Background:** This initiative broadens exposure to hazard mitigation principles and programs.
**2008 Update Status:** Completed
http://www.doa.state.wi.us/category.asp?linkcatid=748&linked=128&locid=9

**4.13 Action:** Invite WEM staff to participate in the State Agency Resource Working Group (SARWG).

**Lead Agency:** DOA
**Supporting Agencies:** WEM
**Implementation:** 2004 and ongoing
**Background:** The SARWG is a statutory funded group that is administered by DOA. Representatives from various agencies are participating to promote and cooperate on land use issues. Other representatives in the group are from: DNR, DATCP, DOT, PSC, WHS, DOA, UW-LICGF.

**2008 Update Status:** SARWG is not active. Although the groups are inactive due to the sunset of the Council, members continue to communicate via e-mail to promote comprehensive and mitigation planning.

**4.14 Action**: Encourage Emergency Management Directors to work with Local Emergency Planning Committees (LEPC) to participate in local hazard mitigation planning activities.

**Lead Agency:** WEM
**Implementation:** Ongoing
**Background**: WEM is committed to promoting local mitigation planning for all hazards. Including the LEPC's in local mitigation planning would help address technological hazards and improve coordination between response and planning emergency functions.
**2008 Update Status**: Status unchanged

**4.15 Action**: Promote mandatory disclosure of hazard-prone property to buyers.

**Lead Agency:** DNR
**Implementation:** Ongoing
**Background**: The NFIP Community Rating System already provides incentives via CRS points for communities that require full hazard disclosure in real estate listings. The idea is that it promotes hazard awareness and helps individuals better manage their risk before making an investment in a home or other structure.
**2008 Update Status**: On going through CRS; encouraged through workshops and outreach efforts.

**4.16 Action**: Encourage sewer utilities to provide back up power sources at lift stations to help prevent sewer back flow flooding.

**Lead Agency:** DNR
**Implementation**: Ongoing
**Background**: Some sewer back flow problems occur only because power outages prevent lift stations from operating to pump sewage out of low-lying areas and into the main lines. Providing a back up power source for these lift stations would help reduce or eliminate back flow problems in these areas.
**2008 Update Status:** Status unchanged. Ongoing.

**4.17 Action**: Encourage sewer utilities to provide public information regarding sewer back flow prevention to reduce basement flooding.

**Lead Agency**: DNR/ WEM
**Implementation**: Ongoing
**Background**: Since sewer back ups have been identified as a problem in several urban areas of the state, promoting prevention at the local level would help reduce basement flooding.
**2008 Update Status**: Status unchanged. Ongoing.

**4.18 Action:** Work with FEMA and appropriate state agencies to identify prior to a disaster mitigation techniques that can be funded through Section 406 for certain types of damages as a result of the hazards that impact the state. This may include identifying and establishing new standards in codes.

**Lead Agencies:** WEM and FEMA
**Supporting Agency:** DOT, Comm, DNR, PSC and other appropriate state agencies
**Implementation:** Ongoing
**Background:** In major disaster declarations, cost effective mitigation measures can be implemented through the Section 406 program on damaged public facilities. The program is sometimes under utilized because mitigation opportunities are not properly identified on a timely basis. By working with FEMA and appropriate state agencies, this action will attempt to pre-identify those items that will be included in the Section 406 program. Further, costs to bring a damaged site to current codes and standards are eligible. This process may lead to the identification and established of new or additional codes and standards that should be established.
**2008 Update Status:** Status unchanged. Process varies from disaster to disaster and from Federal Coordinating Officer (FCO) to FCO. FEMA has established a workgroup that is addressing this issue nationally.

**4.19 Action**: Promote the concept of the Firewise Communities USA statewide.

**Lead Agencies:** DNR, WEM
**Supporting Agencies:** FEMA, USDA, USDI, National Fire Protection Association, International Association of Fire Chiefs, National Association of State Foresters, National Emergency Managements Association, US Fire Administration.
**Other organizations:** WEMA, State Fire Chiefs Association
**Implementation:** Beginning in 2005
**Background:** Firewise Communities USA recognition program enables communities to achieve a high level of protection against wildland/urban interface fire as well as sustainable ecosystem balance. The goal is to encourage and acknowledge action that minimizes home loss to wildfire. The program adapts well to small communities, developments, and residential associations of all types. To date, there is ten Firewise Communities in Wisconsin participating in the program. By promoting the concept and providing information to local governments, WEM hopes that communities will join the program.
**2008 Update Status:** Fire risk assessment included in the 2008 State Plan Update.

**4.20 Action**: Promote the NFIP Community Rating System to local governments.

**Lead Agencies**: DNR/WEM
**Supporting Agencies:** FEMA, WAFSCM
**Other organizations:** ASFPM
**Implementation:** Beginning in 2005

**Background:** A high Community Rating System will enable the citizens of that locality reduced premiums and other benefits. This action reduces flood risk by rewarding the communities through lower premiums for their residents when they meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance.
**2008 Update Status:** DNR sends out a CRS invitiation letter to Wisconsin communities once a year. The City of Evansville joined the project in 2008.

**4.21 Action**: Annually update the Green Book to assist in environmental review process for hazard mitigation projects.

**Lead Agency:** WEM
**Supporting Agencies:** WHMT/FEMA
**Implementation:** Ongoing
**Background**: The Green Book is a resource guide for local governments that contains basic information on the environmental laws and policy requirements that must be considered when communities respond to and recover from disasters. The document also contains contact information for state and federal officials. The annual update will help ensure the document is current and will require less time to update when a disaster is declared.
**2008 Update Status**: FEMA has reduced the Green Book to a Green Sheet that contains important state and federal regulatory information. This document was updated for DR-1768. The State will continue to update this document with state and local officials when a disaster is declared.

**4.22 Action**: Attend training and continue to build expertise in performing BCA's which is a major component of mitigation grant applications.

**Lead Agency:** WEM
**Supporting Agency:** FEMA
**Implementation:** Ongoing
**Background:** The benefit-cost component of the FEMA grant application process requires the use of FEMA's cost-benefit model. This model calculates benefits based on critical project information that is entered by staff performing the analysis. FEMA's uses this information when determining if a project will receive funding. It is important for staff to attend training and build expertise in this area to ensure that they understand the important elements of the model to calculate accurate benefit-cost analyses for hazard mitigation and pre-disaster mitigation projects.
**2008 Update Status:** in 2007, WEM hosted a BCA Workshop conducted by FEMA contractors that was very well received and attended. Fall of 2008 FEMA released the new BCAR. WEM mitigation staff will need to get fully trained and versed in the new software so that they can provide training and technical assistance to local governments. In addition, would like to conduct specific training for the electric cooperatives on the limited data BCA.

**4.23 Action**: Provide training and technical assistance to local governments and tribal organizations on FEMA's e-grants system.

**Lead Agency**: WEM
**Supporting Agency**: FEMA
**Implementation**: Ongoing
**Background**: FEMA is requiring electronic applications for its programs. WEM worked with local governments and tribal organizations to submit the 2003 Pre-Disaster Mitigation Program applications. We will continue to train and work with them to successfully submit HMGP and other applications as required by FEMA.
**2008 Update Status**: Status unchanged. Provided technical assistance in the FFY 05, 06, 07, 08 and 09 funding cycles.

**4.24 Action**: Include hazard mitigation as a topic at selected conferences and workshops attended by CDBG and HOME grantees. The Division will invite WEM staff to speak at selected workshops.

**Lead Agency:** COMM-DHCD
**Supporting Agencies**: WEM
**Implementation**: Ongoing
**Background**: Present hazard mitigation and disaster resistance concepts at conferences and workshops for CDBG and HOME grantees. WEM and COMM-DHCD will work together to provide mitigation information to COMM-DCD grantees receiving housing and community development rehabilitation assistance.
**2008 Update Status**: Status unchanged.

**4.25 Action**: Work with the WI Land Council through the SARWG exploring a hazard mitigation planning element to the State's Comprehensive Planning Legislation.

**Lead Agency:** WEM
**Supporting Agencies:** DOA
**Implementation:** Ongoing
**Background:** Work through the SARWG and appropriate state agencies to identify how and where a hazard mitigation planning element could be integrated into the State's Comprehensive Planning Legislation. Determine the specific steps and timeframe to pursue this as an amendment to the Legislation.
**2008 Update Status:** The Land Council was sunset in 2005 and SARWG is inactive.

**4.26 Action**: Work with the WI Land Council through the SARWG to provide information and guidance on all hazards mitigation planning and to coordinate with the State Comprehensive Plan.

**Lead Agency:** WEM
**Supporting Agencies**: DOA and RPC's
**Implementation:** Ongoing
**Background**: Hazard Mitigation planning information, guidance, resource and supporting materials such as floodplain maps, future land use maps, contaminated sites, wetlands maps, stream corridors, etc. can be used in the State Comprehensive Plan. WEM will provide guidance materials that will help

planners identify ways to incorporate hazard mitigation concepts when identifying land use activities in vulnerable areas.
**2008 Update Status**: The Land Council was sunset in 2005 and SARWG is inactive. WEM provided information to DOA regarding hazard mitigation planning.

**4.27 Action:** Work with the municipal fire departments to collect all fire incidents occurring within the state. Train fire departments on the use of the National Fire Incident Reporting System program that can be directly uploaded to FEMA. Data collected is used to develop new rules and laws for fire safe construction.
**Lead Agency:** Comm-Safety and Buildings
**Supporting Agencies:** State Fire Chiefs Association
**Implementation:** Ongoing
**Background:** The need for fire data was recognized in 1974 when the Fire Prevention and Control Act authorized for US Fire Administration to gather and analyze fire data relevant to the nation's fire problem. The USFA, through a contract with NFPA in the mid 1970's, established the first National Fire Incident Reporting System, version 1.0. The USFA, through cooperative agreements with the National Fire Information Council (NFIC), established the first NFIRS system. The National Fire Incident Reporting system commonly known as NFIRS is the largest source or fire data in the world.
**2008 Update Status:** Ongoing. 2007 Wisconsin Act 75 requires fire departments in Wisconsin to report specific building fire incident information within 60 days to the Department of Commerce through use of the National Fire Incident Reporting System.

**4.28 Action:** Provide requirements and guidance to all fire departments within the state to guarantee existing commercial buildings are inspected at least once a year. The routine inspections are accomplished to ensure the existing building is still meeting its design specific building code requirements.
**Lead Agency:** Comm-Safety and Buildings
**Supporting Agencies:** State Fire Chiefs Association
**Implementation:** Ongoing
**Background:** The chief of every fire department shall be responsible for having all public buildings and places of employment within the territory of the fire department inspected for the purpose of ascertaining and causing to be corrected any conditions liable to cause fire, or any violations of any law or ordinance relating to fire hazards or to the prevention of fires.
**2008 Update Status:** Ongoing

**4.29 Action:** Provide for Administrative Code changes to adopt the ~~2005~~ 2008 edition of the National Electrical Code. The rule will affect any building or structure within the state that the installation of electrical wiring will be undertaken. The department estimates that it will take approximately 400 hours to develop this rule.
**Lead Agency:** Comm-Safety and Buildings
**Implementation:** Ongoing

**Background:** The state electrical code has adopted the NEC by reference since 1972. Currently, the ~~2002~~ 2005 edition of the NEC is adopted in chapter Comm 16. This rule project will update the state code to the 2005 edition of the NEC, while evaluating the electrical requirements in chapter Comm 16 that add to and modify the requirements in the NEC. ~~This rule project will also review the electrical inspection requirements in the chapter Comm16~~. The alternative of not updating chapter Comm 16 would result in the state electrical code not being up-to-date with current nationally recognized standards for the design, installation and operation of electrical conductors and equipment in all buildings and structures.
**2008 Update Status:** Completed. Comm-Safety and Buildings initially adopted the 2005 code and now are adopting the 2008 with estimated effective date of January 2009.

**Goal 5 Improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion or renovation.**

**5.1 Action**: Incorporate mitigation practices into its housing rehabilitation programs.
**Lead Agency**: COMM-Division of Housing and Community Development
**Supporting Agencies**: WEM
**Implementation**: COMM began incorporating mitigation practices into its housing rehabilitation programs in June 2001.
**Background**: COMM was able to identify eligible improvements using CDBG funds. "Safe Rooms" are listed as eligible activities for grantees that are able to identify a need. The "eligible activities list" was amended to include floodproofing as not only an eligible expense, but required in certain rehabilitation projects. Retrofitting for greater wind resistance was added to the list of eligible CDBG activities where property conditions require the replacement of the roof or siding.
**2008 Update Status**: Status unchanged

**5.2 Action**: Support the adoption by the State of Wisconsin of a current model building code as part of a suite of coordinated construction and maintenance codes in cooperation with FEMA's efforts for a disaster resistant standard building code.
**Lead Agency:** COMM-Division of Safety and Buildings
**Supporting Agencies**: All agencies support building code improvements.
**Implementation**: Adopted July 1, 2003.
**Background**: The State of Wisconsin adopted a model building code that became effective on July 1, 003. The Wisconsin Enrolled Commercial Building Code includes Comm 61 to 65 and the adopted provisions of the International Code Council codes: International Building Code, International Energy Conservation Code, International Mechanical Code, and the International Fuel Gas Code. This new code is actively enforced statewide.
**2008 Update Status**: Status unchanged

**5.3 Action**: Address the disaster resistance of manufactured homes by reviewing tie-down standards, installation standards and inspection standards.

**Lead Agency:** COMM-Division of Safety and Buildings
**Implementation**: On-going
**Background**: A committee is scheduled to convene throughout 2004 to review the standards. A new federal law effective in 2005 will be requiring the states to take a more proactive approach to the disaster resistance of manufactured housing.
**2008 Update Status**: Status unchanged

**5.4 Action:** Do not approve grants or loans to communities to construct critical facilities in floodplains or hazard prone areas.

**Lead Agency**: COMM-Division of Housing and Community Development
**Supporting Agencies**: WEM, DNR
**Implementation**: Ongoing
**Background**: Community development programs within the Department of Commerce, such as the CDBG Community Facilities program, help disadvantaged communities finance the construction of community facilities and infrastructure. These are key components of the community and need to be disaster resistant. The Department of Commerce will follow federal and state standards for flood risk mitigation and address other natural hazards as applicable when funding the construction of community facilities.
**2008 Update Status**: Status unchanged

**5.5 Action**: Encourage telecommunication utilities to obtain information about floodplains in advance of construction and avoid construction in these areas. If construction in flood plains is unavoidable, the utilities will be encouraged to use alternative methods or technologies for plant additions. The utilities will be encouraged to know and use construction practices that avoid or minimize loss of service.

**Lead Agency**: PSCW
**Implementation**: Ongoing
**Background**: The Public Service Commission of Wisconsin (PSCW) is an independent regulatory agency responsible for the regulation of Wisconsin public utilities. PSCW prior-approval of construction by telecommunications utilities is not required. However, the PSCW will work with the Wisconsin State Telecommunications Association (WSTA) to alert telecommunications utilities to the hazards of construction in the floodplain.
**2008 Update Status**: Status unchanged

**5.6 Action**: Perform hazard mitigation reviews for electric, natural gas and water utility construction projects.

**Lead Agency**: PSCW
**Implementation**: Current and ongoing
**Background**: All reviews and approvals of electric, natural gas and water utility construction projects must include a determination of floodplain impacts and mitigation.

**2008 Update Status**: Status unchanged

**5.7 Action**: Continue to administer the Hazard Mitigation Grant, the Flood Mitigation Assistance and the Pre-disaster Mitigation Programs to strengthen buildings against disaster by providing grants for long-term, permanent and cost-effective mitigation measures.

**Lead Agency:** WEM
**Supporting Agencies**: Agencies belonging to the WHMT
**Implementation**: Current and ongoing
**Background**: WEM has administered over $40 million (over $56 million in 2008) in HMGP/FMA/PDM funds for projects that eliminate or reduce disaster damages and protect lives and property. With the assistance of the WHMT, WEM will continue to encourage communities to apply for mitigation grant funds and look to fund cost-effective projects and projects that make the biggest impact in reducing disaster costs. In addition, WEM will coordinate with other agencies through the WHMT to identify potential funding sources for projects and "package" funding to ensure implementation of projects at the local level.
**2008 Update Status**: In addition to administering the above-mentioned programs, Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) will also be added to the cadre of programs. Priority is given to RLP and SRL properties.

**5.8 Action**: Encourage safe rooms in new residential construction.

**Lead Agency:** COMM-Division of Housing and Community Development
**Supporting Agency:** WEM
**Implementation:** On-going
**Background**: Safe rooms are the best available protection from tornadoes and should be promoted for all habitable structures. Basements are not completely safe during a tornado but offer enough protection to satisfy many people. However, structures without basements can offer very little protection. Safe rooms should be a prime consideration in new construction without a basement.
**2008 Update Status**: Status unchanged

**5.9 Action**: Enforce the inspection of all new construction to ensure compliance with state building codes which will promote disaster resistance and public safety.

**Lead Agency**: COMM
**Implementation**: On-going
**Background**: Without proper inspection of new construction for compliance with state building copes, there is no insurance that structures will be built to the proper codes. As of January 1, 2005, all municipalities are responsible for enforcement of the Uniform Dwelling Code (UDC.) This includes submitting building plans and inspections for electrical, construction, plumbing, and HVAC. All post-1980 dwellings had to follow the code, however, in communities under 2,500 there was the option not to enforce the code (i.e., plan review and inspections.)
**2008 Update Status**: Status unchanged

**5.10 Action**: Create a dynamic tracking system for all Privately Owned Wasterwater Treatment Systems (POWTS).

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Ongoing
**Background**: The department shall adopt a reasonable and proper rules and regulations relative to the construction and maintenance of all constructed environments within the state. This would ensure information on all existing POWTS systems are collected and all future maintenance actions on these systems are tracked. Wisconsin Act 347 requires the development of such a database.
**2008 Update Status**: New action item.

**5.11 Action**: Require carbon monoxide detectors in most existing residential occupancies, other than 1- and 2- family housing with fuel burning appliances.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Ongoing
**Background**: 2007 Wisconsin Act 205 requires rules to be developed protecting occupants of most residential occupancies. This ensures residential occupancies are protected to alert occupants of unseen carbon monoxide leaks within their fuel burning heating appliances.
**2008 Update Status**: New action item.

**5.12 Action**: Work to develop code language adopting the 2009 editions of the national model codes from the International Code Council and the National Fire Protection Association.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Expected code effective date is Spring of 2010
**Background**: Initiative will ensure all commercial buildings within the state are constructed and maintained in accordance with the most recent national standards ensuring a higher level of safety for all building occupants.
**2008 Update Status**: New action item.

**5.13 Action**: Require the inspection of all electrical construction within commercial buildings.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Expected code effective date is January of 2010.
**Background**: 2007 Wisconsin Act 63 requires electrical wiring is to be inspected in all building construction, including public buildings, commercial properties, and farms. Municipalities may continue to opt to be responsible for inspections in the jurisdictions. The state will provide for electrical inspections in municipalities that do not conduct such inspections. (Currently, Uniform Dwelling Code electrical inspections are required with building permits for new construction or remodeling of one and two-family dwellings.)
**2008 Update Status**: New action item.

**5.14 Action**: Require the statewide licensing of all electrical construction workers within the State of Wisconsin.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: April 1, 2013
**Background**: 2007 Wisconsin Act 63 notes there will be a new statewide licensing system for electrical work-beginning electricians, electrical contractors, master electricians, and journeymen electricians. Previously, Wisconsin law did not require that a person be licensed or certified by either the state or a local government to work as an electrician or electrical contractor. There was a voluntary state certification program for electrical work that municipalities could adopt, or municipalities could have their own program.
**2008 Update Status**: New action item.

**5.15 Action**: Participate at the national level on code development related to the creation of the National Fire Alarm Code.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Ongoing
**Background**: The National Fire Protection Association is drafting a new chapter for the 2010 Fire Alarm Code to aid in emergency communications in the event of any natural or human made disaster. Staff were selected to this national committee due to current efforts taking place in Wisconsin to implement some of the related technologies.
**2008 Update Status**: New action item.

**5.16 Action**: Consider the adoption of the International Residential Code written by the International Code Council.

**Lead Agency**: Comm-Safety & Buildings
**Implementation**: Ongoing
**Background**: Over 40 states and hundreds of municipalities across the country use the International Residential Code as a standard for building one & two family homes. Currently the state drafts its own code for these types of occupancies. This change would align the State of Wisconsin with the national standards and most recent initiatives used for the safety of home owners.
**2008 Update Status**: New action item.

**5.17 Action:** Maintain the Wisconsin Recovery Task Force as a standing task force for disaster recovery with defined expectations of duties assigned for each subcommittee chair.

**Lead Agency:** WEM
**Supporting Agency:** Members of the Wisconsin Recovery Task Force
**Implementation:** 2008 and ongoing
**Background:** The Wisconsin Recovery Task Force was established after the 2008 flooding disaster declaration to coordinate the recovery activities. Six subcommittees were established with an identified chair. The task force subcommittee chairs met bi-weekly. It is recommended that the task force continue and develop pre-disaster policies, standard operating procedures for the

operation of the task force, subcommittees and assessment protocols. It is recommended that semi-annual meetings be held to ensure preparedness and facilitate effective operational readiness of the task force following a disaster declaration.
**2008 Update:** New action item.

### 5.6.2 Prioritizing Mitigation Actions

The Mitigation Action Plan represents the mitigation actions identified by the WHMT for state government to pursue for the next three years and beyond in some cases. The actions include developing and/or enhancing state programs, policies, regulations, planning or other practices that will assist the local governments in furthering hazard mitigation at the local level. Each Team member prioritized the actions for their respective agency as high, medium or low keeping in mind that the priority may change based on certain circumstances such as: 1) availability of funds to implement the action; 2) resources available to complete the action; 3) changes in legislation or programs; and 4) disaster events that may have occurred.

Wisconsin has a home-rule style of government. As a home rule state, local governments are responsible for maintaining control of government services and actions at the lowest possible level. The State recognizes that decisions for implementing mitigation measures at the local level remains at the local level. Therefore, this plan does not identify and prioritize site specific mitigation projects. We leave it up to the local communities to identify and prioritize those mitigation measures that are best for their community. We want the communities to develop comprehensive plans that include identification of all potential mitigation measures and not just develop a list of projects that are eligible for the federal hazard mitigation programs. As the local plans are completed and approved information regarding local projects will be identified and included in future updates of the State Plan.

Since 1993, WEM and the WHMT have established the priority of acquisition, demolition, relocation, and/or floodproofing of floodprone properties with priority given to substantially damaged and repetitive loss properties, and have approved projects for these activities. In administering the hazard mitigation programs, WEM has established the following priorities based on funding availability and provided the projects meet all of the program criteria:

- Acquisition and demolition of properties substantially damaged;
- Acquisition and demolition of repetitive loss properties;
- Acquisition and demolition of damaged properties in the floodplain;
- Acquisition and demolition of floodplain properties;
- Acquisition of flood damage properties not in the floodplain;
- Floodproofing or retrofitting flood damaged structures in the floodplain;

- Floodproofing or retrofitting flood damaged structures not in the floodplain; and
- Other hazard reduction projects (such as detention ponds, storm sewer improvements, protection of utilities, drainage, etc.)

Educational or public awareness projects are funded under the 5% Hazard Mitigation Grant Program (HMGP) set-aside when it is felt there will be a positive outcome from the project. In addition, the State has utilized 7% of the HMGP funds available since 2001 to award Planning Grants to communities for the development of all hazard mitigation plans. The above priorities can also be found in this Plan in Section 3 as well as the State Administrative Plan for the HMGP, Appendix G.

WEM reviews all proposed mitigation measures to ensure that the proposed projects are eligible and meet minimum criteria as outlined in Section 8, Comprehensive State Hazard Mitigation Program. In evaluating proposed projects, WEM reviews, ranks and scores proposed projects based on certain criteria (see Appendix G, State Administrative Plan for the Hazard Mitigation Grant Program-August 2008, Attachment C.) Based on the evaluation and funding availability, a list of recommended projects will be submitted to the WEM Administrator for further consideration. Based on State priorities, non-structural projects such as acquisition, demolition, relocation and floodproofing receive the highest ranking and the greatest consideration for funding. Some projects may be referred to other agencies for appropriate funding. In addition, WEM will work with the WHMT to "package" funding for projects where possible to maximize the funding that is available. Proposed projects are evaluated based on project type, site vulnerability, project benefits, and other considerations.

Items considered in evaluating proposed projects:

1. Type of project (structural versus non-structural)

2. Site vulnerability

    - Frequency of event
    - Does the project involve removing structures from the hazard area
    - Does the project address multi-hazards

3. Project Benefits

    - Alleviate or reduce the need for emergency services during disasters
    - Alleviate or reduce damages to improved structures
    - Beneficial impact on more than one community or is it multi-jurisdictional
    - Solve a problem independently or is it part of another solution with assurance that the project will be completed

- Long-term solution to a repetitive or imminently dangerous situation
- Directly prevents death and injury by reducing a person's vulnerability to the hazard
- Substantially reduces future disaster costs
- Reduces the cost of repairing repetitive damages
- Restores floodplains and/or wetlands
- Multiple objectives such as damage reduction, environmental enhancement and economic recovery
- Promotes economic growth and community development
- Promotes development of recreational areas/historic areas
- Provides flood protection beyond the 100-year flood event

4. Other Considerations

- In a declared disaster area
- Status of mitigation plan
- Involves use of innovative approaches to mitigation
- Project submitted previously
- Other agencies willing to provide funds towards the proposed project
- Community willing to put funds towards the project over and above the required local match
- Funds available to fund the entire project
- Future maintenance requirements for the project
- Community participate in the Community Rating System

For the Flood Mitigation Assistance Program, additional criteria includes the community to have an approved flood mitigation plan with the proposed project identified in the plan, and the proposed project must address mitigating a NFIP insured property.

### 5.6.3 Addressing Cost-Effectiveness, Environmental Soundness, Technical Feasibility

In addition to the above priorities and considerations, the hazard mitigation programs administered by WEM requires all mitigation projects proposed for funding (including state agency projects) to:

1. Solve a repetitive problem.
2. Be cost-effective.
3. Be a permanent, long-term solution.
4. Be environmentally sound.
5. Technically feasible.

From October 2000 and until February 2006, a Memorandum of Understanding existed between FEMA and WEM recognizing the state as a Hazard Mitigation Grant Program Managing State. The MOU was developed to build a FEMA-State collaborative partnership for the implementation of the HMGP. The agreement defined the roles and responsibilities of each agency. Under the arrangement, responsibility for eligibility reviews for each project application was shifted to WEM with FEMA reviewing the project summaries provided by the WEM for compliance with program requirements. In addition, FEMA would conclude the environmental review. The changes in the roles and responsibilities resulted in a faster approval of projects, in most cases less than 30 days after submittal from the State to FEMA. Per the agreement WEM agreed to:

- Perform eligibility reviews for full project applications
- Apply streamlined procedures for certain project types as identified in the MOU
- Determine cost-effectiveness for all projects using standard benefit-cost methodology and provide documentation
- Undertake environmental review tasks and complete the Record of Environmental Review (RER) for FEMA's signature
- Provide complete project applications to FEMA within 18 months (now one year) for each project that WEM selects for funding and submit through NEMIS

The Memorandum of Agreement can be found in Appendix H.

With the passage of the Disaster Mitigation Act of 2000 (DMA2K,) 44 CFR 201 published February 26, 2002, stated, "Management State means a State to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA . . . ." Eight years after the passage of DMA2K, FEMA has not developed such criteria, therefore, on February 15, 2006, the MOU recognizing Wisconsin as a Managing State was terminated by FEMA, Region V. Although the MOU is not in effect, the State continues to perform all of the activities identified in the MOU.

Per the HMGP Managing State MOU, WEM:

1. Determines cost-effectiveness of projects using standard benefit-cost methodology. (FEMA's standard methodology is recommended, however, WEM may use any standard methodology including narrative mutually agreed to by FEMA and WEM.) WEM has the option of using any of the three FEMA computer BCA modules (The Full Data, Limited Data, and Very Limited Data based on the availability of appropriate and accurate data.

2. Documents the BCA fully, including explanations of assumptions, data derivations and analytical techniques.

3. Attaches the BCA summary sheet to project application packages for FEMA review.

4. Utilizes a technical contractor if the need arises.

Per the MOU, FEMA:

1. Provides BCA module software, accompanying technical manuals and training.

2. Reviews benefit-cost summary sheet before approving projects.

3. If the BCA summary is determined to be unacceptable, provide within 15 days, a written explanation of the problems and (where possible) propose solutions to those problems.

WEM uses one of the three BCA modules to determine a project's BCR: Very Limited Data, Limited Data, and Full Data Analysis. The module used is based on the availability of accurate and verifiable damage/benefit data and project cost as provided in the application.

A narrative analysis is used when the benefits of a project cannot be easily quantified into specific categories and do not conform to any of the other modules or formats. This analysis allows for a subjective, broad-based approach to quantify the benefits of a project so that all benefits of the project can be recorded and the project objectively assessed. This type of analysis is used normally in the HMGP 5% State Initiative projects.

The results of the BCA will determine if the project is cost-effective. If the project is cost-effective, it is still under consideration by WEM for further funding consideration. At this step in the review process, WEM would start the environmental review process for the project. If the project was not cost-effective, mitigation staff would attempt to obtain additional information from the applicant to arrive at a positive BCA. If there is no additional credible data available or all available data has been utilized, and the project is still not cost-effective, the project is rejected.

WEM mitigation staff have been performing and completing the benefit-cost analyses

since 1997 for the federal hazard mitigation grant programs. The staff has developed expertise in performing this function by attending benefit-cost analysis training when it is offered by FEMA, as well as utilizing the FEMA Mitigation BCA Toolkit.

The mitigation staff's ability to complete accurate BCAs was demonstrated by their success in the first year of the Pre-Disaster Mitigation Competitive Program. The State submitted six project applications in the national competition and all of the projects were successful through the evaluation process. The process included review and evaluation of the BCA based on its credibility and documentation.

Although the results of the benefit-cost analysis are a factor in determining project eligibility, it is not the only factor considered. Again, the project needs to meet federal and state priorities and criteria. Funding availability is also a consideration.

Per the FEMA's consolidated grant program, WEM undertakes environmental review tasks and completes the Record of Environmental Consideration (REC) for FEMA's signature. WEM:

1. Coordinates with the FEMA Regional Environmental Officer (REO), Project Officer and other sate and federal agencies during the project development process to address environmental issues.

2. Completes formal consultation required specifically of federal agencies under federal environmental laws other than NEPA (National Environmental Policy Act) including, but not limited to, formal endangered species consultation or historic preservation MOUs and Programmatic Agreements.

3. Undertakes environmental review tasks (including tasks related to the National Historic Preservation Act); gathers necessary environmental data through the applicant, past studies, and informal consultation with state and other federal agencies; recommends level of review under the NEPA.

4. Completes and submits the Record of Environmental Consideration (REC) and all supporting documentation with submission of the project application.

5. Ensures that the required public notices are completed.

FEMA:

1. Provides WEM with the current REC.

2. Reviews WEM's REC, supporting documentation and recommendation for level of review and makes a final decision on level of NEPA review.

3. Coordinates with WEM to complete the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) for projects that do not clearly fall under the categorical exclusion (CATEX) category.

4. Prepares and/or reviews appropriate NEPA and other environmental documents. Approves or requests additional information with 30 business days of receipt of a project summary from WEM.

5. Coordinates with WEM if there is a need to utilize a technical contractor.

The criteria and procedures for the above are established in the State's Hazard Mitigation Administrative Plan found in Appendix G and are discussed in more detail in Section 8, Comprehensive Sate Hazard Mitigation Program.

## 5.7 HAZARD MITIGATION FUNDING

As stated previously in this section, the primary sources for state and local hazard mitigation projects have been from federal hazard mitigation programs available through the Federal Emergency Management Agency. Funds for the State match or state contribution to local jurisdiction non-federal match (12.5% for the Hazard Mitigation Grant Program) comes from the State's general fund budget. Local governments have used a variety of other sources to fund hazard mitigation projects including local revenues, Community Development Block Grants, grants through the Department of Natural Resources Stewardship Programs and the Municipal Flood Control and Riparian Restoration Program, and others.

The State Capability Assessment, Section 5.4 and Table 5.1, identifies a variety of sources that have been and will continue to be used to fund hazard mitigation projects, plans, and other initiatives by local and state governments. Additionally, other federal agencies and related organizations have been identified as potential funding sources to further hazard mitigation efforts in the State (see Table 5.2.) At FEMA's web site at www.fema.gov/government/grant/fs_mit_grant_prog.shtm includes the mitigation funding opportunities for hazard mitigation projects and other initiatives.

Although Wisconsin is seeing growth in employment, and per capita income, the debt of some $4 billion has forced the State to cut back on programs and services. Because the state's economic recovery will most likely be slow, and the long term GPR budget appears to be difficult, this difficult outlook when coupled with diminishing funding from the Federal Government, may make it more difficult to fund mitigation efforts in the future.

A majority of state tax revenue is transferred to local government. General purpose state taxes are combined with locally collected revenues to fund local government in Wisconsin. In addition to the state's general purpose tax collection, local governments rely heavily on property taxes to fund their programs and services.

With fiscal challenges facing both the Federal and State governments, not only will it be more difficult for Local governments to secure funding for mitigation projects, but it will also be more difficult for the Local governments to raise matching funds. This short-term lack of money to fund mitigation projects may cause larger long term losses if a disaster occurs, because mitigation projects that would have normally protected life and property were not in place.

## TABLE 5.1 – STATE CAPABILITY ASSESSMENT

* (08)=Updates made in 2008

### Department of Administration

*Division of Intergovernmental Relations*

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Census and Population Information – Demographic Services Center | The Demographic Services Center primary responsibility is to develop annual total population estimates for all Wisconsin towns, villages, and cities. It also makes annual estimates of the voting age population for all municipalities and total population estimates for Zip Code Areas. In addition, the Demographic Services Center develops population projections by age and sex for the counties; population projections of total population for all municipalities; and estimates of total housing units and households for all counties. In addition, it is an information and training resource liaison with the U.S. Bureau of the Census through the State Data Center program. | Supplies federal, state, and local agencies with population and housing estimates and projections. This information can be used by agencies to mitigate hazards (i.e. planning and zoning) | Projections of age and gender are only for the state and counties. For cities, villages and towns the projections are for total population only. (08) | All Hazards | | ❍ |
| Comprehensive Planning Grant Program | Assist local governments in the development and adoption of comprehensive plans. The Comprehensive Planning Program awards grants, maintains a library of comprehensive plans (most plans are available online), and serves as a resource directory for local governments. (08)* | Comprehensive planning increases awareness of hazards and encourages authorities to plan land uses and to mitigate hazards. | Program is not tied to hazard mitigation and few planning processes parallel with hazard mitigation plan requirements. (08) | All Hazards | ❍ | ❍ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Comprehensive Planning Element Guides | Guides to assist local governments are available for the following comprehensive planning elements: including Housing, Transportation, Agricultural, Natural and Cultural Resources, Economic Development, Intergovernmental Cooperation, Land Use and Implementation. http://www.doa.state.wi.us/category.asp?linkcatid=744&linkid=128&locid=9 (08) | These element guidebooks have been published to assist local governments in the development of their comprehensive plans. | Land use guide is not used enough in hazard mitigation planning | All Hazards | | ❍ |
| Comprehensive Planning Grant Program | The Division of Intergovernmental Relations administers a comprehensive planning grant program to assist local governments in the development and adoption of comprehensive plans. | State provides about $2 million annually for the development of comprehensive plans. In 2008, 149 units of government participated in successful grant applications. (08) | There are more requests for grants than funds available. | All Hazards | ❍ | ❍ |
| Comprehensive Planning Useful Resources | Collection of documents and guides on topics including model ordinances, brochures, webmapping resources and links to other agencies . http://www.doa.state.wi.us/category.asp?linkcatid=748&linkid=128&locid=9 (08) | This collection offers a central resource for local governments to find information and guidance on many aspects of comprehensive planning. | | All Hazards | | ❍ |
| Comprehensive Planning Implementation Toolkit CD (08) | Contains all comprehensive planning element guides, as well as other useful information. http://www.doa.state.wi.us/category.asp?linkcatid=744&linkid=128&locid=9 (08) | Guides to assist local governments in the development and implementation of a comprehensive plan. (08) | Should be linked with PDM Planning and Project Grant process. | All Hazards | | ❍ |
| 2008 Wisconsin Local Land Use Regulations and Comprehensive Planning Status Report. (08) | Information on local land use regulations and comprehensive planning status was gathered for each of the 1,923 towns, villages, cities and counties. Local land use information was for those regulations that must be consistent with a comprehensive plan in 2010 (zoning, subdivision regulations, official mapping, and shoreland/wetland zoning.) (08) | Most thorough, recent information gathered on the topic. (08) | Information for some municipalities and counties could not be found, so there are gaps in the information in this report. (08) | All Hazards | | ❍ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Directory of Resources for Comprehensive Planning in Wisconsin<br><br>http://www.doa.state.wi.us/category.asp?linkcatid=748&linkid=128&locid=9 | The intent of this 2003 directory is to facilitate comprehensive planning in Wisconsin by increasing awareness of and access to state agency data sets, plans, reports and program information. The intended audience is all persons participating in local comprehensive planning, including planners, local elected officials and staff, citizens, developers, businesses, farmers, attorneys and others. | Increase awareness of and access to state agency data sets, plans, reports and program information.<br>Good resource tool for local governments and contractors developing an All Hazards Mitigation Plan. | Don't have emergency management or hazard mitigation plan in the directory at this time … | All Hazards | | ◙ |
| Land Subdivision Plat Review | Plat Review regulates the creation of parcels on subdivision plats and the correction of faulty parcels of record on assessor plats. It also functions as a clearinghouse for the three state agencies and seventeen county planning agencies with statutory "objecting" authority.<br>The goals of Plat Review include promoting the orderly layout of land; facilitating adequate provisions for water, sewerage, road ingress and egress and public access to all navigable water; and certifying technical accuracy, retraceable boundaries and conveyance by accurate legal description. | Uses statutes to insure plat follow zoning and planning | | All Hazards | | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Municipal Boundary Review | Municipal Boundary Review regulates the transition of unincorporated areas to city or village status through municipal annexation, incorporation, consolidation, or by joint city-village-town activities involving cooperative boundary plans and agreements. Such agreements may change territorial boundaries and may provide for the sharing of municipal services. Staff members are available upon request to meet with local officials and citizens to discuss annexation, incorporation, consolidation and cooperative boundary plans. | Takes care of annexation and incorporations… if contiguous to municipality the MBR will review and give recommendations… many land use and zoning issues are involved | Only advisory opinion on annexation. Full authority on incorporation, consolidation, and boundary agreements. (08) | All Hazards | | |
| Intergovernmental Services Team-Division of Intergovernmental Relations (08) | The Intergovernmental Services Team provides services to state, local and tribal governments in Wisconsin. It develops and supports a coordinated federal issue agenda to advance the state's interest in Washington, DC and identifies opportunities to bring federal funding to Wisconsin. It provides information and support to local governments seeking state and federal grants and services. It works to strengthen the government to government relationship between the state of Wisconsin and the state's 11 Native American tribes. (08) | | | All Hazards | | ○ |
| Wisconsin Land Information Program http://www.doa.state.wi.us/category.asp?linkcatid=737&linkid=133&locid=9 | The Wisconsin Land Information Program (WLIP) is a voluntary, statewide program that provides financial support to local governments for land records modernization efforts. All seventy-two Wisconsin counties participate in the Program. | Provide data resource for local governments and consultants developing Comprehensive and All Hazard Mitigation Plans.<br><br>Land use and records. Map modernization and records modernization | Hazard mitigation planning was not promoted through this program in the past. Will try to change in the future. | All Hazards | ○ | ○ |



Section TOC

## Department of Administration

*Coastal Management Program*

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Coastal Grant Program | Awards grants to communities for the protection of Wisconsin coastal resources. | Program focused on a specific area of Wisconsin (15 coastal counties) subject to one type of hazard (coastal erosion and flooding) assures that this issue receives attention. Funding for land use planning aims at incorporating coastal hazards into planning. | Lack of specific statutory authority to regulate coastal shoreland development in the Great Lakes causes multiple local approaches to address the issue of coastal hazards in a piece meal basis. The minimum setback stipulated in the DNR NR-115 is not adequate for many Great Lakes coastal areas. | Coastal Storms and Erosion | ◙ | |
| Interagency Coastal Hazards Workgroup | Formulates strategies, goals and policies for managing coastal hazards. | Program focused on a specific area of Wisconsin (15 coastal counties) subject to one type of hazard (coastal erosion and flooding) assures that this issue receives attention. Funding for land use planning aims at incorporating coastal hazards into planning. | Lack of specific statutory authority to regulate coastal shoreland development in the Great Lakes causes multiple local approaches to address the issue of coastal hazards in a piece meal basis. The minimum setback stipulated in the DNR NR-115 is not adequate for many Great Lakes coastal areas | Coastal Storms and Erosion | ◙ | |



Section TOC

| | | | | | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| WCMP Public Outreach | WCMP conducts public outreach activities related to coastal hazards and mitigation planning. | Program focused on a specific area of Wisconsin (15 coastal counties) subject to one type of hazard (coastal erosion and flooding) assures that this issue receives attention. Funding for land use planning aims at incorporating coastal hazards into planning. | Lack of specific statutory authority to regulate coastal shoreland development in the Great Lakes causes multiple local approaches to address the issue of coastal hazards in a piece meal basis. The minimum setback stipulated in the DNR NR-115 is not adequate for many Great Lakes coastal areas | Coastal Storms and Erosion | ◙ | |

Funding Discussion:
The State of Wisconsin currently receives an annual federal allocation of approximately $2 million dollars for the approved Wisconsin Coastal Management Program (WCMP) in the Wisconsin Department of Administration. About 65% of the total funds are made available for local projects in the coastal zone for the protection, preservation, development and restoration of coastal resources in the state. An annual request for proposals (RFP) is available every fall from the WCMP Web Site (http://coastal.wisconsin.gov ). A multidisciplinary, governor-appointed Council representing local governments, the Legislature, academic, state agencies, Indian tribes and the public sets WCMP policies and direction, establishes annual funding priorities, and recommends grants to state and local projects. For hazard mitigation the WCMP has funded comprehensive planning, coastal hazard planning, update of ordinances, technical assistance and public outreach.

## Department of Agriculture, Trade, and Consumer Protection

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Conservation Reserve Enhancement Program | Removes sensitive riparian areas from crop or pasture production. Filter strips, grassed waterways, grass habitat and wetland restorations are installed. | Program helps reduce environmental damage from flooding. Provides cost-sharing and incentives for landowner participation | Funding does not pay for needed county staff to administer. Has resulted in counties being unable to fully utilize the program. | Floods and flash floods. | ◙ | |
| Soil and Water Resources Management Program | Program provides state cost-share dollars to counties to install conservation practices and management activities implementing their county land and water resource management plan. Chap. 92 State Stats.; ATCP 50. The program also provides staffing grants to counties to enable them to perform necessary technical assistance. | Program helps reduce environmental damage from flooding. Measures can include stream-bank protection, barnyard and manure management and other measures. | Program is not able to provide enough funding to support needed county staff to fully implement the program in many counties. Cost-sharing for implementing conservation practices is not adequate in many counties. | Floods and flash floods. Landslides and sinkholes | ◙ | |
| Drainage Districts | Operation and maintenance of agricultural drains by local drainage districts, Chap 88, State Stats.; ATCP 48 state Admin rules. | Provides technical assistance to drainage districts to help maintain drainage ditches. | Need additional state and local staff | Floods and flash floods. | | |
| Engineering Support | DATCP has engineers and engineering techs that provide the counties and landowners needed engineering design and project review | Will design or help design conservation practices that protect water quality. | Additional engineering staff is needed to better assist counties and landowners in designing and installing structure and practices. | Floods and flash floods. Landslides and sinkholes | ◙ | |

FUNDING DISCUSSION: **Funding for Wisconsin's CREP is from two sources. The U.S. Department of Agriculture is providing $200 million through 2012. The State of Wisconsin is providing another $40 million of state bond money. All the money is earmarked to putting practices on the ground. The participating county land conservation departments provide necessary technical assistance. They are not reimbursed for this.**
***State GPR funding also supports 9 DATCP field engineers. They provide engineering services and technical assistance to counties and landowners in designing and installing conservation structures.***

The Soil and Water Resources Management Program funding comes from both state GPR funds and from state bonding dollars. The GPR funds provide staffing grants to counties help support local staff and associated costs. The SWRM bond funding provides counties with money to use for cost-sharing the installation of conservation measures and management practices.

The state's fiscal problems pose a threat to state funding being continued at current levels. Any additional state cuts of funding for these programs will result in fewer county staff and less conservation measures being put on the land.

## Department of Natural Resources

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Wisconsin Waters Initiative | Provides funds for digitizing Wis. Floodplain maps and developing new methods for accessing the maps | Better access for communities and other professionals ensures greater adherence to floodplain development standards and less risk of developing in flood-prone areas | Funding will cease at the end of FY '04 | Flooding | ◙ | |
| NR 115 Shore land Protection | Requires minimum setbacks from water bodies for new structures and requires permits for grading in shoreland areas | Prevents construction in dangerous near-shore areas, thereby mitigating possible flood damages. Grading restrictions prevent increased runoff and resulting flood damages | Greater setbacks and more restrictive grading restrictions would reduce flood damages even more, but present political climate makes this unlikely. | Flooding, sloughing | ◙ | |
| NR 116 local floodplain to state standards | Prohibits construction in floodways and requires elevation and dry-land access in flood fringe areas. Limits improvements to nonconforming structures and requires compensatory storage in flood storage areas | Prevents flood damages by controlling the placement and elevation of structures. Sets strict standards for the removal of lands from the floodplain. Limits the granting of variances in floodplains | Prohibiting all development in floodplains would greatly limit future flood damages, but such a change is unlikely | Flooding | ◙ | |
| NR 117 local adoption of state wetland standards | Prohibits development in mapped wetland areas. | Preserves wetland areas that retain and infiltrate flood water. Provides buffer areas for urbanizing watersheds. | Small, isolated wetlands and degraded wetlands can be developed in some cases, which can cause higher flood levels and increased damages. | Flooding | ◙ | |
| Municipal Flood Control and Riparian Restoration Program | Provides grants for the mitigation of flood-prone property, restoration of riparian areas and the construction of flood control projects. | Enables communities to acquire, relocate and flood proof flood-prone structures. Allows restoration of flood-carrying and storage capacity of watersheds. Funds new detention basins and flood walls. | Limited funding which typically can meet less than 1/4 of requested project dollars. Does require a match, which some communities are unable to provide. Counties are not eligible. | Flooding | ◙ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Dam Safety Section | Inspects dams, reviews dam repair plans, reviews dam transfer documents, approves dam operation and maintenance plans. | Provides technical assistance to dam owners and consultants on the safe operation and maintenance of privately-owned dams. Prevents flooding by ensuring that dams are in good operating condition. | Limited staff cannot perform inspections on a timely basis, more dams are built each year, increasing the workload, problems with ownership and financial resources to repair dams. | Flooding | ◙ | |
| NR 335 Municipal Dam | Provides grants to repair and remove dams. | Old, unsafe dams which are a threat to downstream residents can be removed or repaired under this program. | Limited funding addresses only a very limited part of the total need for repairs and removal. | Flooding | ◙ | |
| NR 333 Large Dam Standards and EAP* | Ensure that large, high-hazard dams have a comprehensive and up-to-date Emergency Action Plan. | This program ensures that dam owners have the staff and systems in place to give adequate notice to downstream property owners in the event of a dam failure. | Limited staff to provide technical assistance to dam owners and consultants. | Flooding | ◙ | |
| Executive Order 67 state must follow state wetland, floodplain, erosion and shore land standards | State agencies must comply with local zoning standards if feasible. | Compliance reduces the risks of flood damages and loss of flood storage areas. Also lessons erosion hazards. | None | Flooding | ◙ | |
| Executive Order 73 flood mitigation for state owned facilities - 100 yr floodplain standard for state buildings, and 500 year standard for critical facilities | State agencies must comply with local zoning standards if feasible. | Compliance reduces the risks of flood damages and loss of flood storage areas. Also lessons erosion hazards. | None | Flooding | ◙ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Chapter 30 | Sets standards for placement of structures and material, diversion of water and other activities in navigable water of the state. | Limits alterations to natural waterways in the state. Prevents flooding by strictly regulating in-water activities and preventing unauthorized diversions, discharges and placement of structures. | Allows placement of rip-rap, piers, wharves, bulkheads and other structures which could affect flood levels and velocities. | Flooding | ◙ | |
| Storm water | Requires erosion control and storm water management practice implementation on construction sites of one acre or greater. | Requires infiltration where feasible for new development after Oct. 1, 2004. | Infiltration is not feasible in all areas and limited resources do not allow the review and inspection of all projects. | Flooding | ◙ | ◙ |
| **Nonpoint Targeted Runoff Management Program (TRM)** | Governmental units can be reimbursed up to 70 percent of eligible costs associated with installing Best Management Practices (BMP) to limit or end Nonpoint source (run-off) water pollution. | Examples of eligible projects include, stream bank protection projects, wetland construction, detention ponds, barnyard and feedlot protection practices, livestock waste management practices, design as part of construction. | Grant awards cannot exceed $150,000. Grants are made for specific projects and have a 2-year implementation time frame. | Flooding | ◙ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Urban Forestry Technical Assistance and Grants | The purpose of the grant is to fund projects that improve a community's capacity to manage its trees. The applicant may be a city, village, town, county, tribal government, or 501(c)(3) nonprofit organization. Joint applications are encouraged.<br><br>Will consider cities preference after a disaster | Strategic plans, management plans, work plans.<br>Including community tree inventories, vegetation ordinances, urban forestry, tree boards or tree action groups, urban forestry staff training, urban forestry public awareness programs and/or materials, urban forestry volunteer/neighbor-hood involvement programs, tree health care plans, hazard tree inventories, contract specifications for urban tree planting, maintenance, and/or removal, limited funds may be available for tree planting, maintenance, or removal. | Level of funding is low and more grants are requested than can be funded | Fire , Hail, High Winds, Ice Storms | ◙ | ◙ |
| Managed Forest Law | Manages state forests and provides technical assistance to private forests statewide. | Encourages landowners to plan and manage sustainable forests | | Fire, Hail, High Winds, Ice Storms | | ◙ |



Section TOC

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| **Burning Regulations & Permits** | In most areas of the state a written permit is needed from the DNR, local fire warden or Township official prior to any out door burning.<br>Intensive – DNR has primary fire responsibility. Agreements in place with local fire departments for fire suppression assistance. Buring permits required year-round when the ground is not snow covered.<br>Extensive – DNR has ligher fire suppression presence. Agreement with local fire departments in place for fire suppression assistance. Burning permits required from January 1 to May 31 whenever the ground is not snow covered.<br>COOP – Local fire departments have primary fire suppression responsibility. DNR can be used as Mutual Aid. Town chair must expend more than $3,000 before DNR can take over responsibility of the forest fire. Burning permits are by town ordinance only. (Updated 2008). (08) | The review of burn permits allows control of burns and prohibits burning in high fire risk times, and controls burning in low and moderate risk periods. Applicants are educated about burning. | Not all of areas in Wisconsin are required to procure a permit. Requested 10 staff to help manage COOP areas; however this request was not funded. WUI is growing quickly and limited fire capability is asked to protect more and more infrastructure of higher value homes. | Fire | ◙ | ◙ |



Section TOC

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Brownfields Green Space and Public Facilities Grants | The Green Space and Public Facilities Grant helps local governments clean up Brownfield sites intended for long-term public benefit, including green spaces, development of recreational areas or other uses by local governments. | These grants can be used to mitigate natural hazards like flooding and fire. | The Legislature designated $1 million for these grants in the 2003-05 biennium. No grant may exceed $200,000 Three grants sizes: small - <$50,000 medium - $50,001 to $100,000 large - $100,001 to $200,000 Sliding match scale according to grant size<br>small - minimum 20% match<br>medium - minimum 35% match<br>large - minimum 50% match | Flooding, Fire | ◙ | ◙ |
| Forest Fire Protection Grant Program | Increase forest fire protection and suppression capabilities through cooperative efforts with local fire departments and county fire associations through a 50% cost share as per s. 917, 1997 Wisconsin Act 27, Stats. (08) | Personal protective clothing, Forest fire training, Forest fire prevention projects, Forest fire suppression equipment, Dry hydrants, Communications equipment, Mapping equipment, maps, GPS units and Off road vehicles primarily used for forest fires including ATV's (08) | Level of funding is low and more grants are requested than can be funded<br><br>Fire departments that have not executed a forest fire suppression agreement acceptable to the DNR are NOT eligible to apply. | Fire | ◙ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Fire Department Advisory Council (FDAC) | Member fire organizations include the Wisconsin State Firefighters Association, the State Fire Chiefs Association and the State Fire Instructors Association. Member fire departments represent broad geographical areas and different fire protection areas. The council was formed as a partnership and forum for the discussion of issues that affect both fire departments and the DNR on a statewide basis | Wild land training programs, Forest Fire Protection Grants and Federal Excess Property vehicle program. | Level of funding is low and more grants are requested than can be funded<br><br>Requested 2 FTE's and only ¼ FTE available. | Fire | ◙ | ◙ |
| Le May Center Sales | Tools and Training sold to fire departments at GSA costs | Supports local fire departments with tools and training at government contract prices | | Fire | ◙ | ◙ |
| Healthy Forest Initiative | Federal dollars to thin forests around cities to mitigate damage from forest fire. | | | Fire | ◙ | |
| Single engine air-tanker program | Aircraft that can drop 500 gallons of fire suppressing agent (foam, retardant, etc) on initiating and WUI fires, 3 aircraft contracted, typically starting in April. (08) | Objective to knock down initiating fires to allow time for ground suppression equipment to create control lines around the fire. Also may be used for structural protection tactics in the WUI. (08) | Reassessing needs to cover areas of the state that are covered with more time. | Fire | ◙ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Wildland Urban Interface and Fire wise Program | State programs to engage community members to work together to lower their collective wildfire risk. (08) | Landowners are educated on how to make their properties more safe from fire. Community leaders are encouraged to prepare Community Wildfire Protection Plans in communities at risk to wildfire. Homeowner associations in fire-prone areas are encouraged to become recognized Firewise Communities. DNR staff and partners are encouraged to implement mitigation strategies to prepare for wildfire. (08) | All initiatives related to the Wildland Urban Interface and Firewise programs ar funded through federal grants. National Fire Plan funds appear to be declining over time and may not be able to sustain programs in the future. Alternative funding is being sought. State funding of these programs is encouraged. (08) | Fire | | ◙ |
| Gypsy Moth | Spraying occurs in the springtime Traps are set to track the spread of moths, locate the hot spots and treat those areas. Quarantine parts of the state to control spread. | Slows the progress of moths into the state, reducing the pace of defoliation, and reducing the risk of fire from defoliated trees. | Not enough funding to stop the spread | Fire | ◙ | |

## Funding Discussion:

Urban Forestry Technical Assistance and Grants:
This is a 50-50 cost share grant. Applicants must match grant funds with cash, in-kind services, and/or donations. Nonprofit organizations may ask for a 50% advance on the grant at the time of award, but otherwise grants are not provided up front. Projects must be completed and reimbursement requested.
Grants range from $1000 to $25,000. The minimum total project size is $2000. There is no maximum project size; however reimbursement is limited to $25,000.

Managed Forest Law:
MFL participants pay property taxes at a reduced rate. A portion of the forgone taxes is recouped by the state at the time of a timber harvest when a yield tax is imposed based on the volume of timber removed. In other words, the annual property tax is reduced and a portion of the balance is postponed, or deferred, until the time of harvest.

Approximately 80% of DNR funding comes from the Forestry Mil tax. The State constitution commits .02 % of a property tax to Forestry Mil tax

## Department of Health and Family Services

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Special populations | Provide technical assistance and/ or personnel to assist special population needs. | Personnel with expertise in human service and/or special population needs are available to assist if actual or potential problems are present, or have a potential, at the state or local level. Technical assistance can determine if an actual or potential human service and/or special population threat is present and if hazard mitigation is warranted or desirable. | None at this time. However any decreases in funding may negatively affect the ability to respond to need | All natural hazards | ◙ | ◙ |
| Chemical contamination of groundwater, surface water, soil and air | Provide technical assistance and/ or personnel to assist with environmental health issues | Personnel with expertise in environmental health issues are available to provide information specific to local concerns. Technical assistance can determine if an actual or potential public health threat is present and if hazard mitigation is warranted or desirable. | None at this time. However any decreases in funding may negatively affect the ability to respond to need | All natural hazards | ◙ | ◙ |
| Communicable or infectious disease | Provide technical information regarding communicable or infectious disease. | Personnel with expertise in communicable/infectious disease are available to provide information specific to state or local concerns. Technical assistance can determine if an actual or potential public health threat is present and if hazard mitigation is warranted or desirable. | None at this time. However any decreases in funding may negatively affect the ability to respond to need | All natural hazards | ◙ | ◙ |
| Radiological/ nuclear | Provide technical information regarding radiological/nuclear issues and/or concerns | Personnel with expertise in radiological/nuclear health issues are available to provide information specific to local concerns. Technical assistance can determine if an actual or potential radiological/nuclear public health threat is present and if hazard mitigation is warranted or desirable | None at this time. However any decreases in funding may negatively affect the ability to respond to need | All natural hazards | ◙ | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Bioterrorism Preparedness | Increase State Infrastructure | DHFS / DPH is currently the recipient of federal grants to increase Wisconsin's public health, medical, and hospital capacity to respond to incidents of bio-terrorism, disease outbreak, and other public health emergencies | Current information indicates that Wisconsin may see a decrease in federal grant funding by approximately 3 million dollars for FFY 2005 | Bioterrorism and other public health emergencies | ◙ | ◙ |

## Funding Discussion:

Funding is obtained from various sources General Purpose revenue, Federal Grants, Federal Prevention Block Grant, Program Revenue, and Segregated Fees

## Department of Commerce

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Community Development Block Grant (CDBG) – Housing Program | Makes loans to low- to moderate-income households to rehabilitate their homes. Hazard mitigation activities are eligible. Funds can also be used to meet current building codes and therefore help prevent vulnerability to moderately high wind events. | The CDBG Program is designed to address housing needs as identified by the community. | Funds are available annually to units of general local government on a competitive basis and there are never enough funds to go around. Additionally, mitigation is not a priority in the minds of most homeowners. | All natural and man-made disasters | ◙ | ◙ |
| Home Investment Partnerships Program (08) | Bureau of Housing & Community Development (08) | The Home Investment Partnerships Program (more popularly known as HOME) is a housing program that would be beneficial because HOME can do new construction. (08) | HOME cannot make awards based on an emergency. (08) | All natural and some man made hazards. (08) | | ◙ |
| CDBG-Housing-Emergency Assistance Program (EAP) | Makes loans to low- to moderate-income households to restore their homes to pre-disaster condition. Hazard mitigation activities are stressed wherever appropriate. | The CDBG-EAP is awarded as the result of a disaster and is designed to help households recover. Many programs include at least some acquisition and demolition of properties in floodplains that have repetitive damages. Loans can be used as the local match to HMGP, PDM and FMA grants. | EAP funds are awarded to units of general local government in response to a disaster and are restricted to low- to moderate-income households so impact is minimal in some areas. EAP assistance can be provided only after official requests. (08) | All natural and man-made disasters | ◙ | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| CDBG- Housing Program, Public Facilities Component | The Public Facilities component of the housing program can help fund projects such as community tornado shelters, and shelter retrofits to mitigate against wind and tornado damage. | Many small communities have no public storm shelter or have large numbers of homes without basements. They need to be able to provide safe shelter for their residents. Many of this type of project are so small that they are overlooked. They are addressed by DHCD as part of the overall effort to improve housing conditions. | Funds are available annually to units of general local government on a competitive basis and there are never enough funds to go around. Many small communities also lack local support for such a project or are unable to raise the necessary funds for their share of the project. | All natural and man-made disasters. | ◙ | ◙ |
| Environmental review assistance for CDBG- EAP Programs. | CDBG Technical Assistance funds can be used to pay DHCD staff to conduct the ERR for EAP grants, thus lessening community workload at a stressful time. | These funds help a community get the housing assistance out to their residents faster. | EAP assistance can only be provided when requested and some communities are still not aware of the program. | All natural and man-made disasters | ◙ | ◙ |
| CDBG , EAP and HOME Program implementation training | Program Implementation training sessions provide information on mitigation activities that are eligible for assistance. | These sessions raise awareness of consultants and local officials about mitigation efforts. | The sessions are held only annually and the audience is limited to those with funding so they do not have a large audience. | All natural and man-made disasters | ◙ | ◙ |
| CDBG Public Facilities (PF) Program | Makes grants to units of general local government to bring municipal public facilities up to code. | Public facilities needs frequently center on non-compliance with codes and high concentrations of low- to moderate-income households. | Lack of availability of funding. | All natural and man-made disasters | ◙ | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| CDBG Public Facilities Emergency Assistance Program | Makes grants to units of general local government to repair municipal public facilities damaged as the result of a disaster | Funding is intended to help communities recover from natural of man-made disasters. | Lack of availability of funding. | All natural and man-made disasters | ◙ | ◙ |
| State Building Construction Code Development | The Safety and Buildings Division protects the health, safety and welfare of people in constructed environments in Wisconsin. | The division develops, administers, and enforces state laws and rules relating to building construction and safety and health | | All natural and some man made hazards. | ◙ | ◙ |
| State Building Code Enforcement | The Safety and Buildings Division reviews plans for public buildings and places of employment prior to construction for compliance with the state statutes and building codes. This includes multifamily buildings. Inspection certifications are administered by S&B. Building materials are evaluated for conformance with standards. | S&B staff provides consultation and education for designers, builders, and local officials through plan reviewers and field inspectors. The division cooperates with local certified municipalities which provide plan review and inspection services for certain types of buildings. | Funding for program execution is low. Statewide program execution is at a minimum. Further program enhancement is restricted to Funding | All natural and some man made hazards. | ◙ | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| The Wisconsin Commercial Building Code | The Wisconsin Enrolled Commercial Building Code includes Comm. 61 to 65 and the adopted provisions of the International Code Council codes: *International Building Code*, *International Energy Conservation Code*, *International Mechanical Code*, and *International Fuel Gas Code* | The purpose of the Commercial Building Code is to protect the health, safety, and welfare of the public and employees by establishing minimum standards for the design, construction, maintenance and inspection of public buildings, including multifamily dwellings, and places of employment. It is a statutory provision under subch. I of ch. 101, Stats. | Ongoing code review and development is based on supportive funding. | All natural and some man made hazards. | ○ | ○ |
| Statewide credentials and certification requirements for inspectors and specific trades. | The Safety and Buildings Division administers the certifications, licenses, and registrations of approximately 44,000 individuals in 64 categories. | The division provides for quality assurance measures with the development and administration of certifications. | | All natural and some man made hazards. | | ○ |
| Home Safety Act | January 15, 2004: A new Wisconsin law requires the state's Uniform Dwelling Code be enforced in all municipalities. This includes the necessity to have new construction inspected for compliance with the UDC, the statewide building code for one- and two-family dwellings built since June 1, 1980. | Previous to the new legislation, municipalities with a population of 2500 or less could choose by resolution to decline UDC enforcement. Municipalities of over 2500 have been required to enforce the UDC. | The change was effective December 18, 2003. However, it will take three to six months to get the enforcement system into place. On April 20, Governor Doyle signed legislation, AB 925 that will delay Uniform Dwelling Code (UDC) enforcement for some Wisconsin municipalities. The delay will be in effect May 5, after legal publication. Providing for adequate inspection and consultation is limited due to funding. | All natural and some man made hazards. | ○ | ○ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Building Code Training | Annual continuing education classes for building codes used for design, construction, or building inspection. | Provides educational opportunities for the public to learn more about specific codes and construction topics. | | All natural and some man made hazards. | | ◙ |
| Manufactured Housing Regulation | The Safety and Buildings Division regulates various areas associated with manufactured housing. S&B staff license manufactured home manufacturers and review and approve plans for new manufactured home parks and additions. Staff also provides additional services relating to consultation, education, inspection and complaint investigation. The department cooperates with agents in the administration of park licensing rules. | Works to provide safe living conditions and structures for the manufactured housing consumer. Education and inspection are vital factors ensuring the quality safety assurance program. | | All natural hazards | ◙ | ◙ |
| Delegated Municipalities | Cities, villages, towns and counties may examine building plans and inspect buildings under s. 101.12, Stats. Prior to assuming these responsibilities, the municipality or county must comply with specific administrative rules that ensures there is uniformity in the building code application and the specific building code standards are being met. | Safety & Buildings provides opportunities for partnering with other governmental agencies to extend the effectiveness of division programs and administrating funds relating to its programs. | | All natural and some manmade hazards. | ◙ | ◙ |

**FUNDING DISCUSSION**: All of these programs depend on state and/or federal funding. While support has remained high for housing assistance programs, none of these programs are guaranteed assistance.



ion

## Office of the Commissioner of Insurance

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Regulation of the insurance carriers and agents | Ensure policyholders, claimants and insurers are treated fairly and equitably, serve as expert in the field of insurance, encourage full cooperation of the office with other regulatory bodies, encourage loss prevention, and keep the public informed on insurance matters. | OCI maintains communications with all aspects of the insurance industry. | Regulatory priorities and budget restraints affect what can be delivered. | All, where significant insurance exclusions or limitations exist (such as flooding and earth-movement losses), can facilitate communication about alternatives and policy language. | ○ | ○ |
| Public information on insurance issues | Provide insurance information for consumers and businesses to enable them to better manage their risks. Information available from brochures, an Internet site, and individuals. | Brochures and Internet site available and updated periodically. | Regulatory priorities and budget restraints affect what can be delivered. | All, where significant insurance exclusions or limitations exist (such as flooding and earth-movement losses), can facilitate communication about alternatives and policy language. | ○ | ○ |
| Pre-licensing education and continuing education for insurance agents | Provide instruction on insurance exclusions and coverage's including flood insurance. Continuing education requirement for insurance includes the FEMA course on writing flood insurance. | Consumer and agent educational activities continue. | Regulatory priorities and budget restraints affect what can be delivered. | All, where significant insurance exclusions or limitations exist (such as flooding and earth-movement losses), can facilitate communication about alternatives and policy language. | ○ | ○ |

## Public Service Commission

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Participation in WEM's Hazard Mitigation Team | Develop and implement statewide plan for hazard mitigation | Joint planning and preparedness by state and local governmental agencies. | N/A | All | ◙ | ◙ |
| Electric Utility Regulation | Regulation of construction, service and operations of electric utilities and administration of Wisconsin State Electric Code, Volume 1Safe and adequate service and operations by Wisconsin electric utilities _ Wis. Stat. Chapter 196 and Wis. Adm. Code Chapters PSC 111, 112, 113, and 114. | Provides regulatory oversight to the construction and operation of electric utility facilities, and the provision of safe and adequate electric services | N/A | All | ◙ | ◙ |
| Natural Gas Utility Regulation | Regulation of construction, service and operations of natural gas utilities and administration of federal Pipeline Safety Program - Wis. Stat. Chapter 196 and Wis. Adm. Code Chapters PSC 133, 134, and 135. | Provides regulatory oversight to the construction and operation of natural gas utility facilities, and the provision of safe and adequate natural gas services | N/A | All | ◙ | ◙ |
| Telecommunications Utility Regulation | Regulation of service and operations of telecommunications utilities - Safe and adequate service and operations by telecommunications utilities - Wis. Stat. Chapter 196, Wisconsin Administrative Code Chapters PSC 165 and 114. | Provides regulatory oversight to telecommunications infrastructure, the operation of telecommunications facilities and the provision of adequate services | N/A | All | ◙ | ◙ |
| Water Utility Regulation | Safe and adequate service and operations by Wisconsin water utilities - Regulation of construction, service and operations of water utilities - Wis. Stat. Chapter 196 and Wis. Adm. Code Chapters PSC 184 and 185. | Provides regulatory oversight to the construction and operation of water utility facilities, and the provision of safe and adequate water services | N/A | All | ◙ | ◙ |



ion

## Department of Transportation

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| § 86.34 Flood Damage Aids Program | Covers restoration of any damages to any roadway or roadway structure that is caused by flooding and is **not** on the State Trunk Highway System. Also allows improvements made during repairs to help mitigate the future occurrence of similar damages. | (1) For claims > $15,000, applicant receives 75% of replacement costs plus 50% of improvement costs.<br>(2) For claims ≤ $15,000, applicant may accept payment equal to 75% of WisDOT's estimate for all repairs (replacement and improvement), which may include final costs if available.<br>(3) For claims ≤ $15,000 when applicant disagrees with WisDOT's estimate, applicant submits final costs payable as noted in (1).<br>(4) If Federal aid is granted for damage reimbursement, it shall be in lieu of aid otherwise available under FDA. | Funding is only available after an event occurs. Local match is required. | Damages that are a result of flooding. | ◙ | |
| StatewideTraffic Operations Center (STOC), Bureau of Highway Operations (08) | Provides motorists with real time information on traffic congestion and lane/ highway closures. Information in ongoing highway incidents is posted on WisDOT website. (08) | Prevents user delay of interstate/ freeway system and other state highways. STOC operates on 24/7/365 basis. Coordinates with DOT Highway representatives (WisHELP) when EOC is activated. (08) | Funding prevents addressing all DOT needs. | Natural disasters and manmade events. | | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Winter Maintenance Program | Removal of snow and ice from state trunk highways. | Prevention of property damage and injuries/death using:<br>> Planted vegetation acting as a living snow-fence to reduce or eliminate snow drifts on highways.<br>> Anti-icing process to reduce or eliminate the formation and bonding of ice on highways | Funding prevents addressing all DOT needs. | Significant snow events, freezing rains, and human error while driving | ◙ | |
| Highway Improvement Program | Hazard mitigation | With highway or bridge improvement projects, DOT strives to eliminate, shield, or reduce the potential damages from hazards. | Funding prevents addressing all DOT needs. | Heavy rains & flooding, and human error while driving | ◙ | |
| § 84.18 / Trans 213 – Local Bridge Improvement Assistance Program | Helps rehabilitate and replace, on a cost-share basis, the most seriously deficient existing bridges local highway systems | Counties, cities, villages, and towns are eligible for rehabilitation funding on bridges with sufficiency ratings < 80, and replacement funding on bridges with sufficiency ratings < 50. | Available funding prevents addressing all local needs. | Flooding and decay of structural members | ◙ | |
| § 85.026 – Transportation Enhancement Program | Funds projects that enhance communities and the environment | Up to 80% in Federal funding provides for a wide variety of projects such as landscaping or mitigation of water pollution due to highway runoff – both of which may have an additional impact to mitigate flooding. | Available funding prevents addressing all local needs. | Flooding | ◙ | |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Transportation Security | Critical Infrastructure Vulnerability Assessment | Prevention of damage on critical state trunk highways and bridges through security enhancements. | Available funding may prevent DOT from implementing the results of the study | Terrorism or other manmade incident | | ◙ |
| Transportation Security | General Aviation Airport Vulnerability Assessment | Prevention of damage to Wisconsin's 135 general aviation airports through security enhancements. | Available funding may prevent DOT from implementing the results of the study | Terrorism or other manmade incident | | ◙ |
| Transportation Security | Rail Infrastructure Vulnerability Assessment | Prevention of damage to state-owned rail corridors through security enhancements. | Available funding may prevent DOT from implementing the results of the study | Terrorism or other manmade incident | | ◙ |
| Transportation Security | Maritime Infrastructure Vulnerability Assessment | Prevention of damage to Wisconsin's major waterways, ports, and harbors through security enhancements. | Available funding may prevent DOT and USCG from implementing the results of the study | Terrorism or other manmade incident | | ◙ |
| Transportation Security | Blast Design Training for Bridges/Structures | Training of bridge design engineers to mitigate the effects of explosions. | Available funding may prevent DOT from implementing the results of the study | Terrorism or other manmade incident | | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Transportation Security shared by DOT, DOA, DHFS, DNR, WEM | Secure Communications System | To provide secure communication between specific Wisconsin agencies, and between those agencies and other state and federal agencies. The secure communication would also be used to direct support efforts during and after the event | System has yet to be developed yet. Prototypes are available, but have yet to be fully tested or implemented due to available funding. | Terrorism or other incident | ○ | ○ |

Funding Discussion:

Flood Damage Aids Program - On claims of less than $15,000, the applicant has the option of accepting payment equal to 75% of the total amount of WisDOT's estimate OR submitting final costs and receiving payment as described above for claims larger than $15,000. On claims over $15,000, applicant may receive 75% of replacement costs plus 50% of improvement costs.

## UW Cooperative Extension

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| UW-Cooperative Extension | Provides community education and public information programs promoting hazard awareness and mitigation concepts. | Offices in each county linked to university and agency resources | Local educational priorities/budgets affect ability to deliver programs | All | ◙ | |

**Funding Discussion** – UW Extension receives funding from a combination of federal, state, and local sources. State fiscal problems pose a threat to funding being continued at current levels. Any additional cuts in funding will result in fewer state and county staff available to conduct educational programming in hazard mitigation.



ion

## Department of Military Affairs / Wisconsin Emergency Management

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| State Disaster Fund ss.166.03 (**2**) (b) 9., Stats (08) | Provides for eligible costs to local units of government arising from a major catastrophe that are a direct result of response or recovery operations for the declared major catastrophe during the incident period, if federal assistance is not available. (08) | Funding is for these types of eligible costs (debris clearance, protective measures and roads and bridges). The state share of the damages and eligible costs incurred by local governmental units shall not be greater than 70% of the eligible disaster costs. The local share of damages and eligible costs incurred by local governmental units may not be less than 30%. (08) | Costs which the administrator determines are not of such severity and magnitude that effective response and payment are beyond the capabilities of the affected local governmental unit. (08) | All natural hazards | ◙ | |
| Hazard Mitigation Grant Program (HMGP), 44 CFR, Section 206, Subpart N (08) | Provides post-disaster mitigation grants to state, local governments, PNP, and tribal organizations. Primary source of funding at the state level to implement cost effective mitigation projects. 75% Federal, 12.5% state, 12.5% local match. | Funding can be substantial for major disasters. Timing of funds after a disaster encourages some applicants to solve long-standing problems. State provides half (12.5%) of the 25% local match that is required. | Funding only available after a disaster declaration. With present economic situation, local governments are having difficulty in finding the local match that is required. Many more applications received than funds available. Demonstration of cost-effectiveness of projects is difficult. Communities have to have an approved all hazards mitigation plan | All natural hazards | ◙ | |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Flood Mitigation Assistance (FMA) Program 44 CFR, Part 79 (08) | Provides mitigation grants to state and local governments to mitigate NFIP insured structures. Planning grants for the development of comprehensive flood mitigation plans. Project grants for communities with approved flood mitigation plan to implement mitigation measures identified in the plan. Technical Assistance for the State to administer the program and provide technical assistance to local governments. 75% federal, 25% local match. | Provides an annual source of funds for flood mitigation. ($10,000 minimum for planning and $100,000 for project funds. The State may request up to 10% for management.) Formula based on number of NFIP repetitive loss properties and flood insurance policies within the state. Can request additional funds above the stsate allocation. Those requests are part of a national competition. | Guidance is very restrictive that funds have to be used to mitigate NIFP insured properties. With present economic situation, local governments are having difficulty in finding the local match that is required. Communities must have an approved flood mitigation plan prior to receiving project grant funds. Demonstration of cost-effectiveness of projects is difficult. Planning grant funds can only be used towards flood mitigation and not all hazards | Flood | ◙ | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Pre-Disaster Mitigation (PDM), Section 203 of the Stafford Act, 42 USAC 5133 (08) | Provides mitigation grants to state, local governments and tribal organizations for comprehensive all hazards mitigation planning and to implement cost effective mitigation projects. | Annual national competition Funds can be used pre or post-disaster. Comprehensive hazard mitigation plans will ensure a well thought out process for identifying viable and cost-effective mitigation measures. In addition, will shorten the recovery phase after a disaster. The State and subgrantees may request management costs. | Applicants must have an approved all hazards mitigation plan with identified mitigation measures in order to be eligible for project grant funds. Funds available on a national competition. Demonstration of cost-effectiveness of projects is difficult. Funding is unpredictable. With present economic situation, local governments are having difficulty in finding the local match that is required. Program will need to be authorized by October 2009. | All natural hazards | ❍ | ❍ |
| Repetitive Flood Claims (RFC) Program, Section 1323 of the NFIA of 1968,USC §4030, as amended PL 108-264 (08) | Provides mitigation grants to state and local governments to mitigate NFIP insured structures with at least one paid claim. 100% funding is only available for states or communities that cannot meet the requirements of the FMA program for either cost share or capacity to manage he activities. | Annual national competition Funds can be used pre or post-disaster. Mitigate floodprone properties. A mitigation plan is not required. State and subgrantees may request management costs. | Funds are available on a national competition. Demonstration of cost-effectiveness of projects is difficult. Can only be used on a NFIP insured structure with at least one paid claim. | Flood | ❍ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Severe Repetitive Loss (SRL) Program, Section 1361A of the NFIA, 42 USC 4102a, as amended by PL 108-264 (08) | Provides mitigation grants to state and local governments to mitigate NFIP insured structures that meet FEMA's definition of a severe repetitive loss property. 75% federal, 25% local match. | Annual national competition. Will address those properties (2) in the state that meet the SRL definition. Management Costs available for the Sate and subgrantee to administer the grant. | Funds are available on a national competition. Demonstration of cost-effectiveness of projects is difficult. Can only be used for those properties that meet FEMA's SRL criteria. There are 2 such properties in the State. A FEMA approved mitigation plan is required. For the 2 identified properties, one is located in a community without a plan. With present economic situation, local governments are having difficulty in finding the local match that is required. Difficult program to administer. | Flood | ❍ | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Public Assistance Program, 44 CFR, Section 206, Subpart H | Provides post-disaster grants to state, local governments, PNP, and tribal organizations for disaster related costs. Cost effective hazard mitigation measures may be included as an eligible cost in the restoration of facilities. 75% Federal, 12.5% state, 12.5% local match. | Timing of funds after a disaster encourages mitigation during the recovery phase in repairing public facilities. In many instances, mitigation is included on a site that has been repetitively damaged and received disaster assistance previously. Therefore, reducing or eliminating future costs. | Funding only available after a disaster declaration, and for a damaged facility. Demonstration of cost-effectiveness is difficult. Additional training is needed for local officials and inspectors on identifying eligible types of hazard mitigation measures. The mitigation measure has to be identified prior to repair in order to be eligible and considered for funding. | All natural hazards | ○ | ○ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Hazard Mitigation Planning, 44 CFR, Part 201 (201.4, 201.5, 201.6 and 201.7) (08) | Responsible for the overall development of the Wisconsin Hazard Mitigation Plan and coordinate with other federal and state agencies and organizations through the Wisconsin Hazard Mitigation Team. Provides technical assistance to local governments and tribal organizations in the development of all hazard mitigation plans through development and distribution of guidance, training, and plan reviews. | Mitigation planning curriculum and guidance developed. Established a mail and e-mail list for the continued distribution of information regarding mitigation planning. Reviews all local plans and identifies required and recommended revisions. | A consistent funding source to ensure that mitigation planning continues. 60 of 72 counties are developing countywide plans. Without an approved all hazard mitigation plan the counties and jurisdictions within will not be eligible for mitigation funding to implement mitigation measures. At this point, the State of Wisconsin plan will address natural hazards. The plan will need to include technological hazards in the next update. (08) | All natural hazards. Some local plans are including technologic -al hazards | | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Technical Assistance | Provides technical assistance to local governments in project development and implementation. | Provides technical assistance to local governments in project development and implementation. Developed expertise in performing benefit cost analysis and environmental reviews for mitigation projects. Developed acquisition and flood proofing handbooks to assist applicants in administering such programs. Through onsite visits can provide technical assistance to communities in developing mitigation alternatives. | Engineering expertise for structural projects. Staffing issues in federal and state agencies involved with environmental reviews. The need to expand knowledge and expertise in mitigating technological hazards. | All natural hazards | | ◙ |
| Agency Initiatives (08) | Interagency cooperation with other federal, state and associations. | Provides for agency cooperation. Examples: Member of Association of State Floodplain Managers. Provides support to the Wisconsin Association for Floodplain, Stormwater and Coastal Managers. Coordinates the Wisconsin Hazard Mitigation Team. Members are federal and state agencies as well as representatives from WAFSCM, WEMA, and the Association of Regional Planning Commissions. Participates on the Coastal Hazards Work Group, and the State Agency Resource Workgroup of the Wisconsin Land Council. SHMO chairs the mitigation subcommittee on the Wisconsin Recovery Task Force. | The need to continue to work with other agencies and organizations. | All natural hazards | | ◙ |
| Public Information and Education Initiatives | Promotes hazard awareness with a Spring Flood Report/s, a Tornado and Severe Weather Awareness Week (with a drill), and a Winter Weather Awareness | Hazard mitigation information is provided on a timely basis to local emergency management, local officials, schools, and others. Web site provides good information to a wide variety of officials and the general public. | Outreach to organizations outside of emergency management arena such as private organizations, associations, and businesses that cold make an impact on | All natural hazards | | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| | Week. In addition, there is NOAA weather radio day and Heat Awareness Day. Publishes a newsletter every two months. Information on current hazard mitigation activities is included. Hazard information is included on agency web site and links to other information sources and emergency management information. Public Information officer distributes press releases and coordinating relations with the media. Mitigation articles are provided for other publications such as Floodplain-Shoreland Management Notes (WNDR), Water Matters (WASFSM) etc. Hazard Mitigation Display Board used at meetings, conference and training sessions to promote mitigation statewide. Mitigation Success Stories are published and included in the agency web site. Information on Hazard mitigation is provided at agency training sessions such as the Disaster | | mitigation and land use decisions within the state. Web access not yet universal by everyone. | | | |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| | Response and Recovery Course, Hazard Mitigation Planning, Damage Assessment Workshops, Local Officials Disaster Briefings as well as at local, state and/or national conferences and workshops as requested. | | | | | |

**Funding Discussion:**

**State Disaster Fund:** The State of Wisconsin can make payments to local governmental units for damages and costs (up to 70%) incurred as the result of a major catastrophe if federal disaster assistance is not available for that catastrophe because the governor's request that the president declare the catastrophe a major disaster under 42 USC 5170 has been denied or because the disaster does not meet the statewide or countywide per capita impact indicator under the public assistance program that is issued by the Federal Emergency Management Agency. When applicable, eligible reimbursement includes damages and costs for debris clearance, protective measures and roads and bridges with the local governmental units share not being less than 30%. (08)

**HMGP:** The State of Wisconsin currently provides 12.5% of the local match for the Hazard Mitigation Grant Program (HMGP). When possible, other funding sources are used to supplement the remaining 12.5% local match. Sources for the local match that have been utilized in the past include the Wisconsin Department of Natural Resources' Stewardship programs and the Municipal Flood Control Program, and Community Development Block Grants through the Department of Commerce. Without the state providing financial assistance for the local match, it would be very difficult particularly in the present financial crisis at the state and local levels, for communities to implement mitigation projects. HMGP funding is dependent on the State receiving federal disaster assistance after a major disaster event. Historically the state has received more requests for funding after a major disaster than the funds that have been available. (08)

**FMA:** Local governments find it difficult to provide the required 25% local match. When possible, other funding sources are used to supplement the remaining local match. Sources for the local match that have been utilized in the past include the Wisconsin Department of Natural Resources' Stewardship programs and the Municipal Flood Control Program, and Community Development Block Grants. The program is very restrictive. Communities must have an approved flood mitigation plan in order to receive project grant funds. Planning grant funds can only be used to fund flood mitigation planning. Communities are not interested the development of flood mitigation plans based on the small amount of FMA project grant funds available. Further the emphasis is on the development of all hazard mitigation plans. The state may not be able to find eligible grants in the future based on the restrictions of the program. (08)



ion

**PDM:** Local governments find it difficult to provide the required 25% local match. When possible, other funding sources are can and will be used to supplement the remaining local match. Communities must have an approved all hazard mitigation plan in order to be eligible for project grant funds. In the first two years of the program (FFY 02 and 03) each state received an allocation of PDM funds for the development of all hazard mitigation plans. However, beginning with FFY04 all grant funds will be awarded through the national competition. Funds from year to year vary and are unpredictable. There needs to be a continued source of funds for the development and update of all hazard mitigation plans so that communities are eligible to receive project grant funds to implement mitigation actions at the local level. There needs to be a base amount provided to the State to administer the program. The state receives management costs based on the approved grants. Staff spends a tremendous amount of time soliciting applications and providing technical assistance to potential subgrantees without any guarantee of state management costs. The continuance of the program is uncertain as it is authorized only until October 2009. The program has also received congressional directives in the FFY 08 and 09 funding cycles, jeopardizing funding for legitimate projects. (08)

**RFC: The program is 100% funded and without the requirement for a mitigation plan. However, it can only be used for properties that are NFIP insured and have had at least one paid claim. This restricts the program somewhat. In addition, the community has to certify that they do not meet requirements of the other programs by not being able to provide the local match or incapacity to manage the program. The program has great potential if the State can identify the properties. The state has had problems with getting NFIP insurance information. The available funding in FFY08 was underutilized. (08)**

**SRL:** Local governments may find it difficult to provide the required 25% local match. When possible, other funding sources can be used to supplement the remaining local match. Communities must have an approved all hazard mitigation plan in order to be eligible for project grant funds. The program can only be used for flood mitigation of NFIP insured properties that meet FEMA's criteria for SRL properties. There are only 2 such properties identified in the State. One is located in a community without a mitigation plan and there is not one under development. Therefore, there is only one property eligible located in Pierce County. The program is a national competition. (08)

**Public Assistance Program:** Mitigation funding through this program could be substantial. However, the program is under utilized for several reasons. First, the mitigation measure has to be identified and approved prior to repairs. In many instances repairs have already been made by the time the federal/state inspectors develop the project worksheet for the facility making mitigation ineligible. Secondly, there is the mind set to "repair to pre-disaster conditions" without much thought usually given to mitigation. Third, local officials as well as the federal/state inspectors need additional training in identifying eligible mitigation measures and completing the required cost-effectiveness and environmental reviews. The more mitigation measures that is included in the Public Assistance Program, the more funds that will be made available for the HMGP. (HMGP is based on 15% [20% with an approved enhanced plan]) of eligible FEMA Public and Individual Assistance Programs.) (08)

**General:** Presently there is no designated state program or funding source for all hazards mitigation for planning or project implementation. The State does provide half or up to 12.5% of the local match required for the HMGP. If the state were to lose federal funds, the State's hazard mitigation program would greatly suffer.(08)

## Wisconsin Historical Society

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Historical Preservation Assistance. | National Historic Preservation Act contains Section 106 Implementing regulations 36CFR800 NEPA (National Environmental Policy Act) requires agencies to consider the effects of their projects on all aspects of the environment, including the cultural environment | Prior to approving and undertaking a federal agency head must take into account the effects of the undertaking on historic properties and give the ACHP a reasonable opportunity to comment. Digitized data sets in the Wisconsin Architecture and History Inventory (WisAHRD) provides the foundation for performing the review and consultation process. Contains sets for historic structures, archeological sites, burial sites, modern cemeteries and pre-settlement sites. | Contains only sites reported to the WHS. Not all data verified. | All | | ◉ |



ion

## Milwaukee Metropolitan Sewerage District

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Watercourse Policy | Provide recommendations and criteria for a strong regional funding role and system plans for assigning the construction and maintenance of major structural and non-structural measures for mitigating or eliminating existing flooding issues as defined by MMSD Watercourse Policy | Out of Bank flooding, regional funding role, determination of MMSD responsibility | | Flooding | | ◙ |
| Watercourse Management Plans | Floodwater Management plans for individual watersheds for rivers under MMSD jurisdiction: Menomonee, Milwaukee, Kinnickinnic, Root, and Oak Creek. We also developed individual plans for the following tributaries of the Milwaukee River: South Branch Creek, Indian Creek and Lincoln Creek. Stakeholder groups from each watershed were formed to provide input and review of the plans. The stakeholder groups were comprised of municipalities within the watershed, environmental and citizen groups, WDNR, and regional agencies. | Current and future out of bank flooding. The Management plans produce individual projects for each flood problem area. The projects will contain both design and construction. Projects may include acquisition of flooded or flood threatened structures, construction of flood management structures. Total Budget in 2004 was $45.4 million. | | Flooding | | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Chapter 13 Storm water Rule | Provide a regionally based minimum standard for storm water control for all new development with the MMSD service area. | Future flooding problems and local drainage | | Flooding and stormwater . | | ◙ |
| Greenseams Program | This program identifies riparian properties in private hands (public lands may be considered under special circumstances) that would link existing public open space or provide other public benefit in the form of wetland protection, future flood protection, or erosion management. | Future Flooding, Stream Channel protection Budget ($12 million through 2011) | | Flooding | | ◙ |
| Conservation Plan | This program identifies existing open space in private hands that meet specific criteria for providing natural flood storage. Lands that are identified as having hydric soils, wetlands or old wetlands are considered. The purchase of these properties provides public benefit in the form of wetland protection, water quality, and most important future flood protection, or erosion management. | Future Flooding, Stream Channel protection Budget ($3.5 million through 2004) | | Flooding | ◙ | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Floodplain Re-mapping Effort | The District has contracted with SEWRPC** to build off the existing HEC-RAS and HSPF Hydraulic and Hydrologic models used for the MMSD Watercourse Management Plans and update the existing regulatory FIS rate maps. | Future flood plain mapping and planning | | Flooding | | ◙ |

## Wisconsin Association for Floodplain, Storm water, and Coastal Management (WASFCM)

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Annual conference | Conference to inform a broad range of professionals and public officials on issues relating to reducing flood damages. Managing floodplain resources, coastal issues and storm water. Concurrent sessions, workshops, plenary sessions are held, and events to foster networking. | Flooding, Storm water, Coastal Issues | | Flooding, Stormwater Flooding, Coastal Erosion | | ◙ |
| Newsletter | The organization sends out up to three newsletters to inform our membership on issues relating to reducing flood damages. Managing floodplain resources, coastal issues and storm water. | Flooding, Storm water, Coastal Issues | Difficulty with gathering articles. Done on a voluntary basis by several agencies. | Coastal Erosion and flooding, Out of Bank Flooding | | ◙ |

## Regional Planning Commissions

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Planning Services | Preparing comprehensive plans and special purpose plans such as park and recreation, downtown development, pavement management, lake management, all hazard and flood mitigation, coastal zone management, economic development, housing assistance, solid waste, sewer service area, waterfront & harbor, and transportation plans. | These planning services play a major role in determining the location where future development will or will not occur and can mitigate losses from hazards. | State funding never covers demand for comprehensive planning grant or hazard mitigation grant applications. Demand for other planning services also exceeds the availability of funds from federal, state and local sources. | Can address both natural and manmade hazards. | ◙ | ◙ |

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Administration and Implementation Services | Writing zoning, subdivision and other land use ordinances. Implementing projects through administering grants. Sharing costs in county administrative services and building and zoning code enforcement. Administer Wisconsin Federal Grant Review Process (Executive Order 12372). NO LONGER REQUIRED (08). | These administrative and implementation services address many community development needs including in some instances hazard mitigation. | More specific concepts should be developed to include hazard mitigation policies, programs and projects when administering and implementing projects. | Can address both natural and manmade hazards. | ◙ | ◙ |
| Technical Services | Providing GIS mapping, zoning and subdivision ordinance preparation, environmental assessments and impact reviews. Writing grants for park and recreation projects, business park development, housing development, hazard mitigation projects and Brownfield projects. Administering business and housing rehabilitation revolving loan funds and providing business incubator services. Providing civil and traffic engineering services. Administering Wisconsin's Technology Zone Income Tax Credit Program to encourage growth of high technology businesses in the state. Administering the U.S. Department of Commerce- Economic Development Administration's Economic Development District Program. Providing forest resource, and air & water quality management services | These technical services implement local government plans and address key community development needs that in many instances also mitigate losses from hazards. | Limited budgets and funding levels do not allow Wisconsin's regional planning commissions to meet the demand for technical services requested of them. Hazard mitigation activities should be regularly considered when these services are provided. | Can address both natural and manmade hazards. | ◙ | ◙ |



ion

| Program, Policy, Regulation, Plan, or Practice | Description | Needs addressed | Unmet Needs | Hazards Addressed? | Support Local Mitigation | |
|---|---|---|---|---|---|---|
| | | | | | Financial Support | Facilitate |
| Integration of Comprehensive Planning and Hazard Mitigation Planning. | The integration of comprehensive planning and hazard mitigation planning has been done primarily in the areas of water quality and environmental resource protection planning activity. | Much of the data collection, analysis, projections, mapping, programs, policies, and projects in a comprehensive plan complements hazard mitigation planning.<br><br>Storm water, floodplain management, and sewer service area planning are areas that are addressed in comprehensive plans and other plans that have policies, programs and projects that compliment flood hazard mitigation plans.<br><br>WEM and Wisconsin's RPC's partnered in developing a resource guide that identified how comprehensive and hazard mitigation plans could be integrated. | A more formal policy for integrating and coordinating comprehensive planning and all hazard mitigation planning should be considered. | Can address both natural and manmade hazards. | ◙ | ◙ |



ion

## TABLE 5.2 – POTENTIAL FUNDING

**(This table was reviewed and updated for the 2008 Plan Update and all links are current).**

### Federal Agencies

| Organization | Site Summary | Contact Information |
|---|---|---|
| Federal Emergency Management Agency (http://www.fema.gov/) | | |
| FEMA | General information on hazards, disaster assistance programs, current disasters, etc. | http://www.fema.gov/ |
| FEMA<br>National Floodplain Insurance program (NFIP) | Detailed information on the National Flood Insurance Program and other mitigation activities. | http://www.fema.gov/business/nfip/ |
| FEMA<br>U.S. Fire Administration (USFA) | To reduce life and economic loss due to fire and related emergencies, through leadership, advocacy, and coordination. | http://www.usfa.fema.gov/ |
| U.S Department of Agriculture (USDA) (http://www.usda.gov) | | |
| Natural Resources Conservation Service (NRCS) | To provide Leadership in a partnership effort to help conserve, improve, and sustain our natural resources and environment. | http://www.nrcs.usda.gov/ |
| Farm Service Agency | Emergency Conservation Program shares the cost of rehabilitating eligible farmlands | http://www.fsa.usda.gov/FSA/webapp?area=home&subject=landing&topic=landing |
| USDA Rural Development | Enhancing the ability of rural communities to develop, to grow and to improve their quality of life by targeting financial and technical resources in areas of greatest need through activities of greatest potential. Local offices deliver programs and offer assessments of emergencies and program help available. | http://www.rurdev.usda.gov/wi/ |

| Organization | Site Summary | Contact Information |
|---|---|---|
| USDA Rural Development Human Resources | USDA Rural Development in Wisconsin offers personnel to help in staffing a command site in case of natural or man made disasters in Wisconsin. Cooperating with FSA, Rural Development Managers assess damage at the site of the disaster for the USDA Flash Report to the USDA National Office.<br>Assessment of housing needs for displaced rural residents – temporary placement in Rural Development Multi Family Housing Projects near disaster struck area.<br><br>Administrative staff is also available to assist in the areas of procurement, contracting, and IT. | Lori.Wells@wi.usda.gov |
| USDA Rural Development Rural Business-Cooperative Services | Business and Community Programs offer a variety of assistance to rural business and communities. The programs revolve around financial partnerships with local economic organizations such as banks, lenders, economic development groups, cities, counties, tribes, and utility cooperatives. | http://www.rurdev.usda.gov/wi/programs/rbs/index.htm |
| USDA Rural Development Rural Housing Services | The Rural Housing Service (RHS) delivers a variety of assistance to support the housing needs of rural people. Most involve direct assistance by the USDA, while others work through local partnerships. Programs offer assistance with purchasing or repairing Single Family homes, loans for Multi Family Housing, Farm Labor Housing Loans and Grants and Self-Help Technical Assistance Grants. | http://www.rurdev.usda.gov/wi/programs/rhs/index.htm |
| USDA Rural Development Rural Utility Services | Offers emergency Community Water Assistance Grants that may be available to rural communities when disaster strikes. Congress may appropriate funds for the program after a disaster if the county or area has been designated eligible under a presidential emergency declaration. | http://www.rurdev.usda.gov/wi/programs/rus/index.htm |
| 10.352 Value Added Ag Product Market Development Grants | Help independent producers and produce organization enter into value-added activities. | http://www.rurdev.usda.gov/wi/programs/rbs/valueadd.htm |



ion

| Organization | Site Summary | Contact Information |
|---|---|---|
| 10.427 Rural Rental Assistance Payments | To reduce the tenant contribution paid by low-income occupying eligible Rural Rental Housing projects financed by USDA, Rural Development, Rural Housing Service (RHS )through its Sections 515, 514, and 516 loans and grants. If available, can be used to aid disaster victims for temporary shelter in RHS properties. | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.427 |
| 10.444 Direct Housing Natural Disaster Loans and Grants | USDA Rural Development Section 504 Home Improvement Loans and Grants. To assist very-low income owner-occupants to repair or replace damaged property as a direct result of a natural disaster. Loans are made in counties named by the Federal Emergency Management Agency as being eligible for Federal assistance under an emergency declaration by the President. Grant recipients must be 62 years of age or older and unable to repay a loan. | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.444 |
| 10.445 Direct Housing Natural Disaster | USDA Rural Development Section 502 Loans.<br>To assist qualified lower income rural families to meet emergency assistance needs resulting from natural disaster to buy, build, rehabilitate, or improve dwellings in rural areas. Funds are only available to the extent that funds are not provided by the Federal Emergency Management Agency. For the purpose of administering these funds, natural disaster will only include those areas identified by a Presidential declaration. | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.445 |
| 10.763 Emergency Community Water Assistance Grants | USDA, Rural Development, Rural Utility Service is authorized to help rural residents who have experienced a significant decline in quantity or quality of water to obtain adequate quantities of water that meet the standards of the Safe Drinking Water Act. | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.763 |
| 10.766 Community Facilities Loans and Grants | USDA Rural Development Community Facilities (CF) Loans and Grants are available to rural communities for public projects such as fire and rescue services, utility extensions, clinics, child care facilities, industrial parks and cultural centers. In April, 2004 The First Responders Initiative was introduced and offers CF funding for the improvement of first responder and emergency services in small communities and rural areas. | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.766 |



Section TOC

| Organization | Site Summary | Contact Information |
|---|---|---|
| 10.770 Water and Waste Disposal Loans and Grants (Section 306C) | USDA Rural Development Rural Utility Services loans and grants to provide water and waste disposal facilities and services to low income rural communities whose residents face significant health risks | http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?P_ARG_NAMES=prog_nbr&p_arg_values=10.770 |
| | | |
| U.S Department of Commerce(DOC) (http://www.doc.gov) | | |
| Economic Development Administration | To generate jobs, help retain existing jobs, and stimulate industrial and commercial growth in economically distressed areas of the U.S. | http://www.eda.gov/ |
| U.S. Census Bureau | Profile of Wisconsin and each Wisconsin County | http://quickfacts.census.gov/qfd/states/55000.html |
| National Oceanic and Atmospheric Administration (NOAA) | Provides detailed information coastal waters issues, including the Great Lakes | http://www.noaa.gov/coasts.html |
| NOAA, National Climatic Data Center (NCDC) | Current and historical archive of climatic data and information. | http://www.ncdc.noaa.gov/oa/ncdc.html |
| NOAA, Drought Information Center | NOAA, Drought Information Center | http://www.drought.noaa.gov |
| NOAA, National Severe Storms Laboratory | Comprehensive information on severe weather research | http://www.nssl.noaa.gov |
| NOAA, National Weather Service | Provides all available weather information including warning updates | http://www.nws.noaa.gov |
| NOAA and USDA | Weekly Weather and Crop Bulletin | http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/ |
| U.S. Department of Defense (http://www.defenselink.mil/) | | |
| U.S. Coast Guard, National Response Center | Point of contact for reporting all oil, chemical, radiological, biological, and etiological discharges into the environment of the United States. | http://www.nrc.uscg.mil/ |
| U.S. Army Corps of Engineers (USACE) | Provides information on assistance available for planning, engineering and design of permanent flood control projects, and assistance to communities during flood emergencies. | http://www.usace.army.mil |
| U.S. Department of the Housing and Urban Development (http://www.hud.gov/) | | |



Section TOC

| Organization | Site Summary | Contact Information |
|---|---|---|
| Capital Fund Program | Provide Funds to Public Housing Authorities to incorporate to rehabilitate structures and include hazard mitigation projects for the low income public housing program in Wisconsin | http://www.hud.gov/offices/pih/programs/ph/index.cfm |
| HUD Disaster Recovery Assistance | Provide critical housing and community development resources to aid disaster recovery. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/index.cfm |
| Mortgage Insurance for Disaster Victims | HUD has a special mortgage insurance program under Section 203(h) of the National Housing Act to assist disaster victims. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/index.cfm |
| Public and Indian Housing (PIH) Resources | For PHAs' disaster recovery costs not covered by insurance and essential assistance from FEMA, HUD will provide funding from the capital public housing reserve authorized by section 9(k) of the United States Housing Act of 1937, authority, as amended (42 U.S.C. 1437g(k)), or similar statutory authority, subject to the availability of appropriations. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/index.cfm |
| Ginnie Mae | For a Presidentially declared disaster, Ginnie Mae issues an All Participant Memorandum, *"Forbearance and a Buyout Authorization for Loans in Areas Declared a Disaster by President..."*. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/index.cfm |
| Community Planning and Development (CPD) Resources | HUD can waive regulatory and statutory program requirements to increase the flexibility of CDBG and HOME for disaster recovery. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/dri/index.cfm |
| Community Block Development Grant | Because the Federal government provides disaster relief, primarily through FEMA and SBA, to meet emergency, short-term recovery needs, the most appropriate use of CDBG funds is generally for longer term needs such as economic redevelopment of affected areas. | http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm |
| U.S. Department of the Interior (DOI) (http://www.doi.gov/) | | |



Section TOC

| Organization | Site Summary | Contact Information |
|---|---|---|
| U.S. Geologic Survey (USGS) | Excellent source of natural disaster information. | http://www.usgs.gov |
| U.S. Department of Transportation (DOT) (http://www.dot.gov/) | | |
| Federal Highway Administration (FHWA) | Responsible for improving the quality of the nations highway systems and it's intermodal connections | http://www.fhwa.dot.gov/ |
| U.S. Environmental Protection Agency (EPA) (http://www.epa.gov/) | | |
| EPA, Office of Solid Waste and Emergency Response | Provides guidance and direction for solid waste and emergency response programs. | http://www.epa.gov/swerrims |
| U.S. Small Business Administration (SBA) (http://www.sba.gov) | | |
| Small Business Administration | Provides training and advocacy for small firms | http://www.sba.gov |

## Related Organizations

| Organization | Site Summary | Contact Information |
|---|---|---|
| American Red Cross (ARC) | Provides relief to victims of disasters and help people prevent, prepare for, and respond to emergencies. | http://www.redcross.org |
| American Water Works Association (AWWA) | American Water Works Association provides information on water conservation and a comprehensive listing of water related sites. | http://www.awwa.org |
| Association of State Dam Safety Officials (ASDSO) | General information about dams and dam safety in the U.S. | http://www.damsafety.org |
| Association of State Floodplain Managers (ASFPM) | Information on floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning, and recovery. | http://www.floods.org |
| National Association of Counties (NACo) | NACo is the only nationwide organization representing county governments | http://www.naco.org |
| National Drought Mitigation Center (NDMC) | Information on drought preparation and risk management | http://drought.unl.edu/ |

| Organization | Site Summary | Contact Information |
|---|---|---|
| National Emergency Management Association (NEMA) | NEMA is the professional association of state, Pacific, and Caribbean insular state emergency management directors | http://www.nemaweb.org |
| National Energy Foundation | This site is for kids, parents, and teachers with a focus on water conservation in the home | http://www.getwise.org |
| National Fire Protection Association (NFPA) | Provides scientifically based fire codes and standards, research, training, and education | http://www.nfpa.org |
| National Lightning Safety Institute (NLSI) | Independent, non-profit consulting, education, and research organization focusing on lightning | http://www.lightningsafety.com |
| Natural Hazards Center at the University of Colorado | Clearing house for natural hazards information | http://www.colorado.edu/hazards |
| Project SAFESIDE (The Weather Channel & American Red Cross) | The goal of this project is to raise national awareness of the need to prepare for severe weather. | http://www.weather.com/safeside |
| Societal Aspects of Weather - Injury and Damage statistics | Contains societal impact data for weather related disasters | http://sciencepolicy.colorado.edu/socasp/ |
| Disaster Links from CBS News | Clearing house of websites related to all types of hazards. Excellent research site with >100 links | http://www.cbsnews.com/digitaldan/disaster/disasters.shtml |
| The Disaster Center | Provides news and information on current disasters, and the emergency management field. Links to each state included | http://www.disastercenter.com |
| The Disaster Research Center (University of Delaware) | Research Center for the preparation and mitigation of natural disasters for groups, organizations, and communities. | http://www.udel.edu/DRC |
| The National Wildland / Urban Interface Fire Protection Program | Site information available to help become a FIREWISE individual | http://firewise.org |
| The Tornado Project | Offers tornado books, posters, and videos. Many links | http://www.tornadoproject.com |
| United Nations International Strategy for Disaster Reduction (ISDR) | Increase public awareness of hazard and risk issues for the reduction of disasters in modern societies, motivate public administration policies and measures to reduce risks, and improve access of science and technology for risk reduction in local communities. | http://www.unisdr.org |
| Tornadoes in Wisconsin 1950 - 1995 | This page lists the date and location of all the tornadoes that have occurred in Wisconsin during the years 1950 to 1995. | http://www.tornadoproject.com/alltorns/witorn.htm |

| Organization | Site Summary | Contact Information |
|---|---|---|
| University of Wisconsin Disaster Management Center | The center's goal is to help improve the emergency management performance of non-governmental organizations, local and national governments, and international organizations, through a comprehensive professional development program in disaster management. | http://epdweb.engr.wisc.edu/dmc |

## Financial Assistance – By Codes of Federal Domestic Assistance Numbers

| Code / Topic | Description | Internet Address |
|---|---|---|
| 97.022 Flood Insurance (formerly 83.100) | To enable persons to purchase insurance against physical damage to or loss of buildings and / or contents caused by floods, mudslide/mudflow, or flood related erosion. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.022 |
| 97.035 Individual and Family Grants (Formerly 83.543) | To provide funds for the necessary expenses and serious needs of disaster victims which cannot be met through other forms of disaster assistance or through other means such as insurance. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.035 |
| 97.045 Cooperating Technical Partners | To increase local involvement in, and ownership of, the development and maintenance of flood hazard maps produced for the National Flood Insurance Program (NFIP). | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.045 |
| 10.450 CROP INSURANCE | To promote the national welfare by improving the economic stability of agriculture through a sound system of crop insurance and providing the means for the research and experience helpful in devising and establishing such insurance. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.450 |
| 97.023 COMMUNITY ASSISTANCE PROGRAM_STATE SUPPORT SERVICES ELEMENT (CAP-SSSE) (Formerly 83.105) | To ensure that communities participating in the National Flood Insurance Program (NFIP) are achieving flood loss reduction measures consistent with program direction. The CAP-SSSE is intended to identify, prevent and resolve floodplain management issues in participating communities before they develop into problems requiring enforcement action. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.023 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 97.029 FLOOD MITIGATION ASSISTANCE (Formerly 83.536) | To assist States and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the National Flood Insurance Program (NFIP). | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.029 |
| 59.008 PHYSICAL DISASTER LOANS | To provide loans to the victims of declared physical- type disasters for uninsured losses. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=59.008 |
| 97.036 PUBLIC ASSISTANCE GRANTS | To provide supplemental assistance to States, local governments, and political subdivisions to the State, Indian Tribes, Alaskan Native Villages, and certain Private Non-profit organizations in alleviating suffering and hardship resulting from major disasters or emergencies declared by the President. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.036 |
| 97.024 EMERGENCY FOOD AND SHELTER NATIONAL BOARD PROGRAM | To supplement and expand ongoing efforts to provide shelter, food, and supportive services for needy families and individuals. To strengthen efforts to create more effective and innovative local programs by providing supplemental funding for them. To conduct minimum rehabilitation of existing mass shelter or mass feeding facilities, but only to the extent necessary to make facilities safe, sanitary and bring them into compliance with local building codes. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.024 |
| 97.044 ASSISTANCE TO FIREFIGHTERS GRANT | To provide direct assistance, on a competitive basis, to fire departments of a State or tribal nation for the purpose of protecting the health and safety of the public and firefighting personnel against fire and fire-related hazards. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.044 |
| 97.039 HAZARD MITIGATION GRANT (Formerly 83.548) | To provide States and local governments financial assistance to implement measures that will permanently reduce or eliminate future damages and losses from natural hazards through safer building practices and improving existing structures and supporting infrastructure. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.039 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 97.025 NATIONAL URBAN SEARCH AND RESCUE (US&R) RESPONSE SYSTEM | To develop an immediately deployable, national response capability to locate and extricate, and medically stabilize victims of structural collapse during a disaster, while simultaneously enhancing the US&R response capabilities of State and local governments. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.025 |
| 97.030 COMMUNITY DISASTER LOANS | To provide loans subject to Congressional loan authority, to any local government that has suffered substantial loss of tax and other revenue in an area in which the President designates a major disaster exists. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.030 |
| 97.050 FEDERAL ASSISTANCE TO INDIVIDUALS AND HOUSEHOLDS_OTHER NEEDS | To provide assistance to individuals and households affected by a disaster to enable them to address necessary expenses and serious needs, which cannot be met through other forms of disaster assistance or through other means such as insurance. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.050 |
| 97.026 EMERGENCY MANAGEMENT INSTITUTE_TRAINING ASSISTANCE (Formerly 83.527) | To defray travel and per diem expenses of State, local and tribal emergency management personnel who attend training courses conducted by the Emergency Management Institute | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.026 |
| 97.049 FEDERAL ASSISTANCE TO INDIVIDUALS AND HOUSEHOLDS_DISASTER HOUSING OPERATIONS | Direct assistance under this program is used for temporarily housing disaster victims who lack available housing resources and would be unable to make use of potential financial assistance to rent an alternative place to live. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.049 |
| 97.048 FEDERAL ASSISTANCE TO INDIVIDUALS AND HOUSEHOLDS_HOUSING | Financial and direct assistance under this program can be used for the following: 1) Temporary Housing, 2) Repair, 3) Replacement, and 4) Permanent Housing Construction. Assistance not used for the specified purpose will be required to be returned. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.048 |
| 97.046 FIRE MANAGEMENT ASSISTANCE GRANT (Formerly 83.542) | To provide grants to States, Indian tribal governments and local governments for the mitigation, management and control of any fire burning on publicly (nonfederal) or privately owned forest or grassland that threatens such destruction as would constitute a major disaster. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.046 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 97.042 EMERGENCY MANAGEMENT PERFORMANCE GRANTS (Formerly 83.552) | To assist the development, maintenance, and improvement of State and local emergency management capabilities, which are key components of a comprehensive national emergency management system for disasters and emergencies that may result from natural disasters or accidental or man-caused events. By combining former program activities into the Emergency Management Performance Grant (EMPG), FEMA is providing States the flexibility to allocate funds according to risk and to address the most urgent State and local needs in disaster mitigation, preparedness, response, and recovery. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.042 |
| 97.041 NATIONAL DAM SAFETY PROGRAM (Formerly 83.550) | To encourage the establishment and maintenance of effective State programs intended to ensure dam safety, to protect human life and property, and to improve State dam safety programs. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.041 |
| 97.034 DISASTER UNEMPLOYMENT ASSISTANCE | To provide Disaster Unemployment Assistance (DUA) weekly benefits to help individuals who are left jobless in the wake of a Federally-declared major disaster, and are not eligible for regular Unemployment Insurance benefits. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=97.034 |
| 15.031 INDIAN COMMUNITY FIRE PROTECTION | To provide funds to perform fire protection services for Indian Tribal Governments that do not receive fire protection support from State or local government. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=15.031 |
| 15.065 SAFETY OF DAMS ON INDIAN LANDS | To improve the structural integrity of dams on Indian lands. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=15.065 |
| 15.037 WATER RESOURCES ON INDIAN LANDS | To assist Indian tribes in the management, planning, and development of their water and related land resources. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=15.037 |
| 15.065 IRRIGATION OPERATIONS AND MAINTENANCE ON INDIAN LANDS | To conserve water and operate and maintain the irrigation water delivery systems on Indian irrigation projects and maintain the dams in a safe, economical, beneficial, and equitable manner. | http://www.cfda.gov/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=15.065 |
| 20.600 STATE AND COMMUNITY HIGHWAY SAFETY | To provide a coordinated national highway safety program to reduce traffic accidents, deaths, injuries, and property damage. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=20.600 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 20.301 RAILROAD SAFETY | To reduce railroad-related casualties and accidents. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=20.301 |
| 20.303 GRANTS-IN-AID FOR RAILROAD SAFETY_STATE PARTICIPATION | To promote safety in all areas of railroad operations; reduce railroad related accidents and casualties; and to reduce damage to property caused by accidents involving any carrier of hazardous materials by providing State participation in the enforcement and promotion of safety practices. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=20.303 |
| 20.2133 MOTOR CARRIER SAFETY | To protect the public from risks inherent in commercial vehicle operations on the public highways, and to minimize risks involved in moving hazardous materials over public highways. | http://www.cfda.gov/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=20.233 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 66.810 CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION (CEPP) TECHNICAL ASSISTANCE GRANTS PROGRAM | To provide financial assistance to States, Local agencies, and Indian Tribes for chemical accident prevention activities that relate to the Risk Management Program under the Clean Air Act Section 112(r). To provide financial assistance to Tribes for chemical emergency planning, and community right-to-know programs which are established to prevent or eliminate unreasonable risk to the health and environment of communities within the State. Funding Priority: (1) Capacity Building: Increase capacity at the State, Tribe, or local level to implement and enforce the Chemical Accident Prevention provisions of the Clean Air Act Section 112(r) and to integrate chemical accident prevention activities; chemical emergency planning efforts, and community right-to-know programs. (2) Community Issues: Development of model technical assistance materials for use by States/Tribes or Local Emergency Planning Committees (LEPCs) to evaluate potential chemical risks to their communities and to take appropriate prevention and preparedness steps to protect the community. (3) Partnerships: Strengthening partnerships among States/Tribes and Local Emergency Planning Committees (LEPCs), industry, emergency responders, and the general public to foster collaboration and build credibility for chemical prevention and preparedness activities. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.810 |
| 14.228 COMMUNITY DEVELOPMENT BLOCK GRANTS/STATE'S PROGRAM | The primary objective of this program is the development of viable urban communities by providing decent housing, a suitable living environment, and expanding economic opportunities, principally for persons of low and moderate income. Each activity funded must meet one of the program's National Objectives by: Benefiting low and moderate income families; aiding in the prevention or elimination of slums or blight; or meeting other community development needs having a particular urgency because existing conditions pose a serious and immediate threat to the health or welfare of the community where other financial resources are not available. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=14.228 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 14.218, Community Development Block Grants/Entitlement Grants | To develop viable urban communities, by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for persons of low and moderate income. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=14.218 |
| 14.119 MORTGAGE INSURANCE_HOMES FOR DISASTER VICTIMS | To help victims of a major disaster undertake homeownership on a sound basis. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=14.119 |
| 14.227 COMMUNITY DEVELOPMENT BLOCK GRANTS/TECHNICAL ASSISTANCE PROGRAM | To help States, units of general local government, Indian tribes and area-wide planning organizations to plan, develop and administer local Community Development Block Grant programs. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=14.227 |
| 12.101 BEACH EROSION CONTROL PROJECTS | To control beach and shore erosion to public shores through projects not specifically authorized by Congress. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.101 |
| 12.102 EMERGENCY REHABILITATION OF FLOOD CONTROL WORKS OR FEDERALLY AUTHORIZED COASTAL PROTECTION WORKS | To assist in the repair and restoration of flood control works damaged by flood, or federally authorized hurricane flood and shore protection works damaged by extraordinary wind, wave, or water action. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.102 |
| 12.103 EMERGENCY OPERATIONS FLOOD RESPONSE AND POST FLOOD RESPONSE | To provide emergency flood response and post flood response assistance as required to supplement State and local efforts and capabilities in time of flood or coastal storm | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.103 |
| 12.104 FLOOD PLAIN MANAGEMENT SERVICES | To promote appropriate recognition of flood hazards in land and water use planning and development through the provision of flood and flood plain related data, technical services, and guidance. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.104 |
| 12.105 PROTECTION OF ESSENTIAL HIGHWAYS, HIGHWAY BRIDGE APPROACHES, AND PUBLIC WORKS | To provide bank protection of highways, highway bridges, essential public works, churches, hospitals, schools, and other nonprofit public services endangered by flood-caused erosion. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.105 |
| 12.106 FLOOD CONTROL PROJECTS | To reduce flood damages through projects not specifically authorized by Congress. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.106 |
| 12.108 SNAGGING AND CLEARING FOR FLOOD CONTROL | To reduce flood damages. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.108 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 12.110 PLANNING ASSISTANCE TO STATES | To cooperate with any State in the preparation of comprehensive plans for the development, utilization and conservation of water and related land resources of drainage basins located within the boundaries of such State. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.110 |
| 12.111 EMERGENCY ADVANCE MEASURES FOR FLOOD PREVENTION | To perform activities prior to flooding or flood fight that would assist in protecting against loss of life and damages to property due to flooding. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=12.111 |
| 10.054 EMERGENCY CONSERVATION PROGRAM | To enable farmers to perform emergency conservation measures to control wind erosion on farmlands, to rehabilitate farmlands damaged by wind erosion, floods, hurricanes, or other natural disasters and to carry out emergency water conservation or water enhancing measures during periods of severe drought. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.054 |
| 10.069 CONSERVATION RESERVE PROGRAM | To protect the Nation's long-term capability to produce food and fiber; to reduce soil erosion and sedimentation, improve water quality, and create a better habitat for wildlife. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.069 |
| 10.404 EMERGENCY LOANS | To assist established (owner or tenant) family farmers, ranchers and aquaculture operators with loans to cover losses resulting from major and/or natural disasters, which can be used for annual farm operating expenses, and for other essential needs necessary to return disaster victims' farming operations to a financially sound basis in order that they will be able to return to private sources of credit as soon as possible. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.404 |
| 10.417 VERY LOW-INCOME HOUSING REPAIR LOANS AND GRANTS | To give very low-income rural homeowners an opportunity to make essential repairs to their homes to make them safe and to remove health hazards to the family or the community. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.417 |
| 10.444 DIRECT HOUSING_NATURAL DISASTER LOANS AND GRANTS | To assist qualified recipients to meet emergency assistance needs resulting from natural disaster. Funds are only available to the extent that funds are not provided by the Federal Emergency Management Agency (FEMA). For the purpose of administering these funds, natural disaster will only include those counties identified by a Presidential declaration. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.444 |

| Code / Topic | Description | Internet Address |
|---|---|---|
| 10.445 DIRECT HOUSING_NATURAL DISASTER | To assist qualified lower income rural families to meet emergency assistance needs resulting from natural disaster to buy, build, rehabilitate, or improve dwellings in rural areas. Funds are only available to the extent that funds are not provided by the Federal Emergency Management Agency (FEMA). For the purpose of administering these funds, natural disaster will only include those areas identified by a Presidential declaration. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.445 |
| 10.451 NONINSURED ASSISTANCE | To provide crop loss assistance comparable to the catastrophic risk protection level of crop insurance to producers of commercial crops or other agricultural commodities for which the catastrophic risk protection level of crop insurance is not available. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.451 |
| 10.452 DISASTER RESERVE ASSISTANCE | To provide emergency assistance to eligible livestock owners, in a State, county, or area approved by the Secretary or designee, where because of disease, insect infestation, flood, drought, fire, hurricane, earthquake, hail storm, hot weather, cold weather, freeze, snow, ice, and winterkill, or other natural disaster, a livestock emergency has been determined to exist. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.452 |
| 10.763 EMERGENCY COMMUNITY WATER ASSISTANCE GRANTS | Through the Emergency Community Water Assistance Grant Program, the Rural Utilities Service (RUS) is authorized to help rural residents who have experienced a significant decline in quantity or quality of water to obtain adequate quantities of water that meet the standards of the Safe Drinking Water Act. | http://12.46.245.173/pls/portal30/SYSTEM.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=10.763 |

## TABLE 5.3 – LOCAL CAPABILITY ASSESSMENT
**(This table was reviewed and updated for the 2008 Plan Update).**

| POLICY/PROGRAM/ INITIATIVE | DESCRIPTION | HOW SUPPORTS LOCAL MITIGATION | EFFECTIVENESS ON LOCAL MITIGATION |
|---|---|---|---|
| Wisconsin Commercial Building Code | The Wisconsin Enrolled Commercial Building Code is chapters Comm. 61 to 65 of the Wisconsin Administrative Code and the adopted provisions of the International Code Council codes: International Building Code (IBC), International Energy Conservation Code, International Mechanical Code and International Fuel Gas Code. The 2000 IBC was adopted with State of Wisconsin amendments in the summer of 2002.<br><br>The Department of Commerce/Division of Safety and Buildings reviews and approves plans for compliance with building codes and administer inspection certificates. | The code protects the health, safety, and welfare of the public and employees by establishing minimum standards for the design, construction, maintenance and inspection of commercial structures.<br><br>The adoption and enforcement of state building codes reduces vulnerability to natural hazards.<br><br>Notable requirements of the code:<br><br>• Designed to resist wind loads from a 90 mph wind<br>• Windows and doors designed to resist wind loads from a 90 mph wind<br>• Parapets, awnings, and exterior wall coverings must be designed to resist wind loads form a 90 mph wind<br>• Roof top equipment designed to resist wind loads from a 90 mph<br>• Wind loads are factored during design by a factor of safety as high as 1.6 x (calculated wind load.) | All structures built after adoption of recently revised state building code have increase resistance to hazards due to code enhancements. However, for existing structures state building code requirements indicate that building components damaged only need to be replaced to the pre-damage condition as specified by the building code in effect at the time of original construction. If the structure is improved, the current code is to be used to regulate the redesign and reconstruction if it is structurally different or an improvement to the existing structure. |



Section TOC

| | | | |
|---|---|---|---|
| Wisconsin Uniform Dwelling Code | The Wisconsin Uniform Dwelling Code is the State's administrative code Comm. 20 and 21, provides construction and remodeling requirements for one and two-family dwellings built after June 1, 1980. The code is administered by the Department of Commerce, Division of Safety and Buildings who is responsible for compliance with state building codes. | The code protects the health, safety, and welfare of the public by establishing minimum standards for the design, construction, maintenance and inspection for one and two family structures. (Multi-family structures are covered under the commercial code.)<br><br>Beginning January 1, 2005, all municipalities will have enforcement requirement of the code. Enforcement involves submitting building plans in order to obtain a building permit, and having electrical, construction, plumbing and HVAC inspections during construction. (Previously municipalities with a population of 2,500 or less could choose by resolution to decline code enforcement although construction had to follow the code, but there may not have been any plan review or inspections. Municipalities of over 2,500 were required to enforce the code and conduct inspections.)<br><br>The adoption and enforcement of state building code reduces vulnerability to natural hazards.<br><br>Notable requirements of the code:<br><br>• Roof surfaces must be designed to resist wind uplift of a minimum of 20 pounds per square foot.<br>• Clips, straps, or mechanical | All structures built after adoption of state building code have increase resistance to hazards due to code enhancements.<br><br>Approximately 900 municipalities that previously were not required to enforce the UDC will be required to do so by January 1, 2005. It will take time and training to get an established effective enforcement system into place.<br><br>With the home building boom of the past decade, especially in rural areas, there were notable economic, safety, and legal problems due to non-conforming construction. It was estimated that about only 5,000 of 25,000 new dwellings built in a year were being inspected for code requirements. |



Section TOC

| | | | |
|---|---|---|---|
| | | fasteners are required to connect roof framing members with load bearing walls (regardless of construction type) when the roof framing has a span of 6 feet or greater.<br>• Wall framing must be connected to the foundation or slab at with half-inch diameter anchor bolts spaced at 6 feet on-center (or less) and placed within 18 inches of each building corner.<br>• Garages have the same structural requirements as dwellings.<br>• A minimum of 2 exits are required from the first floor of the structure. | |



Section TOC

| | | | |
|---|---|---|---|
| NR 116<br>Floodplain Management | Administrative Code NR 116, Floodplain Management is administered by the Wisconsin Department of Natural Resources. Requires local governments (counties, cities and villages) to adopt reasonable and effective floodplain zoning ordinances to regulate floodplains within their jurisdictions. Floodplain zoning prohibits new construction or reconstruction of substantially damaged structures in mapped floodways. In addition, requires elevation (2 feet above the base flood elevation) and dry-land access in flood fringe areas. Limits improvements to non-conforming structures and requires compensatory storages in flood storage areas. | Floodplain management and zoning promotes mitigation by restricting development in mapped floodplains. Prevents flood damages by controlling the placement and elevation of structures. Sets strict standards for the removal of lands form the floodplain. Limits the granting of variances in floodplains. | The State's floodplain management law exceeds the National Flood Insurance Program requirements. The additional 2 foot of flood elevation helps to protect structures from severe floods. Limits construction in the floodplain with no new construction in the floodway.<br><br>Local governments can set more restrictive standards than the state and federal government.<br><br>The rules are complicated and there is a lack of understanding in many communities particularly with enforcing the substantial damage or improvement provision of the law. There is a need for continued outreach and education to ensure that the program is implemented and enforced properly. |



Section TOC

| | | | |
|---|---|---|---|
| NR115<br>Shoreland Management | Administrative Code NR115, Shoreland Protection Program, is administered by the Wisconsin Department of Natural Resources and established statewide minimum standards for shoreland development to control the intensity of development around water, and create a buffer around water. Requires counties to adopt and administer shoreland zoning ordinances that meet or exceed the minimum standards. Standards include lot sizes, buffer strips, setbacks, and legal non-conformities. | Shoreland management and zoning promotes mitigation by restricting development near water. May prevent construction in dangerous near-shore areas, thereby mitigating possible flood damages. Grading restrictions prevent increased runoff and resulting erosion and flood damages. | Many counties have adopted ordinances that exceed the state minimum standards.<br><br>Rules are presently under review for revisions. The rules governing waterfront development are being revised to address concerns over the standards that they were not adequate to protect waters, were confusing to property owners and local governments, and are too limited to property owners.<br><br>In conjunction with NR 116, can be a powerful tool in regulating development in or near floodplains and near water. |

| | | | |
|---|---|---|---|
| NR 117<br>Shoreland-Wetland Protection Program | Administrative Code NR117, Shoreland-Wetland Protection Program, is administered by the Wisconsin Department of Natural Resources and established statewide minimum standards for cities and villages shoreland-wetland zoning ordinances to accomplish shoreland protection objectives. Cities and villages are required to adopt and administer shoreland-wetland zoning ordinances within 6 months after receipt of final wetland inventory maps, which are prepared by the department. The ordinance creates a shoreland-wetland zoning district for all wetlands of 5 acres or more, and all portions of wetlands of 5 acres or more that are shown on the inventory maps and which are located in shorelands within the jurisdiction. | Preserves wetland areas which retain and infiltrate flood waters.<br><br>A jurisdiction may not rezone a wetland in a shoreland-wetland zoning district, or any portion thereof, if the proposed rezoning may result in a significant adverse impact upon storm and floodwater storage capacity and shoreline protection against soil erosion. | Local governments can adopt ordinances that exceed the state minimum standards.<br><br>In conjunction with NR 115 and 116, can be a powerful tool in regulating development in or near floodplains, wetland and near water in general.<br><br>Small, isolated wetland and degraded wetlands can be developed ins some cases, which can cause higher flood levels and increased damages. |



**Section TOC**

| | | | |
|---|---|---|---|
| Comprehensive Planning | The State's Comprehensive Planning Law, commonly recognized as Wisconsin's "Smart Growth" legislation, requires any program or action of a town, village, city, county, or regional planning commission after January 1, 2010 that affects land use must be guided by, and consistent with, an adopted Comprehensive Plan.<br><br>Comprehensive plans must contain 9 elements: issues and opportunities; housing; transportation; utilities and community relations; land use; agricultural, natural and cultural resources; economic development; intergovernmental cooperation; and implementation. | Provides opportunity for communities to incorporate their comprehensive planning with their all-hazards mitigation plan. Presents an opportunity to build community support for investing in long-term hazard reduction.<br><br>Comprehensive plans will include activities such as land use planning, zoning ordinances, construction site erosion control ordinances, stormwater management zoning and agricultural preservation plans all of which can contribute to hazard mitigation within a community. | There is not a specific element pertaining to hazard avoidance or hazard reduction. However, an all hazards mitigation plan can be integrated into a community's comprehensive plan through the various planning elements, as well as comprehensive plans integrated with all hazard mitigation plans. A good comprehensive plan that addresses its hazards will lead to good land use decisions.<br><br>Information and data collected for comprehensive planning is also useful and necessary in all hazard mitigation planning. |

| | | | |
|---|---|---|---|
| Milwaukee Metropolitan Sewage District (MMSD) | With a multi-objective mission to reduce sewer inflows into Lake Michigan and reduce stormwater flood damage to structures in Milwaukee's metro area, MMSD is executing a comprehensive stormwater and flood protection programs.<br><br>Developed Floodwater Management Plans for the individual watersheds and rivers under their jurisdiction. Stakeholders groups were formed and provided input and review of plans.<br><br>Chapter 13, Stormwater Rule, provides a regionally based minimum standard for stormwater control for all new development within the service area.<br><br>Greenseams Program identifies riparian properties in private hands (public lands may be considered under special circumstances) that would link existing public open space or provide other public benefit in the form of wetland protection, future flood protection, or erosion management. | MMSD has taxing authority in the most densely populated area of the state and it uses this authority to engineer controls for stormwater and flooding. It has used no emergency management funds for any of its buy-outs or other mitigation initiatives and projects. This area of the state has been included in several flood declarations and is has a high flood risk.<br><br>Addresses current and future out of bank flooding. Plans produce specific projects which contain both design and construction. Projects include structural and non-structural approaches. Budget in 2004 was $45.4 million.<br><br>Addresses future flood problems and local drainage.<br><br>Addresses future flooding and stream channel protection. Budget is $12 million through 2011. | According to engineering reports, most residential structures within some of the most notorious creeks for flooding have been both acquired and demolished, or floodproofed above the 100-year flood elevation through a variety of methods including stormwater storage, levees, and flow rate reduction controls. |



Section TOC

| | | | |
|---|---|---|---|
| | Conservation Plan identifies existing open space in private hands that meet specific criteria for providing natural flood storage. Lands that are identified as having hydric soils, wetlands or old wetlands are considered. The purchase of these properties provides public benefit in the form of wetland protection, water quality, and most important future flood protection, or erosion management. | Addresses future flooding, and stream channel protection. 2004 budget is $3.5 million. | |

| | | | |
|---|---|---|---|
| Wisconsin Regional Planning Commissions | The Wisconsin Regional Planning Commissions provide planning and technical services to the counties and municipalities that participate in the Commission.<br><br>Provide technical services through GIS mapping, zoning, and subdivision ordinance preparation, environmental assessments and impact reviews, engineering services.<br><br>Provides planning services for development of hazard mitigation plans and comprehensive plans in addition to special purpose plans.<br><br>Develop zoning, subdivision and other land use ordinances for local governments. Implement projects through administration | Services provided assist in land use planning and implementation of local government plans that address key community development needs. In many cases, the plans also mitigate losses from hazards.<br><br>Data collected, analysis projections, mapping, programs, policies, and projects in a comprehensive plan complements hazard mitigation planning. Stormwater, floodplain management, and sewer service area planning are a few of the areas addressed in comprehensive plans that have policies, programs, and projects that compliment flood hazard mitigation.<br><br>Partnered with Wisconsin Emergency Management in developing a resource guide that identified how comprehensive and hazard mitigation plans could be | Local governments are used to working through and with the commissions in development of various plans. The commissions are familiar with the local governments and the issues and politics that are involved at the local level. They provide a valuable service to local governments in the development of various planning efforts and in providing technical services.<br><br>Limited budgets and funding levels do not allow the commissions to meet the demand for technical and planning services requested of them.<br><br>Hazard mitigation should be regularly considered when these services are provided. More specific concepts need to be developed to include hazard mitigation policies, programs and projects when administering and implementing plans/projects. |



Section TOC

| | | | |
|---|---|---|---|
| | of grants. Share costs in county administrative services and building and zoning code enforcement. | integrated. | A more formal policy for integrating comprehensive and hazard mitigation planning needs to be developed. |
| County Emergency Management | Emergency Management is a county office mandated by the State of Wisconsin. It is supported by county funds, which is reimbursed in part by federal funding. Emergency Management comprises organized analysis, planning, decision-making and assignment of available resources to mitigate, prepare for, respond to and recover from the effects of all hazards. | The County Emergency Management department cooperates with the County in preparing timely releases that inform the public on actions and precautions they can take to minimize disruptions and losses. County staff works to reduce or eliminate repetitive loss or substantially damaged structures by writing letters to owners to inform them of techniques and potential state and federal resources available to reduce further flood losses. | |

## TABLE 5.4 – MITIGATION ACTION PLAN SUMMARY

| Action | Priority Level H=High M=Med L=Low | **Lead Agency**/ Support Agency | Projected Timeline | Projected Resources | Rationale for Action | How Action Contributes to Mitigation Strategy | 2008 Update Status |
|---|---|---|---|---|---|---|---|
| **Goal #1 – Minimize human, economic and environmental disruption caused from natural hazards.** | | | | | | | |
| 1.1 – Continue to administer the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA) Program, Pre-Disaster Mitigation (PDM) Program, Severe Repetitive Loss (SRL) and the Repetitive Flood Claims (RFC) by providing grants for planning and long-term, permanent and cost-effective mitigation measures. | **H** | **WEM** / WHMT, RPC's | Ongoing | FEMA funding: HMGP FMA PDM RFC SRL | Local jurisdictions are seeking ways to reduce damage from natural disasters. Placing these mitigation programs in the forefront will enable the local officials to pursue all courses of action. | WEM will continue to solicit applications for these funds in order to reduce property losses and save lives in Wisconsin caused by disasters. | In addition to administering HMGP, FMA, and PDM, the Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) will also be added to the cadre of programs. Priority will be given to RLP and SRL. |
| 1.2 – Encourage communities to sign up and participate in the Conservation Reserve Enhancement Program (CREP). | **H** | **DATCP USDA-FSA NRCS LCD** | Sign-up period from 2001 to 2012 | | Participation in this program will help to reduce crop losses. | The CREP focuses on improving water quality. The program helps reduce run-off and peak flows in streams preventing pollution. Secondary benefit is removing flood prone cropland from production. | Ongoing |
| 1.3 – Promote use of FEMA's HAZUS-MH GIS-based software. | **M** | **WEM**/ RPC's | Ongoing | | Will provide a standardized methodology containing models for estimating potential losses from floods and hurricane winds. | With the addition of the flood and wind module, HAZUS-MH may provide Wisconsin with a hazard-specific analysis tool for estimating potential losses. | WEM staff has been trained on HAZUS and hosted HAZUS workshops. The Plan Update includes a Flood Risk Analysis using HAZUS. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1.4 – Promote the purchase of NOAA weather radios by speaking engagements, PSAs, web links, etc. | **H** | **WEM** | Ongoing | | Weather radios have proven to be a valuable tool for warning people to take shelter during extreme weather events. | Reducing threat to life will be realized by the use of radios, not only in private residences, but particularly in schools, critical facilities, daycare centers | Status unchanged. Mitigation presentations identify NAA radios at a mitigation option. WEM awarded 6 HMGP grants for NOAA radios. |
| 1.5 – Coordinate with the Educational Communications Board to pursue 100% NOAA weather radio tower coverage in the State. | **M** | **WEM** | Ongoing | | A larger coverage area would warrant the usage of the weather radios throughout Wisconsin. | Completion of this goal will protect Wisconsin lives from severe weather events. | Approximately 95% coverage statewide. |
| 1.6 – Add extra points to communities applying for DNR Stewardship programs if their proposal includes mitigation elements. | **M** | **DNR** | 2005 | | An incentive to develop a flood mitigation element in a community program will help achieve Wisconsin's goals. | Promoting flood mitigation values to acquisition criteria (i.e., flood water storage capacity removes floodplain from development) consideration can conserve natural resources while helping to reduce flood losses. | Status unchanged. |
| 1.7 – Allow mitigation projects to be funded under the Flood Damage Aids statute using the same funding percentage for improvements during a presidential disaster declaration. | **M** | **DOT** | 2004-2005-2006 | | Change in the current statute would allow consideration for flood mitigation projects beyond highway facilities with a 50% local match. | This program can further promote flood mitigation in Wisconsin | Deleted. |
| 1.8– Reach out to the business sector by | **M** | **WEM/ UW-Ext** | Ongoing | | Planned contingencies prior | Making businesses aware of planned contingencies | Status unchanged. Due |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| providing guidance and information to minimize disruption of business operations during disaster events. | | | | | to disaster can allow businesses, partial operation during a major weather event. | and options during major operational disruption can minimize human and economic loss. | to workload, this item was not completed. |
| 1.9 – Provide an incentive (such as awarding additional points) for state funded grants that include damage-reducing measures. | **H** | **ALL agencies** with funding available | Ongoing | | Altering criteria to include mitigation measures will enhance mitigation goals for the State | State funded mitigation grant proposals can only benefit the residents of Wisconsin and further the goals in the State Mitigation Plan. | Status unchanged. |
| 1.10 – Promote the "No-Adverse Impact" floodplain management approach Statewide. | **H** | **DNR /** WAFSCM WEM | 2005 and Ongoing | | With over $6 billion of flood damages annually, the drain on all levels of resources needs to be reduced. With intensifying development within watersheds and floodplains, the rationale is to manage that type of development in a sustainable fashion. | The NAI approach makes sense and will result in reduced damages. By using NAI you have a tool to increase support for watershed management as it promotes multi objective management strategies, which appeal to wider range of interests. This increases support for any actions proposed or taken for flood management. | Ongoing. Promote NAI at workshops, meetings, conferences, and through newsletter. Plan to incorporate NAI principles into NR116 revisions. NAI training session planned for 2008 WAFSCM conference. |
| 1.11 – Review licensing requirements for medical and residential care facilities for promoting disaster resistant health care facilities. | **M** | **DHFS** | 2005 | | Maintaining operations during disasters in critical facilities in the Health Care Industry is crucial. Licensing requirements can incorporate the planning and | The accomplishment of this action would meet numerous mitigation goals. | Status unchanged. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | implementing of disaster resistant technology. | | |
| **Goal #2 – Enhance public education about disaster preparedness and resistance and expand public awareness of natural hazards.** | | | | | | | |
| 2.1 – Distribute hazard mitigation materials at housing workshops, training and orientation sessions. | **H** | **Comm-DHCD** / WEM | 2008 & Annually | | Exposing mitigation opportunities to as many groups, agencies, citizens as possible is of benefit to the overall damage reduction goals | This action is directly linked to the expanding and promoting public awareness. | Status unchanged. |
| 2.2 – Promote hazard mitigation and raise awareness of coastal hazards. | **H** | **DOA-WCMP** / WEM DNR | Ongoing | | Information on reducing risks posed by coastal natural hazards can enhance the responsible use of coastal resources. This information can be provided through public workshops, grant programs and agency partnerships. | Further use and distribution of mitigation materials during special events will meet the public awareness and community outreach goals. | Status unchanged. WAFSCM, WEM, and WCMP sponsored a Coastal Hazards Workshop in Ashland in 2006. |
| 2.3 – Make readily available, the Disaster Health and Safety Tips in a highly visible area on the DHFS website. | **H** | **DHFS**/ WEM | 2005 | | Web links to provide the public with mitigation educational information. | The accessibility of the Internet and connection to links provides education benefits to a wide range of persons and agencies. | Status unchanged. |
| 2.4 – Survey healthcare facilities for the use of NOAA weather alert radios and severe weather | **H** | **DHFS** / WEM | Ongoing | | A cost effective way to secure an alert system for critical facilities. | This project is further advancing the goal of saving lives in severe weather events. | Status unchanged. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| response plans to enable DHFS and WEM to pursue funding for these activities. | | | | | | | |
| 2.5 – Provide workshops and distribute informational materials to improve understanding and enforcement of floodplain, shoreline, coastal and wetland regulations. | **H** | **DNR**/<br>DOA-WCMP<br>UW – Sea Grant Institute<br>WEM | Ongoing | FEMA | Workshops and visits will improve hazard awareness and mitigation in floodplain, shoreline & wetland regulations. | Assessing and improving local floodplain management and coastal hazard awareness is a key component of the outreach program efforts. | Conducted 10 annual floodplain management workshops and attend 10 or more meetings of local government officials, realtors, insurances agents, and general public to promote floodplain management. |
| 2.6 – Continue to educate the public about safety issues related to natural hazards at electric and natural gas utilities. | **H** | **PSCW** | Ongoing | | Topics such as Underground Electric Transmission Lines, Natural Gas Pipeline Safety, Air Quality issues for Electric Generation | Public education and outreach will be improved by this activity | Status unchanged. |
| 2.7 – Using the medium of the WEM website, promote mitigation and link to appropriate state agency websites. | **H** | **WEM**/<br>DNR<br>DOA, WCMP<br>OCI, DHFS, DATCP Comm, RPC's | Ongoing | | Much of the information is already on the web. By posting additional data such as success stories, approved mitigation projects, mitigation plans, property protection options, etc., and by linking the various websites, more web users will be impacted. | Public education and outreach will be improved by this activity. | Status unchanged. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2.8 – Participate in conferences and give presentations promoting mitigation to local interest groups and various associations. | **M** | **WEM /** DNR UW-Ext DOA –WCMP, RPC's | Ongoing | | Various groups and associations will benefit from mitigation awareness activities. | WEM staff can reach local audiences and reinforce that mitigation planning and activities occur at the local level. More education can always be accomplished. | Presentations were made at the WAFSCM Annual Conference, and WEM County EM Directors Annual Meeting. |
| 2.9 – Continue to develop and use WEM's mitigation informational display at training, conferences, meetings, workshops and other public awareness opportunities to further mitigation education. | **H** | **WEM/** RPC's | Ongoing | | The use of visual aids during various educational opportunities is one way to expand the mitigation message and share mitigation success stories. | Continuing outreach efforts meets multiple goals of expanding public awareness, supporting interagency cooperation and promoting mitigation techniques. | Display was updated to include new mitigation projects and mitigation materials. |
| 2.10 – Provide sewer back flow prevention information and other flood proofing measures to affected communities through public information curriculum. Coordinate with MMSD on expanding distribution of its brochure to other parts of the state. | **H** | **DNR** / WEM/OCI & Insurance industry | Ongoing | | Certain urbanized areas have clearly identified sewer back-up as a major cause of damage during heavy rain events. This outreach will positively impact many citizens. | Using this mitigation technique lessens residential damage during major storm events. | Will coordinate with MMSD on expanding distribution of its brochure to other parts of the state. |
| 2.11 – Seek out opportunities to sponsor low-cost hazard mitigation demonstration projects. | **M** | **ALL** | Ongoing | | Using the disaster resistant community concept has proven its ability to reduce damage during | Implementing mitigation demonstration projects sets an example to all communities that mitigation clearly reduces damage. | Status unchanged. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | disaster events. | | |
| 2.12 – Include the Hazard Mitigation Planning Workshop into WEM's training curriculum and the Emergency Managers certification program, holding at least one workshop annually. | **H** | **WEM/** RPC's | 2005 & Annually | | Emergency Managers need to know how mitigation planning can benefit their community. This knowledge will only help them better perform their job. | This action is further advancing the goal of saving lives and reducing damage in severe weather events. | Workshops are conducted annually in the spring and are part of the certification program. A total of 10 workshops have been held and will continue. |
| 2.13 – Target business related mitigation materials to Wisconsin businesses especially in vulnerable areas. | **M** | **Comm–DBD** | Ongoing | | Partnership between local businesses, local and state governments, particularly in disaster-vulnerable areas encourages problem solving at the local level. | This action is further advancing the goal of saving lives and reducing damage in severe weather events. | Status unchanged. |
| 2.14 – Develop a household preparedness survey to utilize as a tool to educate the public about hazard mitigation and obtain interest levels in mitigation opportunities. | **H** | **WEM** | Spring 2004 and Ongoing | | Response to this survey will assist the state in getting input from the public on mitigation goals and initiatives. | Public input is one element of the mitigation strategy | Collected survey information was used in the 2008 Plan Update. A qualitative section will be added to the survey. |
| 2.15 – Document and publish statewide mitigation stories, identifying successful implementation of various types of mitigation activities and post on the | **H** | **WEM/** FEMA | Ongoing | | By sharing information, communities and individuals can learn from each other and hopefully adopt noteworthy | The goal in sharing success stories is to motivate communities to come up with solutions to better withstand the next disaster and prevent future damage. | All WEM's success stories are published on the website and posted on the display board. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| WEM website and WEM's mitigation display. | | | | | activities themselves | | |
| **Goal #3 – Encourage hazard mitigation planning.** | | | | | | | |
| 3.1 – Coordinate with agencies to incorporate hazard mitigation planning concepts in the Comprehensive Planning Guides. | **M** | **DOA** / WEM DNR UW-Sea Grant Institute | Ongoing | | Mitigation as a part of this document was created to address community needs and will further the mitigation planning initiative. | By addressing hazard mitigation in the comprehensive planning process, more communities will be aware of natural hazards and their impacts and the need for preparation. | Status unchanged. Mitigation planning information was provided to DOA by WEM. |
| 3.2 – Develop and implement shoreline and bluff erosion policies. | **H** | **DOA-WCMP** / WEM DNR UW-Sea Grant Institute | | | The updating of the methodologies and technical information and policies on coastal erosion will help encourage mitigation activities and raise awareness of risks posed by coastal erosion. | New ordinances and other policies will serve to establish revised setbacks and minimize future damage. | Status unchanged. |
| 3.3 – Place all hazards emergency management guidelines on websites to facilitate the education of healthcare facilities in emergency management activities. | **M** | **DHFS** | Ongoing | | Will provide ongoing guidance to healthcare facilities to access information. | Guidance and information is way to reach multiple agencies and citizens to advance mitigation knowledge. Will foster planning and integration of emergency management and mitigation components. | Status unchanged. |
| 3.4 – Wisconsin Historical Society (WHS) joining other agencies will continue to work together | **M** | **WHS** / DOA, DNR | Ongoing | | Pre identifying damage-impacted areas that have significant numbers | By lessening the impact to these historical sites in the disaster recovery phase, preservation of | Status unchanged. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| in using the GIS data base resource as a tool to identify historical and archeological sites in floodplains. | | | | | of historical sites will expedite the disaster recovery process and comply with federal funding requirements. | Wisconsin's historical and archeological areas will be secured. | |
| 3.5 – Utilizing the State Historical Society's GIS data base on historical and archeological sites, develop a GIS layer identifying those that are located within a 100-year floodplain. | **M** | **WEM /** WHS DNR FEMA | Six year plan update 2010 or before | | This layer of database will assist in the state and local risk assessments for flood hazard in identifying the most vulnerable structures | By lessening the impact to these historical sites in the disaster recovery phase, preservation of Wisconsin's historical and archeological areas will be secured. | Status unchanged. |
| 3.6 – Integrate hazard mitigation concepts into local extension programs for community development, lake and watershed management, farm management and housing development. | **M** | **UW-Ext** / WEM DOA-WCMP DOA DNR | Ongoing | | The UW-Extension program is one additional avenue to reach multitudes of people. Their curriculum can provide programming areas involving mitigation practices in the community, natural resource and economic development arena; along with lake, watershed and farm management. | The more efforts made to expand mitigation awareness and proper land management, the more damage-prevention and preparation will occur within the State. | Ongoing. Staff gave Disaster Mitigation Act education and awareness presentations to counties. Hazard planning is being integrated in the security assessment efforts in many Wisconsin counties. |
| 3.7 – Continue to develop guidance and resource information that will assist local governments and | **H** | **WEM/** RPC's | 2001 & Ongoing | | With the Disaster Mitigation Act of 2000, the push to reach as many | To raise awareness of mitigation is a goal in this Strategy and to assist with the local planning process | An All-Hazard Mitigation Resource Guide was developed |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| tribal organizations in the development of all-hazard mitigation plans to meet federal planning criteria. | | | | | local jurisdictions to use the planning process involving the public to prepare mitigation activities is now linked to mitigation funding sources. | to prepare for future disaster events is now required by law. | and posted to the WEM website. In addition, WEM regularly provides planning information to the local governments. |
| 3.8 – Research and identify GIS resources that would assist not only WEM but also the local governments in the development of their mitigation programs. | **H** | **WEM /** RPC's | Ongoing | | GIS is a valuable tool in the mitigation planning process and implementation of mitigation measures. | Ongoing mitigation efforts lessen the impact that disasters have on people's lives and property through damage prevention. | Status unchanged. |
| 3.9 – Identify and develop GIS applications at the local government and tribal organization level, as a mitigation tool. | **H** | **WEM /** DNR, RPC's | 2004 and Ongoing | | This software program can be used to further mitigation planning and alert locals to vulnerable structures. | Will minimize damage. | WEM hired a GIS specialist and has used the technology for projects and planning. |
| 3.10 – Update the State Hazard Mitigation Plan to include technological and man-made hazards. | **H** | **WEM /** WHMT | 2011 | | These types of disasters pose a risk to the citizens. | Identifying and subsequently mitigating man-made and technological disasters will be of benefit to the citizens of Wisconsin and reduce risk to property and life. | Status unchanged. Due to workload, this item was not completed for this update. However, it remains a recommendation for subsequent updates. |
| 3.11 – Incorporate mitigation into WEM's Strategic Plan (short-term) | **M** | **WEM /** WHMT | Ongoing | | Including mitigation as an element to strategic planning | Cooperation and communication between agencies and sharing of | Ongoing. The Dept. of Military Affairs' Strategic |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| and work with other state agencies (long-term) to incorporate mitigation into their strategic plans where appropriate. | | | | | can only further educate local officials on the topic of mitigation and make it more of a day-to-day activity. | goals and priorities is one way to accomplish the strategy set forth in this document. | Plan identified an item to reach a goal of 90% of the state having approved hazard mitigation plans. |
| 3.12 – Encourage hazard mitigation planning by conducting inventory of the status of coastal protective structures along Racine County. | **M** | **DOA-WCMP /** SEWRPC DNR | Completed | | Protecting the State's coastal shoreline along the Great Lakes is a high priority. | Awareness and education to preserve the shoreline will result in minimizing damage and enhance environmental quality. | Completed. |
| 3.13 – Attend training on the HAZUS-MH and determine its feasibility for use in Wisconsin. | **M** | **WEM /** FEMA, RPC's | Completed | | This software loss estimation program will better prepare communities to plan and prepare for disaster damage. | The information that will result from inputting critical facility data and damage-type information will help reduce losses in future disasters. | Completed. |
| 3.14 Post-HAZUS training, provide training and technical assistance to local governments. Information to be used as a planning tool. | **M** | **WEM /** WHMT, RPC's | Completed | | Calculating potential losses from storm damage is part of the overall risk assessment to develop local plans. | Assisting locals in preparing for a storm and determining what type of losses may occur, further enables to locals to minimize economic loss after a major storm event | Completed. WEM hosted a HAZUS Workshop for local governments in 2006. |
| 3.15 – As local and tribal plans are completed, incorporate information and make linkages to the State Hazard Mitigation Plan. | **H** | **WEM**/ WHMT | Ongoing | | Local and tribal plans will be enhanced and more comprehensive by linking to the State Mitigation Plan. | Providing a complete assessment of state and local hazard mitigation priorities is required by law. | Completed. More jurisdictional plans will be included in the next update. |
| 3.16 – Develop a state structure inventory of state owned buildings, | **H** | **WEM/DOA** | Beginning in 2007 and | PDM | 44 CFR Part 201 requires that the State Hazard | Providing a state structure inventory will be included in future updates of the | New action item. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| structures, and facilities and complete a risk assessment based on data collected specific to each building. | | | ongoing. | | Mitigation Plan include an overview and analysis of potential losses to state owned or operated buildings, etc. | State Hazard Mitigation Plan. | |
| 3.17 – Develop an annex to the State Plan for the rural electric cooperatives statewide. | **H** | **WEM** Rural Cooperatives | 2009 | | WEM recognizes that considerable damages occur to rural electric cooperatives throughout the state. | This annex will allow rural cooperatives to be eligible for HMGP funds and the annex will be shared with the counties. | New action item. |
| 3.18 – Work with Wisconsin universities to develop Disaster Resistant University (DRU) Plans. | **M** | **WEM** | Ongoing | | This will assist in the efforts collecting state structure inventory data. | The structure information gathered may be used to assist the university in the development of their DRU plan. | New action item. |
| 3.19 – Wisconsin Coastal Hazards Team will continue to expand technical tools and technology transfer on coastal hazards for Lake Superior and Lake Michigan. | **H** | **WCHT** WCMP-DOA, UW-Sea Grants, DNR | Ongoing | | The work addresses issues identified in the WCMP Needs Assessment and Strategy 2006-2010. | It enhances public education about disaster preparedness and resistance and expands public awareness of natural hazards. | New action item. |
| **Goal #4 – Support intergovernmental coordination and cooperation among federal, state and local authorities regarding hazard mitigation activities.** | | | | | | | |
| 4.1 – Continue to coordinate with the Coastal Hazards Workgroup and expand hazard mitigation activities in those areas vulnerable to destruction of | | **WCMP**/ WEM UW- Sea Grants Inst. DNR, RPC's | Ongoing | | Several partner agencies coordinate on natural hazards issues through the Coastal hazards | Expanding mitigation activities in coastal areas will reduce storm and erosion related damage and protect lives and properties. | The Coastal Hazards workgroup and its partner agencies have |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| coastal areas. | | | | | Workgroup. This cooperation effort is part of the WCMP Needs Assessment and Strategy process. | | developed tools to convey the challenges of coastal erosion. |
| 4.2 – Continue outreach efforts to non-participating National Flood Insurance Program (NFIP) communities with flood damage and encourage them to join the NFIP. | M | **DNR** / WEM | Ongoing | | Coordination between DNR, WEM and local communities to further promote the benefits of the NFIP with help individuals and communities will result in a fuller flood recovery | To raise awareness of the NFIP to Wisconsin citizens and squelch misconceptions will only enhance the mitigation program. | Ongoing. Five communities have joined the NFIP in the past two years and several more are in the process of doing so. |
| 4.3 – Work with local communities to encourage mapping of floodplains and coastal areas. | **M** | **DNR** DOA-WCMP / WEM, RPC's | 2009 & Ongoing | | DNR and local officials will work together to center attention on mapping high-risk areas. | Accurate and updated floodplain maps will give needed documentation to property owners and banks and enable local communities to develop floodplain development criteria. | Fifty-two Wisconsin counties will receive updated mapping through the MapMod process. More counties may be added if additional funds are appropriated by the US Congress. |
| 4.4 – WISDot will Coordinate with WEM to sponsor a workshop for DOT engineers, technicians and other staff | L | **DOT** / WEM FEMA | On hold | | DOT and WEM will coordinate planning for a disaster damage workshop to review mitigation | Conferences, workshops, etc. is a way to reach multiple agencies and citizens to advance mitigation knowledge. | On permanent hold due to higher work priorities. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| to review the components of post-disaster damage and mitigation programs. | | | | | components of the Public Assistance, Emergency Relief and Flood Damage Aids programs. | | |
| 4.5 – Provide ongoing support and coordination between Office of the Commission of Insurance (OCI) and the WHMT in developing, establishing and implementing permanent and viable statewide mitigation programs by including distribution of hazard mitigation materials to companies, agents and consumers. | **L** | **OCI** | Annually | | OCI will continue to regulate insurance companies/agents about insurance products. OCI and WEM will partner to publicize insurance and hazard mitigation materials. | Interagency cooperation in expanding mitigation education in Wisconsin accomplishes several goals in the Mitigation Strategy. | Status unchanged. |
| 4.6 – Provide ongoing support and coordination with the WHMT in developing, establishing and implementing permanent and viable statewide mitigation programs while protecting historical and cultural resources. | **H** | **WHS** | Ongoing | | Coordination between programs is a viable way to preserve historical sites and structures, as mandated by law. | Interagency cooperation in expanding mitigation education in Wisconsin accomplishes several goals in the Mitigation Strategy. | Status unchanged. |
| 4.7 – Continue to direct the WHMT in establishing, implementing a long-term, permanent and feasible statewide mitigation programs. | **H** | **WEM** | Ongoing | | The WHMT plays a most important role in the State mitigation efforts both in coordination efforts with other agencies and disaster recovery, mitigation planning and public outreach | Interagency cooperation in expanding mitigation education in Wisconsin accomplishes several goals in the Mitigation Strategy. | Status unchanged. After the 2008 flooding event, the state created the Wisconsin Recovery Task Force. One of the subgroups of that Task Force is Mitigation. WHMT members are part |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | programs. | | of the Mitigation Subgroup. |
| 4.8 – Invite a representative from the Regional Planning Commission and the Wisconsin Association of Floodplain, Stormwater and Coastal Managers (WAFSCM) to participate on the WHMT. | **H** | **WEM** | Completed | | Having a representative from these agencies will add another level of knowledge of grant writing, planning services and technical assistance to this planning team. | Interagency cooperation in expanding mitigation education in Wisconsin accomplishes several goals in the Mitigation Strategy. | Completed. In addition, a VOAD and NWS representative joined the Team. |
| 4.9 – Promote hazard mitigation planning by maintaining a close relationship with the Comprehensive Planning Grant Program. | **M** | **DOA/** RPC's | Ongoing | | Information that is being gathered for comprehensive planning is also relevant and useful in mitigation planning | This action broadens exposure to hazard mitigation principles and programs. | Status unchanged. |
| 4.10 – Promote hazard mitigation planning by including information in the directory for comprehensive planning. | **M** | **DOA** / WEM, RPC's | On hold. | | This directory is a planning tool that contains resource information for local government agencies in developing their Comprehensive and/or Hazard Mitigation Plans. | This action broadens exposure to hazard mitigation principles and programs. | There are no plans to update October 2003 version of directory for comprehensive planning. |
| 4.11 – Promote hazard mitigation planning in cooperation with the Comprehensive Planning Grant Administrator. Workshops are held in August & September on | **M** | **DOA** / WEM | Annually | | Hazard Mitigation and Comprehensive planning principles compliments each other. | This action broadens exposure to hazard mitigation principles and programs. | DOA holds workshops on how to apply for a comprehensive planning grant in August and September. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| how to apply for a comp. planning grant. | | | | | | | |
| 4.12 – Provide a web link from the DOA website to a WEM website to access information on hazard mitigation planning. | **H** | **DOA** | Completed | | The internet is a key source for spreading information to the multitudes. | This action broadens exposure to hazard mitigation principles and programs. | Completed |
| 4.13 – Invite WEM staff to participate in the State Agency Resource Working Group (SARWG). | **H** | **DOA** / WEM | SARWG in inactive | | Proper land use management will help reduce damages. | Promotion of proper land use measures is one element of a mitigation strategy and can save lives. | SARWG is not active. Members continue to communicate via email to promote comp. and mitigation planning. |
| 4.14 – Encourage County EMDs to work with Local Emergency Planning Committees (LEPC) to participate in local hazard mitigation planning and disaster resistance activities. | **M** | **WEM** | Ongoing | | Participation in planning by the LEPC's will improve coordination between response and planning emergency functions. | Mitigation planning at the local level is required by statute. | Status unchanged. |
| 4.15 – Promote mandatory disclosure of hazard-prone property to buyers. Encouraged through workshops & outreach. | L | **DNR** | Ongoing | | This action assists citizens in better managing their risks prior to making a large investment in property. | Homeowners can make informed decisions about mitigation when they understand that they are at risk. Public education is part of the mitigation strategy. | Ongoing through CRS; encouraged through workshops and outreach efforts. |
| 4.16 – Encourage sewer utilities to provide back-up power sources at lift stations to prevent sewer back flow flooding. | L | **DNR** | Ongoing | | A back-up power source will maintain during a storm event and allow lift stations sustain pumping operations. | Consistent power operations will help in reducing damage to facilities and sewer systems. | Status unchanged. |
| 4.17 – Encourage sewer | L | **DNR / WEM** | Ongoing | | Local level | Minimizing damage and | Status |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| utilities to provide public information to its customers regarding sewer back flow prevention to minimize basement flooding. | | | | | involvement in a pre-disaster setting will further educate the public and reduce damage. | public education is part of the mitigation strategy. | unchanged. |
| 4.18 – In a pre-disaster setting, coordinate with FEMA and appropriate state agencies to recognize 406 mitigation opportunities. | **M** | **WEM**<br>**FEMA /**<br>DOT<br>Comm<br>DNR<br>PSC | Ongoing | | Damaged public facilities and infrastructure can sustain major damage during a disaster event. Pre-planning and identifying known areas will assist in quicker and more sustainable recovery. Additionally, codes and standards can be reviewed and refined. | Local exposure to mitigation programs and assisting local jurisdictions to prepare and plan are part of the overall mitigation strategy. | Status unchanged. Process varies from disaster to disaster and from FCO to FCO. FEMA has established a workgroup that is addressing this issue nationally. |
| 4.19 – Promote the concept of the Firewise communities USA statewide. | L | **WEM / DNR**<br>FEMA, USDA<br>State Fire Chiefs Assn. | 2010 | | There are many benefits to advancing the Firewise community concept, including protection against wildfires and sustaining an ecosystem balance. | This goal encourages action that minimizes home loss to wildfire and protects lives. | Fire risk assessment included in the 2008 State Plan Update. |
| 4.20 – Promote the NFIP Community Rating System to local governments. | **M** | **WEM,DNR /**<br>FEMA<br>WAFSCM<br>ASFPM | Ongoing | | A high CRS rating will enable the citizens of that locality, reduced | This action reduces flood risk by rewarding the communities through lower premiums for their | DNR sends out a CRS invitation letter to Wisconsin |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | premiums and other benefits. | residents when they meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. | communities once a year. The City of Evansville joined the project in 2008. |
| 4.21 – Annually update the Green Book to assist in the environmental review process for hazard mitigation projects. | **M** | **WEM /** WHMT FEMA | Ongoing | | The Green Book facilitates the project development and protects the environment. | This resource guide is used by Federal, state and local governments to educate on environmental laws and policy requirements. | FEMA has reduced the Green Book to a Green Sheet that contains important state and federal regulatory information. This document was updated for DR-1768. |
| 4.22 – Attend training and continue to build expertise in performing Benefit Costs Analyses which is a major component of mitigation grant applications. | **H** | **WEM /** FEMA | Ongoing | | Federal funding requires that grant applications must have an acceptable BCA. One must understand how they work to submit an approvable application. | BCA is a required element of applying for mitigation funds. | In 2007, WEM hosted a BCA workshop. In Fall 2008, FEMA released the new BCAR. WEM mitigation staff will need to get fully trained and versed in the new software. |
| 4.23 – Provide training and technical assistance to | **M** | **WEM /** FEMA | Ongoing | | Many grant applications are now submitted through e- | The e-grant process will be a required element for applying for FEMA's mitigation funds. | Status unchanged. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| local governments and tribal organizations on FEMA's e-Grants system. | | | | | grants. Applicants must have a working knowledge of this method. | | Provided technical assistance in the FFY05, 06, 07, 08 and 09 funding cycles. |
| 4.24 – WEM staff will be available to make mitigation presentations at selected conferences and workshops attended by CDBG and HOME grantees.<br>Reference Action 2.1 | H | **Comm-DHCD** / WEM | Ongoing | | Those grantees receiving housing and community development rehabilitation assistance can benefit from disaster resistance concepts and materials. | Conferences, workshops, etc. is a way to reach multiple agencies and citizens to advance mitigation knowledge. | Status unchanged. |
| 4.25 – Work with WI Land Council through SARWG exploring a hazard mitigation planning element to the State's Comprehensive Planning Legislation. | **M** | **WEM /** DOA | Land Council was sunset in 2005 & SAWRG is inactive. | | Integrating the mitigation concept in the State's Comprehensive Planning Legislation is furthering the awareness and education of mitigation | Wisconsin citizens and businesses will benefit from state mitigation planning efforts in lessening damage and economic disruption due to disasters. | Land Council was sunset in 2005 & SAWRG is inactive. |
| 4.26 – Work with the WI Land Council through the SARWG to provide information and guidance on all hazards mitigation planning and to coordinate with the State Comprehensive Planning. | **M** | **WEM /** DOA, RPC's | Land Council was sunset in 2005 and SAWRG is inactive. | | Integrating the mitigation concept in the State's Comprehensive Planning Legislation is furthering the awareness and education of mitigation | Providing mitigation guidance and resource materials will help planners to incorporate planning for land use activities in vulnerable areas. | Land Council was sunset in 2005 & SAWRG is inactive. WEM provided information to DOA regarding hazard mitigation planning. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4.27 – Work with the municipal fire departments to collect all fire incidents occurring within the state. Train fire departments on the use of the National Fire Incident Reporting System program that can be directly uploaded to FEMA. Data collected is used to develop new rules and laws for fire safe construction. | H | **Comm- Safety & Buildings**, State Fire Chiefs Association | Ongoing | | | The need for fire data was recognized in 1974 when the Fire Prevention and Control Act authorized the US Fire Administration to gather and analyze fire data relevant to the nation's fire problem. The USFA, through a contract with NFPA in the mid 1970's, established the first National Fire Incident Reporting System. The National Fire Incident Reporting system commonly known as NFIRS is the largest source of fire data in the world. | Ongoing. 2007 Wisconsin Act 75 requires fire departments in WI to report specific building fire incident information within 60 days to the DOC through use of the National Fire Incident Reporting System. |
| 4.28 – Provide requirements and guidance to all fire departments within the state to guarantee existing commercial buildings are inspected at least once a year. The routine inspections are accomplished to ensure the existing building is still meeting its design specific building code requirements. | H | **Comm- Safety & Buildings** | Ongoing | | | The chief of every fire department shall be responsible for having all public buildings and places of employment within the territory of the fire department inspected for the purpose of ascertaining and causing to be corrected any conditions liable to cause fire, or any violations of any law or ordinance relating to fire hazards or to the prevention of fires. | Ongoing |
| 4.29 – Provide for Administrative Code changes to adopt the 2005 edition of the National Electrical Code. The rule will affect any building or structure within the state that the installation of | H | **Comm-** Safety & Buildings | Ongoing | | | The state electrical code has adopted the NEC by reference since 1972. Currently, the 2002 edition of the NEC is adopted in chapter Comm 16. This rule project will update the state code to the 2005 edition of the NEC, while evaluating the electrical requirements in chapter Comm16 that add to and modify | Completed. Comm-Safety and Buildings initially adopted the 2005 code and now are adopting the 2008 with estimated |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| electrical wiring will be undertaken. The department estimates that it will take approximately 400 hours to develop this rule. | | | | | | the requirements in chapter Comm 16. The alternative of not updating chapter Comm 16 would result in the state electrical code not being up-to-date with current nationally recognized standards for the design, installation and operation of electrical conductors and equipment in all buildings and structures. | effective date of January 2009. |
| **Goal #5 – Improve "disaster resistancy" in new, expanded or renovated construction for buildings, structures, and infrastructure.** | | | | | | | |
| 5.1 – Incorporate mitigation practices into DOC's housing rehabilitation programs. | | **Comm-DHCD** / WEM | Ongoing | | CDBG eligibility further defines criteria to include flood mitigation, floodproofing and wind practices in order to protect more citizens. | Maintaining consistency within state and federal programs regarding planning, preparation and mitigation is evidence of cooperation and coordination. | Status unchanged. |
| 5.2 – Support the adoption of the current State commercial model building code to support disaster-resistant construction. | H | **Comm-DBS/** All agencies supporting building code improve-ments | Adopted July 2003 | | Development and enforcement of building codes promote good mitigation. | Constantly looking at ways to improve and incorporate mitigation actions in our local/state government legislation is a key to successful mitigation. | Status unchanged. |
| 5.3 – Address the disaster resistance of manufactured homes by reviewing tie-down standards, installation standards and inspection standards. | M | **Comm-** Safety & Buildings | Ongoing | | Working with agencies to promote federal law in the safety of manufactured homes will save lives. | Constantly looking at ways to improve and incorporate mitigation actions in our local/state government legislation is a key to successful mitigation. | Status unchanged. |
| 5.4 – DOC will not approve | H | **Comm-DHCD/** | Ongoing | | When State and | Constantly looking at ways | Status |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| grants or loans to communities when constructing critical facilities in floodplains or when they do not address local hazard risks. | | DNR<br>WEM | | | local grants and loans finance the construction of community facilities and infrastructure, flood risk mitigation standards should be a key component | to improve and incorporate mitigation actions in our local/state government legislation is a key to successful mitigation. | unchanged. |
| 5.5 – Encourage telecommunication utilities to avoid construction of utilities in floodplain/high risk areas. | M | **PSCW** | Current and Ongoing | | The Public Service Commission of Wisconsin (PSCW) will work with the WI State Telecommunications Association (WSTA) to alert telecommunications utilities to the hazards of construction in the floodplain. | Continuing oversight will help to keep telecommunications utilities focused on mitigation and will minimize service disruptions. | Status unchanged. |
| 5.6 – Perform hazard mitigation reviews for electric, natural gas and water utility construction projects. | H | **PSCW** | Current and Ongoing | | Reviews and approvals of utility construction projects include a floodplain impact and mitigation determination. | Continuing oversight will help to keep utilities focused on mitigation and will minimize service disruptions. | Status unchanged. |
| 5.7 – Continue to administer the HMGP, FMA, PDM, RFC and SRL programs by approving grants for long-term, permanent, environmentally sound and cost-effective mitigation | **H** | **WEM** / Agencies represented by WHMT team members | Current and Ongoing | | These eligible & approved projects eliminate or reduce damage from disaster and protect lives and property. | Key element to the mitigation strategy | In addition to administering HMGP, PDM, and FMA; Repetitive Flood Claims and Severe Repetitive Loss will be included. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| measures. | | | | | | | |
| 5.8 – Encourage safe rooms in new residential construction. | **M** | **Comm-DHCD** / WEM | Ongoing | | A proven action in the path of forceful winds that saves lives. | Safe rooms are a proven technique to saving lives during extreme wind events. | Status unchanged. |
| 5.9 – Enforce the requirement to inspect new structures / buildings to ensure compliance with state building codes. | **H** | **Comm-Safety & Buildings** | Ongoing | | Building inspection is a required step in permitting new or re-hab construction and protects the consumer. Adding an element of wind-strengthening construction or flood proofing construction can ensure safety performance and mitigation standards are being met. | These safety inspections will promote disaster resistance and ensure public safety. | Status unchanged. |
| 5.10 – Create a dynamic tracking system for all Privately Owned Wastewater Treatment Systems (POWTS) | **M** | **Comm-Safety & Buildings** | Ongoing | | This would ensure information on all existing POWTS systems are collected and all future maintenance actions on these systems are tracked. WI Act 347 requires the development of such a database. | Collecting the data and maintaining this system will gently aid in determining the status of POWTS systems during the reconstruction period after flood damage has occurred. | New action item. |
| 5.11 – Require carbon | **M** | **Comm-Safety** | Ongoing | | 2007 WI Act 205 | This will protect occupants | New action item. |



Section TOC

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| monoxide detectors in most existing residential occupancies, other than 1- and 2- family housing with fuel burning appliances. | | **& Buildings** | | | requires rules to be developed protecting occupants of most residential occupancies. This ensures residential occupancies are protected to alert occupants of unseen carbon monoxide leaks within their fuel burning heating appliances. | of residential occupancies against possible carbon monoxide leaks during a recover period after a natural or human made disaster. | |
| 5.12 – Work to develop code language adopting the 2009 editions of the national model codes from the International Code Council and the National Fire Protection Association. | **M** | **Comm-Safety & Buildings** | Expected code effective date is Spring of 2010. | | Initiative will ensure all commercial buildings within the state are constructed and maintained in accordance with the most recent national standards ensuring a higher level of safety for all building occupants. | Keep current with national building trends and new technology to assist with building survivability in the event of a natural or human made disaster. | New action item. |
| 5.13 – Require the inspection of all electrical construction within commercial buildings. | **M** | **Comm-Safety & Buildings** | Expected code effective date is January of 2010. | | 2007 Wisconsin Act 63 requires electrical wiring to be inspected in all building construction, including public buildings, commercial properties, and farms. Municipalities may continue to opt to | Ensuring all electrical wiring within commercial structures meet the minimum national code requirements to assist with building survivability in the event of a natural or human made disaster. | New action item. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | be responsible for inspections in their jurisdictions. The state will provide for electrical inspections in municipalities that do not conduct such inspections. | | |
| 5.14 – Require the statewide licensing of all electrical construction workers within the State of Wisconsin | **M** | **Comm- Safety & Buildings** | The new system is scheduled for April 1, 2013 | | 2007 Wisconsin Act 63 states that there will be a new statewide licensing system for electrical work-beginning electrician, electrical contractors, master electricians, and journeymen electricians. Previously, WI law did not require a person to be licensed or certified b either the state or local government. | Ensuring all electrical wiring is conducted by people holding a license and have demonstrated a level of competency. This will aid in the sustainability of built structures. | New action item. |
| 5.15 – Participate at the national level on code development related to the creation of the National Fire Alarm Code. | **M** | **Comm-Safety & Buildings** | Ongoing | | The National Fire Protection Association is drafting a new chapter for the 2010 Fire Alarm Code to aid in emergency communications in | Staff assigned to a committee on a new chapter of the National Fire Alarm Code that established minimum standards for the installation of mass notification systems. The systems are for the protection of life by indicating | New action item. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | the event of any natural or human made disaster. Staff were selected to this national committee due to current efforts taking place in Wisconsin to implement some of the related technologies. | the existence of an emergency situation and communicating information necessary to facilitate an appropriate response and action. | |
| 5.16 – Consider the adoption of the International Residential Code written by the International Code Council. | **M** | **Comm-Safety & Buildings** | Ongoing | | Over 40 states and hundreds of municipalities across the country use the International Residential Code as a standard for building one & two family homes. Currently the state drafts its own code for these types of occupancies. This change would align the State of Wisconsin with the national standards and most recent initiatives used for the safety of home owners. | Use of the International Residential Code would improve the level of construction of all one and two family homes within Wisconsin. This standard is a proven national minimum enhancing survivability of structures and the life safety of occupants. | New action item. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 5.17 – Maintain the Wisconsin Recovery Task Force as a standing task force for disaster recovery with defined expectations of duties assigned for each subcommittee chair. | **H** | **WEM** Members of the Wisconsin Recovery Task Foce | Ongoing | | The Wisconsin Recovery Task Force was established after the 2008 flooding disaster declaration to coordinate the recovery activities. Six subcommittees were established with an identified chair. The task force subcommittee chairs met bi-weekly. It is recommended that the task force continue and develop pre-disaster policies, standard operating procedures for the operation of the task force, subcommittees and assessment protocols. | It is recommended that semi-annual meetings be held to ensure preparedness and facilitate effective operational readiness of the task force following a disaster declaration. | New action item. |



Section TOC

## TABLE 5.5 – ACTION AGENCY CROSS REFRENCE

| LEAD AGENCY | ACTION NUMBER | SUPPORT AGENCY / IES | SCHEDULE FOR IMPLEMENTATION | Status of Action: Completed: | Revised: | Deleted: | New: |
|---|---|---|---|---|---|---|---|
| **ALL** | 1.9 | -- | Ongoing | | | | |
| | 2.11 | -- | Ongoing | | | | |
| Dept. of Agriculture, Trade and Consumer Protection (DATCP) | 1.2 | **Leads:** USDA-FSA, NRCS, LCD, | Began in 2001 – sign up period ends in October 2012. | | X | | |
| Dept. of Administration (DOA) | 3.1 | WEM, DNR, SEA GRANTS INSTITUTE | Ongoing | | X | | |
| | 3.16/**WEM** | | Starting in 2007 and ongoing. | | | | X |
| | 4.9 | RPC's | Annual update to be provided | | X | | |
| | 4.10 | WEM, RPC's | No plans to update 2003 version of directory. | | X | | |
| | 4.11 | WEM | Fall workshops | | X | | |
| | 4.12 | -- | Completed | X | | | |
| | 4.13 | WEM, DMA | SAWRG is inactive. | | X | | |
| DOA-Wisconsin Coastal Management Program (WCMP) | 2.2 | WEM, DNR | Ongoing | | X | | |
| | 3.2 | WEM, DNR, UW-SEA GRANT INSTITUTE | Ongoing. | | X | | |
| | 3.12 | SEWRPC, DNR | Completed | X | | | |
| | 3.19 | UW-Sea Grants, DNR | Ongoing | | | | X |
| | 4.1 | WEM, DNR, UW-SEA GRANT, INSTITUTE, RPC's | Ongoing | | X | | |
| Dept. of Commerce (Comm)-Division of | 4.27 | State Fire Chiefs Association | Ongoing | | | | |



Section TOC

| LEAD AGENCY | ACTION NUMBER | SUPPORT AGENCY / IES | SCHEDULE FOR IMPLEMENTATION | Status of Action: Completed: | Revised: | Deleted: | New: |
|---|---|---|---|---|---|---|---|
| Building and Safety (DBS) | | | | | | | |
| | 4.28 | State Fire Chiefs Association | Ongoing | | | | |
| | 4.29 | -- | Ongoing | X | | | |
| | 5.2 | ALL agencies supporting bldg codes | Adopted July 1, 2003 | | | | |
| | 5.3 | -- | Ongoing | | | | |
| | 5.9 | -- | Ongoing | | | | |
| | 5.10 | -- | Ongoing | | | | X |
| | 5.11 | -- | Ongoing | | | | X |
| | 5.12 | -- | Expected code effective date Spring 2010 | | | | X |
| | 5.13 | -- | Expected code effective date Spring 2010 | | | | X |
| | 5.14 | -- | The new system is scheduled for April 1, 2013 | | | | X |
| | 5.15 | -- | Ongoing | | | | X |
| | 5.16 | -- | Ongoing | | | | X |
| Comm-Division of Housing and Community Development (DHCD) | 2.1 | WEM | Ongoing | | | | |
| | 4.24 | WEM | Ongoing | | | | |
| | 5.1 | WEM | Ongoing | | | | |
| | 5.4 | DNR, WEM | Ongoing | | | | |
| | 5.8 | WEM | Ongoing | | | | |
| Comm-Division of Business Development (DBD) | 2.13 | -- | Ongoing | | | | |
| Dept. of Health and Family Services (DHFS) | 1.11 | -- | Ongoing | | | | |



Section TOC

| LEAD AGENCY | ACTION NUMBER | SUPPORT AGENCY / IES | SCHEDULE FOR IMPLEMENTATION | Status of Action: Completed: | Revised: | Deleted: | New: |
|---|---|---|---|---|---|---|---|
| | 2.3 | WEM | Ongoing | | | | |
| | 2.4 | WEM | Ongoing | | | | |
| | 3.3 | -- | Ongoing | | | | |
| Dept. of Natural Resources (DNR) | 1.6 | -- | Ongoing | | | | |
| | 1.10 | WAFSCM, WEM | 2005 and ongoing | | | | |
| | 2.5 | WCMP, WEM, SEA GRANTS INST. | Ongoing | | X | | |
| | 2.10 | WEM, OCI, INSURANCE INDUSTRY | Ongoing | | X | | |
| | 4.2 | WEM | Ongoing | | X | | |
| | 4.3 | WCMP, WEM, RPC's | Ongoing | | X | | |
| | 4.15 | -- | Ongoing | | X | | |
| | 4.16 | -- | Ongoing | | | | |
| | 4.17/ **WEM** | | Ongoing | | | | |
| | 4.19/ **WEM** | FEMA, USDA, FIRE CHIEFS ASSN. | 2010 | | X | | |
| | 4.20/ **WEM** | FEMA, WAFSCM, ASFPM | Beginning in 2005 | | | | |
| Dept. of Transportation (DOT) | 1.7 | -- | 2005-2006 | | | X | |
| | 4.4 | WEM, FEMA | On permanent hold. | | X | | |
| Land Conservation District (LCD) | 1.2 | **Leads**: DATCP, USDA-FSA, NRCS | Began in 2001 – sign up period ends in October 2012 | | | | |
| Natural Resource Conservation Service (NRCS) | 1.2 | **Leads:** LCD, DATCP, USDA-FSA | Began in 2001 – sign up period ends in October 2012 | | X | | |
| Office of the Commissioner of Insurance (OCI) | 4.5 | -- | Annually | | | | |
| Public Service Commission of Wisconsin (PSCW) | 2.6 | -- | Ongoing | | | | |
| | 5.5 | -- | Ongoing | | | | |

| LEAD AGENCY | ACTION NUMBER | SUPPORT AGENCY / IES | SCHEDULE FOR IMPLEMENTATION | Status of Action: Completed: | Revised: | Deleted: | New: |
|---|---|---|---|---|---|---|---|
| | 5.6 | -- | Ongoing | | | | |
| USDA-Farm Service Agency (FSA) | 1.2 | **Leads:** LCD, DATCP, NRCS | Began in 2001 – sign up period ends in October 2012 | | X | | |
| UW-Ext (Cooperative Extension Service) | 1.8/**WEM** | | Ongoing | | | | |
| | 3.6 | WEM, WCMP, DOA, DNR | Ongoing | | | | |
| UW-Sea Grants Institute | | Supporting agency | | | | | |
| Wisconsin Emergency Management (WEM) | 1.1 | WHMT, RPC's | Ongoing | | X | | |
| | 1.3 | RPC's | Ongoing | | | | |
| | 1.4 | -- | Ongoing | | | | |
| | 1.5 | -- | Ongoing | | | | |
| | 1.8 | UW-EXT | Ongoing | | | | |
| | 2.7 | DNR, DOA, WCMP, DATCP, COMM, RPC's, OCI | Ongoing | | | | |
| | 2.8 | DNR, UW-EXT, WCMP, RPC's | Ongoing | | | | |
| | 2.9 | RPC's | Ongoing | | | | |
| | 2.12 | RPC's | Beginning in 2005 and annually thereafter | | | | |
| | 2.14 | -- | Spring 2004 (website) and interactive in 2005 and ongoing | | | | |
| | 2.15 | FEMA | Ongoing | | | | |
| | 3.5 | WHS, DNR, FEMA | 6 yr. plan update – 2010 or before | | | | |
| | 3.7 | RPC's | 2001 and ongoing | | | | |
| | 3.8 | RPC's | Ongoing | | | | |
| | 3.9 | DNR, RPC's | Beginning in 2004 and ongoing | | | | |
| | 3.10 | WHMT | Ongoing – to be completed for the 3 yr update | | X | | |

| LEAD AGENCY | ACTION NUMBER | SUPPORT AGENCY / IES | SCHEDULE FOR IMPLEMENTATION | Status of Action: Completed: | Revised: | Deleted: | New: |
|---|---|---|---|---|---|---|---|
| | 3.11 | WHMT | Ongoing | | | | |
| | 3.13 | FEMA, RPC's | 3 yr update – 2007 | X | | | |
| | 3.14 | WHMT, RPC's | 2004 and ongoing | X | | | |
| | 3.15 | WHMT | Ongoing | X | | | |
| | 3.16/**DOA** | | Starting in 2007 and ongoing. | | | | X |
| | 3.17 | Rural Cooperatives | 2009 | | | | X |
| | 3.18 | -- | Ongoing | | | | X |
| | 4.7 | -- | Ongoing | | | | |
| | 4.8 | -- | Extend invitation by January 1, 2004 | X | | | |
| | 4.14 | -- | Ongoing | | | | |
| | 4.17/**DNR** | DNR | Ongoing | | | | |
| | 4.18/ **FEMA** | DOT, COMM, DNR, PSC | Ongoing | | | | |
| | 4.19/ **DNR** | FEMA, USDA, FIRE CHIEF ASSN. | 2010 | | X | | |
| | 4.20/ **DNR** | FEMA, WAFSCM, ASFPM | Beginning in 2005 | | | | |
| | 4.21 | SHMT, FEMA | Ongoing | | | | |
| | 4.22 | FEMA | Ongoing | | | | |
| | 4.23 | FEMA | Ongoing | | | | |
| | 4.25 | DOA | Land Council was sunset in 2005 & SARWG is inactive. | | X | | |
| | 4.26 | DOA, RPC's | Land Council was sunset in 2005 & SARWG is inactive. | | X | | |
| | 5.7 | WHMT members | Ongoing | | X | | |
| | 5.17 | Members of the WI Recovery Task Force | Ongoing | | | | X |
| Wisconsin Historical Society (WHS) | 3.4 | DOA, DNR | Ongoing | | | | |
| | 4.6 | -- | Ongoing | | | | |



Section TOC

# SECTION 6
# COORDINATION OF LOCAL MITIGATION PLANNING

## Table of Contents

# SECTION 6
# COORDINATION OF LOCAL MITIGATION PLANNING

## 6.1 LOCAL FUNDING AND TECHNICAL ASSISTANCE

The Mitigation staff of the Wisconsin Emergency Management (WEM) has worked with counties and local jurisdictions to encourage and support all hazard mitigation planning since publication of the hazard mitigation planning regulations (44 CFR Parts 201 and 206) in the Federal Register dated February 26, 2002. On July 1, 2008, the Final Rule was published to include local mitigation plan update requirements and the Tribal Multi-Hazard Mitigation Planning Guidance (44 CFR 201.7). The updated guidance was designed for three major objectives:

1. To help local jurisdictions develop and adopt new mitigation plans or revise existing mitigation plans to meet the requirements of 44 CFR Part 201;
2. To help Federal and State reviewers evaluate mitigation plans from different jurisdictions in a fair and consistent manner; and
3. To help local jurisdictions conduct comprehensive reviews and prepare updates to their plans to meet the requirements of 44 CFR Part 201.

Prior to the publication of these regulations in 2002, WEM required subgrantees of the Hazard Mitigation Grant Program (HMGP) to develop a hazard mitigation plan. Since there were no specific planning regulations, WEM accepted plans as submitted, but provided comments and suggestions to improve the plan. Most plans primarily addressed the flood hazard. Since the plans were completed prior to 2002, they did not meet the planning requirements. Many of these communities have subsequently received planning grant funds and have, or are now developing, all-hazard mitigation plans to meet the new requirements. On October 31, 2007, FEMA published amendments to the 44 CFR Part 201 at 72 Federal Register 61720 to incorporate mitigation planning requirements for the Flood Mitigation Assistance program. The amendments impacted 44 CFR §201.6, Local Mitigation Plans, as follows:

1. Combined the Local Mitigation Plan requirement for all hazard mitigation assistance programs under 44 CFR §201.6 to include the FMA as well as the HMGP, PDM and SRL programs, thus eliminating duplicative mitigation plan regulations;
2. Incorporated the requirement for communities with National Flood Insurance Program (NFIP) insured properties that have been repetitively damaged from floods to address such properties in their risk assessment and mitigation strategy; and,
3. Incorporated the requirement for communities that participate in the NFIP to include a strategy for continued compliance with the NFIP.

As of October 1, 2008, these three amendments must be included in the DMA2K plans to be FEMA approved.

Up until 2002 when the planning regulations were published, the only funds available for mitigation planning were through the Flood Mitigation Assistance (FMA) Program and were limited to addressing only flood hazards in a community, not an all-hazards approach. Between FFY96 and 2007, WEM received $118,931 for the development of comprehensive local flood mitigation plans. Planning Grants were awarded to 13 jurisdictions during this timeframe and have been formally approved by FEMA.

To assist communities in developing flood mitigation plans, in 1995 the Department of Natural Resources developed the *Wisconsin Community Flood Mitigation Planning Guidebook.* In addition to the guidebook, WEM developed additional planning guidance to meet FMA planning requirements. The guidebook and guidance were provided to assist local governments in developing local flood mitigation plans and focused on a planning process. WEM and WDNR conducted several flood mitigation planning workshops throughout the state for those communities interested in developing plans.

The City of Darlington was the first community in the State to have an approved flood mitigation plan that met the FMA planning requirements. The plan was funded with regional hazard mitigation assistance and local funds, not FMA funds.

In 2002 FEMA provided a one-time grant in the amount of $50,000 to the states for developing a statewide strategy for the newly created Pre-Disaster Mitigation (PDM) program. The grants were to assist the states to prepare for and develop processes and procedures for implementing the program. The State used the funds to contract with the Council of Regional Planning Organizations to develop local mitigation planning guidance. Members of the Council are representatives from the nine Regional Planning Commissions throughout the State. The *Resource Guide to All Hazards Mitigation Planning in Wisconsin* was completed and has been used to provide guidance to local and tribal governments developing mitigation plans. The Guide is utilized at planning workshops and distributed upon request. The Guide can be found on WEM's website at http://emergencymanagement.wi.gov.

Wisconsin's Comprehensive Planning and Smart Growth Legislation require all local governments to develop and adopt a comprehensive land-use plan by 2010. A list of the nine planning elements and some ideas on how to integrate all hazards mitigation planning concepts into them are included in the *Resource Guide to All Hazards Mitigation Planning in Wisconsin.* In addition, where to integrate the comprehensive planning elements into the all hazards mitigation plan are also described in the guidance. Information that is collected for the comprehensive planning process can also be valuable in developing an all hazards mitigation plan.

In addition to the one-time $50,000 grant, each state was eligible for PDM funds based on one-percent of the 2002 PDM appropriation of $25 million. The remaining balance of the funding was based on each State's percentage of total US population. Based on this formula, the State received $376,883 (WEM received an additional $100,000 that was left over from other states in Region V, totaling $476,883) in federal funds. A 25% local match was required.

For the FFY02 PDM funding cycle, Planning Grant applications were solicited statewide. Forty applications were received totaling $1,765,185.51 with $635,844 available. Thirty of the plans were for countywide plans, nine single jurisdictions and one for a tribal government. (Two tribal governments applied directly to FEMA for planning grant funds.)

Each application was reviewed, scored, ranked and prioritized. Grant selection was based on the following strategy:

- Those that already had an approved flood hazard mitigation plan
- Those that were in the process of developing a flood mitigation plan either through FMA or because of a HMGP grant condition
- Those that had to develop a plan due to state HMGP grant condition
- With remaining funds, try to fund at least one application in each WEM region considering risk and past disaster history

Based on the above strategy, funds were awarded to thirteen counties and five jurisdictions for the development of all hazard mitigation plans. In addition, FEMA provided planning grants directly to three of the states Tribal governments.

The 2003 PDM budget provided $150 million nationwide. FEMA provided $248,375 in federal funds to each state. Applications were again solicited statewide. Twelve applications were received totaling $545,000 with $331,167 available. Ten applications were for countywide plans and two tribal governments. The funds were used to award planning grants to another seven counties for the development of mitigation plans.

The applications were reviewed, scored, ranked and prioritized. Grant selection was based on the following criteria:

- Those that applied for planning grant funds in FFY02 and were denied due to lack of funds
- Those located along the Mississippi or Wisconsin Rivers
- Number of repetitive loss properties
- Past disaster history

The remaining PDM appropriation of approximately $130 million was made available to initiate a national PDM competitive grant program for pre-disaster mitigation activities. The intent of the PDM-C is to provide a consistent source of funding to state, tribal and local governments for pre-disaster mitigation planning and projects. The five previously unfunded applications were submitted through the PDM Competitive Grant process and subsequently were approved funding (three counties and two Tribal governments). In addition, one tribal organization applied as a grantee to FEMA and received funding.

During the 2005 PDM cycle, 16 planning grants were funded for the development of a hazard mitigation plan. Most of these PDM FFY05 plans have been completed and forwarded down to FEMA for review. In addition, several of these local mitigation plans have been FEMA approved within the last several months. The 2006 PDM cycle

allowed for the funding of three hazard mitigation plans. All three of these plans are nearly complete and will be forwarded down to FEMA in the next couple of months. The 2007 PDM cycle saw the first Wisconsin planning grant approved for the update of an all-hazards mitigation plan. Dane County is looking to include all 60 of its jurisdictions in the plan update. Additionally, UW-River Falls was given a planning grant to develop an all-hazards mitigation plan for the campus. In addition to the plan update and the university plan, five counties applied for grants to help them develop the hazard mitigation plan. The 2008 PDM funding cycle was dominated by applications for plan updates. Seven planning grants were approved for plans that are scheduled to expire in either 2009 or 2010.

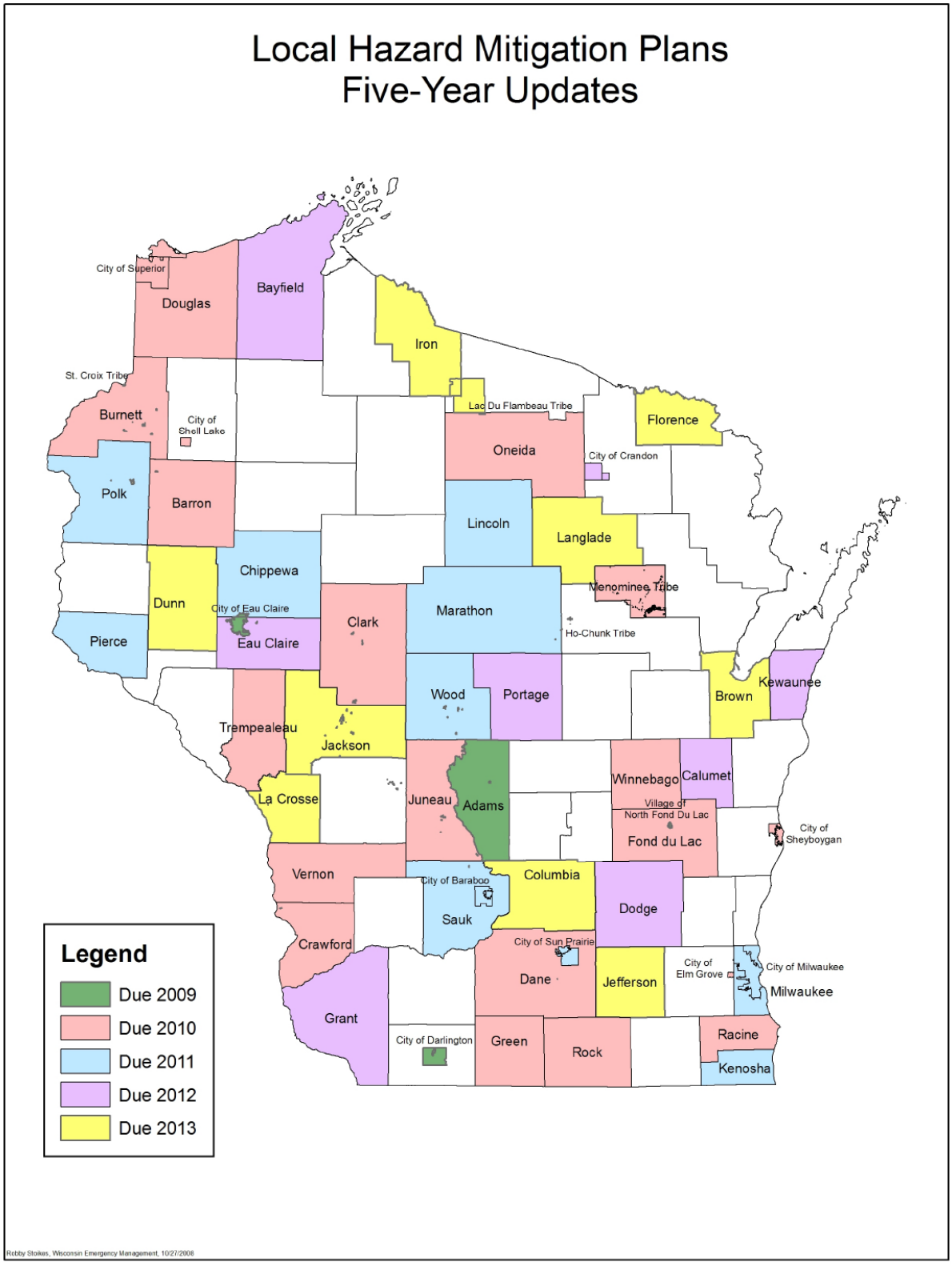
The State of Wisconsin also benefitted from the 2005 and 2007 PDM programs. WEM received a FFY05 Planning Grant to assist with the state structure inventory. WEM has successfully hired a staff member who has started this huge endeavor. In addition, WEM received a FFY07 PDM Planning Grant to assist in the three-year State plan update. However, most of the FFY07 Planning funds were used to do a statewide HAZUS analysis for all counties. WEM contracted with University of Wisconsin Land Information and Computer Graphics Facility (LICGF) and the Polis Center to complete a statewide flood risk assessment. The results of that risk assessment can be found in Section 4 of this plan. Each of the 72 Wisconsin counties will receive their flood risk assessment that they can incorporate into their own hazard mitigation plans.

As a result of the PDM funds that have been made available to the State, 64 all hazard mitigation plans are complete or under development (47 counties, 8 county plan updates, 5 jurisdictions, 3 Tribal governments, and 1 university). In addition, 5 Tribal governments have received PDM grants directly from FEMA. DMA2K also authorized 7% of HMGP funds to be available to states to be used for developing mitigation plans. Based on the above strategy and the amount of funding availability, WEM has also utilized the 7% planning funds available under federal declarations 1332-DR, 1369-DR, 1429-DR, 1432-DR, 1526-DR and 1719-DR to fund another 18 plans (11 counties, 2 county plan updates, and 5 single jurisdictions) have been funded. Two (2) more countywide plans have been developed under the Project Impact initiative. Total planning efforts involves 60 counties, 10 county plan updates, 11 single jurisdictions, 8 Tribal governments, and 1 university for a total of 90 plans. The federal, state, and local or Tribal investment in this planning effort is over $4 million. These plans represent 83% of the counties. Map 6.1-2 provides a synopsis of the status of local hazard mitigation planning grants from 2002-2008 in the State. Map 6.1-3 shows the plans that were approved in 2005 and those in 2008. Map 6.1-4 indicates the planning status of all counties in Wisconsin. All three of these maps can be found at the end of Section 6.1.

In 2008, most communities have gone through the initial plan development phase and several communities are starting to submit grants for five-year plan updates. In addition, WEM gives priority consideration to those communities that have yet to develop a plan and/or are in a county included in the most recent federal disaster declaration. In subsequent years, it will become an important and more difficult task to monitor the local plan expiration dates. This must be done to ensure that mitigation projects do not lose their funding mid-way through the project in the event a plan lapses.

After the 2007 flooding event, WEM received two HMGP planning grant applications from counties for updates to their hazard mitigation plans. WEM successfully funded both grants; however, both the counties were severely affected by the June 2008 flooding event. In fact, all 14 counties declared in the 2007 flooding event, were declared again for the 2008 flooding event. WEM has received 4 HMGP planning grant applications from the disaster declared counties. Three applications were for plan updates and one application was for the creation of a new hazard mitigation plan. WEM also suggested to several other counties in the disaster declared area to apply for grants to update their hazard mitigation plan. There are several communities within the counties interested in participating in acquisition/demolition (buyout) projects and WEM is concerned that their plans will lapse in either 2009 or 2010. Priority will be given to these counties if they apply for grant funds and WEM will monitor the situation. WEM may not be able to award the buyout grant if the county is not scheduling to update their plan. Map 6.1-1 highlights counties with approved hazard mitigation plans and the year the plans will expire.

**Map 6.1-1 Local Hazard Mitigation Plans: Five –Year Updates**






Section TOC

| Table 6.1-1 All-Hazard Mitigation Planning Efforts | | | | |
|---|---|---|---|---|
| Program | Federal Share | State Share | Local Share | TOTAL |
| PDM-FFY02 | $ 476,883 | $ 3,880 | $ 158,961 | $ 635,844 |
| PDM-FEMA Direct | $ 131,928 | | $ 43,976 | $ 175,904 |
| PDM-FFY03 | $ 248,375 | $ 8,209 | $ 74,583 | $ 298,333 |
| PDM-C FFY03 | $ 174,380 | | $ 56,610 | $ 230,900 |
| PDM-C FFY03 FEMA Direct | $ 71,295 | | $ 23,765 | $ 95,060 |
| PDM-C FFY05 | $ 798,105 | $ 42,273 | $ 218,764 | $1,064,142 |
| PDM-C FFY06 | $ 117,309 | | $ 39,103 | $ 156,412 |
| PDM-C FFY06 FEMA Direct | $ 67,500 | | $ 22,500 | $ 90,000 |
| PDM-C FFY07 | $ 749,234 | $ 100,643 | $ 199,208 | $1,049,085 |
| PDM-07 FEMA Direct | $ 110,414 | | $ 12,268 | $ 122,682 |
| PDM-C FFY08 | $ 159,017 | | $ 40,496 | $ 199,513 |
| 1332-DR | $ 10,310 | $ 1,718 | $ 1,718 | $ 13,746 |
| 1369-DR | $ 226,892 | $ 37,816 | $ 37,815 | $ 302,523 |
| 1429-DR | $ 48,656 | $ 8,109 | $ 8,109 | $ 64,875 |
| 1432-DR | $ 67,391 | $ 11,232 | $ 11,232 | $ 89,855 |
| 1526-DR | $ 93,750 | $ 15,625 | $ 15,625 | $ 125,000 |
| 1719-DR | $ 87,000 | $ 14,500 | $ 14,500 | $ 116,000 |
| 1768-DR* | $ 302,996 | $ 0,994 | $ 50,994 | $407,954 (est.) |
| TOTAL | $3,941,435 | $139,994 | $1,030,227 | $5,111,656 |

* These numbers based on applications received, not approved.
Source: WEM, 2008

In addition to the previous strategies, the ranking and prioritization of grant applications was based on the following criteria:

Budget and local share secured
Geographic and political areas to be covered in the plan
Reference maps attached
Population to be covered by the planning area
Is the community small and impoverished
Description of the hazards to be included
Description of the problems
Description of the planning process
Other community planning initiatives
Expected benefits of the planning process
Work schedule
Is the county in a disaster declared area and does not have a plan
Plan expiration date (in the case of updates)

The above strategy and criteria applies to PDM, FMA, and HMGP planning grant applications. Per FEMA guidance, FMA planning grant funds can only be used for the flood mitigation component of the all hazards mitigation plan.



**Section TOC**

Funding for mitigation planning will be limited and in some instances may not be available. Based on the plans under development the average cost per plan is $40,000. It will take approximately $500,000 to complete countywide mitigation plans for the remaining 12 counties, and $120,000 for the remaining 3 tribal governments. It is estimated that a minimum of $620,000 will be required to complete a statewide planning process. This does not include those jurisdictions that may desire to complete a mitigation plan separate from the countywide planning process. It also does not factor in the cost for meeting the five-year planning update requirement. Due to the extensive and complex requirements for the all hazard mitigation plans and the limited availability of funds as well as personnel at both the state and local levels, it is impossible to determine at what point all of the counties and tribal governments will have completed plans. The State will continue to encourage counties and tribal governments to apply for all available funding through the mitigation programs for the development and update of all hazard mitigation plans.

The mitigation plan can be a separate and stand-alone plan or part of a comprehensive plan, and can be a single jurisdiction, countywide, or other multi-jurisdictional plan such as by region or watershed. Some counties may develop their hazard mitigation plan as an annex to their Emergency Operations Plan. In Wisconsin there are 72 counties, 1,850 local jurisdictions (585 cities and villages, and 1,265 towns). Due to the large number of local jurisdictions in the state, limited funds available for planning, and personnel limitations, WEM has determined that *countywide* mitigation plans are encouraged and will receive priority in funding decisions. The countywide plan refers to the hazard mitigation plan for the county and includes all the incorporated and unincorporated areas of the county, unless otherwise stated. Any jurisdiction within a county may prepare a mitigation plan specific to that jurisdiction, separate from the countywide mitigation plan.

Draft mitigation plans along with a completed review crosswalk are submitted to WEM mitigation staff for review and comment. The review ensures that each plan meets the requirements of 44 CFR Part 201, complies with existing federal and state policies and regulations, and the plan complements the Sate of Wisconsin Hazard Mitigation Plan and State mitigation priorities. After October 1, 2008, the FMA (once a stand-alone plan) is required to be incorporated into the Hazard Mitigation Plan. The mitigation staff conduct an in-depth review of the draft plan utilizing FEMA's Local Hazard Mitigation Plan Review Crosswalk as well as Part 3 of the FEMA Multi-Hazard Mitigation Planning Guidance under DMA2K (July 2008). Based on the criteria and guidance, review comments are provided to the community. The review not only includes whether the criteria is met or not met, but also what needs to be done in order for the plan to meet the planning element. Recommendations for improvements are also included. Plans are reviewed on a first-come, first serve basis with every effort to complete the review within 45 days of submittal. Once the plan meets all of the required planning criteria, mitigation staff notifies the community to proceed with formal adoption. State mitigation staff will approve and certify that the plan meets all of the planning criteria as found in the regulations once the final plan is submitted in both paper and electronic format

along with documentation of formal adoption. The plan is then forwarded to FEMA Region V for review and formal approval.

Future mitigation projects and initiatives will be based on the local hazard mitigation plans. However, it is understood that funding, situations and priorities change. Jurisdictions will be allowed the flexibility to add and subtract established mitigation projects as priorities, funding and situations change between plan approval and the required five-year update. Because of this, the ongoing review process will be a vital part of the overall mitigation strategy for the state and local governments.

The WEM Mitigation staff provides ongoing assistance through technical assistance, providing written and oral guidance, and other information to counties and communities developing all hazard mitigation plans. Assistance provided includes:

Meeting with communities to review mitigation planning requirements.

WEM Mitigation staff conducts annual All Hazard Mitigation Planning Workshops to communities and consultants developing hazard mitigation plans as well as for those interested in finding out more regarding the overall planning process. Since the 2004 plan, workshops have been held at least annually for a total of 9 workshops and 1 tribal workshop. Information presented and distributed at the workshops is put on a CD and is provided to each individual attending the training. In addition, the information is posted to WEM's Hazard Mitigation website.

Providing written and oral guidance. All communities developing mitigation plans have been provided a copy of the The *Resource Guide to All Hazards Mitigation Planning,* the FEMA State and Local Hazard Mitigation Planning How-to-Guides developed to date, the *Multi-Hazard Mitigation Planning Guidance Under the DMA2K* (dated July 2008), as well as other planning documents.

Provide technical assistance through reviewing sections of plans under development and providing feedback.

Providing information obtained from FEMA conference calls and/or meetings.

Identifying information sources available through state and federal agencies, locally and nationally. A CD was distributed to all communities developing a plan that included information on resources and data sources with identified web links that are available through various state agencies.

Interpreting state and federal guidelines.

Distributing planning examples and making approved plans available.

Providing information via WEM's website. The website provides a "Local Hazard Mitigation" link where local governments can find the resource guides and tools for developing local all hazard mitigation plans as well as approved plans within the State.

In addition, there is a link to “State Risks and Hazard Mitigation” that includes information on the hazards that impact the state and repetitive loss information. In addition, the State Hazard Mitigation Plan can be viewed from this link.

An e-mail group list has been established so that information and guidance can be distributed on a timely basis to those developing plans.

Writing and distributing planning updates to provide local governments with the latest information, guidance and suggestions related to hazard mitigation planning. In addition to mailing the information, the information is distributed electronically so that those developing plans receive the information quickly and in a timely manner. In the case where the information was too large to submit via e-mail, the information was produced on CD and distributed.

Provides information on repetitive loss properties and NFIP claim information as well as disaster payments for the community.

Developed a Household Natural Hazards Preparedness Questionnaire that local governments could utilize and/or modify to fit their needs. The survey is also located on WEM’s website.

Information on all hazards mitigation planning is provided at other WEM training such as the New Directors Series, Introduction to Emergency Management, the Disaster Response and Recovery Course, and the Pre-Conference Training session at the Governor’s Conference. Information is also provided at local damage assessment classes.

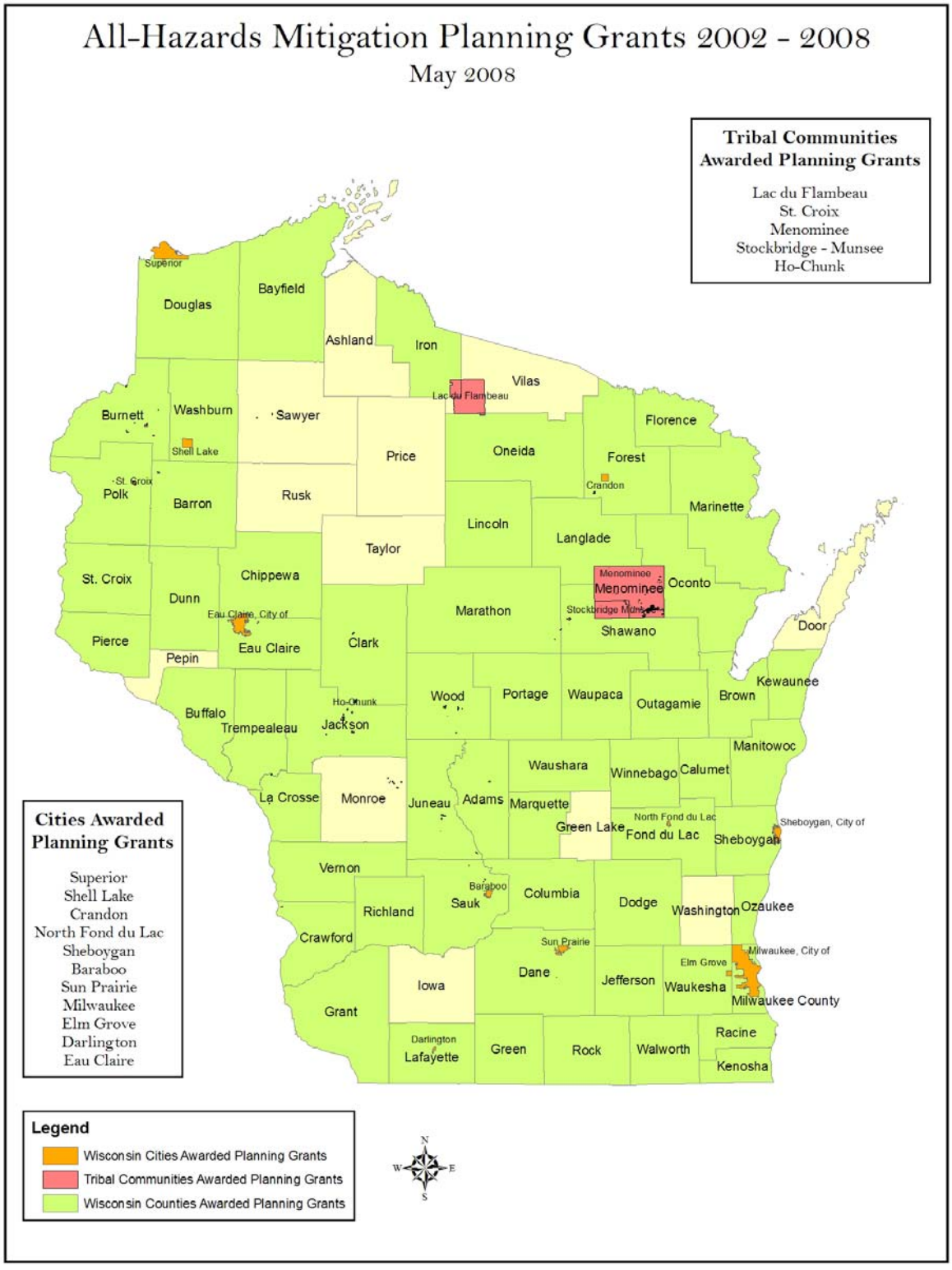
Information on all hazards mitigation program and planning is provided to the Wisconsin Association of Floodplain, Stormwater and Coastal Managers through their newsletter and annual conference.

WEM staff has created a traveling mitigation display that has been showcased at various conferences such as the Governor’s Conference on Homeland Security and Emergency Management; the Wisconsin Emergency Management Association Conference; Wisconsin Association for Floodplain, Stormwater and Coastal Managers, and other meetings. The display highlights mitigation techniques, projects, and planning. Several brochures and informational handouts are distributed at the display.

WEM staff has provided information for articles in various newsletters and presentations.

Presented to UW Student Planning Organization the process and benefits of hazard mitigation planning. In addition, discussed the importance of linking the hazard mitigation planning process with the comprehensive planning process.

**Map 6.1-2 Planning Grants 2002-2008**

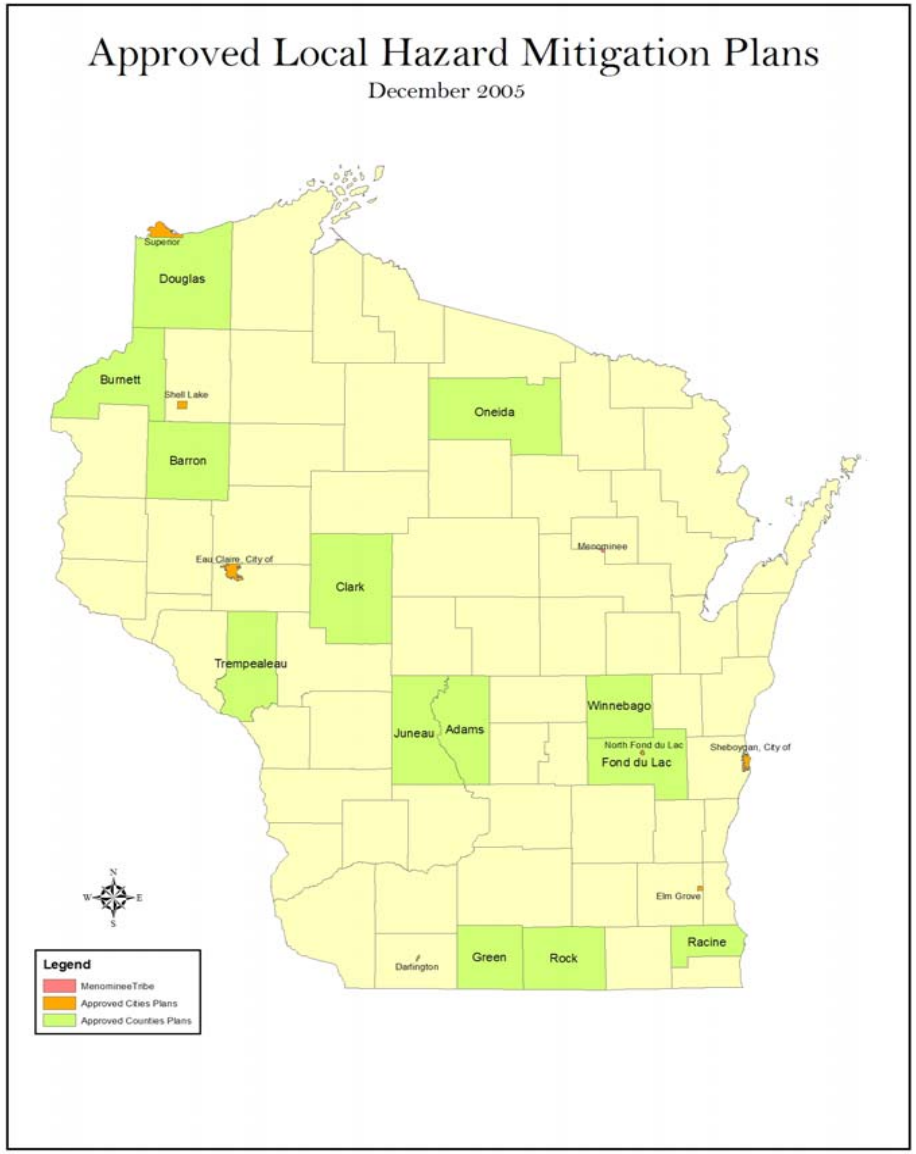


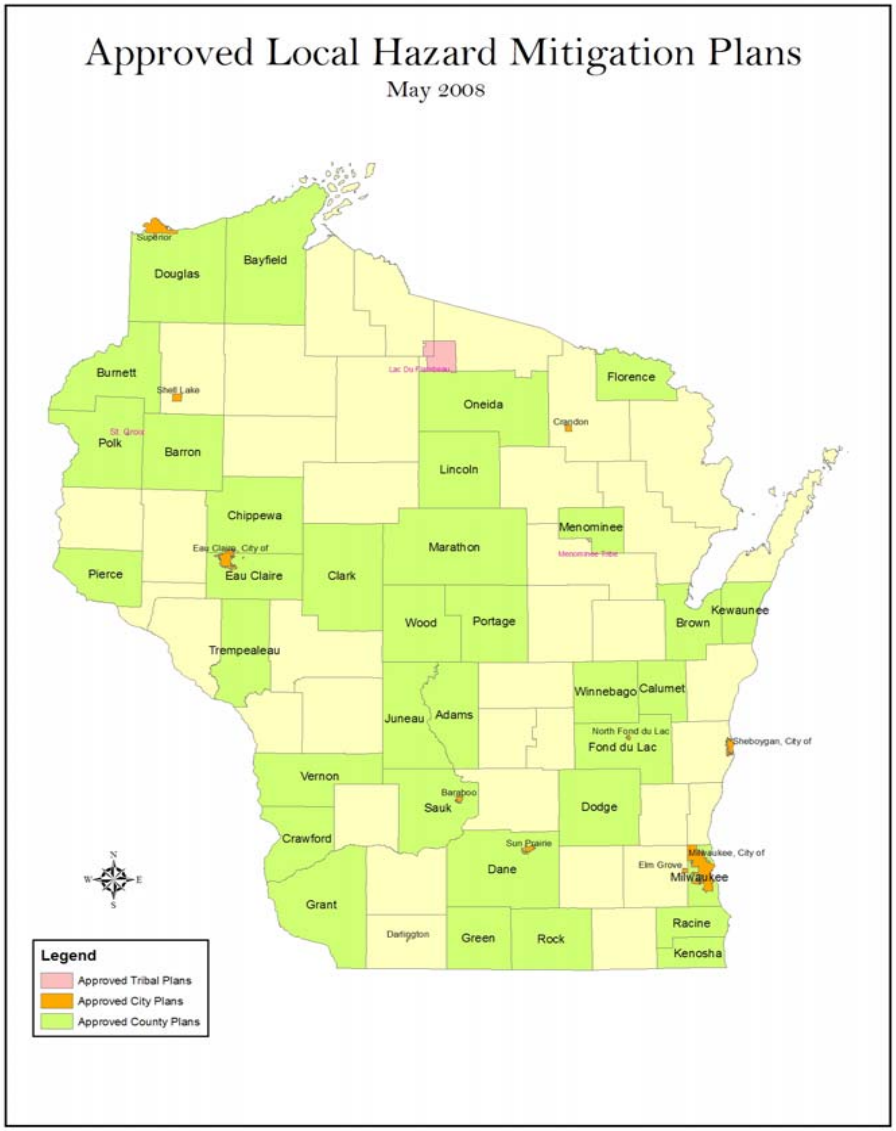

Source: WEM, 2008



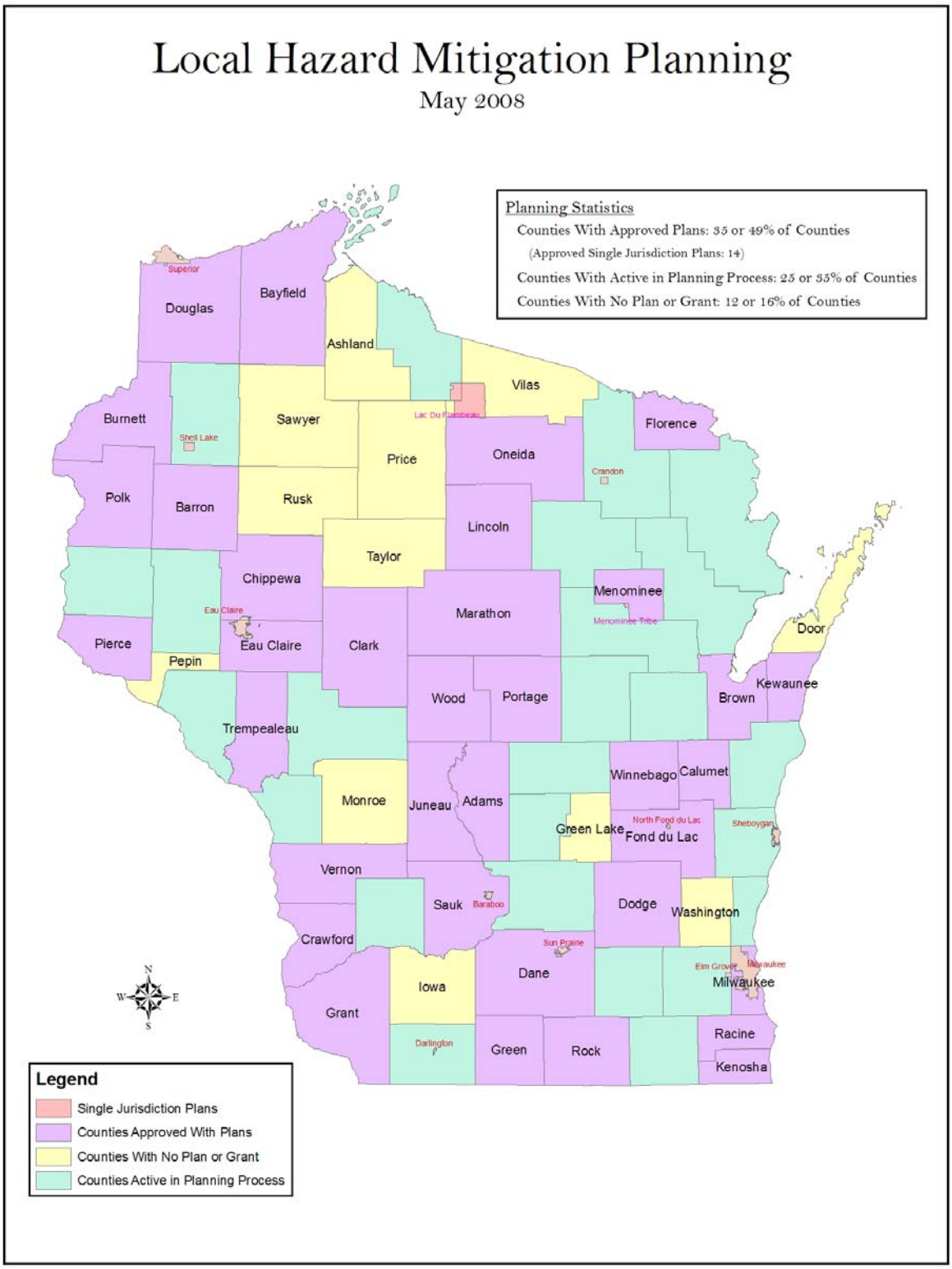
**Section TOC**

**Map 6.1-3 Maps Illustrating Plans approved in 2005 and those approved in 2008 in Wisconsin**



**Map 6.1-4 Planning Status of All Wisconsin Counties**




Source: WEM, 2008



**Section TOC**

# SECTION 7
# PLAN MAINTENANCE PROCESS

## Table of Contents





**Document TOC**

# SECTION 7
# PLAN MAINTENANCE PROCESS

Hazard mitigation planning is a continuous and ongoing process. The policies and procedures established in the Wisconsin State Hazard Mitigation Plan reflect the current emergency management and hazard mitigation philosophy at both the state and federal levels. Federal regulations [44 CFR 201.4 (d)] require the State Plan to be reviewed, revised and submitted for approval to the Region V Director of FEMA every three years. The regulations also require a plan maintenance process that includes an established method and schedule for monitoring, evaluating and updating the plan; a system for monitoring implementation of mitigation measures and project closeouts; and a system for reviewing progress on achieving goals as well as activities and projects identified in the Mitigation Strategy.

## 7.1 Monitoring, Evaluating and Updating the Plan

Wisconsin Emergency Management is responsible for developing, reviewing, evaluating, and updating the State Hazard Mitigation Plan and submitting to FEMA for approval every three years. The State Hazard Mitigation Officer (SHMO), with the support of the Wisconsin Hazard Mitigation Team (WHMT) will coordinate the implementation and update of the State Plan.

The State Plan approved in 2005 stated that a review will take place in three ways:

- Annually for progress made on mitigation actions and projects identified in the Mitigation Strategy of the State Plan.
- After each major disaster in the State declared by the President to look for areas where the State Plan should be amended to reflect the impact to the disaster.
- Every three years before submission to FEMA for approval.

The SHMO will convene regular WHMT meetings to monitor and evaluate progress on achieving hazard mitigation program goals and actions as identified in the Mitigation Strategy. In addition, the WHMT will continue to discuss, research, and develop mitigation recommendations in support of the Plan's goals. These recommendations will then be added to the Plan during the three-year Plan update.

In the event of a major disaster declaration, the SHMO and the WHMT will review the existing State Hazard Mitigation Plan to determine if existing policies, priorities, programs, and/or capabilities are adequate to address the issues generated by the disaster. The SHMO and Federal Hazard Mitigation Officer, Region V National Flood Insurance Program (NFIP) Specialist and the State Department of Natural Resources floodplain management staff will develop the Post Event Mitigation Action Plan at the Joint Field Office. This strategy will identify mitigation opportunities and issues that need to be addressed based on the event and identify the specific activities that each will accomplish in administering mitigation programs for the declaration. This report will become an integral part of the annual report as well as the three-year Plan update.

During the first three-year update cycle, there was two federal disaster declarations, FEMA-1719-DR declared August 26, 2007 and FEMA-1768-DR declared June 14, 2008. The WHMT met to discuss the impacts of the disasters and it was felt that the goals and mitigation actions of the State Plan as well as the Post Event Mitigation Action Plans for those events were current and adequate. The two events occurred within ten months of each other and all of the counties impacted in the first event were included in the second event. This method of analysis worked well during the first update process. WEM mitigation staff and WHMT members are presently involved in recovery efforts for both events which will be ongoing for the foreseeable future.

This update of the plan looked at the following. Subsequent updates will continue addressing the items identified below:

- Review and revise the State Plan's Risk Assessment. This will include a review and update of hazard profiles and data on vulnerable state facilities as new information becomes available.

- Include information from local and countywide all hazard mitigation plans completed as of the start of the three-year update cycle especially those sections related to the Risk Assessment and Mitigation Strategy.

- Examine progress on and determine effectiveness of mitigation actions in the Mitigation Strategy and determine how the performance of those actions should influence the State Plan's Mitigation Strategy.

- Examine implementation of the State Plan and identify problems (technical, political, legal and financial) and develop recommendations to overcome them.

- Examine the effectiveness of state-funded, local mitigation projects, and determine how the performance of those projects should influence the Mitigation Strategy.

- Recommend ways to increase involvement by state agencies and local jurisdictions in hazard mitigation.

- Recommend revisions to the Mitigation Strategy's goals, recommendations, projects, and action plan to reflect changes in policies, priorities, programs and funding; as appropriate, recommendations will include findings of any hazard mitigation reports following disaster events.

- Following review and revision of the State Plan, the WHMT will analyze the plan maintenance process, and make changes to improve the process and method used to review the plan.



Section TOC

In addition, the State Plan update will be coordinated with other state plans, as appropriate.

It is the State's goal that the third edition of the plan (2011) addresses both natural and manmade or technological hazards.

The WHMT will review and concur with the Plan update before transmittal to FEMA. WEM will request signed state agency concurrence from those agencies represented on the WHMT. Agency concurrence will be incorporated into the Plan update as adoption of the update and included in Appendix L.

The SHMO will distribute copies of the approved Plan to federal, state and local agencies as appropriate. In addition, the Plan can be viewed and downloaded at WEM's website, http://emergencymangement.wi.gov.

## 7.2 Monitoring Progress of Mitigation Actions

The State Plan will be reviewed and evaluated semi-annually to ensure that program implementation is on schedule. Hazard Mitigation Team Members will complete semi-annual progress reports (see Table 7.1 and submit the report to the SHMO. Reports will be for 6-month periods October 1st to March 31st and April 1st to September 30th with reports due April 30th and October 31st, one month after the end of the reporting period. The reports will identify the agency and contact person, the mitigation action and its number as identified in the Plan and the schedule for implementation consistent with the mitigation actions in the Mitigation Strategy, Section 5. It will include a brief summary of the actions completed to date, the actions remaining, the problems encountered and the type of assistance needed to resolve any problems or to complete the mitigation action. It will include a summary on the status of the mitigation actions (on-schedule, delayed, suspended, and/or completed). The WHMT will discuss progress of mitigation actions at their regular meetings.

The first (2005) edition of the State Plan stated that Wisconsin Emergency Management's mitigation staff will track progress of actions identified in the State Plan and will prepare an annual report by December 31st. The annual report will include progress on recommendations and whether that progress is meeting the goals as stated in the Mitigation Strategy. The report will also contain a review of the effectiveness of current programs and recommend additional mitigation activities for the future. The information contained in the annual reports will be incorporated into the three-year Plan update. These annual reports were not completed during the first 3-year update cycle as planned due to staffing and other work priorities. State agency progress reports were requested and submitted, and are on file, however, an annual report was not completed. Every attempt will be made to accomplish this task during future update cycles.

## 7.3 Project Monitoring and Closeouts

State agencies and local governments with projects funded by the Hazard Mitigation Grant Program, Pre-Disaster Mitigation, Flood Mitigation Assistance, Repetitive Flood Claims or Severe Repetitive Loss Programs are required to submit quarterly reports to WEM. Additionally, agencies and local governments receiving hazard mitigation grants are required to submit a closeout report at the conclusion of any project. More information on the process used to monitor progress of mitigation actions funded by hazard mitigation programs listed above can be found in Section 8, 5.4, Comprehensive State Hazard Mitigation Program, and the Hazard Mitigation Grant Program Administrative Plan, Appendix G.

This section and the processes were followed in the 2008 plan update. This method worked well and will continue the process for the 2011 plan update.

**TABLE 7.1**
**WISCONSIN STATE HAZARD MITIGATION PLAN**
**SEMI-ANNUAL PROGRESS REPORT ON RECOMMENDED MITIGATION ACTIONS**

Summary of progress for the period: October 1 to March 31 _____ Year_____
April 1 to September 30 _____ Year_____

| |
|---|
| Agency: |
| Contact: |
| Action Item Subject Title: |
| Action Item Number: |
| Schedule for Implementation: |
| Actions Completed To Date (Be Specific) |
| Actions Remaining (Be Specific): |
| Assistance Needed: |
| Summary of Action Item Status:<br>_____(A) Recommended actions on-schedule.<br>_____(B) Recommended actions delayed.<br>_____(C) Recommended actions suspended.<br>_____(D) Recommended actions completed. |
| Comments: |
| Signature: Date: |



**Section TOC**

**TABLE 7.2**
**WISCONSIN HAZARD MITIGATION PLAN UPDATE**
**SCHEDULE OF ACTIVITIES**

| ACTIVITY | TARGET DATE |
|---|---|
| Hold a WHMT meeting to discuss development of the update and the agencies' roles and the responsibilities of the Team. (WEM) | 11/1/10 |
| Review the Post Event Mitigation Strategies for any declared disasters since the last update to identify new issues generated by that disaster. (WEM, Team) | 11/1/10 |
| Review and update the State Risk Assessment [201.4(c)(2)] incorporating information from local all hazard mitigation plans. (WEM) | 2/1/11 |
| Review and update the Mitigation Strategy [201.4(c)(3)] incorporating information from local all hazard mitigation plans. (WEM, Team)<br>• Update the State Capability Assessment<br>• Update the Local Capability Assessment<br>• Review existing mitigation actions and report progress<br>• Identify new mitigation actions based on recent disasters, information from local plans, and changes in programs, regulations, policies, and funding.<br>• Identify any new potential funding sources or programs | 4/1/11 |
| Review and update the mitigation and disaster history portions of the plan including status of mitigation projects completed and those currently in progress from the last update of the Plan. (WEM) | 6/1/11 |
| Review and update the coordination of local mitigation planning and assistance [201.4(c)(4)] portions of the plan. (WEM) | 6/1/11 |
| Review and update the Plan Maintenance [201.4(c)(5)] section of the plan. (WEM) | 6/1/11 |
| Review and Update the Enhanced [201.5(b)] portion of the plan. (WEM) | 6/1/11 |
| Assemble draft of the Wisconsin Hazard Mitigation Plan update. (WEM) | 7/1/11 |
| Copy and distribute the draft Wisconsin Hazard Mitigation Plan ate requesting agency review and comments. (WEM, All) | 8/1/11 |
| Incorporate changes into final draft of the Wisconsin Hazard Mitigation Plan update. (WEM) | 9/1/11 |
| Distribute Wisconsin Hazard Mitigation Plan update for final review and concurrence. (WEM, All) | 9/15/11 |
| Submit Wisconsin Hazard Mitigation Plan update to the Federal Emergency Management Agency for review and approval. (WEM) | 10/1/11 |
| Distribute approved State Hazard Mitigation Plan update to state and federal agencies, as appropriate; place on WEM's website. (WEM) | 12/1/11 |



**Section TOC**

# SECTION 8
# COMPREHENSIVE PROGRAM

## Table of Contents





Document TOC

# SECTION 8
# COMPREHENSIVE STATE HAZARD MITIGATION PROGRAM

This section of the Plan will serve as the State's Enhanced Hazard Mitigation Plan and will demonstrate that the State of Wisconsin has developed a comprehensive, effective and integrated hazard mitigation program. This section will describe how the Plan has been integrated with other State planning initiatives as well as the FEMA mitigation programs. Further, it will provide documentation and describe how the State effectively utilizes available mitigation funding and is capable of managing increased mitigation funding that will become available upon approval.

In addition, this update of the State of Wisconsin Hazard Mitigation Enhanced Plan will address any recommended revisions identified in the initial review crosswalk in 2005. In the review of Wisconsin's Enhanced Plan, the review panel asked if a Disaster Resistant University (DRU) was a consideration in the state and how would Wisconsin integrate the DRU into the State of Wisconsin Hazard Mitigation Plan. Additionally, the panel requested clarification on the ranking scale for the State's eligibility criteria. These two concerns are addressed as part of this three year update.

The State of Wisconsin Hazard Mitigation Plan was updated and approved as a Standard State Mitigation Plan by the Federal Emergency Management Agency (FEMA) in a letter from the Regional Administrator dated December 9, 2008.

## 8.1 INTEGRATION WITH OTHER PLANNING INITIATIVES

The Mitigation staff within the Wisconsin Emergency Management is responsible for integrating, to the extent practicable, hazard mitigation planning and programs with other State and local planning initiatives and programs. This section includes a discussion of the state agencies that the Mitigation staff cooperates with as partners in the effort to meet the State mitigation goals as identified in Section 5. Throughout the planning process mitigation staff coordinated with and utilized information provided by the other state agencies. Section 2 provides a thorough discussion of the State planning process and initiatives while Section 5 identifies the State's pre and post-disaster hazard management policies, program and capabilities to mitigate the State's hazards. As planning efforts continue and mature, interaction among the various agencies will expand. The state agencies, as part of the Wisconsin Hazard Mitigation Team, were integral in the creation of the State's mitigation goals and action plan found in Section 5.

Section 2 as well as the State Capability Assessment found in Section 5.3 discusses related mitigation programs and projects that make up the State's overall mitigation capability and contributes to the State's mitigation program. Below summarizes the integration of hazard mitigation planning with other State planning initiatives. They are discussed in more detail in Section 2.

**Table 8.1**
**State Planning Initiatives**

| Initiative | Description |
|---|---|
| Comprehensive Planning – State Agency Resource Working Group | The State's comprehensive law requires communities to develop a comprehensive plan by January 1, 2010, if they wish to make decisions to change and manage land use within their jurisdiction. The State Agency Resource Working Group (SARWG) was a statutory funded group of the Wisconsin Land Council administered through the Department of Administration, Division of Intergovernmental Relations which is responsible for administering the Comprehensive Planning Grant Program for the State. Representatives were from various state agencies and participated in promoting and cooperating on land use issues. The State Hazard Mitigation Officer participated on the group to promote mitigation planning as part of the comprehensive planning process. The DOA-Comprehensive Planning Grants Program representative on the SARWG also participates on the WHMT. With the sunset of the Wisconsin Land Council, the group is no longer statutorily funded or required, however, members continue to communicate and share information via e-mail to promote comprehensive and mitigation planning. The nine comprehensive planning elements and some ideas on how to integrate into mitigation planning is included in local hazard mitigation guidance, *Resource Guide to All Hazards Mitigation Planning in Wisconsin.* The nine planning elements include: Issues and Opportunities; Housing; Transportation; Utilities and Community Facilities; Agriculture, Natural and Cultural Resources; Economic Development; Intergovernmental Cooperation; Land Use; and Implementation. |
| Coastal Hazards Work Group | Provides technical assistance and coordinates state resources addressing coastal hazards. WEM participates on the workgroup. In turn, there is a representative from Wisconsin Coastal Management on the WHMT. The group meets with three coastal regional planning commissions and local governments. Multi-year strategy includes:<br>• Continue updating and integrating information and methods in a Geographic Information System (GIS) compatible format regarding shoreline hazards.<br>• Develop a comprehensive education and dissemination program regarding erosion rates and disclosure of erosion hazard and floodprone areas directed at the public, government officials and private sector.<br>• Develop an institutional framework to improve the State's regulatory mechanism and local |



Section TOC

| | |
|---|---|
| | mitigation efforts.<br>• Continue to expand technological tools and technology transfer on coastal hazards for Lake Superior and Lake Michigan as identified in the WCMP Needs Assessment and Strategic Plan 2006-2010.<br>Recently, the Coastal Hazards Work Group has developed a subgroup to discuss climate change. |
| Wisconsin Emergency Response Plan | The State Hazard Mitigation Plan is an appendix to the Wisconsin Emergency Response Plan. In addition, the Plan is presently being revised and reformatted to follow the Emergency Support Functions. Each ESF includes mitigation activities in support of the function.<br><br>ESF-14 was developed in 2008 for the Wisconsin Emergency Response Plan. The Assistant State Hazard Mitigation Officer served as the lead for the development of this ESF. In addition, WEM is working on Long Term Recovery and Mitigation in both the State Emergency Response Plan as well as guidance for Local Emergency Response Plans.<br><br>The State's Long-Term Recovery strategy is outlined in ESF 14 which is a part of the State Emergency Response Plan. ESF14 will be updated in early 2009 to include lessons learned in the recovery process for DR-1768. |
| Wisconsin Disaster Recovery Plan | The Plan describes the recovery process as it occurs at the state level and includes the organizational structure, staffing patterns and operational responsibilities of any recovery team members. The long-term recovery priorities, as determined during the post disaster workshops and strategy sessions, are part of the Individual Assistance (IA) program and Public Assistance (PA) program in concert with the State's Hazard Mitigation program.<br><br>Again, the State's Long-Term Recovery strategy is outlined in ESF 14 which is a part of the State Emergency Response Plan. ESF14 will be updated in early 2009 to include lessons learned in the recovery process for DR-1768. |
| WEM Strategic Plan 2004-2006 | The Plan identifies 7 goals. One of the goals is to develop and evaluate emergency management plans and processes to ensure that they reflect our hazards, risks, capabilities, resources, and mitigation opportunities. Along with the goal are 5 objectives. The goals and mitigation actions in the State of Wisconsin Hazard Mitigation Plan will assist WEM in achieving the goals of the Strategic Plan. |
| Wisconsin Recovery Task Force (WRTF) | A key element of ESF 14 and long-term recovery is the Wisconsin Recovery Task Force, which was created after the June 2008 Flooding Disaster. The |

| | |
|---|---|
| | WRTF is comprised of more than 20 state and federal agencies with recovery responsibilities. The WRTF will become a standing task force which will be active on a year-round basis and gear up when a disaster occurs. The WRTF is chaired by the WEM Administrator and consists of six subcommittees; agriculture, business, housing, human needs, infrastructure, and mitigation. The State Hazard Mitigation Officer serves as the Chairman of the mitigation subcommittee. The subcommittees identify disaster impacts, challenges associated with those impacts and resources available to meet the challenges. Collectively, the agencies package funding for local housing, infrastructure, business repair, and mitigation projects.<br>Members of the Wisconsin Hazard Mitigation Team are also members of the Wisconsin Recovery Task Force Mitigation Subcommittee. |
| Homeland Security Council – Interagency Working Group | The Interagency Working Group is chaired by Wisconsin Emergency Management and comprised of representatives of the Departments of Administration, Agriculture, Health and Family Services, Justice, Natural Resources, and Transportation, as well as the Office of Justice Assistance, National Guard and University of Wisconsin Police. The Group was formed in the late 90's with its original focus on terrorism preparedness. Since that time, its mission has evolved to cover all hazards and all phases of emergency management. The Group meets monthly or more often if dictated by current events and acts as a support group to the Governor's Homeland Security Council. |
| Wisconsin Voluntary Organizations Active in Disasters (WIVOAD) | WI VOAD is a humanitarian association of independent voluntary organizations who may be active in all phases of disaster. Its mission is to foster efficient, streamlined service delivery to people affected by disaster, while eliminating unnecessary duplication of effort, through cooperation in the four phases of disaster. Staff from WEM provides coordination and assistance to WIVOAD members. WIVOAD has taken a lead role in long-term recovery and sponsors Long Term Recovery Committees. These committees, using WIVOAD's 501(c)(3) tax exempt status, focus on fundraising, reaching out to individual/families with unmet disaster needs and providing services to them through a uniform case management process. The WIVOAD chair also sits on the WHMT and the WRTF. |
| Risk Assessment of State-Owned and Operated Buildings, Critical Facilities and Infrastructure | There is approximately 6,500 state facilities not counting infrastructure. It would take one person working full-time nearly 28 years to visit every facility. Therefore, a strategy has been developed to obtain needed site specific information on those |

| | |
|---|---|
| | facilities and infrastructure that are most critical and may be at most risk from future disasters. WEM, along with the Department of Administration, created a Wisconsin Risk Assessment Data Collection Worksheet that will be as a basis for collecting information from each of the determined critical facilities. The collection worksheet covers everything from general information, such as location, to more detailed questions involving construction materials. All of this data is needed to create an accurate risk assessment. Page 4-189—4-204 of the State Hazard Mitigation Plan includes the Wisconsin Risk Assessment Data Collection Worksheet. |

As stated above, the state agencies on the Wisconsin Hazard Mitigation Team were integral in the creation of the State Plan in the development of the mitigation goals, capability assessment, and the action plan found in Section 5. Table 8.2 lists the agencies that were active in the planning process and summarizes their contributions to the process and the State's overall mitigation program. Additional information can be found in Section 5.3.

**Table 8.2**
**Contributing Agencies**

| Agency | Contribution to Process |
|---|---|
| Department of Administration | • Demographic Services Center supplies state and local agencies with population and housing estimates and projections. Information used in hazard mitigation planning.<br>• Comprehensive Planning provides guidance and assistance to local governments in the development of comprehensive plans. Planning elements are included in hazard mitigation planning guidance. Hazard mitigation is identified in several planning elements.<br>• The Wisconsin Land Information Program provides a data resource for state and local governments in the development of both comprehensive and hazard mitigation plans.<br>• Wisconsin Coastal Management Program provides guidance and assistance to the 15 coastal counties on incorporating coastal hazards into comprehensive and hazard mitigation planning.<br>• The Geographic Information System program developed the Wisconsin Recovery Task Force website which is now maintained by WEM.<br>• The Division of State Facilities and WEM created a Wisconsin Risk Assessment Data Collection Worksheet that will be as a basis for collecting information from each of the determined critical facilities for the Risk Assessment of State-Owned and Operated |

| | |
|---|---|
| | Buildings, Critical Facilities, and Infrastructure. |
| Department of Agriculture, Trade and Consumer Protection | • Manages and administers several programs that reduce environmental damages from flooding.<br>• Chairs the WRTF Agriculture Subcommittee. |
| Department of Commerce | • Manages and administers the State's Community Development Block Grants for both housing and public facilities. Mitigation activities are encouraged and costs are eligible within the programs. Coordinates closely with WEM to further mitigation and disaster recovery after an event and in many instances provides local match to FEMA grant programs.<br>• Administers the State's Building Codes. This includes training, inspection licensing, plan reviews, and enforcement. Coordinating with WEM and DNR on the development of response teams that would assist local governments after a disaster in inspection of damaged structures.<br>• After the June 2008 Flood, three Flood Recovery Specialists were added to the Department of Commerce and are assisting communities, especially businesses, in the flood recovery process.<br>• Chairs the WRTF Business Subcommittee. |
| Wisconsin Emergency Management | • Responsible for the development, maintenance and implementation of the State Hazard Mitigation Plan.<br>• Responsible for administration of HMGP, FMA, PDM, RFC and SRL programs.<br>• Provides guidance and assistance in the development and updates of local hazard mitigation plans. This includes plan review and providing comments. As plans are approved, local goals/objectives, capabilities, and mitigation actions will be incorporated into updates of the State Plan.<br>• Promotes hazard awareness and mitigation through awareness campaigns, newsletter, agency website, and workshops.<br>• The State Hazard Mitigation Officer is chair of the Mitigation Subgroup on the WRTF and also leads the WHMT. |
| Department of Health Services | • Provides technical assistance and/or personnel to assist special population needs, environmental health issues, communicable or infectious disease, radiological/nuclear issues, and bio-terrorism preparedness.<br>• Administers FEMA crisis counseling grants and case management for declared disasters. Works closely with the Long Term Recovery Committees, Individual Assistance and Mitigation staff.<br>• Chairs the WRTF Human Needs |

| | |
|---|---|
| | Subcommittee. |
| Wisconsin Historical Society | • Provides historical preservation assistance. Reviews proposed mitigation projects to meet Section 106 requirements. Maintains inventory of historic structures. Provides technical assistance in projects involving historic structures. |
| Office of the Commissioner of Insurance | • Responsible for the regulation of insurance carriers and agents. Provides public information on insurance issues. Provides CEU instruction to insurance industry. |
| Department of Natural Resources | • DNR staff has provided text, review and comment on this State Plan as well as previous plans as well as Mitigation Strategies after each disaster event.<br>• Floodplain management staff assists WEM mitigation staff in reviewing proposed mitigation projects for engineering feasibility and provide information from Flood Insurance Studies for conducting Benefit-Cost Analysis.<br>• Environmental staff provides review and input in the environmental review process on proposed mitigation projects.<br>• Administers the State's Shoreland Protection Program, Local Floodplain Management Standards, and State Wetland Standards.<br>• Administers the Municipal Flood Control and Riparian Restoration Program that provides grants to local governments for flood mitigation. Coordinates closely with WEM and in some cases provides local match to federal mitigation grants.<br>• Administers Wisconsin Waters Initiatives that provides funds for digitizing floodplain maps.<br>• Administers the Dam Safety Program which inspects dams, reviews repair plans, operation and maintenance plans. Provides grants to repair and remove dams. Ensure that high-hazard dams have the required emergency action plans.<br>• Administers Chapter 30 which sets standards for placement of structures and material, diversion of water and other activities in navigable waters.<br>• Stormwater management requires erosion controls and stormwater management practices on construction sites.<br>• Administers Non-point Targeted Runoff Management Program.<br>• Manages and administers the provisions of the Managed Forest Law, and provides technical assistance to private forests statewide.<br>• Administers Forest Fire Protection Grant Program, Health Forest Initiative, Single Engine\ Air-Tanker Program and the Wildland |

| | |
|---|---|
| | Urban Interface and Fire Wise Communities programs.<br>• DNR representative co-chairs with WisDOT the WRTF Infrastructure Subcommittee. |
| Public Service Commission | • Regulation of construction, service and operations of electric, natural gas, telecommunications, and water utilities. |
| Department of Transportation | • Administers the Flood Damage Aids Program that provides grants to local governments for flood damaged roads. Allows improvements to prevent future damages.<br>• In highway and bridge improvement projects, strives to eliminate or reduce potential damages from hazards.<br>• Identifies mitigation opportunities as part of project developments.<br>• Transportation Security identifies measures to reduce damages to critical infrastructure, airports, rail, and maritime.<br>• DOT representative co-chairs with DNR the WRTF Infrastructure Subcommittee. |
| University of Wisconsin Extension | • Provides community education and public information programs promoting hazard awareness and mitigation concepts. |

State Hazard Mitigation Goal 3 "encourages hazard mitigation planning." Under this goal beginning on page 5-27 are 19 actions that all relate to hazard mitigation planning at both the state and local level.

## 8.2 INTEGRATION WITH REGIONAL PLANNING INITIATIVES

The Council of Regional Planning Organizations represents the nine Regional Planning Commissions in Wisconsin. For most communities in Wisconsin, Regional Planning Commissions serve as the only affordable local planning body available and are a source of planning expertise in the development of comprehensive plans and special purpose plans including all hazard and flood mitigation plans. The Commissions provide the mechanism by which multiple jurisdictions within a region may coordinate their plans. Most of Wisconsin's Commissions are engaged in assisting communities in developing their comprehensive plans as required by State Law. Recognizing the close relationship that the Commissions have with local governments and the resources that they can provide, and the link between comprehensive and hazard mitigation planning, WEM utilized its 2002 FEMA Pre-Disaster Mitigation $50,000 (one-time) grant to contract with the Council of Regional Planning Organizations to develop local mitigation planning guidance. The *Resource Guide to All Hazards Mitigation Planning in Wisconsin* is provided to local and tribal governments to assist them in the development of hazard mitigation plans. The Guide is utilized at planning workshops and distributed upon request. The Guide can be found on WEM's website at http://emergencymanagement.wi.gov. A list of the nine comprehensive planning elements and some ideas on how to integrate all hazards mitigation planning concepts into them are included in the Resource Guide. In addition, where to integrate the



Section TOC

comprehensive planning elements into the all hazards mitigation plan are also described in the guidance.

When Wisconsin Emergency Management holds Hazard Mitigation Planning Workshops, the importance of comprehensive planning is stressed. It is imperative future development plans identify and locate hazards to assist policymakers in making the best, most safe decisions for their residents. In turn, hazard mitigation planning needs to be cognizant of future development plans.

In Section 3, Maps 3.18-1 and 3.18-2 highlight the comprehensive planning status of cities, villages, and towns, as well as the strides the counties have made in developing their comprehensive plans. It is interesting to note the similarities in the comprehensive planning and mitigation planning status. Approximately 84% of Wisconsin counties either have an approved All-Hazards Mitigation Plan or are active in the planning stages. 87% of Wisconsin counties either have an approved Comprehensive Plan or are in the planning stages. Only 16% of counties are not participating in the Hazard Mitigation planning process and 13% of counties are not participating in the Comprehensive planning process.

Since there is a close relationship between the Regional Planning Commissions and the local governments, and a link between comprehensive and hazard mitigation planning, a representative from the Council of Regional Planning Organizations joined the Wisconsin Hazard Mitigation Team in 2003. This member serves as a conduit between the Commissions and the Team. Having a Council member participate on the Team helps the state share resources, combine planning requirements, avoid duplication, and provide additional local and regional assistance to communities that choose to plan. This individual is also a member of the WRTF Mitigation Subcommittee.

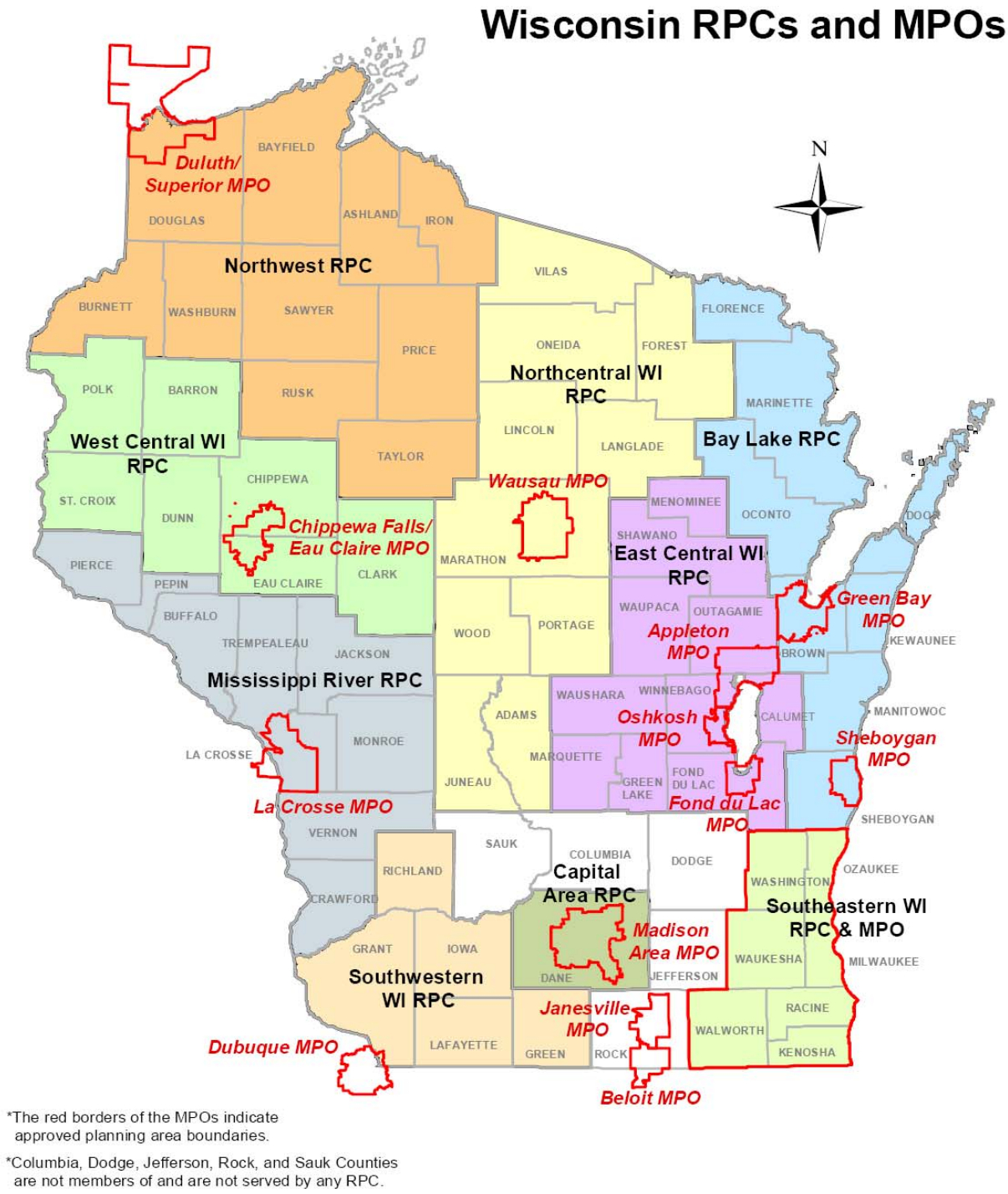
In 2008, WEM joined with the University of Wisconsin Land Information and Computer Graphics Facility, and the Polis Center at Indiana-Purdue University at Indianapolis on a joint effort to create at statewide HAZUS flood risk assessment for all 72 Wisconsin counties. This statewide HAZUS flood risk assessment was included in the 2008 update of the State of Wisconsin Hazard Mitigation Plan. In addition, the individual county HAZUS flood risk assessments were distributed to all counties and specified local jurisdictions so it may be included in the local mitigation plans. Finally, the county HAZUS flood risk assessments were also distributed to each respective Regional Planning Commission. FEMA highlighted Wisconsin's Statewide HAZUS Flood Risk Assessment efforts in a Best Practices story that can be found at http://www.fema.gov/mitigationbp/brief.do?mitssId=4453.

WEM Staff also joined the Central HAZUS Users Group, and subsequently has established a State HAZUS User Group. Staff from the East Central and Bay Lakes Regional Planning Commissions has joined both groups and are working with State mitigation staff in the use of HAZUS to assist in the development of hazard mitigation plans. Local risk assessments should be greatly improved in the five-year local plan updates with those counties utilizing HAZUS.

The Commissions prepare grant applications for local governments to obtain federal and state assistance for many types of activities including mitigation grant applications. After the 2008 floods, RPCs located in the southern part of the state are working with their respective local jurisdictions to assist in the completion of additional grant applications for recovery assistance. With the involvement of the Commissions in the state and local planning process, they are knowledgeable on both state and local mitigation priorities and program requirements. Therefore, they are able to develop comprehensive project grant applications.

Finally, after the Floods of 2008, eleven (11) Long Term Recovery Committees were created to assist in the flood recovery efforts addressing unmet needs of flood victims. WIVOAD has worked tirelessly to assist flood victims in their complex recovery issues. WEM Mitigation Staff has also worked with the Long Term Recovery Committees in meeting unmet needs of those impacted by disasters. Map 8.2 denotes the eleven Long Term Recovery Committees from the 2008 Floods.

Map 8.1




*The red borders of the MPOs indicate approved planning area boundaries.

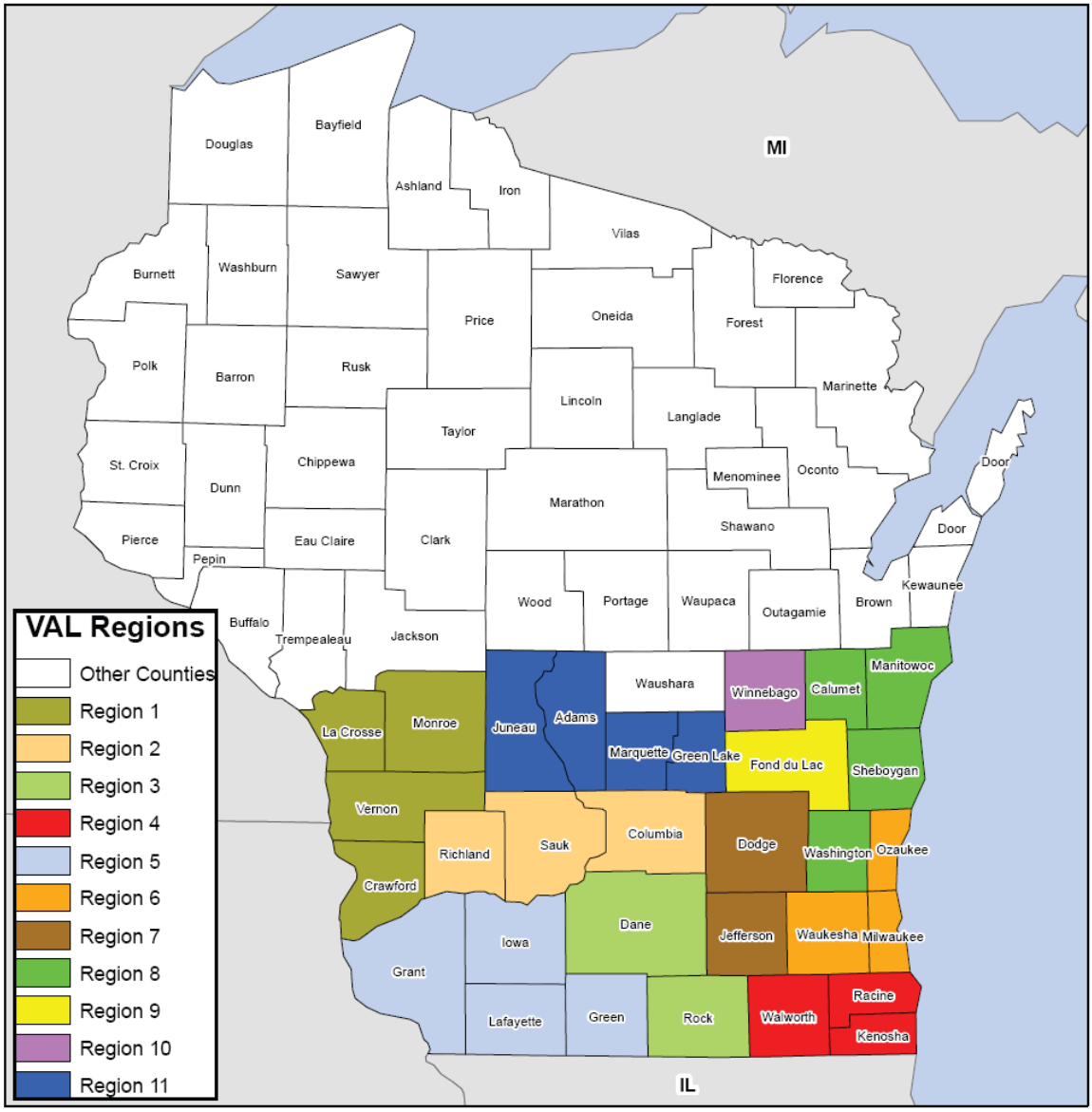
*Columbia, Dodge, Jefferson, Rock, and Sauk Counties are not members of and are not served by any RPC.



Section TOC

Map 8.2

## WIVOAD Long Term Recovery Communities




State Mitigation Strategy, Section 5.5, mitigation actions supporting integration with RPCs: 1.1, 1.3, 2.7, 2.9, 2.12, 3.7, 3.8, 3.9, 3.13, 3.14, 4.1, 4.3, 4.9, 4.10, and 4.26.

### 8.3 INTEGRATION WITH FEMA MITIGATION PROGRAMS AND INITIATIVES

There are several federal programs that the State utilizes, which include regulations that provide local communities with guidance for state and regional agencies. Sections 5, Table 5.2 beginning on page 5-102 provides information on federal capabilities.



Section TOC

The State integrates FEMA programs into their mitigation strategy and actions whenever possible and wherever practicable. These federal programs include:

### 8.3.1 National Flood Insurance Program

The National Flood Insurance Program (NFIP) is administered by the Wisconsin Department of Natural Resources (DNR) Floodplain Management Program. WEM works closely with DNR on NFIP issues, since community eligibility for pre and post-disaster programs relies on program participation. The three components of the program are: flood insurance, floodplain management, and flood hazard mapping. By participating in the NFIP, communities agree to adopt and enforce a floodplain management ordinance to reduce future flood risks to new construction in Special Flood Hazard Areas (SFHA). In turn, federally backed flood insurance is made available within the community as financial protection against flood losses. Flood insurance and floodplain management is the first line of flood mitigation. Flood insurance is an alternative to disaster assistance, which is not available in every flood event. Gaining participation in the NFIP and encouraging property owners to purchase flood insurance significantly reduces disaster costs. Together these programs reduce flood exposure to people and their property. Flood insurance policies within communities participating in the regular NFIP program include benefits for Increased Cost of Compliance (ICC). For structures with a substantial damage determination, up to $30,000 is made available to bring the structure to current NFIP standards, which will mitigate the structure from future flood events. This can include elevation, relocation or demolition. State Mitigation Staff provides ICC information and guidance to communities after a flood disaster. The ICC can provide for demolition costs in a HMGP acquisition/demolition project. Knowing the importance of flood insurance, WEM, the Office of the Commissioner of Insurance (OCI) and the DNR participated in an effort that promoted flood insurance in Wisconsin during Flood Insurance Awareness Week (March 16-20, 2009). Several press releases were distributed to the media outlets encouraging citizens to purchase flood insurance. On March 17, 2009, the WEM Administrator, the Insurance Commissioner, the DNR Secretary, and the Region V Mitigation Division Director toured three Wisconsin cities promoting the need and importance of flood insurance. Policy holders within communities that participate in the Community Rating System (CRS) are entitled to a discount on their policy. Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet the three goals of the CRS: (1) reduce flood losses; (2) facilitate accurate insurance rating; and (3) promote the awareness of flood insurance. There are presently thirteen communities within the State participating in the CRS (see page 3-14.)

In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the Nation's floodplains. Mapping flood hazards creates the broad-based awareness of the flood hazards and provide the data needed for floodplain management programs and to actuarial rate new construction for flood insurance.

Floodplain maps and Flood Insurance Studies provide critical flood hazard information needed to develop effective planning to focus on the State's areas with the greatest flood risk. In addition, WEM utilizes this flood hazard information in evaluating proposed hazard mitigation projects and conducting benefit-cost analyses.

There are 561 communities including all 72 Wisconsin counties that have identified flood hazard areas. There are presently 512 communities participating in the NFIP (496 in regular program and 16 in the emergency program). There are another 61 communities with a special flood hazard area identified, but are not participating in the program. Eleven communities have been suspended from the regular program, and one from the emergency program. Contact is made with these communities after a disaster declaration to provide them with information and technical assistance and encourage them to join the program. There are serious consequences when a community is not participating in the program. Flood insurance is not available to individuals and businesses. In turn, lending institutions cannot approve mortgages for properties located in an identified special flood hazard area without the purchase of flood insurance. In addition, certain disaster assistance will not be available to individuals and businesses as well as local governments. For instance, the communities are not eligible for the Hazard Mitigation Grant Program (HMGP) as well as the Flood Mitigation Assistance (FMA), Pre-Disaster Mitigation (PDM),, Repetitive Flood Claims (RFC), and Severe Repetitive Loss (SRL) programs.

The DNR Floodplain Management Program plays an important role in state mitigation. Program staff assists communities in administering their local floodplain management programs, make substantial damage determinations after a flood and ensure that communities are in compliance with their local ordinances. In addition, they work to provide assistance to non-participating communities that wish to enter the NFIP and provide technical assistance to participating communities interested in enrolling in the CRS.

State Mitigation Strategy, Section 5.5, mitigation actions supporting floodplain management: 1.10, 3.2, 3.4, 3.5, 3.6, 3.12, 4.1, 4.2, 4.3, 4.15, 4.20, 5.4, and 5.5

### 8.3.2 Map Modernization

Map modernization (Map Mod) is a FEMA initiative started in 1997 to modernize the flood-mapping program. The Map Mod plan outlined the steps necessary to update and digitally format FEMA's flood maps for the national and streamline FEMA's operations in raising public awareness of the importance of the maps. Map Mod has continually evolved as new products, processes, and technical specifications have been developed and implemented. The goal of Map Mod is to integrate communities into the digital mapping process, which will develop updated flood hazard data for all flood prone areas and support sound floodplain management.

Wisconsin DNR works closely with FEMA NFIP staff to advance the Map Mod program. Improved map accuracy enhances relationships between federal, state and local

governments in the ongoing effort to reduce the State's flood risk. The updated maps, in conjunction with the revised HAZUS-MH software, will allow WEM and DNR to assist local jurisdictions in their planning efforts more accurately. As of October 2008, 14 counties are in the preliminary map production phase, 24 counties are in the final map production phase, and 10 counties have DFIRMS available. Twenty-four counties will not be mapped due to limited funding.

### 8.3.3 Flood Mitigation Assistance Program

On September 23, 1994, the National Flood Insurance Reform Act (NFIRA) was signed into law. The purpose of the NFIRA is to improve the financial condition of the National Flood Insurance Program (NFIP) and reduce the federal expenditures for federal disaster assistance to flood damaged properties. One of the things that the NFIRA did was create a pre-disaster mitigation program called the Flood Mitigation Assistance (FMA) program. Although DNR administers the NFIP, WEM administers the FMA. It is a cost-share program (75 % federal, 25% local match) through which states and communities can receive grants for flood mitigation planning, technical assistance and mitigation projects.

The overall goal of the FMA is to fund cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other NFIP-insured structures. Other goals are: Reduce the number of repetitively or substantially damaged structures and the associated claims on the NFIP; encourage long-term, comprehensive mitigation planning; respond to the needs of communities participating in the NFIP; and complement other federal and state mitigation programs with similar goals.

The program is subject to the availability of appropriation funding as well as any directive or restriction made with respect to the funds. Each state receives an allocation based on the number of flood insurance policies in force and the number of repetitive loss structures in the state. Repetitive loss structures are those structures that have had two or more flood insurance claims of at least $1,000 each in the last ten years. The minimum amount any state receives is $10,000 for mitigation planning grants and $100,000 for project grants to implement mitigation activities identified in approved mitigation plans. States may submit applications above the allocation to be considered through a national competition. In addition, up to 10% of the project funds are allowed for the state to use for management costs. Up until 2003, the state did not utilize the management cost (or previously known as technical assistance) funds and applied those funds to implement projects. The State utilized management cost funds again in 2005 and 2007, but not 2006. Subapplicants may also now request up to 5% of the grant for management costs. Although the state solicited FMA applications in 2008, no applications were received, therefore, the State did not apply for FMA funds. For FFY09, the City of Darlington submitted a project grant application to acquire and demolish one structure along the Pecatonica River. The City has successfully received and implemented 3 HMGP, 4 FMA and 2 PDM grants, and has acquired and demolished 16 structures and floodproofed 19. It is the hope of WEM that the FFY09

FMA project is funded. Below is the FMA funds (federal share) the State has received and implemented:

| Flood Mitigation Assistance Funding | | | | |
|---|---|---|---|---|
| **FFY** | **PLANNING** | **PROJECT** | **TECH ASST** | **TOTAL** |
| 1996/1997 | $ 11,800 | $ 117,100 | | $ 128,900 |
| 1998* | $ 30,754 | $ 401,500 | | $ 432,254 |
| 1999 | $ 11,250 | $ 125,100 | | $ 136,350 |
| 2000 | $ 13,307 | $ 148,110 | | $ 161,417 |
| 2001 | $ 14,257 | $ 145,250 | | $ 159,507 |
| 2002 | $ 13,800 | $ 114,125 | | $ 127,925 |
| 2003 | $ 0 | $ 89,349 | $ 3,811 | $ 93,160 |
| 2004 | $ 0 | $ 0 | $ 0 | $ 0 |
| 2005 | $ 13,399 | $ 107,512 | $ 8,183 | $ 129,094 |
| 2006 | $ 10,364 | $ 0 | $ 0 | $ 10,364 |
| 2007 | | $ 180,441 | $ 5,360 | $ 185,801 |
| 2009** | $ 0 | $ 153,000 | $ 0 | $ 153,000 |
| TOTAL | $118,931 | $1,428,487 | $17,354 | $1,564,772 |

Source: WEM, 2009
* Due to unspent funds of other states, Wisconsin was able to receive additional funds.
**Pending approval

As with the HMGP, to receive FMA grant funds, the community must be participating and in good standing with the NFIP. Eligible projects and criteria are basically the same as for the HMGP. The biggest difference is that the projects must reduce the risk of flood damage to structures insured under the NFIP.

Emphasis and priority is given to insured repetitive loss properties. WEM makes every attempt to utilize FMA funds to mitigate losses to these properties. A summary of Wisconsin's Repetitive Loss Report dated April 2004 is presented in Appendix E. It was the State's intent to update this report for this Plan update, however, due the fact that NFIP's SQAnet was basically unavailable for most of the summer, it was impossible to update this report. Further, State Mitigation staff is not allowed access to FEMA's Bureaunet. The state makes every attempt to mitigate repetitive loss properties through the HMGP, PDM, FMA, RFC and SRL programs. However, the state has had difficulty obtaining correct and timely data from FEMA/NFIP. Repetitive loss data is continuously changing after every event and as claims are processed.

### 8.3.4 Hazard Mitigation Grant Program

The Section 404-Hazard Mitigation Grant Program (HMGP) is a critical component of the state's mitigation efforts. The program was created in November 1988 as a result of the Robert T. Stafford Disaster Relief and Emergency Assistance Act that amended PL 93-288, the Federal Disaster Relief Act of 1974. The HMGP is administered by

Wisconsin Emergency Management and makes grants available to state and local governments as well as eligible private, non-profit organizations and Indian tribes to implement long-term mitigation measures following a major disaster declaration. Eligible projects must be environmentally sound, cost-effective, solve a problem and prevent future disaster damages. The grants are cost-shared with 75% provided in federal funds through FEMA with a 25% local match. Wisconsin provides half of the local match, thereby the required local match is reduced to 12.5%. In order to receive HMGP funds, a community must be participating and in good standing with the National Flood Insurance Program (NFIP). Further, beginning November 1, 2004, communities must have a FEMA approved all hazards mitigation plan to be eligible for funds for project implementation.

President Clinton signed the Hazard Mitigation and Relocation Assistance Act that amended Section 404 of the Stafford Act on December 3, 1993. This amendment significantly increased the amount of funding available in the HMGP in two ways. First, it increased the federal share of grant funds from 50% to 75%. Second, the proportion of federal funds allotted to the HMGP was increased to 15% of the federal funds spent on the Individual and Public Assistance Programs for each disaster, whereas before it was based on 10% of the federal funds spent in the Public Assistance Program only. The change of the funding formula raised the amount of HMGP funds available in the state for the 1993 Midwest Flood from $2 million to $14 million. Unfortunately, in 2003 the amount of federal funds allocated to each federal declaration was reduced from 15% to 7.5%. States including Wisconsin supported restoring the federal share back to 15% of the Individual and Public Assistance Funds for each federal declaration.

On October 30, 2000, the Disaster Mitigation Act of 2000, was enacted and amended the Stafford Act. The purpose of the Act was to establish a national program for pre-disaster mitigation, streamline administration of disaster relief and control federal costs of disaster assistance. Section 322 of the act will have a great impact on the HMGP. States are required to have a FEMA approved Standard Hazard Mitigation Plan to be eligible for certain disaster assistance programs including the HMGP. This section also increased HMGP funding from 15% (previously 7.5%) to 20% for those states that have an approved State Enhanced Hazard Mitigation Plan. In addition, it established a requirement for local and tribal mitigation plans and authorized 7% of the HMGP funds to be available to states to be used in developing such plans. The Interim Final Rule, 44 CFR Part 201, Hazard Mitigation Planning, published February 26, 2002, and Final Rule published October 31, 2008, established criteria for State and local hazard mitigation planning authorized by Section 322 of the Stafford Act, as amended by Section 104 of the DMA2K, contained the rules for hazard mitigation planning and the Hazard Mitigation Grant Program. The rules addressed state and local mitigation planning requirements.

WEM Mitigation staff solicits, review, evaluate and rank HMGP applications before presenting to the Wisconsin Hazard Mitigation Team for discussion. Based on those discussions, funding recommendations are made to the Division Administrator for a final decision on which applications are forwarded to FEMA for approval. Since 1991, $46

million in HMGP funds has been administered. The HMGP allocation for FEMA-1768-DR-WI declared on June 14, 2008, is $30.8 million. This brings the total for HMGP funds to $76 million for the history of the program. Projects consist of acquisition and demolition, floodproofing, wind retrofit, education and outreach, structural such as stormwater management, utility protection, NOAA weather radios and planning. Appendix D identifies mitigation projects implemented statewide. HMGP is a major funding component for implementing mitigation actions identified in state and local hazard mitigation plans.

### 8.3.5 Pre-Disaster Mitigation Program

The Disaster Mitigation Act of 2000 (DMA2K), Public Law 106-390, was signed into law on October 30, 2000, and established a national program for pre-disaster hazard mitigation. The purpose of the law was to create a significant opportunity to reduce disaster losses through pre-disaster mitigation planning; streamline recovery process through planned, pre-identified, cost-effective mitigation; and link pre- and post-disaster mitigation planning and initiatives.

Section 203 of the Stafford Act, as amended by Section 102 of the DMA2K, created the Pre-Disaster Mitigation (PDM) program. The PDM makes funding available to state, local and Indian Tribal governments to implement cost-effective hazard mitigation activities that complement a comprehensive mitigation program. Funding may be awarded for the development of an all-hazards mitigation plan or for a cost-effective hazard mitigation project. Like the HMGP, FMA, RFC and SRL programs, applicants must be participating in the NFIP (if they have been identified as having special flood hazard area) and be in good standing.

Interim Final Rule, 44 CFR Part 201, Hazard Mitigation Planning, published February 26, 2002, and Final Rule published October 31, 2008, established criteria for State and local hazard mitigation planning authorized by Section 322 of the Stafford Act, as amended by Section 104 of the DMA2K. After November 1, 2004, local and tribal governments applying for PDM funds through the states have to have an approved local mitigation plan prior to the approval of local mitigation project grants. States are also required to have an approved Standard State mitigation plan in order to receive PDM funds for State or local mitigation projects after November 1, 2004. The development of the State of Wisconsin Hazard Mitigation Plan will meet that requirement. Therefore, the development of State and local hazard mitigation plans is the key to maintaining eligibility for PDM funding.

Successful grants receive 75% federal funding to total project costs. The applicant is responsible for 25%. Small impoverished communities may receive federal funding of 90%. The local share may be in the form of in-kind services as well as dollars; however, no other federal source of money may be used to fund the local share.

In 2002 FEMA provided a one-time grant in the amount of $50,000 to each state to assist the states to prepare for and develop processes and procedures for implementing

the program. In addition, the State received $476,883 in federal funds for local hazard mitigation planning. The funds were used to award planning grants to thirteen counties and five jurisdictions for the development of all hazard mitigation plans. In addition, FEMA provided planning grants directly to three of the states Tribal governments.

The 2003 PDM budget provided $248,375 in federal funds to each state. The State used the funds to award planning grants to another seven counties for the development of mitigation plans.

The remaining PDM appropriation of approximately $130 million was made available to initiate a national PDM competitive grant program for pre-disaster mitigation activities. The intent of the PDM-C is to provide a consistent source of funding to sate, tribal and local governments for pre-disaster mitigation planning and projects. The State submitted five Planning Grant applications (three counties and two Tribal governments), six Project Grant applications, as well as a State Management Cost grant for a total of $4,166,386 ($3,142,441 federal share.) One planning and one project subgrant were determined to be small and impoverished, therefore, eligible for 90% federal funding. The PDM-C applications were determined to be eligible were evaluated by a National Evaluation Panel in accordance with PDM-C Grant Guidance and Notice of Funds Availability, and subsequently were approved for funding. In addition, one tribal organization applied as a grantee to FEMA and received a planning grant.

PDM-C funds for 2004 and 2005 were combined and announced in FFY2005. The State's application included 19 planning and 5 project grants in addition to State Management Costs in the amount of $3,549,249. The State was awarded $1,464,463 for 17 planning grants, and projects along with State Management Costs.

PDM-C funding in 2006 was reduced to $50 million nationwide. This limited the states applications to five subapplications plus management costs. The State submitted three planning, two project grants, and state management costs totaling $947,011. The planning grants and one project were funded in the amount of $243,553. The second project application for a storm shelter was determined to be eligible, but was not funded due to the lack of funds. The application was resubmitted in 2007.

The State submitted a PDM-C application in 2007 for $1,831,102. The application included a request for 11 planning grants and 2 projects as well as state management costs. Nine of the 11 planning grants and 1 project grant have been approved along with State Management Costs for a total of $1,769,677. The project grant for a community storm shelter from 2006 was resubmitted and approved for funding in 2007.

The 2008 PDM-C application included 7 planning grants and 1 project along with State Management Cost for a total of $2,167,758. The planning grants and State Management Costs were approved in the amount of $262,914. As a result of a Congressional Directive, the State submitted a LPDM (Legislative Pre-Disaster Mitigation) grant in the amount of $630,000. That request was denied as it was determined not to be cost effective. The community is submitting an alternate project.

WEM received eight (8) planning grant applications for the FFY09 PDM-C funding cycle (1 development of a new plan, 6 updates of existing countywide, multijurisdictional plans, and 2 updates of existing single-jurisdiction plans.) The total amount requested was $353,648.18. One project application was submitted under PDM-C for a stormwater detention project in the City of Superior totaling $4,764,903. Finally, WEM submitted a request for Management Costs in the amount of $36,768. The FFY09 grant applications are still pending. Again in 2009, the state was designated with a LDPM grant in the amount of $300,000. The state is working with the community on the application.

Only those communities that have an approved all-hazards mitigation plan are eligible to apply for future PDM-C project funds.

As a result of the PDM funds that have been made available to the State, 64 all hazard mitigation plans are complete or under development (47 counties, 8 county plan updates, 5 jurisdictions, 3 Tribal governments, and 1 university). In addition, 5 Tribal governments have received PDM grants directly from FEMA. As stated previously, the DMA2K also authorized 7% of HMGP funds to be available to states to be used for developing mitigation plans. As a result of that authorization, another 18 plans (11 counties, 2 county plan updates, and 5 single jurisdictions) have been funded. Two (2) more countywide plans have been developed under the Project Impact initiative. Total planning efforts involves 60 counties, 10 county plan updates, 11 single jurisdictions, 8 Tribal governments, and 1 university for a total of 90 plans. The federal, state, and local or Tribal investment in this planning effort is nearly $5.4 million.

On January 22, 2009, the State of Wisconsin had its first Disaster Resistant University (DRU) approved for the University of Wisconsin-River Falls. There are several other state universities interested in developing DRU plans and mitigation staff is committed to assisting in the plans development. The DRU plans will follow the same methodology as the local mitigation plans for the incorporation into the State of Wisconsin Hazard Mitigation Plan in the next three-year update.

In FFY05, WEM received a PDM state planning grant for a Risk Assessment of State-Owned and Operated Buildings, Critical Facilities and Infrastructure. There are approximately 6,500 state facilities (not counting infrastructure) in the State of Wisconsin. It would take one person working full-time nearly 28 years to visit every facility. Therefore, a strategy has been developed to obtain needed site specific information on those facilities and infrastructure that are most critical and may be at most risk from future disasters. WEM along with the Department of Administration created a Wisconsin Risk Assessment Data Collection Worksheet that will be as a basis for collecting information from each of the determined critical facilities. The collection worksheet covers everything from general information, such as location, to more detailed questions involving construction materials. All of this data is needed to create an accurate risk assessment. Page 4-189—4-204 of the State Hazard Mitigation Plan

includes the Wisconsin Risk Assessment Data Collection Worksheet. This information will also be included in future updates of the State of Wisconsin Hazard Mitigation Plan.

WEM applied for and received a 2007 PDM-C grant for updating the State Hazard Mitigation Plan. A larger portion of the grant was for the development of a statewide HAZUS flood risk assessment. With support from the University of Indiana Purdue-POLIS Center, the University of Wisconsin-Land Information and Computer Graphics Facility (LICGF) completed a statewide HAZUS flood risk assessment. The results can be found in Section 4.5. The County Assessments will be provided to the counties to assist them in development or update of the county all hazard mitigation plans. This statewide HAZUS flood risk assessment was included in the 2008 update of the State of Wisconsin Hazard Mitigation Plan. In addition, the individual county HAZUS flood risk assessments were distributed to all counties and specified local jurisdictions so it may be included in the local mitigation plans. Finally, the county HAZUS flood risk assessments were also distributed to each respective Regional Planning Commission. FEMA highlighted Wisconsin's Statewide Flood Risk Assessment efforts in a Best Practices story that can be found at http://www.fema.gov/mitigationbp/brief.do?mitssId=4453.

WEM Mitigation staff work with local jurisdictions and Regional Planning Commissions to develop projects. Staff has served on the National Evaluation Team. WEM will continue to work directly with FEMA Region V to submit projects for future PDM funding. Further, the SHMO participated on the National Review Panel for the Maryland State Enhance Plan review and the Washington State Enhanced Hazard Mitigation Plan review in 2008.

### 8.3.6 Repetitive Flood Claims Program

In 2006, Congress appropriated $10 million for the Repetitive Flood Claims (RFC) program to provide funding to reduce or eliminate the long-term risk of flood damage to structures insured through the NFIP that have had one or more claim payments for flood damages. RFC funds are made available to mitigate structures within a state or community that cannot meet the requirements of the FMA program for either cost share or capacity to manage the activities. RFC grants were 100% federally funded, and could be used to acquire, demolish or relocate NFIP insured properties that had at least one paid flood claim with priority given to those properties that met the SRL definition. Like the FMA program, state and local management costs are available. The State is required to have an approved Hazard Mitigation Plan; however, a local mitigation plan is not required. The applications are submitted to FEMA through a national competition. The projects with the most saving or benefits to the program receive priority. The State did not receive any RFC applications in 2006 and 2007. The 2008 and 2009 guidance in addition to acquisition, demolition or relocation identified eligible activities of elevation, dry floodproofing of non-residential structures and minor localized flood control projects with funding limited to $1 million per project. The State again did not receive any RFC applications in 2008. For 2009, the State worked with a community in Waukesha County on the potential acquisition and demolition of a property that was

substantially damaged in the June 2008 floods. However, the project was determined not to be cost effective.

### 8.3.7 Severe Repetitive Loss Program

The NFIP pays out $200 million annually in flood insurance claims, but about 30% of the total claims go to property owners who hold only 1% of the 4.5 million policies issued. Congress worked on a bill for several years to address these Severe Repetitive Loss (SRL) properties. As a result of that work, the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 was signed into law on June 30, 2004. The Act includes measures to address those properties that result in a disproportionate amount of claims on to the NFIP. The Act creates a pilot program for mitigation of severe repetitive loss properties, and funding in the FMA Program will be increased from $20 to $40 million for five years. "Severe repetitive loss properties" are defined as NFIP-insured residential properties that (a) have at least 4 or more NFIP claim payments over $5,000 each, when at least two such claims have occurred within any 10-year period, and the cumulative amount of such claims payments exceeds $20,000; or (b) for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.

The SRL Pilot Program was announced in 2008 with $80 million available to mitigate properties that met the SRL definition. The purpose of the program is to reduce or eliminate the long-term risk of flood damage to SRL residential properties and the associated drain on the NFIP from such properties. Eligible activities include acquisition, demolition or relocation; elevation; dry floodproofing of historic structures; minor physical localized flood control projects; and mitigation reconstruction (demolition and rebuilding of structures.) Like the FMA and RFC programs, state and local management costs are available. Both the State and community must have an approved hazard mitigation plan that meets the requirements of 44 CFR Part 201. Funding is 75% federal with a 25% local match. The match can be reduced to 10% for states with an approved State mitigation plan that includes a strategy for reducing the number of repetitive loss properties. The State of Wisconsin will support, through funding and technical assistance, the development of local mitigation plans in counties with severe repetitive loss properties. It is a priority of Wisconsin Emergency Management to provide a grant to those counties that currently do not have a local hazard mitigation planning grant and have severe repetitive loss properties. In addition, WEM will work one-on-one with the county to assist in the plan, as well as with the community to assist in the project application for SRL properties.

There were 17 states designated at "target states" meaning they had more than 51 identified SRL properties. Illinois was the only State in Region V that met these criteria. Target states received allocations based on the number of SRL properties in the state. Ten percent was set aside for non-target states. As of December 31, 2008, Wisconsin had three identified properties that met the SRL definition; one in Pierce County, and two in Washington County. (Previously there had been a SRL property identified in Jefferson County. The County has since acquired and demolished the identified structure utilizing HMGP funds.) Washington County does not have an approved

hazard mitigation plan; therefore, they are ineligible for the SRL program. WEM offered a hazard mitigation planning grant under the 1768 declaration and Washington County said that they were not interested. WEM will work with Pierce County for potential funding for the project in that County.

If the owner of a severe repetitive loss property refuses an offer made under the program, the flood insurance premium will increase to 150% upon renewal; and again increased another 150% subsequent to each future claim of more than $1,500.

### 8.3.8 Unified Hazard Mitigation Assistance Program

Beginning FFY 2009, FEMA has unified the PDM program with the FMA, RFC and SRL programs into a unified Hazard Mitigation Assistance (HMA) program application cycle. The statutory origins of the programs differ, but all share the common goals of reducing the loss of life and property due to natural hazards. It is said that 80% of the programs are similar with 20% in unique difference. FEMA has combined the guidance for the four programs into one comprehensive document. It consolidates program eligibility information under one cover and outlines both the common elements and spells out the unique requirements among the programs so that officials can easily identify key similarities and differences between the various programs. Ultimately the HMGP will be integrated into the HMA guidance, providing a single guidance and referenced documents for both pre and post disaster hazard mitigation assistance. The application period for the 2009 HMA program was December 19, 2008. WEM received eight (8) planning grant applications for the FFY09 PDM-C funding cycle (1 development of a new plan, 6 updates of existing countywide, multijurisdictional plans, and 2 updates of existing single-jurisdiction plans.) The total amount requested was $353,648.18. One project application was submitted under PDM-C for a stormwater detention project in the City of Superior totaling $4,764,903. Finally, WEM submitted a request for Management Costs in the amount of $36,768. The FFY09 grant applications are still pending. In addition, an FMA project application for the City of Darlington was submitted to acquire and demolish one structure along the Pecatonica River. The City has successfully received and implemented 3 HMGP, 4 FMA and 2 PDM grants, and has acquired and demolished 16 structures and floodproofed 19. It is the hope of WEM that the FFY09 HMA projects and planning grants are funded.

### 8.3.9 HAZUS-MH

HAZUS-MH was developed by the Federal Emergency Management Agency [FEMA] under contract with the National Institute of Building Sciences [NIBS]. NIBS maintains committees of wind, flood, earthquake, hurricane and software experts to provide technical oversight and guidance to HAZUS-MH development. Loss estimates produced by HAZUS-MH are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. Estimating losses is essential to decision-making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness, and response and recovery planning. HAZUS-MH

provides estimates of hazard-related damage before a disaster occurs and takes into account various impacts of a hazard event. The impacts include the following:

- Physical damage to residential and commercial buildings, schools, critical facilities and infrastructure.
- Economic loss, including lost jobs, business interruptions, repair and reconstruction costs.
- Social impacts, including impacts to people, including requirements for shelters and medical aid.

HAZUS-MH uses state-of-the-art geographic information system [GIS] software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of hurricane winds, floods, and earthquakes on populations. HAZUS-MH provides for three levels of analysis:

- A Level 1 analysis yields a rough estimate based on the nationwide database and is a way to begin the risk assessment process and prioritize high-risk communities.
- A Level 2 analysis requires the input of additional or refined data and hazard maps that will produce more accurate risk and loss estimates. Assistance from local emergency management personnel, city planners, GIS professionals, and others may be necessary for this level of analysis.
- A Level 3 analysis yields the most accurate estimate of loss and typically requires the involvement of technical experts such as structural and geotechnical engineers who can modify loss parameters based on to the specific conditions of a community. This level analysis will allow users to supply their own techniques to study special conditions such as dam breaks and tsunamis. Engineering and other expertise is needed at this level.

The risk assessment and vulnerability analysis is one of the most difficult tasks for local governments to complete in developing a hazard mitigation plan. HAZUS can greatly assist in this effort. In addition HAZUS may assist local governments in developing mitigation policies, developing and improving emergency operations plans, assist in generating scenarios for exercises and training purposes and for quickly estimating losses after a disaster and what resources will be required for response and recovery. The GIS capability of local governments will determine how successful they are in utilizing HAZUS.

A previous WEM mitigation staff member completed HAZUS-MH training at the Emergency Management Institute, and interfaced with software developers to gain access to updated versions of the programs and to solve problems encountered with the software. Several mitigation staff including the SHMO participates on the Central HAZUS Users Group (CHUG) and have subsequently formed a State HAZUS Users Group to further the use of the software in the State. Staff is working closely with the Bay Lakes and East Central Regional Planning Commissions in the use of HAZUS.

WEM hosted a four-day HAZUS class in 2006 conducted by FEMA contractors. The four-day class included both an introduction to GIS component followed by an advanced HAZUS-MH Flood class. Thirty-two people attended the training that included state staff, RPC staff, and local government staff. Mitigation staff has also attended HAZUS classes at EMI.

As mentioned before, in 2008, WEM joined with the University of Wisconsin Land Information and Computer Graphics Facility, and the Polis Center at Indiana - Purdue University at Indianapolis on a joint effort to create at statewide HAZUS flood risk assessment for all 72 counties. This statewide HAZUS flood risk assessment was included in the 2008 update of the State of Wisconsin Hazard Mitigation Plan. In addition, the individual county HAZUS flood risk assessments were distributed to all counties and specified local jurisdictions so it may be included in the local mitigation plans. Finally, the county HAZUS flood risk assessments were also distributed to each respective Regional Planning Commission. FEMA highlighted Wisconsin's Statewide HAZUS Flood Risk Assessment efforts in a Best Practices story that can be found at http://www.fema.gov/mitigationbp/brief.do?mitssId=4453.

The State's mitigation action plan (Section 5.5) includes several action items related to HAZUS (actions 1.3, 3.13, 3.14, and 3.16.)

For additional information and detail on the above programs, see Section 3, Mitigation in Wisconsin.

## 8.4 PROJECT IMPLEMENTATION CAPABILITY

The Wisconsin Emergency Management (WEM) is responsible for the management and responsibility of the federal hazard mitigation grant programs. The responsibility for program coordination, implementation and administration is delegated to the State Hazard Mitigation Officer who complies with federal requirements and involves appropriate state and local governments in pre- and post-disaster hazard mitigation programs. Close coordination is maintained with the agencies on the Wisconsin Hazard Mitigation Team (WHMT) as well as the Wisconsin Recovery Task Force (WRTF) Mitigation Subcommittee who provide financial and technical assistance during disaster recovery as well as implementing the mitigation strategy of the State Hazard Mitigation Plan.

Since 1993, WEM and the WHMT have established the priority of acquisition, demolition, relocation, and/or floodproofing of floodprone properties, and have approved projects for these activities. In administering the hazard mitigation programs, WEM has established the following priorities based on funding availability and provided the projects meet all of the program criteria:

- Acquisition and demolition of properties substantially damaged;
- Acquisition and demolition of repetitive loss properties and severe repetitive loss properties;

- Acquisition and demolition of damaged properties in the floodplain;
- Acquisition and demolition of floodplain properties;
- Acquisition of flood damage properties not in the floodplain;
- Floodproofing or retrofitting flood damaged structures in the floodplain;
- Floodproofing or retrofitting flood damaged structures not in the floodplain; and
- Other hazard reduction projects (such as detention ponds, storm sewer improvements, protection of utilities, drainage, etc.).

Educational or public awareness and NOAA weather radio projects are funded under the 5% Hazard Mitigation Grant Program (HMGP) set-aside when it is felt there will be a positive outcome from the project. In addition, the State has utilized 7% of the HMGP funds available since 2001 to award Planning Grants to communities for the development of all hazard mitigation plans. The above priorities can also be found in this Plan in Section 3 and Section 5 as well as the State Administrative Plan for the HMGP, Appendix G. The priorities were revised for the plan update to include SRL properties.

To be eligible for the federal hazard mitigation programs, a project must meet the federal minimum project criteria listed below.

1. Be in conformance with the State Hazard Mitigation Plan.

2. Have a beneficial impact upon the project area.

3. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands and 44 CFR Part 10, Environmental Considerations.

4. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. (Projects that merely identify or analyze hazards or problems without a funded, scheduled implementation program are not eligible.)

5. Addresses a problem that has been repetitive, or a problem that poses a significant risk if left unsolved (*i.e.* evaluating the hazard in terms of the frequency and intensity of expected occurrences).

6. Be cost-effective. Demonstrate that the project will not cost more than the anticipated value of the reduction in both direct damages (property) and subsequent negative impacts (loss of function, deaths, injuries) to the area if future disasters were to occur. Both costs and benefits will be computed on a net present value basis (*i.e.* obtaining expected damage estimates as a function of hazard intensity).

7. Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options, including the “no action” alternative.

8. Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address.

9. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

10. Have an approved hazard mitigation plan. If they do not (for HMGP), must have the capability and desire to complete within twelve months.

In addition, WEM also considers the following criteria in evaluating proposed mitigation projects:

1. Conformance with the goals and priorities of the State Hazard Mitigation Plan.

2. Mitigation activities that fit within an overall plan for development in the community, disaster area, or state.

3. Mitigation activities that if not taken will have a severe detrimental impact on the community such as the loss of life, loss of essential services, damage to critical facilities, or economic hardship.

4. Mitigation activities that have the greatest potential for reducing future disaster losses.

5. Mitigation activities that are designed to accomplish multiple objectives, including damage reduction, environmental enhancement, historical preservation, recreational opportunities, and economic recovery.

6. The community's level of interest and demonstrated degree of commitment to mitigation programs and activities.

7. Communities participation in and compliance with the National Flood Insurance Program (NFIP). WEM coordinates closely with the Wisconsin Department of Natural Resources in determining a community's compliance with the NFIP.

8. The proposed project does not encourage development in a SFHA.

9. The proposed project is in conformance with the community's comprehensive land use plan, hazard mitigation plan, or capital improvements program where such plans and programs exist.

WEM reviews all proposed mitigation measures to ensure that the proposed projects are eligible and meet minimum criteria as outlined above. In evaluating proposed projects, WEM reviews, ranks and scores proposed projects based on certain criteria (see Appendix G, State Administrative Plan for the Hazard Mitigation Grant Program-August 2008, Attachment C.) Based on the evaluation and funding availability, a list of

recommended projects will be submitted to the WEM Administrator for further consideration. Based on State priorities, non-structural projects such as acquisition, demolition, relocation and floodproofing receive the highest ranking and the greatest consideration for funding. Some projects may be referred to other agencies through the WHMT for appropriate funding. In addition, WEM will work with the WHMT, and where applicable, the WRTF, to "package" funding for projects where possible to maximize the funding that is available. Proposed projects are evaluated based on project type, site vulnerability, project benefits, and other considerations..

Items considered in evaluating proposed projects:

1. Type of project (structural versus non-structural)

2. Site vulnerability

    - Frequency of event
    - Does the project involve removing structures from the hazard area
    - Does the project address multi-hazards

3. Project Benefits

    - Alleviate or reduce the need for emergency services during disasters
    - Alleviate or reduce damages to improved structures
    - Beneficial impact on more than one community or is it multi-jurisdictional
    - Solve a problem independently or is it part of another solution with assurance that the project will be completed
    - Long-term solution to a repetitive or imminently dangerous situation
    - Directly prevents death and injury by reducing a person's vulnerability to the hazard
    - Substantially reduces future disaster costs
    - Reduces the cost of repairing repetitive damages
    - Restores floodplains and/or wetlands
    - Multiple objectives such as damage reduction, environmental enhancement and economic recovery
    - Promotes economic growth and community development

- Promotes development of recreational areas/historic areas
- Provides flood protection beyond the 100-year flood event

The following additional criteria is considered on projects that meet State priority particularly when there is insufficient funding and there is a need to prioritize projects among multiple jurisdictions (State priorities are listed on p. 8-25 and 8-26):

- In a declared disaster area
- Number of times in a declared disaster area.
- If RLP or SRL properties are included in the project.
- Status of mitigation plan
- Involves use of innovative approaches to mitigation
- Project submitted previously
- Other agencies willing to provide funds towards the proposed project
- Community willing to put funds towards the project over and above the required local match
- Funds available to fund the entire project
- Future maintenance requirements for the project
- Community participates in the Community Rating System

For the Flood Mitigation Assistance Program, that the proposed project must address mitigating a NFIP insured property with repetitive loss or severe repetitive loss properties receiving priority. For the Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) programs, specific criteria are listed as well.

As stated in the above criteria, projects have to be cost-effective. Only projects with a benefit-cost ratio of at least 1 to 1 will be forwarded to FEMA for approval. WEM mitigation staff have been performing and completing the benefit-cost analyses since 1997 for the federal hazard mitigation grant programs. The staff has developed expertise in performing this function by attending benefit-cost analysis training when it is offered by FEMA, as well as utilizing the FEMA Mitigation BCA Toolkit.

Although the state mitigation staff completes the benefit-cost analysis, they depend on information in the application provided by the community. To help communities develop mitigation projects that are as cost-effective as possible, and that have a benefit of one

dollar for each dollar of cost, the mitigation staff developed the Property Data Worksheet and the Damage Assessment Worksheet. The information requested on the worksheets provides staff with the data necessary for an accurate and complete benefit-cost analysis. (The worksheets can be found in Appendix G, Administrative Plan for the HMGP, Attachment D.) WEM also hosted a Benefit-Costs Analysis Workshop in October 2007 for local officials to understand the software and the type of data required. The workshop was very well attended with 24 attendees. The training provided a clear understanding to the local government representatives attending of the required documentation for the BCA and why the information was needed.

Mitigation staff uses the FEMA-approved benefit-cost modules in performing benefit-cost analyses for proposed mitigation projects, which are based on criteria established in OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs. (See the following section for more information regarding benefit-cost analyses.)

With the release of the new BCAR software in the fall of 2008, WEM Mitigation Staff will attend the appropriate training in order to get the most out of the updated software.

Although the results of the benefit-cost analysis are a factor in determining project eligibility, it is not the only factor considered. Again, the project needs to meet federal and state priorities and criteria. Funding availability is also a consideration.

## 8.5 PROGRAM MANAGEMENT CAPABILITY

October 2000 through February 2006, a Memorandum of Understanding had existed between FEMA and WEM recognizing the state as a Hazard Mitigation Grant Program Managing State. The MOU was developed to build a FEMA-State collaborative partnership for the implementation of the HMGP. The agreement defined the roles and responsibilities of each agency. Under the arrangement, responsibility for eligibility reviews for each project application was shifted to WEM with FEMA reviewing the project summaries provided by the WEM for compliance with program requirements. In addition, FEMA would conclude the environmental review. The changes in the roles and responsibilities resulted in a faster approval of projects, in most cases less than 30 days after submittal from the State to FEMA. Per the agreement WEM agreed to:

- Perform eligibility reviews for full project applications
- Apply streamlined procedures for certain project types as identified in the MOU
- Determine cost-effectiveness for all projects using standard benefit-cost methodology and provide documentation
- Undertake environmental review tasks and complete the Record of Environmental Review (RER) for FEMA's signature
- Provide complete project applications to FEMA within 18 months (now one year) for each project that WEM selects for funding and submit through NEMIS

The Memorandum of Agreement can be found in Appendix H. The MOA was

terminated in a letter from FEMA, Region V, dated February 15, 2006, as 44 CFR 201 states; "Management state means a state to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA. . . ." Since FEMA has yet to develop the "managing state" criteria, the MOA was terminated by the Region. However, WEM continues to perform the state's roles and responsibilities identified in the MOA.

The mitigation staff's management ability to manage hazard mitigation programs effectively is demonstrated by their success in the first year of the Pre-Disaster Mitigation Competitive Program funding cycle. The State submitted twelve applications in the national competition via the new e-grants system, five planning, six project and the state management costs for a total of $4,166,386 ($3,142,441 federal share). The state was advised that all of the projects were successful through the evaluation process.

Another example of the State mitigation staffs' ability to management the program was demonstrated in the fall of 2002. As part of the federal disaster declared after the devastating Ladysmith tornado that occurred on September 2, 2002, funding estimates for the Hazard Mitigation Grant Program were established at the beginning of the declaration based on damage figures from the Preliminary Damage Assessment. The estimates for the HMGP are then reviewed 90 days after the declaration and are adjusted upwards or downwards based on current projections. In this case, the estimate was going to be greatly reduced. Therefore, State mitigation staff recognized the large amount of money that could be utilized for projects if they could be submitted and approved by the Federal Emergency Management Agency by December 10, 2002, or before the 90-day estimate was established.

This was an arduous task for not only the State and FEMA to accomplish, but also the applicants who were responsible for providing all of the required information for the application process. State Mitigation staff worked extensively with State agency partners to obtain and expedite the concurrence that was necessary for the environmental review. Application packages were submitted to FEMA in a very short period of time. In turn, FEMA completed project review, environmental review and fully allocated and obligated all funds. This entire process approved and funded ten projects for $1,089,584. Without this fast-track approach the State would have only been funded $529,072. This is a substantial difference, and would not have been accomplished without the efforts of local, State, and FEMA staff.

However, the State mitigation staffs' greatest test (in the ability to manage the program) lies with the administration of HMGP from the 2008 June floods. The State's HMGP allocated is $30.8 million for FEMA-1768-DR-WI declared on June 14, 2008. DR-1768 is by and far the worst disaster Wisconsin has faced. The HMGP will be the largest in State history; double the previous amount from the 1993 Midwest Floods.

The State Administrative Plan for the Hazard Mitigation Grant Program (Appendix G) details how the State mitigation staff administers the hazard mitigation grant programs.

Although there is not a specific administrative plan for the Flood Mitigation Assistance, the Pre-Disaster Mitigation, the Repetitive Flood Claims, or the Severe Repetitive Loss Program, the same basic procedures are used for these programs as those for the HMGP. How the mitigation staff handles the notification of hazard mitigation grant funds and the application process are summarized below from the administrative plan:

- As soon as possible following the notice from FEMA on the availability of mitigation funds, the State solicits applications statewide. Included is information on funding availability, eligibility criteria, State's priorities, application deadlines, and other pertinent information. At a minimum, applications notices are distributed to all the County Emergency Management offices statewide, the Regional Planning Commissions, tribal government organizations, and if post-disaster to all of the Public Assistance applicants in the declared area, communities with ongoing mitigation funding needs, as well as the Wisconsin Hazard Mitigation Team. The mitigation staff maintains an ongoing list of communities interested in applying for mitigation funds as they come available, and they are also mailed information on the application process and information is posted to WEM's website. In the post-disaster situation, applications are also mailed to potential applicants outside of the disaster area.

- Other potential applicants are identified through information gathered in the Preliminary Damage Assessment, community site visits, through communication with the WHMT, and information provided by the Public Assistance Officer based on information provided through contacts in that program.

- In the post disaster situation, a detailed overview of the HMGP and now planning requirements is presented at the Applicants Briefings for the Public Assistance Program.

- In the post disaster situation, an overview of the mitigation programs and planning requirements is also presented at Substantial Damage Determination Workshops, if held.

- Pre-applications are solicited for the HMGP. Each pre-application is reviewed, scored and ranked. Based on the ranking, state priorities and funding availability, full application packets are mailed to selected communities. The full application can be found in Appendix G, Attachment D. Communities will normally have 60 days to complete the application and submit to WEM.

- For all five federal mitigation programs, i.e., HMGP, FMA, PDM-C, RFC, and SRL applicants are required to provide extensive information on proposed projects:

    - Primary and secondary contact persons for the project, i.e., designation of applicant's agent
    - Project cost estimate
    - Identification of source for local match requirements

  - Project title and detailed description
  - Information on direct and indirect damages and other impacts. This information is for the benefit-cost analysis (see section below for more details on preparing and submitting accurate BCA)
  - Project location including appropriate maps
  - Pictures of the project site
  - Required future maintenance for the project
  - Work schedule including milestones and estimated completion date
  - Cost breakdown for the project
  - Considered alternatives (at least two besides the proposed project)
  - Environmental considerations (see section below for more details on preparing and submitting accurate environmental reviews)
  - Mitigation Plan status
  - NFIP Status
  - Assurances for construction and non-construction projects

- Additional requirements for acquisition projects:

  - Statement of Assurances for Property Acquisition projects with attached warranty deed restrictions.
  - Signed Notice of Voluntary Interest Forms.
  - BCA Property Data Worksheet.
  - Signed FEMA Form 90-96B, Declaration of Release, if needed.

- Signed Acknowledgement of Conditions of Projects in a Special Flood Hazard Area, if applicable.

- State mitigation staff provides technical assistance to assist applicants in completing applications and provides guidance. On a side note, after the June 2008 Floods, mitigation staff conducted a “Buyout Workshop” for all communities interested in the acquisition/demolition of flood damaged structures. The workshop was very well attended and staff is considering conducting a course similar to it in the future.

- Once received, mitigation staff reviews each application for completeness and ensure that adequate information has been provided and that the project meets minimum eligibility requirements. Staff will contact the applicant to obtain additional information as necessary and involve appropriate members of the WHMT in the review process.

- If the application is complete and the project meets eligibility requirements, mitigation staff will perform a BCA for the proposed project.

- Mitigation staff will complete the required environmental review process on eligible projects with a positive BCA.

- For the HMGP, based on funding availability the SHMO will make a recommendation

to the WEM Administrator who will make the final decision regarding the selection of projects to forward to FEMA for final approval. Applications will be submitted to FEMA as soon as possible after the disaster but no later than 12 months of the declaration (or 18 months with approved extensions.)

- For the HMA program, complete applications that meet the minimum program requirements will be prioritized and forwarded to FEMA for funding consideration. WEM will submit the grantee and subgrantee applications within the allocated timeframe established by FEMA.

### 8.5.1 Preparing and Submitting Accurate Environmental Reviews

WEM:

1. Coordinates with the FEMA Regional Environmental Officer (REO), Project Officer and other sate and federal agencies during the project development process to address environmental issues.

2. Completes formal consultation required specifically of federal agencies under federal environmental laws and NEPA (National Environmental Protection Act) including, but not limited to, formal endangered species consultation or historic preservation MOUs and Programmatic Agreements.

3. Undertakes environmental review tasks (including tasks related to the National Historic Preservation Act); gathers necessary environmental data through the applicant, past studies, and informal consultation with state and other federal agencies; recommends level of review under the NEPA.

4. Completes and submits the Record of Environmental Consideration (REC) and all supporting documentation with submission of the project application.

5. Ensures that the required public notices are completed.

FEMA:

1. Provides WEM with the current REC.

2. Reviews WEM's REC, supporting documentation and recommendation for level of review and makes a final decision on level of NEPA review.

3. Coordinates with WEM to complete the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) for projects that do not clearly fall under the categorical exclusion (CATEX) category.

4. Prepares and/or reviews appropriate NEPA and other environmental documents.

Approve or request additional information with 30 business days of receipt of a project summary from WEM.

5. Coordinates with WEM if there is a need to utilize a technical contractor.

Below is a list of regulations that WEM reviews to ensure compliance with applicable historic and environmental protections laws and regulations:

- Historic and Archaeological Resources (PL 96-515, Section 106)
- Floodplain Management - Presidential Executive Order 11988 (44 CFR Part 9)
- Protection of Wetlands – Executive Order 11990 (44 CFR Part 9)
- Environmental Justice - Presidential Executive Order 12898 (59 Fed.Reg. 7629-7633)
- Endangered Species Act (16 USC Section 1531)
- Fish and Wildlife Coordination Act (16 USC Section 661)
- Wild and Scenic Rivers Act (16 USC Section 271)
- Rivers and Harbors Act (Section 10)
- Wilderness Act (16 USC)
- Farmlands Protection Policy Act (16 USC)
- Coastal Zone Management Act (16 USC, Section 1451)
- Coastal Barrier Resources Act (16 USC)
- Clean Air Act (16 USC)
- Clean Water Act (Section 404) (16 USC)
- Hazardous Material and Hazardous Waste (determine if project site involved in a Superfund site, has above or underground storage tanks, or other potential contaminants)

Appendix G, Administrative Plan for the HMGP, page 12 and Attachment E, includes the procedures for preparing and completing accurate environmental reviews. The same procedures apply for the HMA Programs.

### 8.5.2 Preparing and Submitting Accurate Benefit-Cost Analysis

As previously stated in Section 8.3, projects have to be cost-effective. Only projects with a benefit-cost ratio of at least 1 to 1 are forwarded to FEMA for approval. WEM mitigation staff have been performing and completing the benefit-cost analyses since 1997 for the federal hazard mitigation grant programs, and have developed expertise in performing this function.

To assist communities develop mitigation projects that are as cost-effective as possible, and that have a benefit of one dollar for each dollar of cost, the mitigation staff developed worksheets as part of the applications for HMGP and HMA programs. The information to be included on the Property Data and the Damage Assessment Worksheets provides staff with the data necessary to complete an accurate and complete benefit-cost analysis. (The worksheets can be found in Appendix G, Administrative Plan for the HMGP, Attachment D.)

Mitigation staff uses the FEMA-approved benefit-cost modules in performing benefit-cost analyses for proposed mitigation projects, which are based on criteria established in OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs. In addition, the FEMA Mitigation BCA Toolkit is extensively utilized in documenting eligible costs for completing an accurate BCA.

WEM also hosted a Benefit-Costs Analysis Workshop in October 2007 for local officials to understand the software and the type of data required. WEM hopes to host future classes. With the release of the new BCAR software in the fall of 2008, WEM Mitigation Staff will attend the appropriate training in order to get the most out of the updated software.

Although the results of the benefit-cost analysis are a factor in determining project eligibility, it is not the only factor considered. Again, the project needs to meet federal and state priorities and criteria as previously identified in this plan. Funding availability is also a major consideration.

Basic information that must be obtained before a BCA can be performed includes, but not limited to:

1. Flood Insurance Study (FIS) data or historical flood data. This includes flood frequency, discharge and elevation.

2. Past disaster damages.

3. Well documented cost-estimate for the project.

4. Useful life of the project.

5. Square footage of the building/s and replacement values along with contents value.

6. Function of the facility.

7. Associated future maintenance costs.

8. Displacement costs.

9. Temporary relocation costs.

Based on the type of project and information provided in the application, will determine which benefit cost analysis module will be used to determine the project's cost effectiveness. If data is limited or incomplete, the BCA that uses limited data is used whereas if there is more complete data, a more detailed BCA is utilized. Tornado module is used for projects such as storm shelters or retrofitting buildings for tornado/wind resistance.

Benefit cost analysis is used for all projects to determine cost-effectiveness. The BCA determines whether the cost of investing in a project today, will result in sufficiently reduced damages in the future to justify spending the money on the project. If the benefit is greater than the cost, then the project is cost-effective. The BCA for each project is basically the same, the difference is the type of data used in the calculations.

1. Cost effectiveness is determined by comparing the project cost to the value of damages prevented after the mitigation measure.

2. If the dollar-value of the benefits exceeds the cost of funding the project, the project is cost-effective. To arrive at a ratio, the benefits are divided by the costs, resulting in a benefit-cost ratio (BCR). The BCR simply states whether the benefits exceed the project costs, and by how much.

3. To arrive at a BCR, divide the benefits by the cost. If the result is 1.0 or greater, then the project is cost-effective. If it is less then 1.0, it is not cost-effective.

WEM:

1. Determines cost-effectiveness of projects using standard benefit-cost methodology. (FEMA's standard methodology is recommended, however, WEM may use any standard methodology including narrative mutually agreed to by FEMA and WEM.) WEM has the option of of the two FEMA computer BCA modules (The Full Data and Limited Data) based on the availability of appropriate and accurate data.

2. Documents the BCA fully, including explanations of assumptions, data derivations and analytical techniques.

3. Attaches the BCA summary narrative and Data Documentation Templates to project application packages for FEMA review.

4. Utilizes a technical contractor if the need arises.

FEMA:

1. Provides BCA module software, accompanying technical manuals and training.

2. Reviews benefit-cost analysis and Data Documentation Template before approving projects.

3. If the BCA is determined to be unacceptable, provide within 15 days, a written explanation of the problems and (where possible) propose solutions to those problems.

WEM generally uses one of the two BCA modules to determine a project's BCR: Limited Data, and Full Data Analysis. (The tornado module is used for certain wind projects.) The module used is based on the availability of accurate and verifiable damage/benefit data and project cost as provided in the application. Below is a summary of the data needed for each type of analysis.

1. Limited Data (LD) Modules

   This module is used when there is at least one accurate, documented relationship established between the return frequency of a given event and the damage resulting from it. For example, it is known that a 30-year flood caused $500,000 in damage, the frequency-damage relationship is established and the LD module is used. Using more than one point at which this relationship is known greatly increases the accuracy of the analysis, so WEM attempts to get more than this basic information when using the LD module. The source of information used to establish the frequency-damage relationship must be credible and damage information must be documented.

2. Full Data Modules

   The Full Data modules may be used when accurate information is known such as:

   - Hazard probability and magnitude
   - Vulnerability, i.e., the susceptibility of a structure to damage at various hazard intensities such as flood depth, wind velocity, etc.
   - Characteristics of a structure and its contents (floor area, elevation, structure type, presence of basement, etc.)
   - Displacement and relocation costs (renting an apartment, moving contents

to storage, etc.)

When such information is available, the Full Data module yields the most accurate result of the two modules. WEM makes an effort to obtain as much information as possible to utilize the Full Data module as the results are more accurate and defensible.

A narrative analysis is used when the benefits of a project cannot be easily quantified into specific categories and do not conform to any of the other modules or formats. This analysis allows for a subjective, broad-based approach to quantify the benefits of a project so that all benefits of the project can be recorded and the project objectively assessed. This type of analysis is used normally in the HMGP 5% State Initiative projects.

The results of the BCA will determine if the project is cost-effective. If the project is cost-effective, it is still under consideration by WEM for further funding consideration. At this step in the review process, WEM would start the environmental review process for the project. If the project was not cost-effective, mitigation staff would attempt to obtain additional information from the applicant to arrive at a positive BCA. If there is no additional credible data available or all available data has been utilized, and the project is still not cost-effective, the project is rejected.

### 8.5.3 Submitting Complete and Accurate Quarterly Progress and Financial Reports

Wisconsin Emergency Management mitigation staff has an excellent record of submitting timely, complete, and accurate comprehensive quarterly progress and financial reports on for the HMGP, FMA and PDM programs. WEM staff has not submitted quarterly progress and financial reports for the RFC and SRL programs as they are new programs and at this time, WEM does not have any RFC or SRL projects. The same process outlined below will be used for the RFC and SRL projects. The following summarizes the process that the mitigation staff follows in meeting quarterly reporting requirements. This information can also be found in the HMGP Administrative Plan, Appendix G. (WEM does not have a separate administrative plan for HMA, though the same procedures as for the HMGP are adhered to.)

Upon project approval, a State/Local Hazard Mitigation Assistance Agreement is signed by both WEM and the subgrantee. The agreement requires the subgrantee to submit quarterly status reports within 15 days of the end of the quarter. Due dates are January 15, April 15, July 15 and October 15. Quarterly reports contain information such as grant amount spent to date, anticipated completion date, anticipated cost overruns (or underruns), problems in implementing the project, and other information pertinent to the project. For acquisitions, demolitions, relocations and/or floodproofing additional information is required such as the number of properties acquired and/or demolished, appraisals completed, closings to date, estimated additional closings and demolitions for the next quarter, etc. (See Appendix G, Attachments J and K.) Approximately two

weeks before the end of the quarter, WEM sends out a reminder to all subgrantees that the quarterly report is due on the 15th of the following month.

Using the subgrantee quarterly reports, the mitigation staff prepares its quarterly report for the mitigation programs. The quarterly report consists of a letter with narrative information regarding each open disaster declaration, open grants, as well as information on other activities that the mitigation staff has been involved in with for the quarter. In addition, a spreadsheet is completed for each program and each grant (see Appendix G, Attachment L.) Information included on the spreadsheet includes:

- Project number and subgrantee name
- Type of project
- Grant approval date
- Grant performance period and any approved extensions
- Project Status
- Federal, state and local shares
- Grant amount including administrative cost dispersed to date and amount remaining
- General comments

The WEM Financial Management Officer (FMO) prepares and submits timely, accurate financial reports. Both the financial and progress reports are submitted within 30 days of the end of the quarter (January 30, April 30, July 30, October 30.) On rare occasions, an extension may be requested in submitting the reports due to extensive workload and/or disaster operations, and the reports are always submitted within two weeks of the due date. WEM mitigation staff has been praised by FEMA Region V for its comprehensive quarterly reports.

### 8.5.4 Completing Projects

Wisconsin Emergency Management mitigation staff has a very good record of closing out hazard mitigation grants and HMGP programs within required timeframes. The following summarizes the process that the mitigation staff follows in monitoring approved grants, completing project and declaration closeouts within established performance periods including financial reconciliation. This information can also be found in the HMGP Administrative Plan, Appendix G. (WEM does not have a separate administrative plan for HMA though the same procedures as for the HMGP are adhered to.)

The State/Local Hazard Mitigation Assistance Agreement that is signed by both WEM and the subgrantee requires the subgrantee to begin the project within 90 days of the grant approval and complete the project per the schedule submitted with the application (not to exceed three years from project obligation date.) In addition, they are required to submit a final report covering all aspects of the project within 30 days after project completion. If the subgrantee cannot complete the project within the identified performance period per the grant agreement, a request for a time extension must be submitted to WEM 60 days prior to the end of the performance period. Requests for

time extensions needs to explain why the completion date cannot be met, how much of the project work remains, and an estimated date for completion. If an extension request for any project means that the activity period will go beyond the State's performance period (or close date for disasters), the SHMO will request up to a one-year time performance extension. This request will be submitted to the Region 60 days prior to the end of the performance period.

Upon completion of all work on a project, the SHMO will certify to FEMA that costs incurred in the performance of eligible work are allowable, that the approved work was completed, and that the mitigation measure is in compliance with the Federal-State Agreement (for the HMGP) and the State/Local Assistance Agreement. WEM mitigation staff will prepare a project closeout worksheet providing a complete assessment of the project, which is submitted to FEMA Region V along with a request to close the grant (see Appendix G, Attachment M.) The Environmental Closeout Declaration (Appendix G, Attachment E, page E-12) is included with the project closeout worksheet.

When all projects are completed within the disaster declaration, the SHMO will prepare the Declaration Closeout Letter and Worksheet for the HMGP and forward to FEMA along with the request to close the declaration (see Appendix G, Attachment N.) The FMO will close out the HMGP financially by submitting a final SF 20-10, certifying project completion. All valid expenditures for the declaration will be liquidated within 90 days of the end of the performance period. There are cases where unspent funds from one project will need to be deobligated so the can be reobligated to another project with a cost overrun. In some cases this causes the declaration closeout to go beyond the 90 days. However, state staff works closely with FEMA Region V staff to close the declarations as soon as possible. The SHMO also prepares a final report for completed projects for the FMA and PDM program and submits to FEMA along with a request to close the project. Again, the FMO is responsible for submitting the final financial reports. All expenditures are liquidated within 90 days of the end of the performance periods for each program. Appendix D includes a listing of completed mitigation projects.

The subgrantee and grantee closeout reports are valuable for not only historical purposes and in monitoring projects for adherence to certain grant agreements such as open space deed restrictions, but they are also valuable in documenting disaster avoidance and developing success stories. The closeout reports including those properties that have been acquired are shared with the Department of Natural Resources Floodplain Management staff. This information is useful by floodplain management staff during community assistance contacts and visits. In addition, during these visits floodplain management staff can monitor the acquired sites to ensure that the subgrants have adhered to the required deed restrictions. WEM will also use this information in the development of Loss Avoidance studies commissioned after the 2008 floods.

As of March 1, 2009, the State has closed the HMGP for 14 of 18 disasters since 1990 for which it received grant funding. One declarations is under a time extension until

June 30, 2009. Another declaration is in the final stage of closeout. The final two are still within their performance periods. The FMA programs have all been closed for federal fiscal years 1997-2006. For the PDM, FFY02 and FFY03 (non-competitive) grants are closed. Closeouts on grants are done upon project completion.

### 8.5.5 Past Performance of State

In October 2000, FEMA and WEM signed a MOU for HMGP Managing State. On January 23, 2002, FEMA Region V and WEM participated in an evaluation of the performance of both agencies under the terms of the Managing State MOU. The performance evaluation was approved by the FEMA Community Mitigation Branch Chief and WEM Disaster Resources Section Supervisor. The evaluation stated "WEM implementation of the HMGP meets or exceeds all FEMA requirements and standards. . . .Older disasters are being managed in an exemplary fashion as well; WEM has returned minimal funds during the project closeout to process and quarterly reports are received within the region on time and include comprehensive program narratives. The State has excellent tracking procedures in place and submits them to FEMA regularly in accordance with the MOU." In addition, the State's original "enhanced plan" was approved on December 14, 2005. Reaching this status in itself demonstrates the State's ability and performance in administering and implementing a successful mitigation program.

## 8.6 ASSESSMENT OF MITIGATION ACTIONS

It has been estimated that for every $1 spent on mitigation, $4 is saved in future disaster losses ($5 for flooding losses). One of the activities is to demonstrate this by documenting the success and economic benefits of the mitigation measures implemented through the mitigation programs.

Several communities that have implemented mitigation measures through HMGP, FMA and PDM have now had the chance to test those measures. In the spring and summer of 2000 several communities had flood conditions severe enough to test the benefits of mitigation.

In May 2000, heavy rains in the Milwaukee area caused the Menomonee River to reach floodstage. The City of Wauwatosa, through HMGP and Community Development Block Grant (CDBG) funds, had acquired and demolished 23 structures in the Valley Park area along the river. If the river had risen much higher and mitigation had not been undertaken, damages would have once again occurred to the structures.

At the same time, floodwaters rose in the Village of Brown Deer along Southbranch Creek. In 1998, ten homes were substantially damaged adjacent to the creek and were acquired and demolished by the village again utilizing HMGP and CDBG funds. Milwaukee Metropolitan Sewage District (MMSD) constructed a detention basin at the site to alleviate future flooding to neighboring and down stream properties. The detention basin worked as designed alleviating flood damages to structures. The

system was again tested in May of 2004 after nearly two weeks of rain. The Village Manager reported there was no overland flooding and stated that they would definitely have had water in basements if the stormwater management projects had not been completed after the 1997 and 1998 flooding.

Trenton Island is located in the unincorporated area of Trenton Township, Pierce County and is in the middle of the Mississippi River. For years the residents of Trenton Island suffered severe and repetitive flood damage. Major floods in 1952, 1965, 1969, 1993, and 1997 devastated the community, damaging homes, businesses and island infrastructure. The Island also incurred minor flooding in 1967, 1975 and 1986. The 1993 flood hit Trenton Island hard and county officials and island residents faced some difficult choices. To prevent the suffering, damage and expense wrought by repetitive flooding, County officials applied for and received through the HMGP and CDBG to implement a buyout program. For the next several years, owners of 59 Trenton Island properties participated in the program. Another 7 sold to the Red Wing Area Fund, a local conservation group. In all 68 or 65% of island properties were purchased and returned to open space. Floods in 1997 and 2001 illustrated the benefits of the buyout program. In 1997, the crest was almost 2 feet higher than in 1993 and 2.5 feet higher in 2001. The extensive losses caused in 1993 would of have been multiplied in the 1997 and 2001 floods, and in future floods, if the homes and businesses participating in the buyout program had remained on the Island.

One of the more well known mitigation projects was the relocation of Soldiers Grove. Flooding was not a new experience to the residents of Soldiers Grove. Residents experienced flooding in 1907, 1912, 1917, 1935, 1951, and the "big one" in 1978 and lesser floods after that. The August 2007 and June 2008 floods were the biggest floods to hit the Village. The Village began to debate about what to do about the flooding in the mid-60's when the construction of a dam was considered. In 1975 a relocation coordinator was hired, and in 1976 the Village passed a resolution that supported relocation to avoid future flood damages. After the 1978 flood Village officials convinced state and federal officials that moving the town was the best floodproofing. By 1983 the project costing $6 million in public funds was completed. The Soldiers Grove central riverside municipal park and campgrounds stand where the downtown once stood. The park received little damage in 2007, however, was substantially damaged in the 2008 event. It is not hard to imagine the devastation that would have occurred if the downtown had not relocated. The Solar Village uphill was unscathed. At the time of the Soldiers Grove relocation, there were no FEMA mitigation programs available. The relocation was completed through various funding sources and from several state and federal agencies all working together in a partnership over a period of years. As a result of the 2007 disaster, the Village has received HMGP funds to elevate an additional three structures and acquire another.

Downstream of Soldiers Grove is the Village of Gays Mills. After the 1978 flood, the Village considered mitigation options, but did not move forward in implementation. The Village was struck by back-to-back floods events in August 2007 and June 2008. Both flood events were greater than 500-year flood events, which resulted in substantial

losses to residences and businesses within the Village. With two floods so close together, the Village has began to consider the possibility of relocation. The Village established a Flood Recovery Committee after the 2007 flooding, and later a Long Range Planning Committee was formed. The Village has received HMGP funding from the 2007 event for acquisition and elevation of flood damaged structures, and have applied for funding under the 2008 disaster declaration to further acquisition of floodprone properties within the community.

The Village of Gays Mills also benefitted from FEMA's ESF-14 "Long-Term Community Recovery" efforts. In August through October 2008, FEMA contractors, along with other state and federal agencies, met with the community to assist in the development of a flood recovery plan. Currently, WEM is working with the Village and other state and federal agencies to implement recovery strategies identified in the plan.

The Fox River in Kenosha County is subject to frequent flooding. To some extent flooding occurs at least annually and sometimes two and three times a year. From 1994 to 2008, the county has been included in 8 federal disaster declarations. Since 1993 owners of 72 properties in the communities of Wheatland, Salem and Silver Lake have participated in the County's buyout program along the river utilizing HMGP, FMA, CDBG and DNR Municipal Flood Control funds. The County would like to acquire an additional 104 properties. The county issued a flood emergency in May 2000 and again in May 2004 and residents were urged to evacuate when the river rose to above floodstage. Using a formula based on past experiences with flood damages to homes and the effect on infrastructure, recovery officials estimate that the height of the water in the flooding in May 2004 would have caused projected damages to homes in the floodplain at an estimated 20% of the value of the home. The value of those houses that were removed from the site of the flooding averaged $84,000 for the 56 properties acquired at that time. Using projected damage estimates, the flood of 2004 would have caused $940,000 in damages to homes and the associate costs of recovery had the acquisition project not occurred. The 2007 flood hit Kenosha County hard. While the 2004 flood was 4 feet above flood stage, the 2007 event was nearly 5 feet over flood stage. While the 2007 floods made some people think they had seen the worst of it, June 2008 brought even greater devastation. Flooding was 5 to 8 feet above flood stage. Again, damages were averted where mitigation measures had been undertaken.

Blackhawk Island, at the mouth of the Rock River, in Jefferson County is another area that is plagued with annual flooding. The Island is a peninsula and is surrounded on either side by Lake Koshkonong and Mud Lake. When the lakes swell, the two bodies of water merge into one, covering the low-lying areas of the peninsula. The road on the Island becomes submerged, and as the water rises, it flows into homes. After the 1993 flood, the County applied for and received a HMGP grant to implement a buyout program. Along with HMGP, the County utilized CDBG and grant funds through the Department of Natural Resources to acquire structures on Blackhawk Island. The County has continued to implement the buyout program utilizing available HMGP and FMA funds. To date, 38 properties have been acquired and demolished. The County would like to purchase 100 more. As a result of flooding that occurred in May 2004,

many of the 35 structures acquired at that time would have been damaged if the properties were still there. It is estimated that the repair expense for the homeowners would have totaled $406,000 (based on an average value of $58,000 per structure and a projected 20% damage based on floodwater levels.) The County experienced flooding in 2007 and twice in 2008. The June 2008 flooding saw record breaking flood levels along the Rock River. Since the Island experiences some extent of flooding annually, the overall savings have well exceeded the cost of the acquisitions.

Both Kenosha and Jefferson Counties continue to apply for funding to reach their mitigation goals. As a result of the mitigation measures taken in both counties, loss avoidance studies are presently underway. In addition, a loss avoidance study will also be conducted on the Crawford County Highway Department relocation.

Mitigation Action 2.15 found in Section 5, page 5-13, states "Develop and document mitigation success stories. Publish reports and include on WEM's website and in WEM's mitigation display." Wisconsin Emergency Management mitigation staff will continue to document mitigation successes. Following a disaster, it will be important to evaluate the impact of previous mitigation measures as well as the impacts on structures that did not receive or chose not to participate in a mitigation project. This follow-up will document the effectiveness and benefits of implemented mitigation activities.

Appendix P contains success stories written about Wisconsin's mitigation projects. The stories include:

- Moving Highway Shop Improves Disaster Response (2007): Crawford County
- Village Locals Reflect Moving Was the Best Flood Protection (2007): Soldiers Grove
- Small Wisconsin Village Leads the Nation Rebuilds Above Floodwaters (2007): Soldiers Grove
- Wisconsin Emergency Management HAZUS Used to Evaluate Flood Risk/Losses (2007): State of Wisconsin
- Higher and Drier in Wisconsin (2008): Gays Mills
- Moving People Out of Harm's Way (2008): Kenosha County
- Multiple Mitigation Measures Give Darlington an Elevating Experience (2008): Darlington
- Pulling the Plug on Monroe's High Water Problems (2008): Monroe
- Mitigation Project Reunites a Town Divided (2008): Cambria

In a large event or an event where there could be many potential success stories, based on present staffing, WEM may be required to request the assistance of FEMA through the use of Disaster Assistance Employees or through State Management Costs to assist in documenting and completing success stories.

Evaluation of the benefits of a mitigation project may be delayed until the area of the project is impacted by another disaster. The lack of realized benefits from a completed project may result in the disapproval or modification of a similar project in the future.

Projects that have been successful in reducing or eliminating future disaster costs will be repeated in other areas of the State. As previously mentioned, WEM requested after the 2008 Floods Loss Avoidance studies be conducted in Kenosha and Jefferson Counties, and on the Crawford County Highway Department relocation to determine the savings from past implemented mitigation measures. These studies are presently underway. In addition, WEM staff attended a Loss Avoidance seminar in May of 2008 at the Association of State Floodplain Managers Annual Conference.

In documenting loss avoidance as a result of previous mitigation measures, the following method will be used after an event has occurred:

- Identify if a previous mitigation project has been implemented in the affected area. This could include mitigation measures such as acquisition and demolition, elevation and floodproofing, reinforcement of structures, storm shelters or safe rooms, protection of utilities, retention and detention ponds, stormwater projects, or other structural measures to protect property and infrastructure.
- If yes, contact local officials to solicit information about the effectiveness of the mitigation measures and the impact of the event in the project area.
- Mitigation staff will make a site visit and meet with local officials.
- Mitigation staff will take pictures and document the impact of the event on the affected area such as flood levels, damages to mitigated and unmitigated structures, etc.
- Using the above documentation as well as information on mitigated properties such as past damages, information from the benefit-cost analysis, and other available information begin to document loss avoidance.
- Develop and publish success stories to encourage communities and individuals to develop hazard mitigation strategies and implement mitigation measures to reduce or eliminate future disaster losses.

WEM completed a GIS needs assessment. Mitigation staff identified several GIS applications that will assist in not only planning and grants management, but also to document mitigation buyouts. This will further refine the monitoring process of the properties as well as improve the accuracy of future assessments and loss avoidance. The State's mitigation strategy includes several actions relating to GIS needs (see Section 5.5, actions 3.4, 3.5, 3.8, 3.9, and 3.16.)

The above projects as well as additional success stories have been documented and can be found on WEM's website at http://emergencymangement.wi.gov as well as FEMA Region V's website at http://www.fema.gov/mitigationbp/index.jsp. Section 3.20 summarizes other mitigation successes throughout the state. Success stories will continue to be developed for future events to demonstrate the success and economic benefits from implementing effective mitigation measures.

## 8.7 EFFECTIVE USE OF AVAILABLE MITIGATION FUNDING

The State of Wisconsin continues to effectively implement mitigation programs towards achieving its goals as identified in this plan:

1. Minimize human, economic and environmental disruption from natural hazards.
2. Enhance public education about disaster preparedness and resistance, and expand public awareness of natural hazards.
3. Encourage hazard mitigation planning.
4. Support intergovernmental coordination and cooperation among federal, state and local authorities regarding hazard mitigation activities.
5. Improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion or renovation.

The mitigation programs utilized in implementing mitigation measures throughout the state are primarily federally funded, however, are state administered. These include the HMGP, FMA, PDM, RFC and SRL programs. The projects that have been approved and funded through these programs support the State's hazard mitigation goals as well as meet the priorities and criteria as outlined in Section 8.3. Section 3 describes the history of the State's mitigation programs and demonstrates the state's ability to effectively use and administer all available mitigation funding through both federal and state mitigation programs. Appendix B provides information on the history of the State's federal declarations including the HMGP. Appendix D identifies mitigation projects funded and completed to date throughout the State.

In addition to the five federal mitigation programs, there are several programs at the state level that support the goals and are utilized in advancing mitigation statewide:

- NR 116 Local and State Floodplain Standards prohibits construction in floodways and requires elevation and dry-land access in flood fringe areas. Limits improvements to non-conforming structures and requires compensatory storage in flood storage areas.

- Comprehensive Planning requires local governments to have a comprehensive plan for making good land use decisions. It is a synergetic companion to mitigation planning and has added momentum to the mitigation movement by incorporating mitigation into the Comprehensive plans that the jurisdictions are required to create by 2010.

- The Home Safety Act requires the state's Uniform Dwelling Code be enforced throughout the state. This includes the necessity to have all new construction inspected for compliance with the UDC. The new law will improve the construction of homes, by requiring implementation of safety standards. The effect will be a reduction in loss of property and injury from all types of natural hazards.

- The Municipal Flood Control and Riparian Restoration Program provide grants for the mitigation of flood-prone property, restoration of riparian areas and the construction of flood control projects.

- Community Development Block Grant, Housing and Public Facilities Programs, can provides grants to communities for implementing mitigation activities.

These programs as well as others are described and evaluated in Section 5.3 and Table 5.1.

Since 1991, $46 million in HMGP funds has been administered. The HMGP allocation for FEMA-1768-DR-WI declared on June 14, 2008, is $30.8 million. This will bring the total for HMGP funds to $76 million for the history of the program. FMA funds in the amount of $1,564,772 have been administered, and PDM funds in the amount of $8,273,504. Between the three programs a total of $56,527,497 in funds has been provided to communities for mitigation planning and project implementation. With the additional funds under 1768-DR that total will be $87,327,497. To date the number of structures that have been mitigated through HMGP, FMA and PDM by acquisition/demolition, floodproofing or relocation is 419 with many more in the process. Additionally, WEM has provided support to local governments in the development of all hazard mitigation plans through the issuance of guidance, education through planning workshops, and planning grants. As a result of the PDM funds that have been made available to the State, 64 all hazard mitigation plans are complete or under development (47 counties, 8 county plan updates, 5 jurisdictions, 3 Tribal governments, and 1 university). In addition, 5 Tribal governments have received PDM grants directly from FEMA. As stated previously, the DMA2K also authorized 7% of HMGP funds to be available to states to be used for developing mitigation plans. As a result of that authorization, another 18 plans (11 counties, 2 county plan updates, and 5 single jurisdictions) have been funded. Two (2) more countywide plans have been developed under the Project Impact initiative. Total planning efforts involves 60 counties, 10 county plan updates, 11 single jurisdictions, 8 Tribal governments, and 1 university for a total of 90 plans. The federal, state, and local or Tribal investment in this planning effort is over $4 million.

As stated in Section 8.4, a Memorandum of Understanding had existed between FEMA and WEM recognizing the state as a Hazard Mitigation Grant Program Managing State, but since has been rescinded. The agreement defined the roles and responsibilities of each agency and can be found in Appendix H. Under the arrangement, responsibility for eligibility reviews for each project application was shifted to WEM with FEMA reviewing the project summaries provided by the WEM for compliance with program requirements. In addition, FEMA would conclude the environmental review. The changes in the roles and responsibilities resulted in a faster approval of projects, in most cases less than 30 days after submittal from the State to FEMA. Per the agreement WEM agreed to:

- Perform eligibility reviews for full project applications
- Apply streamlined procedures for certain project types as identified in the MOU

- Determine cost-effectiveness for all projects using standard benefit-cost methodology and provide documentation
- Undertake environmental review tasks and complete the Record of Environmental Review (RER) for FEMA's signature
- Provide complete project applications to FEMA within one year for each project that WEM selects for funding and submit through NEMIS

Although the MOA is no longer in place, WEM continues with the roles and responsibilities identified in the MOA.

The mitigation staff makes every attempt to fully utilize all available funding within the mitigation programs. For HMGP, unspent funds in projects are reobligated to projects that have cost overruns. In addition, projects over above the allocation are submitted in the event funds become available. The goal is to spend as much funds as possible and returning as little as possible at the end of the performance period.

The mitigation staff has successfully administered over 208 hazard mitigation grants, including those identified in Appendix D, and effectively has managed the HMGP for over 18 years. These activities as well as those described above and throughout the plan demonstrate that Wisconsin effectively uses existing mitigation programs to achieve its mitigation goals.

## 8.8 STATE COMMITMENT TO A COMPREHENSIVE MITIGATION PROGRAM

The Wisconsin Emergency Management is the lead agency for the development of and promoting a statewide comprehensive mitigation program. In doing so, WEM works with other state, federal and local agencies in implementing the goals and mitigation strategy of the State of Wisconsin Hazard Mitigation Plan. The Wisconsin Hazard Mitigation Team (WHMT) led by WEM is made up of representatives from state and federal agencies, as well as several other interested groups. Key elements of the State's comprehensive mitigation program includes the development of the State of Wisconsin Hazard Mitigation Plan, financial and technical assistance to local governments as they develop their hazard mitigation plans and implement mitigation measures as well as training sessions and workshops for state and local officials. The following provides examples of the State's ongoing commitment to a comprehensive mitigation program.

### 8.8.1 Support Local Mitigation Planning

The WEM Mitigation staff has worked with counties and local jurisdictions to encourage and support hazard mitigation planning prior to and since publication of the federal planning regulations. (Section 6 describes in more detail the coordination of local mitigation planning.) Some of the activities that support mitigation planning are summarized below.

- Prior to federal planning requirements, WEM required subgrants of HMGP to develop a mitigation plan.

- Encouraged development of Flood Mitigations Plans.

- In 1995, Wisconsin Department of Natural Resources developed the *Wisconsin Community* Flood *Mitigation Planning Guidebook.* WEM developed additional planning guidance to meet FMA planning requirements. WEM and WDNR conducted several flood mitigation planning workshops throughout the State.

- WEM contracted with the Council of Regional Planning Organizations (an organization consisting of the Regional Planning Commissions) to develop planning guidance for meeting the requirements of 44 CFR Parts 201. The result was the *Resource Guide to All Hazards Mitigation Planning in Wisconsin*.

- Wisconsin's Comprehensive Planning and Smart Growth Legislation require all local governments to develop and adopt a comprehensive land-use plan by 2010. A list of the nine planning elements and some ideas on how to integrate all hazards mitigation planning concepts into them are included in the *Resource Guide to All Hazards Mitigation Planning in Wisconsin.* In addition, where to integrate the comprehensive planning elements into the all hazards mitigation plan are also described in the guidance.

- WEM Mitigation staff has conducted ten All Hazard Mitigation Planning Workshops to communities and consultants developing hazard mitigation plans as well as for those interested in finding out more regarding the overall planning process. Three workshops were held in 2002, one each in 2003, 2004, 2005, 2006, 2007, and 2008. In addition, a workshop was held in the fall of 2004 for the Great Lakes Inter-Tribal Council which consists of representation from the eleven recognized Tribal governments in the State. Over 300 people have attended the workshops. At a minimum one planning workshop will be held annually. Information presented and distributed at the workshops is put on a CD and is provided to each individual attending the training and posted to WEM's website.

- Provided written and oral guidance. All communities developing mitigation plans have been provided a copy of the *Resource Guide to All Hazards Mitigation Planning,* the FEMA State and Local Hazard Mitigation Planning How-to-Guides developed to date, the *Multi-Hazard Mitigation Planning Guidance Under the DMA2K* (dated March 2004), as well as other planning documents. Most recently, WEM distributed and provided a guidance memo on the Final Hazard Mitigation Planning Guidance issued in July 2008.

- Provide technical assistance through reviewing sections of plans under development and providing feedback.

- Identifying information sources available through state and federal agencies, locally and nationally. A CD was distributed to all communities developing a plan that included information on resources and data sources with identified web links that are available through various state agencies.

- Providing information via WEM's website. The website provides a "Local Hazard Mitigation" link where local governments can find the resource guides and tools for developing local all hazard mitigation plans as well as a copy of several approved local plans. In addition, there is a link to "State Risks and Hazard Mitigation" that includes the State Hazard Mitigation Plan.

- An e-mail group list has been established so that information and guidance can be distributed on a timely basis to those developing plans.

- Provides information on repetitive loss properties and NFIP claim information as well as other disaster payments.

- Developed a Household Natural Hazards Preparedness Questionnaire that local governments could utilize and/or modify to fit their needs. The survey is also located on WEM's website.

- Reviews draft plans utilizing the FEMA Local Hazard Mitigation Plan Review Crosswalk and provides comments on required and recommended revisions. Submits final plans to FEMA for review and approval.

- Information on all hazards mitigation planning is provided at other WEM training such as the New Directors Series, Introduction to Emergency Management, Disaster Response and Recovery Course, Public Assistance Briefings, and Substantial Damage Workshops. Information is also provided at local damage assessment classes.

- Information on all hazards mitigation program and planning is provided to the Wisconsin Association of Floodplain, Stormwater and Coastal Managers through their newsletter and annual conference.

- The All Hazards Mitigation Planning Workshop is part of WEM's Certified Emergency Managers (CEM) Program.

As of March 2009, 45 county all hazard mitigation plans have been approved by FEMA, and 14 single jurisdictions have been approved and one Disaster Resistant University. There are another 15 plans under development and are in various stages of completion. The total planning effort in the state is $3,941,435 of which $1,030,227 is local funds and the State contributing another $139,994. The State's FFY09 PDM-Competitive Grant included a request for another 8 plans.

State Mitigation Strategy, Section 5.5, mitigation actions supporting mitigation planning: 1.1, 1.3, 2.8, 2.9, 2.12, 2.14, 3.1, 3.6 through 3.15, 3.18 4.9 through 4.14, 4.25, and 4.26.

### 8.8.2 State Legislation Supporting Mitigation

A statewide hazard mitigation program is under development, which will include legislative initiatives, formation of new and continuation of existing partnerships, as well as other executive actions that promote hazard mitigation.

Wisconsin has numerous legislative rules, administrative codes, and executive orders that support the mitigation process statewide. Below is a list of key legislation which is covered in more detail in Section 5, Mitigation Strategy.

Chapter 166, Emergency Management

Wisconsin Commercial Building Code, Comm. 61 to 65.

Wisconsin Uniform Dwelling Code, Comm 20 and 21.

2007 Wisconsin Act 63, Regulation of Electricians, Electrical Contractors, and Electrical Inspectors and Electrical Wiring

2007 Wisconsin Act 205, Installation of Carbon Monoxide Detectors

Administrative Code NR 116, Floodplain Management

Administrative Code NR 115, Shoreland Protection Program

Administrative Code NR 117, Shoreland-Wetland Protection

Administrative Code NR 335, Dam Safety

Administrative Code NR 333, Large Dam Standards and Emergency Action Plans

Executive Order 67, State must follow wetland, floodplain, erosion and shoreland standards.

Executive Order 73, Flood mitigation for state-owned facilities

Chapter 30, Standards for Navigable Waters

Administrative Code NR 199, Municipal Flood Control and Riparian Restoration Program

Chapter 917, 1997 Wisconsin Act 27, Fire Protection Grant Program

Wisconsin Acts 16, 33, 233, 307, Wisconsin Comprehensive Planning Law

Chapter 92, ATCP 50, Soil and Water Resources Management

Chapter 88, ATCP 48, Operation and Maintenance of Drainage Districts

Chapter 86.34, Flood Damage Aids Program

Chapter 84.18, Trans 213 Local Bridge Improvement Assistance Program

Chapter 85.026, Transportation Enhancement Program

### 8.8.3 Wisconsin Hazard Mitigation Team

In response to the 1993 Midwest Flood, WEM formed the Interagency Disaster Recovery Group (IDRG) that was an informal group with the responsibility to coordinate recovery and mitigation efforts and included both state and federal agencies. As a result of the success of the ad-hoc group, the IDRG continued to meet in response to subsequent major disasters in the State up until late 2003.

The successes of the IDRG made it clear the need to formalize a group and designate a permanent State Hazard Mitigation Team which was an expansion of the IDRG with policy-making authority. In April 2000 the State Hazard Mitigation Team (SHMT) was formed. Agencies with responsibilities in the areas of natural resources, environmental regulation, planning and zoning, building codes, infrastructure regulation and construction, insurance, public information/education, economic development, and historic preservation were included on the Team. Several agencies that had multiple facets that needed to be included in the plan had more than one representative on the Team. Many of the members of the IDRG were also members of the SHMT.

In December 2003, the Interagency Disaster Recovery Group and the State Hazard Mitigation Team, which up to this point were functioning as two separate groups yet some members were on both teams, was merged to form the Wisconsin Hazard Mitigation Team (WHMT). Two additional members from State agencies were added to the team; the Department of Administration, Intergovernmental Relations, Comprehensive Planning Program; and Department of Commerce, Division of Safety and Buildings. Also several new people were added to the team to replace members who had left their agencies. In addition, the Chairman of the Wisconsin Association of Floodplain, Stormwater, and Coastal Managers (WAFSCM) joined the Team. This member also works for the Milwaukee Metropolitan Sewage District (MMSD), the largest district in the state. The MMSD has been implementing flood mitigation measures throughout the Milwaukee urban area. Earlier in the year the Executive Director from the Mississippi River Regional Planning Commission representing the Council of Regional Planning Organizations joined the Team. In January of 2005, three additional members were added to team that included a representative from the Great

Lakes Tribal Council, Wisconsin Emergency Management Association, and the National Weather Service. Later that year, individuals representing the Department of Administration, Division of State Facilities and the Volunteer Organizations Active in Disasters joined the Team. This brings the total of the Team to 37 members representing 11 state agencies and 5 federal agencies along with the WAFSCM, Council of Regional Planning Organizations, WEMA and VOAD. Team members provide a variety of expertise and perspective to the planning process, including emergency management, natural hazards, land-use planning, agriculture, building codes, transportation, and infrastructure (see Appendix F for a full list.)

State Mitigation Strategy, Section 5.5, mitigation actions supporting the WHMT: 1.1, 3.10, 3.11, 4.7, 4.8 and 5.7.

### 8.8.4 Wisconsin Recovery Task Force

It was obvious early in the administration of the 2008 flood declaration that additional outside resources would be required to assist the State and its communities in the recovery. Upon direction of Governor Doyle, WEM created the Wisconsin Recovery Task Force (WRTF) to assist individuals, businesses, and communities to recover quickly, safely, and with more resistance to future disasters. Six subcommittees were formed with a focus on mitigation, agriculture, business, housing, human needs, and infrastructure. The Task Force is comprised of many state and federal agencies. The primary goal of the WRTF is to identify the unmet needs of the communities and citizens of Wisconsin. The Task Force met bi-weekly. One of the outcomes from the report submitted to the Governor was that the Task Force be a standing task force and meet semi-annually to ensure preparedness and facilitate effective operational readiness following a disaster.

The Wisconsin Hazard Mitigation Team (WHMT) played an integral part in identifying the key players that comprise the Wisconsin Recovery Task Force. Many of the WHMT members are actively participating and leading WRTF subgroups. Without the Wisconsin Hazard Mitigation Team, it is very likely that the Wisconsin Recovery Task Force would not have been created and activated as quickly as it was.

The State Hazard Mitigation Officer was assigned as Chair of the Mitigation Committee. The Committee consisted of 11 State agencies (all which are members of the WHMT); 7 federal agencies (5 of which are members of the WHMT); and 5 other organizations (4 of which are members of the WHMT.) The mission of the committee is to "Assist communities during the recovery process to make their communities more disaster resistant." The goals of the committee are based on the goals of the State of Wisconsin Hazard Mitigation Plan and were identified as:

1. Minimize human, economic, and environmental disruption from natural hazards.

2. Improve the disaster resistance of buildings, structures, and infrastructure, whether new construction, expansion or renovation.

3. Support and assist the intergovernmental coordination and cooperation among the federal, state, and local agencies regarding hazard mitigation activities.

The Committee identified challenges, issues and roadblocks that the State and communities are facing during the recovery process. They included:

1. Communities lack capability (resources and staff) to develop and implement long-term mitigation solutions to reduce future flooding.

2. Sanctioned and non-participating communities are not eligible for FEMA mitigation funding.

3. Lack of funding to complete identified mitigation and recovery needs particularly funds for local match required for various grants.

4. Lack of resources to develop good, well-thought out project applications to obtain federal and state funding to implement viable and necessary mitigation and recovery projects.

5. Potential contamination of project sites will delay the actual implementation and funding of projects.

In addition, FEMA activated Emergency Support Function (ESF) 14 for the declaration. ESF 14 provided support for to the State for long term recovery by assisting the WRTF, and in developing a Long Term Recovery Plan for the Village of Gays Mills. In addition, they worked with the Village of Rock Springs and developed the Rock Springs Flood Recovery Report to address recovery issues in that community. The information gathered from these planning efforts will also assist with the recovery in other impacted communities.

Two additional reports were completed (Hydrogeological and NFIP Interpretations of Terrace Flooding Northwest of Spring Green, Wisconsin and Possible Mitigation; and Flooding Conditions at Clark Creek and Possible Mitigation) were completed to address flooding in the Towns of Spring Green and Greenfield in Sauk County.

The US Geological Survey developed flood-peak inundation maps and water-surface profiles for nine communities along the Baraboo, Kickapoo, Crawfish and Rock Rivers in GIS by combining flood high-water marks with available 1-10-meter resolution digital-elevation-model data. The high-water marks were those surveyed during the flood by communities, counties and federal agencies and hu8dnreds of additional marks surveyed by the USGS. The flood maps and profiles outline the extent and depth of flooding through the communities and are being used in recovery efforts. The

information will also help to document loss avoidance studies in Gays Mills and Jefferson County.

At the time of this update, communities were in the early stages of identifying long-term permanent solutions to problems and applying for funding to address those issues. The Committee is working together to identify the needs and match the needs with the appropriate agency and funding source/s. In addition, it will work together to try and package funding where possible.

State Mitigation Strategy, Section 5.5, mitigation actions supporting the WRTF: 5.17

### 8.8.5 Coastal Hazards Work Group

WEM participates on the Coastal Hazards Work Group. This group was formed to provide technical assistance and coordinate state resources addressing coastal hazards. The Work Group meets bimonthly or as needed. The group also meets with representatives of the three coastal regional planning commissions and representatives of local governments as needed. A multi-year strategy is being implemented to assist in developing the coastal hazards policy. The overarching goal of the strategy is to develop and implement shoreline and bluff erosion policies. Elements of the coastal hazards strategy include:

- Expansion of technical tools and technology transfer
- Education and outreach
- Coordination with municipalities and agencies

The agencies represented on the group include University of Wisconsin – Sea Grant Institute, State Department of Natural Resources, Wisconsin Coastal Management Program as well as WEM. The representative from the Wisconsin Coastal Management Program is also on the Wisconsin Hazard Mitigation Team.

State Mitigation Strategy, Section 5.5, mitigation actions supporting coastal management: 2.2, 3.2, 3.12, 3.19 and 4.1.

### 8.8.6 State Agency Resource Working Group

The State Agency Resource Working Group (SARWG) was a statutory funded group of the Wisconsin Land Council administered through the Department of Administration, Division of Intergovernmental Relations. The Division is responsible for administering the Comprehensive Planning Grant Program for the State. Representatives are from various state agencies participated in promoting and cooperating on land use issues. As a mitigation action, WEM participated on the group to promote mitigation planning as part of the comprehensive planning process. The DOA representative on the SARWG also participates on the WHMT. With the sunset of the Wisconsin Land Council there is no statutory requirement or funding for the group. However, members continue to

communicate and share information via e-mail to promote comprehensive and mitigation planning.

State Mitigation Strategy, Section 5.5, mitigation actions supporting comprehensive planning: 3.1, 4.9, 4.10, 4.11, 4.12, 4.13, 4.25, and 4.26.

### 8.8.7 Homeland Security Council

In March 2003, Governor Doyle created the Homeland Security Council to help coordinate the state's terrorism preparedness efforts. The Governor has named Major General Donald Dunbar, Adjutant General of the Wisconsin National Guard, as the Governor's Homeland Security Advisor. Other agencies on the Council are Wisconsin Emergency Management, the Division of Criminal Investigation of the Wisconsin Department of Justice, the Division of Public Health in the Wisconsin Department of Health and Family Services, the Wisconsin State Capitol Police, the Office of Justice Assistance, and the Wisconsin State Patrol.

Specifically, the Council is charged with the following responsibilities:

- Coordinate the efforts of state and local agencies that have responsibility over homeland security efforts.
- Coordinate state efforts with the U.S. Department of Homeland Security, FEMA, FBI and other local and federal agencies.
- Coordinate law enforcement and intelligence gathering efforts of local and state agencies.
- Advise local governments as the Council becomes aware of heightened threat assessments, and assist the public in understanding what these often complex security designations mean.
- Serve as a resource to assist local governments in developing plans to identify and protect critical assets in their communities.
- Make recommendations to the Governor and to local governments on what additional steps are necessary to further enhance Wisconsin's homeland security.

The Council meets regularly and in response to elevated threat levels.

The Interagency Working Group is chaired by Wisconsin Emergency Management and comprised of representatives of the Departments of Administration, Agriculture, Health and Family Services, Justice, Natural Resources, and Transportation, as well as the Office of Justice Assistance, National Guard and University of Wisconsin Police. The Group was formed in the late 90's with its original focus on terrorism preparedness. Since that time, its mission has evolved to cover all hazards and all phases of emergency management. The Group meets monthly or more often if dictated by current events and acts as a support group to the Governor's Homeland Security Council.

The Group has been instrumental in institutionalizing the use of the Incident Command System (ICS) by state agencies in disaster response and recovery efforts. It developed a strategy to deliver ICS training to appropriate personnel in each agency that would be involved in disaster operations. It also developed a State Agency Liaison Team that would be deployed in disasters to better support the efforts of local response agencies. This year it will be heavily involved in the conversion of the State Emergency Operations Plan to Emergency Support Functions, allowing us to be in conformance with the National Response Plan.

### 8.8.8 Wisconsin Voluntary Organizations Active in Disasters

Wisconsin Voluntary Organizations Active in Disasters (WIVOAD) is a humanitarian association of independent voluntary organizations who may be active in all phases of disaster. Its mission is to foster efficient, streamlined service delivery to people affected by disaster, while eliminating unnecessary duplication of effort, through cooperation in the four phases of disaster: preparation, response, recovery, and mitigation. Staff from WEM provides coordination and assistance to WIVOAD members. WIVOAD has taken a led role in long-term recovery and sponsors Long Term Recovery Committees. These committees, using WIVOAD's 501(c)(3) tax exempt status, focus on fundraising, reaching out to individual/families with unmet disaster needs and providing services to them through a uniform case management process.

In response to and beginning with 1768-DR, WEM is utilizing the Aidmatrix Network to match donations with the Long Term Recovery Committees. Aidmatrix allows VOAD and the Long Term Recovery Committees to view donations and post specific needs. This will assist in meeting the unmet needs of Wisconsin disaster victims.

### 8.8.9 Public/Private Partnerships

In addition to working with the agencies on the WHMT, for the past several years WEM staff provided information on hazard mitigation programs and the planning process to groups and individuals through a variety of means. This included making presentations to certain groups such as the Wisconsin Emergency Management Association, Wisconsin Manufactured Housing Association, Wisconsin Land Information Association, American Planners Association, Wisconsin Utilities Association, the State Bar of Wisconsin, Council of Regional Planning Organizations, Great Lakes Inter-Tribal Council, Wisconsin Claims Council, University of Wisconsin-Madison Student Planning Association, Wisconsin Chapter of the Public Risk Managers Association, Wisconsin Association for Floodplain, Stormwater, and Coastal Managers, and the Association of Flooodplain Managers. In addition, information was provided to communities receiving Community Development Block Grants and how they can incorporate mitigation into rehabilitation of housing stock. Presentations on hazard mitigation planning and its link to comprehensive planning and smart growth were made to the State Agency Resource Working Group of the Wisconsin Land Council, at a workshop for local officials on Complying with Comprehensive Planning and State Agency Resources, and to a Department of Administration and several members of the Wisconsin Land Council.

State Mitigation Strategy, Section 5.5, mitigation actions supporting partnerships: 1.8, 1.10, 2.1 through 2.15, 4.5, 4.19, and 4.24.

### 8.8.10 Outreach

In addition to the partnerships discussed above, as part of its long-term planning, WEM had developed an agency outreach and public participation strategy. The strategy outlines how public officials, stakeholder groups and state agency partners can participate in the mitigation planning process. In addition, the outreach strategy is intended to: 1) create a greater awareness of hazard mitigation; 2) further educate citizens and decision makers so they can make informed choices to prevent damage from natural disasters; 3) gain additional input; 4) interact with others to exchange views and ideas; and 5) to form additional partnerships towards accomplishing the goals of the Plan. The strategy identifies various associations, organizations and stakeholder groups, state partners to involve in the process as well as tools that are available to assist in the process. The information and input gained from this effort will be utilized in future updates of the State of Wisconsin Hazard Mitigation Plan.

The mitigation staff also developed a Household Natural Hazards Preparedness Questionnaire (Appendix I.) The questionnaire was developed from a survey developed by the Oregon Natural Hazards Workgroup at the University of Oregon's Community Service Center. The questionnaire also includes the State Plan's mitigation goals and asks the individual completing the questionnaire to provide their opinion of the goals as to their importance. The questionnaire has general questions designed to help gauge household preparedness and the individual's knowledge of mitigation tools that may be available. The questionnaire is interactive and can be completed on WEM's website. In addition, the survey is distributed at various WEM training sessions, speaking engagements that mitigation staff attends, as well as at the Annual Governor's Conference on Emergency Management. The mitigation staff also developed a mitigation display that is utilized at training functions and conferences. On p. 2-11 and 2-12, a comparison chart of response provided from 2005 through 2008.

State Mitigation Strategy, Section 5.5, mitigation actions supporting education and outreach: 1.8, 1.10, 2.1 through 2.15, 4.2, 4.5, 4.19, 4.20 and 4.24.

### 8.8.11 Non-Federal Match for HMGP

The FEMA mitigation programs all require a 75/25 cost-share. Since 1990 the State has provided half of the non-federal match for the HMGP grants. The federal, state and local mitigation dollars exemplified below represent the commitment to the HMGP. Through the coordination with the WHMT, for many projects other state agencies funded the local match requirements particularly with acquisition and demolition projects, or funded projects in their entirety.

**Hazard Mitigation Grant Program Funding History 1991 – 2008**

| Hazard Mitigation Grant Program Funding History 1991-2008 | | | | |
|---|---|---|---|---|
| **HAZARD MITIGATION GRANT PROGRAM FUNDING** | | | | |
| **DISASTER** | **FEDERAL SHARE** | **STATE SHARE** | **LOCAL SHARE** | **TOTAL** |
| *912-DR-WI | $54,342 | $27,171 | $27,171 | $108,684 |
| *959-DR-WI | $19,434 | $9,717 | $9,717 | $38,868 |
| *963-DR-WI | $188,187 | $94,093 | $94,093 | $376,374 |
| *964-DR-WI | $195,537 | $97,768 | $97,768 | $391,074 |
| 994-DR-WI | $10,503,362 | $1,750,521 | $1,750,521 | $14,004,403 |
| 1131-DR-WI | $258,395 | $43,066 | $43,066 | $344,527 |
| 1180-DR-WI | $4,698,752 | $783,125 | $783,125 | $6,265,003 |
| 1236-DR-WI | $1,471,849 | $245,308 | $245,308 | $1,962,465 |
| 1238-DR-WI | $3,337,816 | $556,302 | $556,302 | $4,450,421 |
| 1284-DR-WI | $609,044 | $101,529 | $101,529 | $812,059 |
| 1332-DR-WI | $3,318,014 | $553,003 | $553,003 | $4,424,019 |
| 1369-DR-WI | $3,292,556 | $548,760 | $548,759 | $4,390,075 |
| 1429-DR-WI | $496,952 | $82,826 | $82,825 | $662,603 |
| 1432-DR-WI | $817,188 | $136,198 | $136,198 | $1,089,584 |
| **1526-DR-WI | $1,362,737 | $227,123 | $227,123 | $1,816,983 |
| ***1719-DR-WI | $4,164,059 | $694,010 | $694,010 | $5,552,079 |
| ***1768-DR-WI | $23,156,913 | $3,859,486 | $3,859,485 | $30,875,884 |
| ***TOTAL*** | **$57,945,137** | **$9,810,006** | **$9,810,003** | **$77,565,105** |
| ***AVERAGE*** | **$3,408,537** | **$577,059** | **$577,059** | **$ 4,562,653** |

*Cost share was 50% federal/25% State/25% local. HMGP was 10% of Public Assistance permanent repairs only.
**HMPG is 7.5% of Individual and Public Assistance Programs.
*** HMGP is 20% of Individual and Public Assistance Programs.

### 8.8.12 Construction Standards

Wisconsin has adopted commercial building codes. The Wisconsin Enrolled Commercial Building Code includes Comm. 61 and 65 and the adopted provisions of the International Code Council codes: International Building Code, International Energy Conservation Code, International Mechanical Code and International Fuel Gas Code. The 2000 IBC was adopted with State amendments in 2002. The commercial code protects the health, safety and welfare of the public and employees by establishing minimum standards for the design, construction, maintenance and inspection of public buildings, including multi-family dwellings, and places of employment.

In addition to the commercial codes, Wisconsin has adopted the Uniform Dwelling Code (UDC) for one and two-family dwellings (Comm. 20 and 21.) The UDC provides construction and remodeling requirements built after June 1, 1980. Beginning January 1, 2005, all municipalities have enforcement requirement of the code. Enforcement involves submitting building plans to obtain a building permit, and having electrical, construction, plumbing and HVAC inspections during construction. (Previously

municipalities with a population of 2500 or less were required to follow the code, however, were not required to perform inspections.)

The State Department of Commerce reviews plans prior to construction for compliance with state statutes and building codes. The Department administers and certifications licenses and registrations for approximately 44,000 individuals in 64 categories for specific trades. Annual continuing education classes are conducted for building codes used for design, construction and inspection.

State Mitigation Strategy, Section 5.5, mitigation actions supporting better construction: 4.28, 4.29, 5.2, 5.3, 5.8 and 5.9.

### 8.8.13 State Facilities, Infrastructure and Critical Facilities

The State has identified approximately 6,500 State-owned and -operated facilities statewide. Based on the limited data available on state owned buildings WEM reviewed the inventory and to the best of their ability identified those buildings that could be considered critical facilities. In determining if a building or structure potentially was a critical facility, WEM looked at its purpose and function and whether the facility's operation was critical to state operations, or critical in protecting the public health and safety of the citizens and property during a disaster. The structures identified fell into the following types of facilities.

1. A facility or structure related to communications. This included radio and television facilities for EAS, communications towers, etc.
2. A facility or structure that generated electrical power, provided heating, wastewater treatment, or water sources.
3. Hospitals, homes and other medical type facilities.
4. Correctional facilities.
5. Major state government facilities that house key state operations.
6. Critical military facilities.
7. Emergency response facilities related to law enforcement, security, fire, etc.

Based on this methodology, WEM identified an initial list of 452 critical facilities. In the original and update version of the Plan, the State Risk Assessment (Section 4) includes a very basic and general analysis of vulnerability and loss estimation at the state level for state owned and operated buildings, critical facilities, and infrastructure.

To determine which state-owned and operated buildings, critical facilities and infrastructure is at most risk from the identified hazards, site-specific information is required. As stated above, there are nearly 6,500 structures included on the State Facility Database. The information included on the database includes:

- Building name and number
- State Agency
- Bid Date

- Type of Construction
- Condition of the structure
- Number of floors above and below ground
- Gross Square Footage
- Replacement Value
- Completion Date for some buildings, but not all
- County and Municipality
- Institution Name
- Address
- Indication if the structure is located in a floodplain

As stated above, to get an accurate risk assessment there needs to be site-specific information. The information in the State Facility Database is a good start, but additional information is required to determine hazard vulnerability for each building and to further develop a strategy to mitigate the losses from identified hazards. Section 4.7 identifies the strategy for improving this data for the updates of the State of Wisconsin Hazard Mitigation Plan.

WEM applied for and received a PDM state planning grant to begin a Risk Assessment of state-owned buildings. A partnership was formed with the State Department of Administration, Division of State Facilities, and developed a Wisconsin Risk Assessment Data Collection Worksheet that is the basis for collecting information on each building. The collection worksheet covers everything from general information such as location, to more detailed questions involving construction materials. The Department of Corrections is the pilot for gathering the data. To date, WEM has received structure information on 370 buildings within the Department of Corrections. The information is being entered into a database that will connect with the Department of Administrations building database. The next step is to analyze the data and develop a method for identifying and assigning a risk factor for each building. The mitigation staff would like to work next with the University of Wisconsin-Madison campus.

### 8.8.14 Repetitive Loss Properties

Section 3.7 as well as 8.4 identifies the State's priorities for mitigation funding. The two highest priorities are acquisition and demolition of properties substantially damaged and acquisition and demolition of repetitive loss properties (RLP) and severe repetitive loss properties (SRL.) Repetitive loss structures are those structures that have had two or more flood insurance claims of at least $1,000 each in the last ten years.

A summary of Wisconsin's Repetitive Loss Report dated April 2004 is presented in Appendix E. It was the State's intent to update this report for this Plan update, however, to due the fact that NFIP's SQAnet was basically unavailable for most of the summer, it was impossible to update this report. Further, State Mitigation staff is not allowed access to FEMA's Bureaunet. The state makes every attempt to mitigate repetitive loss properties through the HMGP, PDM, FMA, RFC and SRL programs. However, the state

has had difficulty obtaining correct and timely data from FEMA/NFIP. Repetitive loss data is continuously changing after every event and as claims are processed.

The report showed that 71 of the repetitive loss properties (17.45%) were in the process of or had been removed or protected from the threat of flooding by acquisition, elevation, floodproofing, levees or other structural measures. Of the 71 properties, 47 (11.55% of all RLP) were acquired and 8 (1.97% of all RLP) were floodproofed. In addition there were 16 properties (3.93%) in the process of flood mitigation. There were 320 properties (78.62%) that remained floodprone and 68 NFIP communities with repetitive loss properties. The NFIP list contained incomplete addresses and owner information, which caused updated information on 16 properties (3.93%) to remain unknown. Since those properties were included on the list, they were considered as part of the NFIP communities but no mitigation status was inferred.

Acquisition was the most common choice of mitigation by the majority of communities. The success of acquisitions is most evident in communities with widespread damage such as Kenosha County, Jefferson County, City of Darlington, the City of Wauwatosa and the Village of Brown Deer. In these communities acquisitions eliminated a majority of the repetitive loss properties and reduced the risk of future loss.

The RLP report is used as a resource to prioritize mitigation projects for future mitigation grants. The report provided the state with a resource to identify the properties with the most repetitive losses and to prioritize specific mitigation recommendations for those properties. The state utilizes the Repetitive Loss Report statistics from past and current mitigation projects to provide guidance for future mitigation projects and reduce flood losses. Repetitive loss information is a consideration of the funding criteria for mitigation projects and planning grants. RLP information is also provided to local governments to address and include in development of Flood and/or All-Hazard Mitigation Plans. Once the RLP information is again available through SQAnet, WEM intends on updating the report. The report is critical in making mitigation funding decisions. With the latest two declarations in 2007 and 2008, WEM anticipates the list of RLP will have grown.

### 8.8.15 Severe Repetitive Loss Properties

Section 8.3.7 describes the Severe Repetitive Loss program. “Severe repetitive loss properties” are defined as NFIP-insured residential properties that (a) have at least 4 or more NFIP claim payments over $5,000 each, when at least two such claims have occurred within any 10-year period, and the cumulative amount of such claims payments exceeds $20,000; or (b) for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the value of the property.

Both the State and community must have an approved hazard mitigation plan that meets the requirements of 44 CFR Part 201. The State of Wisconsin will support, through funding and technical assistance, the development of local mitigation plans in counties with severe repetitive loss properties. It is a priority of Wisconsin Emergency

Management to provide a grant to those counties that currently do not have a local hazard mitigation planning grant and have severe repetitive loss properties. In addition, WEM will work one-on-one with the county to assist in the plan, as well as with the community to assist in the project application for SRL properties.

As of December 31, 2008, Wisconsin had three identified properties that met the SRL definition; one in Pierce County, and two in Washington County. (Previously there had been a SRL property identified in Jefferson County. The County has since acquired and demolished the identified structure utilizing HMGP funds.) Washington County does not have an approved hazard mitigation plan; therefore, they are ineligible for the SRL program. WEM offered a hazard mitigation planning grant under the 1768 declaration and Washington County said that they were not interested. WEM will work with Pierce County for potential funding for the project in that County.

### 8.8.16 Post Disaster Recovery Operations

Hazard Mitigation is an integral part of Wisconsin's post-disaster recovery operations. WEM mitigation staff participates in the Preliminary Damage Assessment process to identify potential mitigation opportunities. In addition, staff assists in the preparation of documentation for the Governor's request letter for a federal disaster declaration. State mitigation staff coordinates with the state and federal agencies on the Wisconsin Hazard Mitigation Team that may have technical or funding assistance available to communities during the recovery process. State mitigation staff co-locates with federal mitigation and NFIP staff at the Joint Field Operations as soon as it opens. State and federal mitigation and NFIP staff works cooperatively to develop a post-event mitigation strategy. The strategy identifies mitigation activities such as community mitigation education and outreach, coordination with other disaster assistance programs, mitigation project development, and National Flood Insurance Program mitigation opportunities and promotion. State mitigation staff attends and participates in the Public Officials Briefings and provides information regarding hazard mitigation programs including hazard mitigation opportunities through the Public Assistance Program (section 406.) State mitigation staff also attends and participates in Substantial Damage Determination training workshops for zoning and local officials. Provides information regarding mitigation opportunities for properties determined to be substantially damaged. State staff works closely with Public Assistance staff to ensure that all possible 406 hazard mitigation opportunities are pursued and funded. State mitigation staff provides technical assistance to all respective grant applicants on project development techniques and proper documentation for environmental and cost effectiveness reviews. (See Section 8.5 and Appendix G, State Administrative Plan for HMGP.)

### 8.8.17 Gays Mills Recovery Efforts

In August 2007 and June 2008, the Village of Gays Mills was struck with two back-to-back floods. Both events were greater than the 500 year flood and caused substantial damage to the Village's residential and business districts. The Village of Gays Mills resides in a valley surrounded by steep bluffs and hills. The Village is located within the

unglaciated region of southwest Wisconsin and the Kickapoo River winds through the valley.

After the first flood hit in 2007, Wisconsin Emergency Management worked with the community to help them in recovery process. The Village was unsure if it should consider relocation of the town at that time. The Village did decide to proceed with the acquisition/demolition of those structures closest to the River and the most severely damaged, and elevation of other substantially damaged structures. The State Hazard Mitigation Officer attended many community meetings to discuss the HMGP and other grant funding opportunities.

The Village did not have time to catch its breath before the next flood came in June 2008, less than 10 months from the previous flood. The HMGP projects of acquisition/demolition and elevation had not commenced and the structures were again flooded. In addition to those homes and business that were flooded in 2007, additional structures were affected in 2008. Many homeowners that were considering elevations of structures decided they did not want to go through another flood in their presence location. Many homeowners that chose elevation wanted to switch to acquisition/demolition, which required the 1719 HMGP application to be amended.

The Village also had several other hard choices to make after the 2008 flood. The 2008 flood forced village officials and citizens to seriously consider relocation of their town. The State requested FEMA assistance through ESF-14: Long Term Community Recovery. The Long Term Community Recovery team developed a Long Term Flood Recovery Plan for the Village.

The Recovery Plan process involved a series of meeting and workshops for the community. It was incredibly important for state and federal partners to attend the recovery events because ultimately, it is the responsibly of the State, with the help of the federal and other agencies, to assist in the implementation of the plan. Two planning charettes were held on August 20 and 21, 2008 and WEM Mitigation staff along with representatives from USDA-Rural Development and the Mississippi River Regional Planning Commission attended the two day session. On September 18 and 19, 2008 a community meeting and design charette were held, respectively. The State Hazard Mitigation Officer attended the meeting and the charette along with representatives from USDA-Rural Development and FEMA. On October 20, 2008, the ESF-14 team made a presentation of the draft plan to the community. At that meeting, priorities were discussed and representatives from WEM, the Mississippi River Regional Planning Commission, USDA-Rural Development were present. The final plan was presented to the community on October 31, 2008.

However, the interagency cooperation and effort did not end when the ESF-14 Team left. WEM coordinated two strategy meetings on November 19, 2008 and December 2, 2008 with several member of the WHMT/WRTF. The Department of Commerce, USDA-Rural Development, the Mississippi River Regional Planning Commission, FEMA, EDA, HUD WHEDA, Coulee CAP and WEM attended the meeting and reviewed

all of the projects identified in the Flood Recovery Plan. Through discussion, the agencies identified which projects were possibly fundable by their programs and which were not. Ultimately, the task of the group was to package funding to assist in as many projects as possible.

On December 15, 2008, all of the agencies met with the Gays Mills Long Range Planning Committee and other interested citizens to discuss the funding options available. The State Hazard Mitigation Officer led the meeting and discussed which agencies could potentially fund which projects. It was a very productive meeting which provided direction and hope for the community.

Gays Mills is an excellent example of the State of Wisconsin's commitment to a comprehensive mitigation program but not the only community that the State is working to assist in flood recovery. Throughout the recovery process, the state and federal agencies have coordinated and integrates mitigation into its post-disaster recovery operations.

# SECTION 9
# CONCLUSION

Hazard mitigation is a tool to reduce the vulnerability of the citizens of the State of Wisconsin to natural hazards. The state has made a commitment to hazard mitigation, with floods as its top priority. Floods are the most costly natural hazard in the state. Acquisition of flood prone structures is an effective way to prevent flood damage and to minimize human suffering associated with flood damage. Since 1990, Wisconsin has acquired and removed approximately 360 residential and commercial structures from flood prone areas and has floodproofed approximately 57 more using Hazard Mitigation grant programs. There has been a variety of other flood mitigation projects in the last 15 years as well. Communities, using state, federal and local hazard mitigation program funds, have also conducted flood awareness programs, repaired dams and levees and constructed storm sewers and detention ponds to reduce the likelihood of future damage.

Wisconsin is also subject to other hazards besides floods. Tornadoes, high winds, hail, thunderstorms, wildfires and temperature extremes are natural hazards that have caused significant loss of life and property. While not as many Wisconsin agency programs are focused on these hazards as compared to floods, the resources are significant. For many of these other hazards, prevention is the biggest part of mitigation. Through strong building codes, inspection and code enforcement, severe damage and loss of life as a result of building failure is minimized. Likewise, weather warning systems, hazard awareness programs, insurance, and public health advisories can reduce loss of life and property by giving the public access to information that can help them take protective measures. Finally, careful consideration of potential hazards when building facilities for utilities, health care and public use ensures that government and public facilities are truly long-term investments. Together with the many flood mitigation programs, these are Wisconsin's core strengths for reducing the public's vulnerability to natural hazards.

State agency programs that address hazards through mitigation have matured under the trying circumstances of the Great Midwest Flood of 1993. No doubt the mitigation efforts of the last 15 years have saved millions of dollars in damages from the Wisconsin floods of 2007 and 2008. Many challenges have been met, yet many challenges remain. With respect to flooding, many people in Wisconsin are subject to basement flooding and sewer back up. Too few people have flood insurance or understand it. Many communities have yet to embrace flood mitigation planning as a tool to help make the community disaster resistant. Many communities need updated flood maps even with the implementation of the Map Modernization program. Stormwater flooding is common and becoming more common. With respect to tornadoes and windstorms, many communities would benefit from performing a shelter assessment, especially for facilities such as schools and health care facilities, to evaluate their suitability as shelter during high winds.

Although the top priority for mitigation will remain the acquisition and demolition of flood vulnerable structures, these other mitigation and hazard awareness issues need to be addressed. The long-term challenge for public planning, development, public safety and emergency management professionals at every level of government is making disaster resistance a Wisconsin way of life.

This Plan update demonstrates that state agencies are willing to take a leadership role to promote hazard mitigation, disaster prevention and hazard resistant communities. However, ultimately all mitigation is local. Participation in state and federal mitigation programs is at the discretion of each community and its citizens. Therefore, the State will continue to encourage local mitigation planning so local problems will have local solutions.

Wisconsin Emergency Management and our state agency partners have updated this State of Wisconsin Hazard Mitigation Plan, as a state disaster prevention planning tool, to help the state and all its citizens understand and combat natural disasters. This Plan update is also designed to fulfill the requirements of 44 CFR Parts 201.4 and 201.5. Ultimately, the Plan shows a solid history of hazard mitigation in Wisconsin, an appraisal of concerns and the commitment of state agencies to adopt policies and take actions that will address these concerns.

# APPENDIX A

# ANNUAL NATURAL DISASTER REPORT

# APPENDIX A

## ANNUAL NATURAL DISASTER REPORT SUMMARY FROM 2005-2008

### 2005 Summary

In 2005, state and local emergency officials responded to a variety of emergencies in Wisconsin, ranging from wildfires to a record number of tornadoes, and providing shelter to evacuees from the hurricane-ravaged Gulf States. Although it was a busy year in terms of weather-related emergencies, no major disasters were declared making it an unusual year in Wisconsin disaster history. The State ranked 12th along with the states of Missouri and Virginia on the number of Major Disaster Declarations declared in the 29 year period from January 1, 1972 to December 31, 2000. The state had multiple declarations in 1990, 1992, 1998, and 2002. Declarations have been granted in every year since 1990 except for 1994, 1995, 2003 and 2005 (with the exception of the Emergency Declaration for Hurricanes Katrina and Rita.) In the last 14 years, all but one of the State's 72 counties, Oconto, has been directly affected by disaster declarations. Additionally, in the years since 1990, 6 requests for declarations have been denied.

On May 5, 2005, Governor Doyle declared a State of Emergency for Adams County following the Cottonville wildfire that burned a swath one and one-half mile swath and seven miles long through the towns of Big Flats, Preston, and Colburn. Thirty homes and at least 60 outbuildings were destroyed in the 3,410 acre fire. It was one of the worst wildfires to occur in the State in 25 years.

In response to Hurricane Katrina, the State Emergency Operations Centers (EOC) was activated from September 6-20, 2005. Through the EOC WEM processed requests from the Gulf States for assistance through the Emergency Management Assistance Compact (EMAC). Over 50 individuals traveled to the Gulf States through the EMAC. On September 8, 2005, Governor Doyle requested the President declare an emergency declaration for the State of Wisconsin as a result of Hurricane Katrina that occurred on August 29, 2005. The emergency declaration was requested to cover 100% of the costs associated with providing emergency shelter and mass care for the evacuees that were arriving in the State from the Gulf States. The emergency declaration was granted on September 13th. This was the first time the State received a federal declaration for an event that occurred in another state. In addition to the evacuees arriving from Hurricane Katrina, costs associated with evacuees from Hurricane Rita were also later included. On September 8th, 170 evacuees, along with 26 animals, arrived via two FEMA-charted flights. The shelter which closed November 1, 2005, housed 365 evacuees, including some who self-evacuated. Most evacuees were placed in housing with some going to hotels. The highest number of households registered with FEMA identifying that they were in Wisconsin was 1,994 on October 26, 2005.

As a result of the hurricanes, Governor Doyle ordered Wisconsin Emergency Management (WEM) to review the state's emergency response plans to ensure they include provisions for mass evacuations and responding to special-needs populations.

WEM is in the process of working with county emergency management directors to review and update the state and local plans.

The most significant weather event for the year was the tornado outbreak on August 18th. This was the worst outbreak ever in Wisconsin's history with 27 tornadoes hitting the state. This set a new record for the most tornadoes reported in one day in the State. The previous record was 24 set on May 8, 1988. A tornado near Viola occurred just after 4 p.m. packing winds of 160 miles per hour and leaving a 20 mile long path of destruction. The next deadly outbreak hit Dane County where an F3 tornado wreaked a 17 mile long and 1/2 mile wide path of destruction. One person was killed and 23 other were injured. A total of nine counties reported damages as a result of the storms. Damage assessments indicated that more than 400 homes were damaged including 67 destroyed. Damages to public infrastructure and clean-up costs were estimated at $3.2 million. On August 25th the Governor requested a Presidential Disaster Declaration for Dane, Richland and Vernon Counties for both Public and Individual Assistance. The request was denied on September 23rd as FEMA determined that the damage was not of such a severity and magnitude as to be beyond the capabilities of the state and local governments. The Governor appealed the decision on October 18th, which was subsequently denied on December 19th. On August 25th the Governor requested a Small Business Administration Disaster Declaration. The SBA declaration was granted on January 6, 2006, which made low-interest disaster loans available to individuals and businesses impacted by the devastating tornados. Over 300 people visited the SBA service centers in Stoughton and Viola. Fifty-six loans were approved in the amount of $4,207,000.

**2006 Summary**

Although no major disaster declarations or emergency declarations were made in 2006, state and local emergency officials responded to a variety of emergencies ranging from explosions in Milwaukee and Ellison Bay to blizzards and one of the most costly hailstorms that hit the state.

Two deadly propane blasts occurred in Wisconsin, resulting in five deaths and nearly 60 injuries. On December 6, an explosion occurred at the Falk Corporation in Milwaukee, killing three workers and injuring 46 others. On July 10, a Michigan couple was killed and 12 others were injured when an early morning series of propane explosions occurred at the Cedar Grove Resort in Ellison Bay. The explosion rocked the small community in Door County.

On April 13, three hail-producing severe thunderstorms occurred in southern Wisconsin. Hail, up to 4.25 inches in diameter, fell across a large swath from Mineral Point to north of Milwaukee. Based on insurance company information, the April 13rd hailstorm resulted in total damage of approximately $420 million, making it the most costly hailstorm day in Wisconsin history. Over 50,000 vehicle claims, 40,000 residential claims, and about 6,400 business/farm claims were filed. The first of the three hailstorms was the single costliest thunderstorm in Wisconsin weather history, with damage estimated at $300 million, far exceeding anything related to tornados.

On July 27th, a major flash flood occurred in the Madison metropolitan area where 3 to 5 inches of rain was measured. Some of the worst flooding affected the UW-Madison campus area where several dozens of buildings sustained damage. Three to five inches of rain fell in and near the city of Waukesha, resulting in flooded roads and buildings. The Fox River in downtown Waukesha also exceeded flood stage for a couple hours after a rapid rise in river levels.

Although none of the weather events in 2006 led to requests for Presidential Disaster Assistance, several did qualify for the new state disaster contingency fund. The Wisconsin Disaster Fund was signed into law in April 2006 and consists of a $3 million annual appropriation to help communities recover from disasters that do not qualify for federal disaster assistance. It is 70% state funded and 30% funded by the local government applicant and covers costs related to debris clearance, emergency protective measures and road damage. The legislation was made retroactive to 2005 to cover costs associated with the devastating tornadoes that occurred in Dane, Richland and Vernon counties on August 18.

**2007 Summary**

State and local emergency management officials responded to a variety of emergencies in Wisconsin in 2007, ranging from blizzards to record flooding.

Three winter storms struck large parts of Wisconsin over a 4 day period. Round one occurred overnight February 23 into the early morning hours of February 24, and deposited 8-16 inches from the west-central counties to the southeast corner of the state. Galesville came in with 15.8 inches. Round two hit overnight February 24 and deposited 8 to 13 inches from west-central Wisconsin to the southeastern corner. Up to 13 inches fell in northeastern Dunn County in this round. Round three started on February 25 and affected mainly the northeastern counties where 6 to 14.5 inches fell, with Door County having the maximum amounts. Collectively, some locations had a total snowfall of 20 to 25 inches over the 4-day period, which was about 30-50% of a typical winter season total.

A winter storm event on March 1 and 2 (with blizzard conditions in Douglas County) affected the northern three-fourths of Wisconsin. Snow in excess of 6 inches fell north of a line from Viroqua to Port Washington, with maximum amounts of 12 to over 18 inches over the northwest and northeast parts of the state. The winds during the Douglas County blizzard gusted to 57 mph reported. Many roads were closed or impassable, and dozens of schools closed.

On June 7th a severe weather outbreak occurred across the northern half of the state. Fast moving super cell thunderstorms generated damaging straight-line winds, large hail, and tornadoes. Five tornadoes spun up in central and northeast Wisconsin. A long-track tornado touched down at 4:31 pm east of Mattoon in Shawano County and continued northeast to the Oconto-Marinette County line. The tornado track was just over 40 miles, and the tornado was over half-mile wide at times. This was the longest tornado track in the U.S. in 2007. Over 14,000 acres of trees were snapped or flattened and many dozens of buildings were damaged or destroyed. The twister was rated an

EF3 on the Enhanced Fujita scale, with estimated winds of 140 to 160 mph. Damage by this tornado exceeded $15 million (property and timber). The most severe structural damage occurred 3.5 miles east of the City of White Lake in Langlade County. The Bear Paw Outdoor Adventure Resort sustained severe damage. Nearly every building was damaged or destroyed. As the tornado moved northeast into the Nicolet National Forest in Oconto County, it flattened tens of thousands of trees as it headed toward Highway 64. The damage path near Highway 64 was three quarters of a mile wide. The twister caused damage four miles north of the city of Mountain on Highway 32, in the town of Riverview, with estimated winds of around 130 mph. The width of the tornado in this area was almost half-mile. Overall severe storms on June 7 (including the near-record hail storm – see below) resulted in about $60.8 million in damage.

The June 7 severe weather outbreak also produced a 5.5 inch hailstone that fell in Port Edwards in Wood County. This is the second largest hailstone in Wisconsin weather history (the largest hailstone in Wisconsin was 5.7" in diameter which fell in Wausau in May 1921). Damage from the hail storm in Wood County caused $45 million to at least 6,000 homes and businesses.

On July 17-18 flash flooding occurred over southern Crawford and Grant counties after heavy rains of 4 to 7 inches fell overnight. Numerous mud and rock slides occurred on the steep bluffs along the Mississippi River. Near Prairie du Chien, 7.31 inches of rain was measured. In Bagley, the combination of several drainage basins that converge near the village, and the damming effect of debris build-up along area bridges, led to a rapid rise in water levels to about 3 to 4 feet deep in the village. At least 300 homes in the village had water/sewer problems. Grant County received a Small Business Administration disaster declaration which provided over $450,000 in low interest loans to residents and businesses impacted by this flooding event.

A powerful thunderstorm complex produced a damage swath of 2 to 4 miles wide in St Croix County from New Richmond to Glenwood City on August 13th. At least 109 homes and 48 barns were damaged, including two homes and five barns destroyed. One home had its entire upper story blown off. Based on a NWS damage survey, an estimated wind gust of 90 mph occurred. This may have been the strongest thunderstorm wind gust of the year in Wisconsin.

In August a series of thunderstorm clusters moved east-southeast through the southern third of the State and dumped record-setting rains. The area from La Crosse to Kenosha bore the brunt of the heavy rains that resulted in widespread flooding. Many locations set new all-time daily, August, and monthly rainfall records. A large chunk of the rain fell in the two-day period of August 19-20, when 6 to 12 inches of rain were measured (150% to 300% of the August monthly normal.) Vernon County picked up over 21 inches of rain for the month, a new all-time monthly record for Wisconsin. One person perished in Richland County. Total flood damages were about $116.4 million with most of it in southwest Wisconsin. The NWS reported 143 new daily precipitation records were established. Sixty of these records occurred from August 18–20. The record rains caused numerous mud/debris slides, road closures, flooded homes and businesses.

On August 26th, the President declared a major disaster for 14 counties. The counties of Columbia, Crawford, Dane, Grant, Green, Iowa, Jefferson, Kenosha, La Crosse, Racine, Richland, Rock, Sauk and Vernon were declared for Individual Assistance. In addition, Columbia, Crawford, Richland, Sauk and Vernon were declared for Individual and Public Assistance. More than 4,000 families applied for federal assistance with $7.5 million in from FEMA for housing assistance and other needs provided. The Small Business Administration also reported 234 approved low interest loans of over $6 million dollars for disaster assistance. Over 140 local governments in the declared counties requested assistance for nearly $13 million. Mitigation grants were provided to three counties and five communities totaling $5.5 million to alleviate or reduce future disaster damages.

The year began with moderate (D1) to extreme (D3) drought conditions across the northern third of Wisconsin. During June and July much of the state saw 2 to 4 inch precipitation deficits. The effect of this dryness was amplified by unusually warm temperatures (1 to 3 degrees above normal). This caused the drought to spread across almost all (85 %) of Wisconsin. With the exception of the southern two tiers of counties, the state was either in moderate or severe drought. Record August rains across the southern half of the state quickly alleviated the drought across this area. Meanwhile the drought intensified across the northern third of the state. By mid September, severe to extreme drought covered much of this area. From mid September through mid October, several slow moving cold fronts moved through the northern Wisconsin. This resulted in precipitation being 4 to 6 inches above normal across north central and northwest Wisconsin. This alleviated the drought across these areas. Meanwhile the dryness continued across northeast Wisconsin. Green Bay had their driest November ever with only 0.11 inches falling. As of early December, only northeast Wisconsin (just 10.55% of the state) was in drought (moderate).

There was one directly-related fatality, a golfer in Madison, on August 27 due to lightning. On August 22nd, three indirect-related lightning fatalities and two indirectly-related injuries occurred in Madison at a bus stop. A mother and daughter waiting for a bus were electrocuted when lightning struck a power line and caused it to fall onto a flooded street on which they were standing, while another child was injured. A passenger on the bus was killed, and the driver was injured, both having been shocked after coming off the bus to help.

**2008 Summary**

A rare phenomenon occurred on January 7, 2008. There was record breaking warm air with a unique set up of a strong jet stream and wind sheer that caused the development of thunderstorms and ultimately tornados that struck in Kenosha and Walworth Counties. The first tornado started around 4:02 p.m. in Walworth County and moved into Kenosha County and was rated EF3 and traveled for 10 l/2 miles. Most of the damage occurred in the towns of Brighton, Randall, Salem, Somers and Wheatland. Approximately 140 homes were damaged including 34 destroyed causing over $18 million in damages.

The 2007-2008 winter season was "one-for-the-ages." Numerous winter storms, including a couple of blizzards and 4 ice storms, pounded the southern half of the state. Winter snowfalls of 70 to 122 inches across the southern counties established a new all-time winter snowfall records at many locations. These totals were roughly 200 to 240% of normal, and many communities simply ran out of salt, or were unable to purchase additional supplies due to increased demand. The worst storm of the season fell on February 5-6 when 12 to 21 inches of snow combined with northeast winds of 20 to 30 mph and some gusts to 50 mph to create near-blizzard conditions. Major vehicle backups occurred in both north and southbound lanes on Interstate 39/90 in Dane and Rock Counties after several trucks could not make it up hills during intense thunder snowfall rates of 1 to 2 inches per hour at the height of the storm. At least 1,548 vehicles and trucks were stranded for 10 to 20 hours thanks to snowfalls of 18 to 21 inches in that area. Orfordville in Rock County measured the maximum amount of 21 inches.

On March 19, 2008, the President declared an emergency declaration for the storm of February 5-6. The counties included in the declaration were Dane, Dodge, Green, Jefferson, Milwaukee, Rock, Walworth, and Washington Counties for emergency protective measures under the Public Assistance Program. On April 18th, Kenosha, Racine and Waukesha Counties were included in the declaration. Funding was provided to 475 eligible applicants totaling over $11 million.

In June 2008, another widespread, severe flooding/flash flooding event, consisting of two rounds of heavy rains, ravaged southern Wisconsin. The affected area was basically south of a line from LaCrosse to Manitowoc Counties. The first round of heavy rains occurred June 5-8 (mainly in the overnight of the 7th), and the second round during the overnight hours of June 12th and 13th. Collectively, amounts ranged from 6 to over 15 inches. The greatest amount was 15.35 inches south of Portage in Columbia County. Depending on location, 24-hour and monthly rainfall records were established. All of this rain fell on top of a ground that was saturated due to all-time record winter snowfalls of 70 to 122 inches across southern Wisconsin which were roughly double normal amounts. At least 38 river gauge sites set new all-time record-high crests; in some cases exceeding flood stage by 6 to over 11 feet. The Baraboo River in Baraboo crested at 11.48 feet over floodstage. In some cases, rivers remained in flood stage into late July, and many low spots in farm fields still had standing water into September. From June 7 to 13, there were 20 tornadoes reported where the average number in a year for Wisconsin is 21.

The State EOC was activated 24/7 from June 7-24. Interstates and hundreds of roads were closed making travel very difficult. WEM provided over 700,000 sandbags to communities in the impacted area. Thirty-five shelters were open and served 2,623 people. Over 77,000 meals were served. Over 160 waster water treatment plans diverted 90 million gallons of sewage. There were three confirmed deaths. Damages are estimated at $926 million and climbing.

Small rural and urban communities alike were devastated by the repeated flooding and storms. Tens of thousands of homes, businesses and farms were damaged or destroyed. Damage to public facilities is in the tens of millions of dollars. Both the

agriculture and tourism industries, representing the heart of state and local economies, will suffer significantly. The worst flooding occurred on the Baraboo, Kickapoo, Rock, Fox (northern and southeastern) and Crawfish Rivers. Many of the communities are still recovering from flooding that occurred ten months ago resulting in federal disaster declaration 1719-DR-WI. In some cases, the June 2008 flooding was worse than the 1993 flooding.

On June 9, Governor Jim Doyle declared a State of Emergency for 30 counties. On June 13, the Governor requested a presidential declaration for 6 counties. On June 14, President Bush declared the following counties eligible for the Individual Assistance (IA) Program: Columbia, Crawford, Milwaukee, Sauk and Vernon. Subsequently, the following 26 counties were added to the declaration: Adams, Calumet, Dane, Dodge, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, La Crosse, LaFayette, Marquette, Manitowoc, Monroe, Ozaukee, Racine, Richland, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago. Twenty-nine communities were declared for both Public and Individual Assistance. Manitowoc County was declared for Individual Assistance only and Lafayette County for Public Assistance bringing the total to 31 counties. The incident period was June 5 through July 25, 2008.

Over 40,799 people applied for Individual Assistance. As of November 3, 2008, 20,097 households have received housing assistance totaling $47,819,622 with another 9,327 households approved for Other Needs Assistance totaling $6,464,187. The Small Business Administration has approved 1,903 low-interest loans for individuals and businesses totaling $45,031,200. Nearly 1,400 flood insurance claims were paid totaling over $12 million. Nearly 10,000 people visited a Disaster Recovery Center. A total of 844 communities are eligible for funding through the Public Assistance Program. To date, $21,491,763 has been approved in Public Assistance Program. Based on the preliminary damage assessment, this figure could reach $88 million. This disaster is proving to be the largest ever in the State.

# NATURAL DISASTER ACTIVITY BY COUNTY
## 1990-2008


**KEY CHART**

| | |
|---|---|
| A | 1990 Flooding, Tornadoes** |
| B | 1990 Flooding** |
| C | 1991 Severe Storms** |
| D | 1992 Tornadoes** |
| E | 1992 Tornado** |
| F | 1992 Flooding** |
| G | 1993 Flooding** |
| H | 1994 Tornadoes/Severe Storms* |
| I | 1996 Flooding/Severe Storms* |
| J | 1996 Flooding/Tornadoes** |
| K | 1997 Flooding/Severe Storms** |
| L | 1998 High Winds/Severe Storms* |
| M | 1998 High Winds/Severe Storms** |
| N | 1998 Severe Storms/Flooding**- |
| O | 1998 Tornadoes/Severe Storms* |
| P | 1999 Heavy Rain/Severe Storms/Flooding** |
| Q | 2000 Heavy Rains/Severe Storms/Flooding** |
| R | 2000 Heavy Rains/Flooding* |
| S | 2001 Snow*** |
| T | 2001 High Winds, Severe Storms, Flooding** |
| U | 2002 Heavy Rains, Severe Storms, Flooding** |
| V | 2002 Tornado, Severe Storms** |
| W | 2004 Flooding, Severe Storms, Tornados** |
| X | 2005 Tornadoes, Severe Storms* |
| Y | 2007 Flooding, Severe Storms** |
| Z | 2008 Snow Emergency*** |
| AA | 2008 Flooding, Tornadoes, Severe Storms** |

| | |
|---|---|
| * | **Signifies Request for Presidential Disaster Declaration Denied** |
| ** | **Signifies Request for Presidential Disaster Declaration Approved** |
| *** | **Signifies Request for Presidential Emergency Declaration Approved** |

# NATURAL DISASTER DAMAGE IN WISCONSIN

| YEAR | EVENT | NUMBER OF COUNTIES | | STATE AND FEDERAL MONEY RECEIVED (For Public or Gov't Assist.) | | STATE AND FEDERAL MONEY RECEIVED (For Private or Indiv. Assist.) | | ESTIMATED DAMAGE PUBLIC (Gov't. Prop. & Facilities) | ESTIMATED DAMAGE PRIVATE (Indiv. Prop., Crops, & Facilities) | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| 2008** | Storms, Tornadoes, Flooding | 31 | 1 | $60,000,000 | | $99,315,009 | | $125,681,689 | $637,937,171 | $763,668,860 |
| 2008**** | Snow Emergency | 11 | 2 | $11,291,568 | | _ | | N/A | N/A | N/A |
| 2007** | Storms, Tornadoes, Flooding | 14 | 3 | $18,380,665 | | $13,994,669 | | 21,098,700 | 94,313,300 | 115,412,000 |
| 2005 * *** | Tornado, Storms | 3 | 4 | _ | | $4,207,000 | | 3,680,725 | 23,588,700 | 27,269,425 |
| 2005**** | Katrina Evacuees | 72 | 5 | $1,120,374 | | N/A | | N/A | N/A | N/A |
| 2004** | Flooding, Storms, Tornados | 44 | 6 | $13,508,695 | | $13,159,514 | | 9,908,728 | 77,123,432 | 87,032,160 |
| 2002** | Tornado, Storms | 19 | 7 | 3,076,718 | | 665,759 | | 3,610,925 | 24,129,080 | 27,740,005 |
| 2002** | Flooding, Storms | 8 | 8 | 4,509,896 | | 0 | | 7,094,978 | 7,226,700 | 14,321,678 |
| 2001** | Flooding/Storms/Tornado | 32 | 9 | 21,247,565 | | 22,375,528 | | 47,725,550 | 56,158,600 | 103,884,150 |
| 2001**** | Snow Emergency | 14 | | 5,483,097 | | _ | | N/A | N/A | N/A |
| 2000* *** | Heavy Rains, Storms, Flooding | 2 | 10 | _ | | 1,547,000 | | 1,626,500 | 1,845,850 | 3,472,350 |
| 2000** | Heavy Rains, Storms Flooding | 30 | 11 | 18,114,937 | | 18,742,906 | | 37,556,388 | 25,242,248 | 62,798,636 |
| 2000*** | Severe Storms, Hail and Tornado | 4 | 12 | _ | | 7,251,900 | | 2,056,228 | 120,562,423 | 122,618,651 |
| 1999** | Heavy Rains, Severe Storms, Flooding | 10 | 13 | 5,916,859 | | _ | | 6,500,000 | 1,500,000 | 8,000,000 |
| 1998* | Tornadoes, Severe Storms | 1 | 14 | _ | | _ | | 15,500 | 6,509,030 | 6,524,530 |
| 1998** | Severe Storms and Flooding | 5 | 15 | 11,023,053 | | 26,518,256 | | 10,687,346 | 44,025,738 | 54,713,084 |
| 1998** | High Winds and Severe Storms | 14 | 16 | 10,481,638 | | _ | | 11,115,989 | 36,806,899 | 47,922,888 |
| 1998* | High Winds and Severe Storms | 16 | 17 | _ | | _ | | 5,832,845 | 47,892,964 | 53,725,809 |
| 1997** | Flooding, Heavy Rains | 4 | 18 | 17,160,019 | | 37,620,733 | | 17,064,946 | 70,667,000 | 87,731,946 |
| 1996** | Flooding, Tornadoes | 2 | 19 | 2,450,546 | | _ | | 11,366,650 | 49,748,000 | 61,114,650 |
| 1996* | Flooding | 15 | 20 | _ | | _ | | 4,689,700 | 194,336,539 | 199,026,239 |
| 1994* | Tornadoes, Severe Storms | 2 | 21 | _ | | _ | | 1,195,750 | 8,508,290 | 9,704,040 |
| 1993** | Flooding, Storms, Tornadoes, Heavy Rain | 47 | 22 | 26,683,822 | 23 | 271,761,899 | 24 | 47,000,000 | 700,000,000 | 747,000,000 |
| 1992** | Flooding | 10 | | 3,143,715 | | 126,402 | 25 | 1,917,000 | 15,838,286 | 17,755,286 |

## NATURAL DISASTER DAMAGE IN WISCONSIN (continued)

| YEAR | EVENT | NUMBER OF COUNTIES | STATE AND FEDERAL MONEY RECEIVED (For Public or Gov't Assist.) | STATE AND FEDERAL MONEY RECEIVED (For Private or Indiv. Assist.) | | ESTIMATED DAMAGE PUBLIC (Gov't. Prop. & Facilities) | ESTIMATED DAMAGE PRIVATE (Indiv. Prop., Crops, & Facilities) | TOTAL |
|---|---|---|---|---|---|---|---|---|
| 1992** | Tornadoes | 1 | 945,138 | 391,881 | 26 | 1,800,000 | 8,301,900 | 10,101,900 |
| 1992** | Tornadoes | 1 | 3,054,759 | 0 | 27 | 5,362,500 | 9,020,000 | 14,382,500 |
| 1991** | Severe Storms, High Winds | 5 | 3,850,598 | 0 | 28 | 3,696,000 | 23,001,283 | 26,697,283 |
| 1990** | Flooding | 1 | 0 | 1,369,602 | 29 | 2,245,206 | 3,984,532 | 6,229,738 |
| 1990** | Flooding/Tornadoes | 17 | 6,471,321 | 7,340,689 | 30 | 4,600,000 | 16,524,222 | 21,124,222 |

(See Notes on following pages)

* Presidential Disaster Declaration Applied for; Denied by Federal Government

** Presidential Disaster Declaration Approved for State

*** USDA-SBA Disaster Declarations Approved Upon Governor's Request

**** Presidential Emergency Declaration Approved Upon Governor's Request

## Summary of Events

| Time Frame | Number of Events | State and Federal Assistance | | Estimated Damages | | |
|---|---|---|---|---|---|---|
| | | Public Sector | Private Sector | Public Sector | Private Sector | Total |
| **1990-2008** | 293 | $247,914,983 | $526,388,747 | $395,129,843 | $2,304,842,187 | $2,669,972,030 |
| **1971-2004** | 46 | $188,487,815 | $705,866,806 | $339,694,203 | $2,925,476,422 | $3,265,170,625 |

| | Since 1971 | Since 1990 |
|---|---|---|
| Presidential Disaster Declarations Awarded | 27 | 19 |
| Presidential Disaster Declarations Denied | 13 | 6 |
| Emergency Declarations Awarded | 6 | 3 |

## NOTES FOR THE NATURAL DISASTER DAMAGE TABLE

1 Twenty-nine counties declared for PA and IA, one each for IA and PA only. The number of people that registered for assistance was 40,799. As of November 3, 2008, disaster assistance for individuals includes $47,819,622 for housing assistance, $6,464,187 for other needs assistance, $45,031,200 in Small Business Administration disaster assistance loans. Disaster Assistance (PA) program is estimated at $88 million and the Hazard Mitigation Grant Program (HMGP) at $34 million.

2 Eleven counties included in the snow emergency. 475 applicants received $11,291,568 for reimbursement for emergency protective measures for February 5-6.

3 Five counties declared for PA and IA, and another nine for IA only. The number of people that registered for assistance was 5,048. Disaster assistance for private individuals includes $7,495,433 for housing assistance, $499,235 for other needs assistance, $9,881,100 in Small Business Administration disaster assistance loans. Disaster assistance for the PA program is $12,828,586 and $5,552,079 million for the HMGP.

4 A federal disaster declaration was requested for Dane, Richland and Vernon Counties. The request was denied, appealed, and denied a second time. A SBA disaster declaration was granted. Fifty-six loans were approved.

5 An federal emergency declaration was granted in response to Hurricanes Katrina and Rita to assist evacuees entering the State from the Gulf States. Costs incurred by state and local governments for shelter and transitional housing were reimbursed 100% by FEMA. This was the first declaration in state history issued for a disaster in another state.

6 The number of people that registered for assistance was 8,068. Disaster assistance for private individuals includes $5,100,075 for housing assistance, $1,468,795 for other needs assistance, $156,041 in disaster unemployment assistance, $9.9 million in Small Business Administration disaster assistance loans. Disaster assistance for the Public Assistance (PA) program is $14,245,186 and $1,847,086 million for the Hazard Mitigation Grant Program (HMGP).

7 The sum of state and federal disaster assistance to governments includes $2,220,010 from the Public Assistance (PA) program and $856,708 from the Hazard Mitigation Grant Program (HMGP). Assistance to the private sector included $245,858 from the Individual Assistance program and $419,900 in disaster loans from the SBA.

8 The sum of disaster assistance to governments includes $4,016,090 from the Public Assistance (PA) program and $493,805 from the Hazard Mitigation Grant Program (HMGP).

9 The sum of disaster assistance to governments includes $17,557,494 from the Public Assistance (PA) program and $3,690,072 from the Hazard Mitigation Grant Program (HMGP). The sum of disaster assistance to private individuals includes $1.6 million under the Disaster Housing Program, $707,028 under the Individual and Family Grant Program (IFG), and $20,068,500 in Small Business Administration (SBA) disaster assistance loans. The SBA loans included $9,999,700 in Home Loans, $8,382,700 in Business Damage Loans, and $1,686,100 in business economic injury loans.

10 Private sector disaster assistance was entirely from the SBA and represents 41 home loans made to individuals totaling $679,100, 4 loans to businesses for physical damages totaling $475,500 and 3 loans to businesses for economic injury related to the storm totaling $392,400.

11 The $18,742,906 in private sector assistance includes $6,267,491 in federal Disaster Housing Program funds and $4,504,015 in the Individual and Family Grant Program. The remainder is from the Small Business Administration and represents 661 home loans made to individuals totaling $7,234,200, 40 loans to businesses for physical damages totaling $554,800 and 28 loans to businesses for economic injury related to the storm totaling 182,400. The public sector assistance includes $13,695,918 in Public Assistance ($10,271,939 federal share) and $4,424,019 in Hazard Mitigation Grant Program funds ($3,313,014 federal share).

12 Private sector disaster assistance was entirely from the SBA in the form of low-interest loans. The largest portion, $5,756,000, was for Home Loans. In addition, the SBA provided $963,400 for Business Damage Loans and $532,500 for Business Economic Injury Loans. The May 12 storm was the costliest hailstorm in Wisconsin's history (the National Weather Service estimated $121.6 million in damage) although most of the damages were covered by insurance. County estimates for damages to public infrastructure and costs for debris removal totaled $2,056,228 of which $1,018,651 was for debris removal and emergency protective measures. Most of these expenses were not covered by insurance. The damage to public sector structures, $1,037,577, was subtracted from the gross damage estimate of $121.6 million to create an estimate of private sector damages (mostly homes and crops).

13 The $5,916,859 in public sector assistance represents $5,116,859 in monies obligated for the Public Assistance Program and $800,000 for the Hazard Mitigation Grant Program. Individual assistance was not requested from the federal government as part of this declaration.

14 Request for Presidential Declaration was denied on the basis that most of the losses were covered by insurance and that the remaining costs were within the capabilities of the state and local governments. A subsequent appeal by the Governor was also denied.

15 The $7,561,053 in public sector funding represents monies obligated and includes $3,110,632 for the Public Assistance Program and $4,450,421 for the Hazard Mitigation Grant Program. The private sector figure represents the total of loans from the Small Business Administration ($12,479,500), Disaster Housing Grants ($8,824,255), Individual and Family Grants ($5,147,127), the Disaster Unemployment Assistance Program ($3,253) and the Crisis Counseling Program ($64,121). The declared counties also received a special HUD CDBG grant award in the amount of $3,462,000.

16 The Presidential Declaration included only Public Assistance and Hazard Mitigation, even though Individual Assistance was also requested. This exclusion was appealed, however the appeal was also denied on the basis that most of the private sector losses were covered by insurance. The $10,481,638 in public sector funding represents monies obligated and includes more than $$8,519,173 for the Public Assistance Program and $1,962,465 for the Hazard Mitigation Grant Program.

17 Request for Presidential Declaration was denied on the basis that most of the losses were covered by insurance and that the remaining costs were within the capabilities of the state and local governments. A subsequent appeal by the Governor was also denied.

18 Damage figures are based on original estimates received from county emergency management directors. More than 14,000 individuals applied for assistance from the Disaster Housing, Small Business Administration and Individual and Family Grant Programs. This represents the largest Individual Assistance Program ever administered in the state. Approximately $6,795,016 was paid out in the Public Assistance Program and $6,265,003 in Hazard Mitigation Grants. The declared counties also received a special HUD CDBG grant award in the amount of $4.1 million.

19 A Presidential Disaster Declaration was declared on August 2 for Public Assistance only. An appeal to have Individual Assistance added to the declaration was denied. Green County was declared eligible for low-interest loans from the Small Business Administration.

20 Both the original request for a Presidential Major Disaster Declaration and a subsequent appeal were denied. The private damage figure reflects an estimated $180 million in crop losses.

21 The Small Business Administration made low-interest loans available. Information is unavailable on amount of assistance.

22 Funds disbursed include aid to the agricultural community totaling $230,742,262; loans through SBA for individual and businesses totaling $10,394,929; 840 Individual and Family Grants totaling $1,492,267; and Disaster Housing Grants for $3,944,158. Close to 4,500 people applied for disaster assistance through the FEMA programs.

23 Funds disbursed include $5,008,911 in Community Development Block Grants, $1,525,000 in Community Services Block Grants, $1,019,309 in Federal Highway Administration Emergency Relief Funds, among other programs. Over 600 state and local governments received almost $20 million in grants through the Public Assistance Program. The cost share for this declaration under the Public Assistance Program was increased from 75% to 90% federal (FEMA) funds with the state splitting the remaining 10% with the applicant.

24 Forty counties declared for both Individual and Public Assistance programs, and another seven for Individual Assistance. Incident period for the declaration was June 7 - August 25, 1993.

25 This figure represents the amount of assistance provided by the Individual and Family Grant Program. It does not include the amount of assistance provided by the Disaster Housing Program and the Small Business Administration.

26 This figure represents the amount of assistance provided by the Individual and Family Grant Program and Crisis Counseling Grant. It does not include the amount of assistance provided by the Disaster Housing Program and the Small Business Administration.

27 This request for a Presidential Disaster Declaration for Public Assistance was originally denied. An appeal of the denial was made on July 27 and the result of the appeal was that a declaration was granted.

28 This declaration was made by the President on August 6, 1991, for public assistance only, as most of the losses to the private sector were covered by insurance. The Farmers Home Administration Emergency Loan Program was also made available.

29 Both individual and public assistance were requested, however, only individual assistance was granted in this declaration. A subsequent appeal for the public assistance program was also denied. The bulk of public damage was to the Lake Tomah Dam and the Tomah Wastewater Treatment Facility.

30 This was the first declaration received by the state subsequent to the passage of the amended disaster law, Public Law 100-707, The Robert T. Stafford Disaster Relief and Emergency Assistance Act. The law expanded eligibility under the public assistance program and also made a new Hazard Mitigation Grant Program available under Section 404.

**ACRONYMS**

USCE = UNITED STATES CORPS OF ENGINEERS
USDA = UNITED STATES DEPARTMENT OF AGRICULTURE
FSA = FARM SERVICES AGENCY
SBA = SMALL BUSINESS ADMINISTRATION
HUD = HOUSING AND URBAN DEVELOPMENT
FEMA = FEDERAL EMERGENCY MANAGEMENT AGENCY

# APPENDIX B

# HISTORY OF THE STATE'S FEDERAL DISASTER DECLARATIONS

# APPENDIX B

## HISTORY OF THE STATE'S FEDERAL DISASTER DECLARATIONS

This appendix will present a discussion of how Wisconsin's Hazard Mitigation Grant Program evolved in the course of the state's declared disaster history from 1991 to 2008.

**FEMA-912-DR-WI**

On August 6, 1991, the President declared a major disaster for the counties of Dane, Jefferson, Ozaukee, Washington and Waukesha as a result of high winds and severe storms that occurred July 7, 1991.

Severe storms in south central and southeastern Wisconsin on July 7 ranged from 60 to 80 miles per hour and hail as large as one inch in diameter fell in northeastern Dane County. Wind and hail caused crop damage and damage to farm buildings. In urban areas, trees were split and uprooted, damaging property and blocking streets as well as causing significant damages to private and public utility power lines. High winds also caused damage to 400 homes. A state owned hanger at the Dane County Regional Airport was completely destroyed damaging two state airplanes.

Total estimated damages for the disaster were $26.7 million. The costs incurred by government were estimated to be $3.7 million with individual property and agricultural losses at $23 million. The declaration was granted for Public Assistance only as the majority of the private sector damages were covered by insurance. The Public Assistance Program provided $3,283,562 to 79 community and county applicants. The Farmers Home Administration Emergency Loan Program also was made available to farmers who were affected by the storm.

The Hazard Mitigation Team Report prepared for FEMA-912-DR-WI identified mitigation opportunities in the following areas: 1) Use of local forestry program standards in the removal of damaged and hazardous trees and branches; 2) Identification and utilization of wind resistant building construction and repair standards, and the incorporation of mitigation provisions in local inspectors' training and certification programs; and 3) Provision of warning sirens. The issues raised remain concerns today and are being addressed by the State Hazard Mitigation Team through the planning process. Some require additional research and will require legislative action. Others will have opposition to implementation from various parties.

As a result of the declaration, the five counties were also eligible for the Section 404-Hazard Mitigation Grant Program (HMGP). HMGP funds available totaled $108,684 with the federal share representing 50% or $54,342, state share 25% or $27,171 with a local match of 25% or $27,171. Due to the small amount of funds available, the state had a difficult time in identifying an eligible project that would meet all of FEMA's program criteria and the funds remained unobligated for some time.

After the Midwest Flood in 1993, the state received a HMGP application from Jefferson County for acquisition and demolition of structures in the floodway on Blackhawk Island located in the Towns of Sumner and Koshkonong. Major floods occurred on the island in 1929, 1959, 1979 and 1993 with 1929 the worst recorded flood. Lesser flooding occurs almost annually, affecting many of the island's low to moderate-income level families and secondary residences. In 1993, the water came up to less than 10 inches from the all-time high and nearly every resident was evacuated for more than seven weeks. The repeated flooding caused structures on the island to show signs of disrepair. Septic systems and holding tanks were poor to substandard quality and presented an environment threat. In addition to the damages that occurred to the structures, there were continued expenses for the towns and county in emergency response and road repairs on the island.

As a result of the flooding in 1993, the county received grants from the Department of Administration (Community Development Block Grant in the amount of $500,000) and the Department of Natural Resources (Urban Rivers Grant Program in the amount of $611,000) for acquisition and demolition. To further the county's efforts, the state requested and FEMA approved a HMGP grant under 912-DR in the amount of $108,684 for Jefferson County. The funds were applied to the acquisition and demolition of three properties located on Blackhawk Island. The county received additional HMGP funds under declaration FEMA-994-DR-WI as well as the Flood Mitigation Assistance Program (FMA) to further their efforts of acquisition and demolition on Blackhawk Island. To date the county has acquired and demolished 30 structures utilizing the various funding sources. In addition, the county received a FMA Planning Grant to develop a comprehensive flood mitigation plan. There are about 60 structures remaining on the island. The acquisition and demolition of structures on Blackhawk Island remains a high priority with the county.

**FEMA-959-DR-WI**

On September 2, 1992, the President declared a major disaster for Waushara County for severe storms and tornadoes that occurred on August 29. During the evening of August 29, two tornadoes occurred. The first, an F1, occurred in Adams County and was on the ground for 4.5 miles. No injuries were reported and there was only minor damage. The second tornado ripped through Waushara County killing two individuals (one from a heart attack) and injuring 30 others. The tornado, rated F3 (158-206 mph) was on the ground for approximately 30 miles. The City of Wautoma sustained the heaviest damage with debris being a major concern.

The storms destroyed mobile homes, severely damaged a migrant worker camp and decimated thousands of trees. Forty-eight homes were destroyed, 95 received major damage, 289 received minor damage and 100 were affected to a lesser degree. Twenty-eight businesses were also damaged as well as many farm buildings. Two private, non-profit organizations were destroyed: One employed handicapped individuals and the other was a senior citizen center. On alternate weekends the senior citizen center hosted a Bingo Night. Fortunately, it was empty the night of the tornado

or there could have been up to 200 people in the center at the time the tornado struck. The number of deaths and injuries could have been much higher.

Debris was widespread in both urban and rural areas. There were massive tracts of downed timber posing a serious problem on both public and private lands. About 953 acres of commercial and state forested lands were critically affected. Waushara County is known as the Christmas tree capitol of the world. Christmas tree farms were severely impacted by this event. Metal debris from destroyed mobile homes was also a problem and was scattered throughout forests and agricultural fields.

The costs incurred by government were estimated to be $1.8 million with individual property and agricultural losses at $8.3 million. The estimated damages totaled $10.1 million. Disaster assistance through the Public Assistance Program was provided to 18 applicants and totaled $807,648. Assistance through the Individual and Family Grant program and through Crisis Counseling totaled $391,881. In addition, Disaster Housing Grants, Small Business Administration low-interest loans and unemployment assistance were provided. Waushara County and the contiguous counties of Adams, Green Lake, Marquette, Portage, Waupaca and Winnebago were eligible for physical and production loss loans through the Farmers Home Administration.

The Hazard Mitigation Team Report prepared for FEMA-959-DR-WI identified 12 mitigation recommendations in the following areas: Alert and Warning (3), Severe Weather Protection Shelters (1), Training and Education (3), Building Codes and Standards (4) and Economic Development (1). Several of the recommendations remain concerns today and are being addressed by the State Hazard Mitigation Team through the planning process for this document. Some require additional research and will require legislative action.

As a result of the declaration, the communities within the county were eligible for Section 404-Hazard Mitigation Grant Program funds. HMGP funds available totaled $38,868 with the federal share representing 50% or $19,434, a state share of 25% or $9,717 with a local match of 25% or $9,717. Waushara County applied for an HMGP grant for a weather information system that would create a forecasting system for all hazards that would greatly enhance the ability of local responders to preplan their responses based on past, current and predictable future weather conditions. This application was related to mitigation recommendation 3 of the Hazard Mitigation Team Report.

FEMA denied the application stating that the proposal was considered an enhancement to the county's preparedness capability and was not mitigation. They further referred to FEMA's policy dated February 7, 1992, regarding the funding of warning systems and other similar equipment. The policy states that HMGP cannot fund the purchase of warning systems, enhanced computer hardware and similar equipment. However, 44 CFR Section 206.434, states that "development or improvement of warning systems" are eligible under HMGP. The state submitted a formal appeal to the decision on behalf of the county and was denied. Working with FEMA and this office, the county submitted

another application for the development and implementation of a geographic information system (GIS) application that received approval. The project consisted of verifying digitized floodplain maps, using a global positioning system (GPS) to identify the location of structures in the 100-year floodplain of the Pine River, determine the lowest adjacent and first floor elevations and incorporate the information into the county's GIS system. The information would be used in emergency situations and for mitigation planning efforts. The project covered 12.7 miles of the Pine River and involved investigation of 124 structures. In addition to the HMGP awarded to the county, a basement was constructed in the rebuilding of the senior center to be used as a community shelter utilizing Section 406 funds.

**FEMA-963-DR-WI**

On September 18, 1992, the President declared a major disaster for Dane County as a result of severe storms and tornadoes that occurred on June 17. The Governor had requested a disaster declaration for Dane County on June 22, but was denied on the basis that the majority of damage occurred to insured structures. An appeal submitted on July 27 cited the tremendous burden already placed on the state by the numerous natural disasters that had already taken place during the year. Subsequently the President granted a disaster declaration for Public Assistance and Hazard Mitigation.

On June 17, 1992, a tornado touched down in southern Dane County just ten miles south of Madison. The F3 tornado touched down in the City of Fitchburg at the State of Wisconsin Oakhill Correctional Institute causing heavy to total destruction of the various buildings and equipment. More than 12 buildings at the prison farm were totally destroyed and two others sustained a 50% loss. Total damages, including inventory, livestock and machinery/equipment were set at more than $5.2 million. The tornado continued to travel northeast, destroying businesses and residences in its path. The storm damaged almost 200 homes, including 48 that were totally destroyed. The majority of homes destroyed and damaged were located in the Waubesa Heights subdivision within the Town of Dunn. Other private sector damages included damages to barns, outbuildings and sheds. Debris removal was also a concern.

Between 20 and 30 persons were injured, but fortunately there were no deaths. Contemplating the magnitude of the storm, it is significant that there were few injuries and no deaths. This was attributed to the fact that the storm occurred during the day and that there was adequate warning.

The costs incurred by government were estimated at $5.4 million with damages to individual property and agricultural losses at $9 million for total estimated damages of $14.4 million. Disaster assistance through the Public Assistance Program was provided to 12 applicants and totaled $2,600,142.

The Hazard Mitigation Survey Team Report prepared for FEMA-963-DR-WI identified 4 recommendations. Again, one of the recommendations dealt with building codes and standards similar to those identified in the previous report for FEMA-959-DR-WI. Several of the recommendations remain concerns today and are being addressed by

the State Hazard Mitigation Team through the planning process for this document. Some require additional research and will require legislative action. Others have opposition from various parties to implementation.

As a result of the declaration, the communities within the county were eligible for Section 404-Hazard Mitigation Grant Program funds. HMGP funds available totaled $376,374 with the federal share representing 50% or $188,187, a state share of 25% or $94,093.50 with a local match of 25% or $94,093.50. The state received 12 pre-applications from six communities totaling $836,405. Grants were awarded to the City of Sun Prairie and the Villages of Cross Plains and Deforest. The City of Sun Prairie received HMGP funds in the amount of $137,340. Fifty percent or $68,670 represented the federal share with the state providing 25% or $34,335. The city provided the remaining 25% plus additional funds in the amount of $91,021. The City of Sun Prairie received an initial grant for the development of a stormwater management plan. A subsequent award was then granted to implement one of the recommendations identified in the stormwater management plan. The Village of Cross Plains received a grant in the amount of $37,000 ($18,500 federal share, $9,250 state and local shares) for a clearwater infiltration abatement project. Finally, the Village of Deforest received a grant in the amount of $202,034 ($101,017 federal share, $50,508.50 state and local shares) for the development of a detention basin. In addition to HMGP, funds for construction of the basin were provided through a Community Development Block Grant in the amount of $200,049. Both the City of Sun Prairie and the Village of Deforest reported that these projects reduced damages during the flooding that occurred in May-June 2000. It is also worth mentioning that the City of Sun Prairie completed an all-hazards mitigation plan subsequent to receiving mitigation funds.

**FEMA-964-DR-WI**

On September 30, 1992, the President declared a major disaster for severe storms and flooding that occurred between September 14-24. This was the third federal disaster declaration granted for the state in less than two months. The declaration made Buffalo, Crawford, Jackson, Juneau, Pepin, Pierce, Richland, Sauk, Trempealeau and Vernon Counties eligible for Public and Individual Assistance as well as the Hazard Mitigation Grant Program.

The majority of the rain fell between September 14 and 18 with the heaviest rainfall occurring on the 16th. Precipitation reports showed a wide area across the central portion of the state received rainfall greater than 4 inches. Two areas recorded rainfall greater than 7 inches, one located in upper Buffalo and Trempealeau Counties and the other near Hillsboro just east of the Kickapoo Valley. Within these areas, there were isolated reports of 9 to 13 inches. A few farmers in the LaValle-Hillsboro region reported three-day amounts of 14-17 inches. Four rivers, the Pine River in Richland County, the Trempealeau River in Trempealeau County, the Baraboo River in Sauk County and the Kickapoo River in Crawford and Vernon Counties rose quickly. Many of the rivers crested at record levels, and some equaled or exceeded the 100-year flood elevation. Arcadia, Richland Center, Rock Springs, Viola and Gays Mills were evacuated as flood waters inundated or surrounded residences. The flooding forced

early closure of Farm Progress Days, which was a serious blow to the economy of the region.

Dozens of state, county and local roads were closed when swollen rivers and run-off flooded them. Numerous bridges were damaged or destroyed. A levee in Arcadia was greatly stressed and in danger of breaching. The Wisconsin National Guard assisted emergency officials and volunteers with sandbagging efforts. There was considerable damage in the City of Richland Center. Approximately 120 buildings were flooded. Due to previous mitigation, 50 to 70 residences were protected and suffered no damage. Damage assessment indicated that 19 homes received major damage, 174 minor and 132 were affected to a lesser degree.

The damages to and costs incurred by government were estimated at $1.9 million with damages to individual property and agricultural losses at almost $16 million for total estimated damages of $17.9 million. Disaster assistance through the Public Assistance Program was provided to 145 applicants in the amount of $2,821,355. Individual assistance was provided through the Individual and Family Grant Program in the amount of $126,402. In addition, Disaster Housing Grants and Small Business Administration low-interest loans provided assistance.

The Interagency Hazard Mitigation Team Report for FEMA-964-DR-WI identified 9 mitigation recommendations in the following areas: Flood Planning (2), Stream Maintenance (1) and Alert and Warning (6) as well as 19 site specific recommendations.

As a result of the declaration, the communities within the ten counties were eligible for Section 404-Hazard Mitigation Grant Program funds. HMGP funds available totaled $391,074 with the federal share representing 50% or $195,537, state share 25% or $97,768 with a local match of 25% or $97,768. The state received 25 pre-applications totaling $1,732,163. Based on a review of the submitted pre-applications, 8 applicants were asked to participate in the formal application process. Grants were awarded to the Cities of Blair (Trempealeau County) and Black River Falls (Jackson County). The City of Blair was approved for a HMGP grant in the amount of $109,144 for a dam improvement project on Lake Henry. Fifty percent or $54,572 represented the federal share, with the state and city providing 25% each in the amount of $27,286. In addition, the city received a Community Development Block Grant in the amount of $109,173, and a grant from the Department of Natural Resources in the amount of $43,460 for this project. The City of Black River Falls was awarded a grant in the amount of $281,930 for constructing storm sewers to alleviate flooding problems. The federal share represented 50% or $140,965 with the state and local shares of 25% or $70,482 each. In addition, the city also received a Community Development Block Grant in the amount of $43,971 to complete this project.

**FEMA-994-DR-WI**

Wisconsin experienced above normal precipitation across much of Wisconsin during April and May of 1993. Initially this began with prolonged periods of rain and heavy late season snowfalls, then as showers and thunderstorms. In early June, a weather pattern

developed that was characterized by a strong low-pressure system over the western United States and a large high-pressure system in the southeast. The jetstream dipped south in the western states and flowed northeasterly across the upper Midwest. The southeastern high blocked the eastward movement of storms, thus creating a convergence zone between the warm, moist flow from the Gulf of Mexico and the much cooler and drier air from Canada, which resulted in thunderstorms. As a result, the upper Midwest within this zone was deluged with rain through most of June and July. The persistence of this weather pattern caused unusually large amounts of rain to fall over the upper Midwest. These large accumulations and the wetter-than-usual spring produced flooding throughout the upper Mississippi River basin. Cumulative totals of 20-40 inches for the first seven months of the year were typical; putting totals 150-200% above normal.

This event would become known as the Great Midwest Flood, with nine states including Wisconsin declared a federal disaster area. The magnitude of the Great Midwest Flood to people, property, business, agriculture, tourism, and the environment, was unmatched by any other flood in the history of the country. Damages exceeded $12 billion with $747 million in Wisconsin. The Mississippi and Missouri Rivers would be closed to shipping and millions of acres of farmland were severely impacted.

The state incurred $800 million in agricultural-related damages. Cool, wet weather in 1992 combined with over $125 million in winterkill losses and a very wet spring made this one of the most disastrous periods in the state agricultural history. It was estimated that 804,800 acres of farmland suffered severe erosion due to the flooding. It would cost $11 million to implement all the land treatment practices needed to correct erosion damage. At least 4,700 homes were damaged and 2,500 people evacuated. Private business losses exceeded $31 million, most of it related to business shutdowns and damages to goods and supplies. Public damages reached $43.6 million. The state lost millions in tourism revenue and incurred costs for additional staff for public health services, unemployment claims for displaced workers and extensive use of National Guard and Conservation Corps services.

In Wisconsin, the disaster started with one of its wettest and most stormy months of June in memory. The first bout of severe weather occurred on June 7 and 8 when heavy rains and severe thunderstorms developed in the southern two-thirds of the state. The most damaging weather occurred in east central Wisconsin where tornadoes ripped through Green Lake and surrounding communities. Statewide the rains continued and were followed by an outbreak of tornadoes that occurred on June 17. That storm affected a band of counties extending from Grant County northeastward to central and east central counties. In addition to the damages caused by the high winds and tornadoes, rainfall of two to seven inches throughout the southern and western part of the state caused even greater problems on rivers and streams that were bank-full and soils that were still saturated from spring snowmelt and record precipitation during the month of May. Flooding occurred along the following rivers and tributaries: Black, Buffalo, Chippewa, Eau Claire, Fox, Kickapoo, Trempealeau, Wolf, Wisconsin and Mississippi. The National Weather Service issued flood watches and warnings almost

continuously. Several dams and levees failed, hundreds were evacuated and hundreds of millions of dollars in damages resulted.

Evacuations occurred in Jackson, Columbia, Trempealeau, Adams and several other counties as rivers made islands of residential and business areas. Both individual and municipal water supplies were contaminated along with collapsed mound and/or septic systems.

Significant structural damage to residences occurred in the Grove subdivision in the City of Black River Falls when the levee along the Black River failed. Approximately 90 structures were substantially damaged. The municipal sewer and water systems were also severely damaged. The city with a population of 3,500 received $45 million in damages. Damages to utilities were estimated at $6.5 million.

Over 250 members of the Wisconsin National Guard were on duty in the City of Black River Falls beginning on June 20. They assisted with flood fighting efforts, security and evacuation. On June 28 another 25 Guard members were activated to assist in sandbagging operations in the City of Prairie du Chien in Crawford County. Guard members and/or equipment such as water buffaloes and tankers were also used in numerous other communities. Guard helicopters assisted with overflights in assessing the severity of the situation throughout the area. Hundreds of volunteers also assisted in sandbagging efforts in the most critical areas around the state.

Literally hundreds of state, county and town roads were closed when swollen rivers and runoff flooded them. Local police, fire, public works and emergency management officials worked around the clock for more than a week monitoring dams and levees and taking emergency protective actions.

The preliminary damage assessment identified almost 1,600 homes that were affected by the flooding. In addition, emergency protective measures and damage to roads and bridges were confirmed at nearly $5 million.

On June 29 the Governor requested federal disaster assistance for 30 counties. Initial damage assessment figures compiled by the county emergency management offices indicated that disaster-related costs were $30 million in private damage, $20 million in public damages and $124 million in agricultural losses for a total in excess of $174 million.

On July 2,1993, the President declared a major disaster for 17 of the 30 counties as a result of flash flooding, heavy rains, severe storms and tornadoes that began on June 7. The counties included in the declaration included Calumet, Clark, Eau Claire, Green Lake, Jackson, Marquette and Trempealeau for both Public and Individual Assistance, and the Counties of Columbia, Dunn, Fond du Lac, Outagamie, Portage, Sauk, Waupaca, Waushara, Winnebago and Wood for Individual Assistance only.

Subsequent rainfalls in late June and July again caused serious damages this time in the basins of the Pecatonica and Yahara Rivers. An extreme example of localized flooding occurred on July 17-18 as a flash flood at the Baraboo River and Devils Lake. Over 12 inches of rain fell in a three-hour time period and exceeded the 100-year precipitation event by 3.6 inches. The flash flood washed away cars, roads, bridges and buildings, and resulted in the death of a twelve-year old when the car he was riding in was overturned and he was carried downstream. The Baraboo River rose ten feet in five hours, 6.75 feet above flood stage. Three of the City of Baraboo's wells were disabled, numerous highways closed and more than 2,300 campers evacuated. There was three to five feet of standing water throughout Baraboo. Damage to a major industry in the city was estimated at $1.5 million. Devils Lake State Park incurred significant damages and was closed for the first time in its history.

Working together, the Wisconsin National Guard, Wisconsin Conservation Corps and the Department of Corrections provided over 1,110 personnel for 4,340 man-days along with 125 vehicles and heavy equipment for over 10,770 hours in assisting on 62 projects in 14 counties.

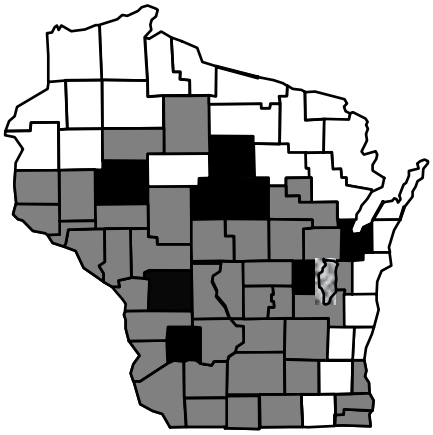
By August, the stalled weather pattern began to revert to more normal conditions. Finally, floodwaters receded around the state with the exception of the lower Rock River (Some of the above information was provided from the report on "The Floods of 1993: The Wisconsin Experience," prepared by the Wisconsin Department of Natural Resources).

On July 30, the Governor requested that FEMA waive the 25% state and local match for the Public Assistance Program, the 50% state and local match for the Hazard Mitigation Grant Program and the 25% state match for the Individual and Family Grant Program because of the duration, magnitude and severity of the 1993 flood disaster. Damages had been estimated at $175 million in total disaster-related costs in the Governor's initial request for disaster assistance June 29. Disaster losses were now estimated at $47 million in public and $700 million in private losses for a total of $747 million, with that amount increasing with each passing day. It would take the state years to recover. This disaster was unlike any the state had ever experienced. The request to waive the match requirements for the HMGP and IFGP were denied as the cost sharing requirements for both programs are set by law, therefore, they could not be adjusted. However, eventually FEMA increased the federal cost share for the Public Assistance Program for the nine states impacted by the Midwest Floods to 90% requiring only a 10% state and local match. This not only increased the amount of federal funding for eligible applicants of the Public Assistance Program, but also increased the amount of HMGP funds that would be available since the funding allocation was based on 10% of the amount of federal funds approved in the Public Assistance Program.

By the end of summer, 47 counties would be included in the declaration and made eligible for federal disaster assistance. Forty counties were declared for both Public and Individual Assistance, while another seven were eligible for Individual Assistance only.

All 47 counties were eligible for the Hazard Mitigation Grant Program. The incident period extended from June 7 to August 25.

Disaster Declaration
***FEMA DR 994***



***Individual & Public Assistance***
Adams, Buffalo, Calumet, Clark, Columbia, Crawford, Dane, Dodge, Dunn, Eau Claire, Fond du Lac, Grant, Green, Green Lake, Iowa, Jackson, Jefferson, Juneau, Kenosha, La Crosse, Lafayette, Marquette, Menominee, Milwaukee, Outagamie, Pepin, Pierce, Portage, Price, Racine, Rock, Rusk, Sauk, Shawano, St. Croix, Trempealeau, Vernon, Waupaca, Waushara, and Wood.

***Individual Assistance Only***
Brown, Chippewa, Lincoln, Marathon, Monroe, Richland, and Winnebago.

The Interagency Hazard Mitigation Team Report for FEMA-994-DR-WI dated July 23, 1993, identified 36 mitigation recommendations for 42 of the 47 counties in the following categories: Alerts and Warning (3), Education (7), Flood Planning (2), River/Stream Maintenance (1), site specific recommendations (21) and Technical Assistance (2).

Due to the magnitude of the Great Midwest Flood, on August 6, Congress approved HR 2667, a bill to provide $5.3 billion in supplemental disaster appropriations to federal agencies to assist state and local governments respond and recover from the widespread flooding. Eleven federal agencies would receive supplemental funds from this bill. FEMA received $2 billion. In addition, $200 million was awarded to the Department of Housing and Urban Development for Community Development Block Grants and $200 million to the Economic Development Administration for economic recovery and public works grants. These programs in particular would play an important role in the state's recovery from the devastating floods.

To ensure that the flood recovery would be rapid and well coordinated among the various agencies responsible for implementing recovery programs, a meeting was held with federal and state agencies on August 18 in conjunction with the Annual Governor's Conference on Emergency Management. Eighteen federal and state agencies were represented at the meeting. State agencies were required to provide weekly updates to WEM regarding status of the various recovery activities. Reports were consolidated and forwarded to the Governor's Office. WEM was the primary coordinating agency with FEMA.

On August 26 and 27, the Midwest Flood Disaster Workshop was held in Des Moines, Iowa to provide a forum for federal, state and local officials to discuss the short and long term needs and to begin to develop flood recovery plans. Representatives from WEM and the Department of Administration attended this workshop. The goals of the session were to:

- Devise a relief system to deliver the highest level of assistance and service to the maximum number of victims;
- Provide a quick response to the questions and technical needs of the providers of housing relief services; and
- Assess federal programs in light of the current situation.

To coordinate recovery efforts at the state level, FEMA and WEM conducted a meeting with various federal and state agencies and Regional Planning Commissions on September 19 to discuss a strategy for dealing with mitigation and long-term recovery. At the meeting it was determined that a core group of agencies would meet on a weekly basis to act as a clearinghouse for communities proposing long-term recovery projects. Other agencies were brought into the process as needed. The core group consisted of FEMA, WEM, the Economic Development Administration, the Department of Natural Resources, the Department of Administration, the Department of Development (Commerce) and the State Historical Society. The Farmers Home Administration, Natural Resources Conservation Service and the State Departments of Transportation and Industry, Labor and Human Relations (Workforce Development) would later join the group. The group would become known as the Wisconsin Interagency Disaster Recovery Group (IDRG) which continues to meet today in response to disaster declarations. The IDRG identified as its mission: "To develop a cooperative federal and state disaster recovery effort that can assist communities and regional agencies in utilizing all available funding sources to recovery from and mitigate the future effects associated with the damages from natural hazards." The objectives of the IDRG to achieve the mission were to:

- Serve as a clearinghouse for tracking and status reporting of disaster recovery project applications;
- Encourage and assist funding submissions from communities for recovery and hazard mitigation projects;
- Assure full utilization of all available and applicable funding sources for recovery and mitigation projects;
- Encourage the enhancement of recovery projects with hazard mitigation measures; and
- Assist in the avoidance of funding duplication for recovery and mitigation efforts.

Significant to the state's recovery was FEMA's establishment of the Wisconsin Interagency Hazard Mitigation Recovery Office (WIHRO). This office was set up in WEM headquarters and was staffed with a full-time FEMA staff person who worked closely with WEM staff and supported the efforts of the core group. Projects submitted to the core group were entered into a database developed and maintained by the WIHRO. The database acted as a central source of information and provided the status on all projects submitted to the agencies. The WIHRO staff grew to two and continued to be staffed until 1996. It played a vital role in implementing mitigation projects within the state.

The Regional Planning Commissions (RPCs) in Wisconsin played an integral part in the recovery process. The Economic Development Administration funded Flood Recovery Coordinators in the RPCs to assist communities in developing grant applications for the various funding sources available, and to prepare Regional Flood Recovery Plans. In addition, FEMA provided technical assistance funds to supplement EDA's efforts with the RPCs. The RPCs worked with communities and agencies to clarify and/or obtain additional information on specific projects.

FEMA's priority was to fund projects that reduced future disaster losses through acquisition or relocation of properties most prone to flood damages. Although many other types of projects were funded through the various agencies on the IDRG, the group's priority also became acquisition, demolition, relocation and floodproofing of flood damaged property.

The Great Midwest Flood was a turning point for mitigation and in particular the Hazard Mitigation Grant Program. On December 3, 1993, the President signed the Hazard Mitigation and Relocation Assistance Act. This significantly increased funding in the HMGP in two ways. First, it increased the amount of funding for grants from 50% federal share to 75%. Second, allocation funding was increased from 10% of the federal share of the funds spent in the Public Assistance Program to 15% of the total estimated federal grant assistance provided under the Stafford Act (i.e., Individual and Public Assistance Programs). This would raise the amount of HMGP funds available in this declaration from an estimate of $2 million to over $14 million.

The database developed by WIHRO included 136 projects totaling $70 million that were reviewed by the IDRG. WEM received over 90 pre-applications for HMGP totaling $30 million. To assist the communities in their recovery efforts, the IDRG packaged several funding sources so that the community did not have to fund the required local match. The required local match was provided with CDBG funds through the Departments of Development (Commerce) and Administration. Following the priorities of the IDRG, HMGP grants were awarded to the following communities:

**HMGP Participants for FEMA 994-DR**

| APPLICANT | COUNTY | AMOUNT |
|---|---|---|
| Darlington, City of | Lafayette | $4,175,790 |
| Eau Claire, City of | Eau Claire | $2,152,831 |
| Eau Claire County | Eau Claire | $1,217,227 |
| Jefferson County | Jefferson | $ 458,635 |
| Pierce County | Pierce | $6,000,000 |
| **TOTAL** | | **$14,004,483** |

This was the first declaration that acquisition/demolition and floodproofing projects were implemented utilizing HMGP funds, and it was not an easy task. The WEM had no prior experience with these types of projects, therefore, policies and procedures had to be established. In addition, several of the projects particularly in the City of Darlington had significant issues that had to be resolved prior to funding and implementation. This included issues involving relocation assistance per state law, environmental

contamination, floodplain management compliance, historical and ADA (Americans with Disabilities Act) requirements. With the persistence, patience and coordination of the agencies involved and the applicants, these “roadblocks” were eventually overcome and the projects proceeded. As a result, 179 properties were mitigated; 156 properties (12 commercial) acquired and demolished and another 23 properties (21 commercial most of which were historic) floodproofed. Additional properties were mitigated utilizing CDBG funds provided through the Department of Administration. Through the Department of Commerce, CDBG funds were provided to many communities to implement mitigation measures to repair and reconstruct public facilities.

As stated previously, on June 20 an earthen levee that protected a portion of the City of Black River Falls referred to as the Grove subdivision failed. Floodwaters reached the ceiling of the first floor of many structures causing significant damage. As a result of the levee failure, the city received funds to reconstruct the levee to current standards for adequate protection in future events. Funds in the amount of $2,014,625 were provided in Section 406 mitigation funding through the Public Assistance Program to reconstruct the levee south of Highway 54 in the residential area referred to as the Grove. Additional funds from the Economic Development Administration and the State Department of Commerce (CDBG) provided for the construction of the levee north of Highway 54 protecting the downtown business area. The excellent cooperation and coordination among the state and federal agencies made this project possible.

The City of Darlington’s mitigation program is a prime example of what can be achieved by long-term planning and cooperation of city officials, local business owners and concerned citizens as well as federal and state agencies. In the last 50 years, four major flood events occurred on the Pecatonica River causing substantial damage to homes and businesses, most recently in 1990 and 1993. After the 1990 flood, attention focused on alternatives to prevent future damage such as relocation, floodproofing and elevating structures. The city had developed a Master Plan in 1984. After the 1990 flood, the city updated the Master Plan to include flood mitigation strategies. The city completed a comprehensive flood mitigation plan with a grant provided by FEMA through WEM. Goals of both plans were to implement an extensive flood mitigation effort that would include historic preservation, economic development, downtown revitalization, recreation and tourism. The revised Darlington Master Plan was barely a year old and the Darlington Flood Mitigation Plan was in draft when the 1993 flood hit the city. The flood provided the impetus and a sense of urgency to finalize the flood mitigation plan.

Repeated flooding over time led to deterioration of many of the downtown buildings. City officials, citizens and business owners determined that they could no longer sit by and let nature decide the future of their community. The city finalized the Flood Mitigation Plan that included not only floodproofing residential properties and acquisition and demolition of commercial floodplain properties (some with contamination), but also a downtown rehabilitation and mitigation project. Instead of moving the downtown businesses, the project included in-place floodproofing and rehabilitation of buildings. The city was the first community in the state to have a FEMA-approved mitigation plan.

The first step was to inventory and collect survey data for structures in the floodplain. The Corps of Engineers, Natural Resources Conservation Service and WDNR all worked together to provide the flood data needed to estimate flood damages for the economic analysis. Next, the State Historical Society nominated Darlington's historic Main Street Central Business District to the National Register of Historic Places. The District includes 51 buildings within a six-block area. Next, a study was completed to identify flood mitigation measures for 41 buildings.

The approach taken in Darlington is characterized as innovative and unique. The approach in Darlington was to find a way for the government agencies, building and business owners and the city to arrive at a consensus on how to accomplish four major objectives: 1) preserve the historic downtown business district; 2) restore the downtown economic base; 3) develop an urban river open space park and recreation area; and 4) eliminate or substantially reduce flood damage in the future. With the assistance of many federal and state agencies the following mitigation measures were implemented:

- 12 commercial buildings were acquired and demolished adjacent to the river and the land used for riverfront park and recreation area. A 33-acre parcel on higher ground was developed as a business park for the relocated businesses;
- 52 residential structures were mitigated with some structures elevated and others had floodwalls constructed where raising the structure was not possible;
- 6 downtown businesses that could not be floodproofed or elevated were afforded as much flood protection as possible by raising or floodproofing building mechanics, electrical and plumbing;
- 13 historic downtown buildings were refurbished and floodproofed while maintaining their historic character; and
- A new wastewater treatment plant was constructed outside of the floodplain.

Benefits resulting from implementation of the mitigation recommendations are the significant reduction of future flood damages, quicker recovery following floods, capital improvements, economic development and revitalization of the downtown business community.

The city worked continuously and aggressively to implement their mitigation program. The city applied for and received over $10 million in various state and federal grants and loans to accomplish their goals. As a result of their efforts, the city has reduced the number of repetitive loss properties in the city from 11 to 2 (one rejected a mitigation offer). The city was honored with a State Historical Society of Wisconsin Historic Preservation Achievement Award on May 9, 1998, and the architectural and engineering firm hired for the downtown floodproofing project received a state award for special categories through the Association of Building Contractors. The city continues to pursue funding to further their mitigation efforts. They have received additional grants and acquired and demolished a repetitive loss property as well as relocated the fire department outside of the floodplain. The City of Darlington is an example of what a small community can do with long-term planning and determination.

Another significant result of the declaration was that mitigation would take a more important role in emergency management. WEM created a position and hired a full-time hazard mitigation officer in August of 1994.

As a result of the declaration, almost $300 million in disaster relief was provided through the various state and federal programs. More than 4,500 individuals received disaster assistance through the FEMA programs making it the largest Individual Assistance Program in the state up to that point in time. More than 600 state and local governments and non-profits received disaster assistance through the Public Assistance Program. To date, this disaster generated the most funding for the state's Public Assistance and Hazard Mitigation Grant Programs.

**Sources of Federal Assistance for FEMA 994-DR**

| PROGRAM | AMOUNT |
|---|---|
| Agricultural Programs | $230,742,262 |
| SBA Disaster Loan Program (individuals and businesses) | $ 10,394,929 |
| Disaster Housing Grants | $ 3,944,158 |
| Individual and Family Grant | $ 1,492,267 |
| Public Assistance Program | $ 22,297,456 |
| Hazard Mitigation Grant Program | $ 14,427,340 |
| Community Development Block Grants | $ 5,008,911 |
| Community Services Grants | $ 1,525,000 |
| Federal Highway Administration | $ 1,019,309 |

**FEMA-1131-DR-WI**

On August 2, 1996, the President declared a major disaster for Fond du Lac and Green Counties as a result of tornadoes and flooding that occurred on July 17 and 18. The Governor requested both Public and Individual Assistance. However, the declaration was granted for Public Assistance only, as the majority of private sector damages were covered by insurance. Hazard Mitigation was also granted as part of the declaration. The Governor appealed the decision for Individual Assistance that again was denied. However, Green County was declared eligible for low-interest loans from the Small Business Administration.

In 1996 following a wet spring, a weather front stalled over southern Wisconsin and northern Illinois. This front produced torrential record rains along the state border on the evening of July 17 with Green County receiving eleven inches of rain in five hours. The heavy rain caused riverine flooding, flash flooding and sewer backup. Dozens of roads were damaged with many bridges destroyed.

The stalled weather system also generated a line of severe thunderstorms that moved through east central Wisconsin during the late afternoon and evening on July 18. Shortly after 7 p.m., a tornado touched down in the Village of Oakfield and the Towns of Oakfield and Byron in Fond du Lac County. The twister was classified as an F5 storm and left a path of destruction about one quarter mile wide and 15 miles long. There were nineteen injuries and more than 360 homes and businesses damaged or

destroyed. Destroyed were two churches, a private school, a middle school and a major business. Thousands of trees were uprooted as well.

The costs and losses incurred by government were estimated to be $11.4 million with damages to individual property and agricultural losses at $49.7 million for total estimated damages of $61.1 million. Disaster assistance through the Public Assistance Program was provided to 33 communities and totaled $2,140,156.

The Hazard Mitigation Early Implementation Strategy Report dated August 14, 1996 outlined a four-phase approach for identifying and implementing appropriate mitigation strategies. The first phase was to reconvene the Wisconsin Interagency Disaster Recovery Group (IDRG) to assist the local governments during the recovery phase. This was done to provide technical assistance when possible; prevent duplication of efforts and funding; identify and prioritize mitigation measures and projects; and identify funding options for implementing mitigation measures whether through the individual agencies or by “packaging” various funding programs. Phase II included conducting briefings/meetings with local officials. This was done to discuss mitigation and various options available, introduce local officials to mitigation planning, and make them aware of potential funding programs. Phase III was to solicit pre-applications for the Hazard Mitigation Grant Program. Phase IV entailed a thorough review of the pre-applications submitted and selecting those projects for the HMGP formal application process.

In administering the declaration, greater effort was made to fund Section 406 mitigation opportunities through the Public Assistance Program. To further this effort, a federal mitigation staff person was assigned to be a liaison with Public Assistance (Infrastructure) staff and provide technical support. This liaison reviewed Damage Survey Reports (DSRs) for mitigation opportunities and provided the required benefit-cost analysis for the 406 mitigation projects.

A Recovery Information Center opened for one day in the Village of Oakfield and two Construction Information Workshops were held designed to inform local homeowners and building professionals of wind resistant construction practices. A document, Building to Resist Strong Winds, was developed by the mitigation staff and distributed at the workshops. In addition, a display demonstrating connectors along with catalogs and installation guides were provided. It was estimated that 35 to 40 homeowners and 10 building professionals attended the workshops.

As a result of the declaration, the communities within Fond du Lac and Green Counties were eligible for the Section 404-Hazard Mitigation Grant Program funds. HMGP funds available totaled $344,527 with the federal share representing 75% or $258,395, a state share of 12.5% or $43,066 with a local match of the same amount. The state received eight pre-applications (three from Fond du Lac County and five from Green County) totaling $1,070,729. Grants were awarded to the City of Monroe and the Village of Oakfield. The City of Monroe received HMGP funds in the amount of $142,311 ($106,733 federal, $17,789 state and local shares) for the construction of a detention

pond. Another grant was awarded to the Oakfield School District in the amount of $202,216 ($151,662 federal and $25,277 state share).

The Oakfield Middle School was destroyed in the tornado that struck the community on July 18. If school had been in session at the time of the tornado, there may have been many injuries and possibly deaths. The School District had the foresight to apply for HMGP funds to harden the new facility by strengthening and reinforcing the walls. Funds were provided to construct the interior and exterior bearing walls with reinforced masonry; construct the roof system with precast flat slabs on the low room areas; upper roof over the gymnasium/stage area was precast double trees; with the complete roof system tied into the masonry bearing walls with reinforcing steel and welded plate inserts. The hardened facility will not only reduce future damages, but will also provide protection to the students, faculty and others in the community during severe weather. The increased cost of construction over the original design was $233,000. The cost for the added protection was relatively small compared to the benefits that cannot be measured. This was the first time the state funded this type of project with HMGP funds.

**FEMA-1180-DR-WI**

On July 7, 1997, the President declared a Major Disaster for Milwaukee, Ozaukee, Washington and Waukesha Counties as a result of flooding that occurred on June 21-23. The declaration was granted for Public and Individual Assistance as well as Hazard Mitigation.

During the night of June 20 and the morning of June 21, 1997, a storm system passed through the southeastern portion of Wisconsin in the area of Ozaukee, Milwaukee, Washington and Waukesha Counties. This storm system generated torrential rains throughout this four-county area with rainfall ranging from five to nearly ten inches in a thirty-hour period beginning at 6:00 AM on Friday, June 20 and ending on June 21 at noon. Information from the “Rainfall Frequency Atlas of the Midwest” indicated that this was greater than a 100-year rainfall for this area. The most intense rainfall was centered in northern Milwaukee County and covered a 13 mile-wide, 18 mile-long band which included the extreme southern portion of Ozaukee County, southeastern Washington County and northeastern Waukesha County.

Between 3:00 and 11:00 AM on June 21, Flash Flood and Flood Warnings were issued for portions of the four counties. The Milwaukee County EOC set up a flood information hotline which received over 900 calls between Saturday morning and the following Monday (June 23).

The flooding was made worse by existing high-moisture conditions. Prior to the flooding rains, moderate rainfall amounts of from 1.5 to 2.0 inches were reported across the region in a 24-hour period on June 15-16. This earlier rain saturated the area soils. When the intense rainfalls of June 20-21 occurred, the ability of the soil to absorb rainfall was reduced and the amount of runoff was increased.

The torrential rain coupled with heavy urban runoff caused the drainage ditches, sewer systems, creeks and rivers to rise rapidly. Most of the larger rivers in the area reached and surpassed flood stage by midmorning on June 21. The Milwaukee, Menomonee, Fox and Sheboygan Rivers and Lincoln and Oak Creeks reported flooding levels during the morning. With the storm sewer system overloaded, sanitary sewers began to back up into residences throughout the area. Areas with significant damage included Mequon and Thiensville in Ozaukee County, Germantown in Washington County, New Berlin, Brookfield, Menomonee Falls and Sussex in Waukesha County and Brown Deer, Glendale and Wauwatosa in Milwaukee County. The Piggsville and Lincoln Creek areas in the City of Milwaukee were among the hardest hit. Milwaukee County received extensive damages to its parks and golf courses.

Thousands of homes were damaged due to overland flooding, stormwater drainage problems and sanitary sewer backups. Water was filling basements and in some cases reaching the first floor of the house. Hundreds of businesses along waterways and drainage creeks sustained damages and had to close for some time. Several roads were closed and electricity was lost as the storms passed through the area.

Initial damage assessments reported $71 million in damage to private property and $17 million to public property for a total of $87 million. As a result of the declaration, $6,164,209 was provided through the Public Assistance Program to 57 communities, state agencies and eligible private non-profit organizations. More than 14,000 individuals applied for Individual Assistance totaling over $37 million. This represents the largest Individual Assistance Program ever administered in the state. In addition, the declared counties received a special HUD (Housing and Urban Development) CDBG award in the amount of $4.1 million for unmet needs.

As in the previous disaster, greater effort was made to fund eligible mitigation measures through the Individual and Public Assistance Programs. For the first time, a Memorandum of Understanding (MOU) was developed for the declaration for implementing Section 406 mitigation opportunities. The MOU outlined the process and procedures that would be implemented in the declaration to ensure that all eligible mitigation opportunities were explored and funded through the program. The MOU was signed by Federal and State Hazard Mitigation and Public Assistance Officers as well as the State and Federal Coordinating Officers and the Deputy FCO for Mitigation.

For the first time, Hazard Mitigation Grant Program funds were eligible statewide. Available HMGP funds for the declaration totaled $6,265,003 with the federal share representing 75% or $4,698,752, a state share of 12.5% or $783,125 with a local match of the same amount. The state received over 60 pre-applications totaling $60 million. After discussion with the Wisconsin IDRG, the decision was made that projects consisting of acquisition and floodproofing would receive the highest priority for further funding consideration. Each pre-application was reviewed, scored and ranked based on the state's priorities. Nine communities were requested to participate in the formal application process, along with Milwaukee County for an educational project. After

review of the formal applications, benefit-cost analyses and environmental review, the following applications were submitted to FEMA for approval:

**HMGP Applicants for FEMA 1180-DR**

| APPLICANT | COUNTY | AMOUNT |
|---|---|---|
| Brookfield, City of | Waukesha | $ 222,075 |
| Menomonee Falls, Village of | Waukesha | $1,886,927 |
| Milwaukee, City of | Milwaukee | $1,613,000 |
| Milwaukee County | Milwaukee | $ 40,000 |
| Wauwatosa, City of | Milwaukee | $2,388,661 |
| West Allis, City of | Milwaukee | $ 114,340 |
| TOTAL | | $6,265,003 |

All of the projects involved acquisition of flood damaged properties with the following exceptions. The City of Milwaukee's grant included some floodproofing in the Menomonee Valley area, and Milwaukee County's project was for the production of a mitigation video and brochure targeted at homeowners.

In August 1998, the applications were at FEMA Region V awaiting approval and obligation of funds when Milwaukee and Waukesha Counties again incurred significant damages from flooding. Many of the same structures damaged in the previous flood were flooded again, making some of them uninhabitable and substantially damaged. Subsequent to this second flood the above applicants received grant approval.

As projects were completed, unspent funds were reallocated to other projects. The City of West Allis' project involved the acquisition and demolition of one property. The property owner declined an offer, therefore, grant funds were withdrawn. Unspent funds from the Cities of West Allis and Wauwatosa were reobligated to Eau Claire County for the acquisition and demolition of a property that was substantially damaged as a result of flooding that occurred in September of 2000. Unspent funds from the Cities of Milwaukee and West Allis were reobligated to Milwaukee County to further their educational efforts. The County purchased a portable display booth that was used at the Wisconsin State Fair and Bay Shore Safety Days. In addition, unspent funds from the Cities of Wauwatosa and West Allis were reobligated to the City of Oak Creek for the acquisition and demolition of one repetitive loss property that was substantially damaged as result of flooding that occurred in June 2000. Appendix E identifies the projects and actual amounts awarded for the declaration.

**FEMA-1236-DR-WI**

On July 24, 1998, the President declared a major disaster for Buffalo, Clark, Crawford, Dunn, Grant, Jackson, LaCrosse, Monroe, Pepin, Pierce, Richland, St. Croix, Trempealeau and Vernon Counties as a result of high winds and severe storms that occurred on June 18-30. The Governor's request added Chippewa, Eau Claire and Rock Counties and included both Public and Individual Assistance. However, the declaration was granted only for Public Assistance for the above fourteen counties (initially Richland County was denied, but after appeal was included). Individual Assistance was denied on the basis that most of the private sector losses were covered

by insurance. The Governor appealed the decision that denied Public Assistance for Chippewa, Eau Claire, Richland and Rock Counties, and Individual Assistance for all seventeen counties. The Governor also requested that Juneau, Sauk and Wood Counties be added for Public Assistance. The only request that was successful was the addition of Richland County for Public Assistance. All other requests were denied.

The disaster was the result of an extraordinary siege of severe weather during the period of June 18 through 30. Warmer than normal temperatures and high humidity levels, combined with a strong, relatively stationary jet stream, resulted in downburst winds, tornadoes, heavy rain and flash flooding. The Severe Storms Prediction Center issued 17 severe weather watches (12 for thunderstorms and 5 for tornadoes) during this time period. The average number of watches issued annually in the state is 38. In addition, the Wisconsin National Weather Service offices issued an equally significant number of severe thunderstorm and tornado warnings and flash flood watches and warnings, with that number equaling 60% of those issued annually in the state. The state was still reeling from the damages suffered in storms that occurred May 31. Thus, the severity of these later weather events amplified the difficulty of the situation and slowed recovery even more.

Hundreds of homes and farm structures sustained damage. Thousands of acres of trees on both public and private lands were blown down, creating a serious problem with debris. Power outages were as widespread as those experienced subsequent to the 1976 ice storm, with some areas without power for four to five days. Local utility crews from other states helped to restore service. Particularly hard hit were the numerous private non-profit rural electric cooperatives that serve the west central area of the state. They sustained millions of dollars of damage and needed many months to fully restore service to its pre-disaster status.

Heavy rainfall caused many streams and rivers to reach or exceed flood stage and forced the closure of numerous roads. A few rivers even exceeded the levels they rose to in the record 1993 floods. Many farm fields were flooded and some crops, such as corn and soybeans were damaged in crucial stages of development. The basements of dozens of homes were flooded resulting in damage to furnaces and water heaters, and in some cases structural damage.

Initial damage assessments estimated there were $37 million in private and agricultural losses and $11 million to public property for a total of $48 million in damages. Public Assistance grants totaling $8,360,750 were awarded to 214 communities and private non-profit organizations.

The Mitigation Strategy Report, dated August 7, 1998, focused on coordination with other disaster assistance programs, mitigation project development and promotion of the NFIP’s mitigation opportunities.

Hazard Mitigation (HMGP) funds available for this declaration were $1,962,465 with the federal share representing 75% or $1,471,849, a state share of 12.5% or $245,308 with

the local match the same. The state received 24 pre-applications totaling $1.4 million. Each pre-application was reviewed, scored and ranked based on the state's priorities. The state convened the IDRG to discuss the pre-applications and establish priorities for HMGP funding.

As federal and state staff were administering the disaster assistance programs out of the Disaster Field Office located in La Crosse, significant flooding was occurring in the east central and southeast part of the state. As a result of those events, the state received a second Major Disaster Declaration in August for Milwaukee, Racine, Rock, Sheboygan and Waukesha Counties. A decision was made to pool the HMGP funds available from both declarations to be used to fund projects submitted under either declaration that met the state's priority (i.e., acquisition of flood damaged properties with those determined to be substantially damaged receiving the highest priority). None of the pre-applications submitted under declaration 1236-DR met the criteria. Therefore, pre-applications submitted under the second declaration that met these criteria received further consideration. Ten communities were asked to participate in the formal application process with eight of the ten returning applications. After review of the formal applications, benefit-cost analyses and environmental review, the following applications were submitted to FEMA and subsequently approved:

**HMGP Applicants for FEMA 1236-DR**

| APPLICANT | COUNTY | AMOUNT |
|---|---|---|
| Brookfield, City of | Waukesha | $ 180,725 |
| Elm Grove, Village of | Waukesha | $ 869,048 |
| Menomonee Falls, Village of | Waukesha | $ 502,782 |
| Milwaukee, City of | Milwaukee | $ 170,000 |
| New Berlin, City of | Waukesha | $ 136,325 |
| State Management Costs | WEM | $ 103,585 |
| TOTAL | | $1,962,465 |

All of the projects involved the acquisition of substantially damaged properties except for the Village of Menomonee Falls. The village identified sixteen properties for acquisition and had received an approved HMGP grant as a result of the previous year's declaration, however, there were not enough funds awarded to purchase all the properties. Therefore, the funds awarded under declaration 1236-DR were to supplement the previous grant award.

As projects were completed, unspent funds were reallocated to other projects. Unspent funds from the Cities of New Berlin and Milwaukee were used to fund construction of a retention pond in the Village of Thiensville. Appendix E identifies the projects and actual amounts awarded for the declaration.

**FEMA-1238-DR-WI**

On August 12, 1998, the President declared a Major Disaster for Milwaukee, Rock, Sheboygan and Waukesha Counties for both Public and Individual Assistance as a result of severe storms and flooding that occurred August 5-7. Racine County was later

added for Individual Assistance but was denied Public Assistance. In addition, the Hazard Mitigation Grant Program was made eligible statewide.

The disaster was the result of an extremely active severe weather pattern during the period of August 4 through 7 in the southern part of the state. The storms caused flash flooding and urban/small stream flooding, the majority of which occurred on August 5 and 6. A series of slow-moving thunderstorms affected the area over several days and dumped from five to ten inches of rain in a three to five hour period. The most severely impacted areas were the Cities of Sheboygan and Kohler in Sheboygan County, the eastern portion of Waukesha County, the northwest half of Milwaukee County, much of Rock County and the Town of Waterford in Racine County. Observed rainfall amounts in the City of Sheboygan were at least 10.7 inches, anywhere from 6 to 10 inches in Waukesha and Milwaukee Counties and 6 to 9 inches in Rock County.

The state was still in the recovery phase as a result of damages suffered in a May 31 severe weather (request for federal disaster assistance denied) and the June 18-30 storms. The severity of this event just amplified the situation making the recovery even slower.

The rain came so rapidly and intensely that sandbagging and pumping were ineffective. Creeks and rivers rose rapidly. Storm and sanitary sewers were overwhelmed by the intense rainfall. Tragically, two boys lost their lives in the Village of Elm Grove in Waukesha County as they were swept into a culvert and drowned in the drainage system. Another youngster in Rock County was pulled from a river and was in critical condition. Dozens of others were injured in the clean-up effort. Emergency response personnel were busy rescuing persons from stranded vehicles and evacuating homes and institutions.

Thousands of homes were damaged to one extent or another, hundreds of which had water above the first floor. Many of those sustained structural damage with basement walls bowing or collapsing. In the City of Sheboygan, which was particularly hard hit, an apartment complex was structurally damaged causing the long-term displacement of more than 100 residents. The flooding also affected hundreds of businesses, many of which sustained major damage and several of which permanently went out of business. Some of the same areas that had been hard hit the previous summer were again damaged in this event, making many structures substantially damaged.

Initial damage assessment figures reported $44 million in private losses and $11 million in public damages for a total of $55 million in disaster damages. $3,357,975 was awarded to 54 applicants for Public Assistance. A total of $26,518,526 was made available as Individual Assistance from the following sources: Loans from the Small Business Administration ($12,479,500); Disaster Housing Grants ($8,824,255); Individual and Family Grants ($5,147,127); the Disaster Unemployment Assistance Program ($3,253); and the Crisis Counseling Program ($64,121). The declared counties also received a Community Development Block Grant for $3,462,000 to address serious unmet needs.

The Mitigation Strategy Report dated August 21, 1998, identified activities to be implemented in the following areas: Community mitigation education and outreach; Coordination with other disaster assistance programs; Mitigation project development; and NFIP mitigation opportunities and promotion.

Hazard mitigation (HMGP) funds available for the declaration amounted to $4,450,421 with $3,337,816 representing the 75% federal share with the state and local match of $556,302 each. Recognizing that some of the hardest hit areas within Waukesha and Milwaukee Counties were the same areas affected by flooding the previous summer, mitigation staff knew there would be structures that would meet the criteria of substantially damaged under local floodplain zoning. Therefore, federal and state staff including DNR worked with local officials to make substantial damage determinations. This included having FEMA provide a training session for local officials, state WEM and DNR staff meeting with communities and DNR sending letters to each of communities requesting them to identify the substantially damaged structures. This information became the basis for project development for the HMGP.

The state received 45 pre-applications totaling over $50 million. Each pre-application was reviewed, scored and ranked. The IDRG reconvened and discussed the pre-applications and established HMGP funding priorities. FEMA and WEM staff was now faced with administering two declarations at the same time. The IDRG sought to fund those projects that included acquisition of flood damaged properties, with acquisitions of property determined to be substantially damaged under local floodplain zoning given the highest priority. In addition, the decision was made to pool the HMGP funds available from both declarations (1236 and 1238) to be used to fund projects that met the state's priority. None of the pre-applications submitted under 1236-DR met the criteria. Of the pre-applications submitted under 1238-DR, 16 were for acquisition and totaled $35 million. Ten communities were asked to participate in the formal application process with eight of the ten returning applications. After review of the formal applications, benefit-cost analyses and environmental review, the following applications were submitted to FEMA and subsequently approved.

**HMGP Applicants for FEMA 1238-DR**

| APPLICANT | COUNTY | AMOUNT |
|---|---|---|
| Brown Deer, Village of | Milwaukee | $1,304,650 |
| Darlington, City of | Lafayette | $ 196,841 |
| Kenosha County | Kenosha | $ 885,000 |
| Menomonee Falls, Village of | Waukesha | $ 117,705 |
| Sheboygan, City of | Sheboygan | $1,850,000 |
| State Management Costs | WEM | $ 117,705 |
| TOTAL | | $4,450,421 |

The grants in the Village of Brown Deer and the City of Sheboygan involved the acquisition of substantially damaged properties. Again, the grant for the Village of Menomonee Falls was awarded to supplement previous grants to enable the Village to complete the acquisition of sixteen properties. The City of Darlington's grant was also

awarded to supplement a previous grant so that they could complete the extensive mitigation project underway in that community since 1993. Since the 1993 flood, Kenosha County has aggressively pursued funding for mitigation efforts along the Fox River. As a result, the county was awarded a grant for acquisition and demolition of structures along the Fox River that have repeatedly received flood damages.

As the projects were completed, any unspent funds were obligated to other projects incurring funding shortfalls, as well as to new projects identified in subsequent events. As a result, a grant was awarded to the Village of North Fond du Lac for the acquisition and demolition of two properties one which was a repetitive loss site. In addition, additional funds were awarded to the Village of Thiensville for the construction of a retention pond. Appendix E identifies the projects and actual amounts awarded to date for the declaration.

**FEMA-1284-DR-WI**

On August 16, 1999, the President declared a major disaster for Ashland, Bayfield, Douglas, Florence, Iron, Oneida, Price, Rusk, Sawyer and Vilas Counties as a result of severe storms, straight-line winds and flooding that occurred July 4-31 for Public Assistance. The Hazard Mitigation Grant Program was made eligible statewide.

On July 4 and 5 a strong thunderstorm accompanied by high winds dumped torrential rains and caused flash flooding in Bayfield County. More than four inches of rain fell in a very short time in various parts of the county, seriously impairing road systems. Another incident occurred on July 8 when strong thunderstorms dumped more than two inches of rain in Rusk County. The next major episode affected Florence County. Several parts of the county received over seven inches of rain over a six-hour period on July 15 and an additional two inches on July 16. The combined rains and resulting flash flooding had a devastating impact on the affected townships and residents.

On July 23, Rusk and Sawyer Counties were struck by strong early morning thunderstorms. Significant rainfall occurred and straight-line winds caused power outages. A combination of weather systems on July 25 led to continually redeveloping storms for several hours, which affected an even larger area of the state. Heavy rains and high winds occurred once again in Rusk, Sawyer and Bayfield Counties, but with an even more severe effect on Douglas County. Reports of four and five inches of rain were common and the resulting flash floods washed out roads, bridges and culverts. Several small communities such as Solon Springs in Douglas County waited nervously for the storms and rain to subside as homes and businesses were put at risk by the sudden downpour.

The final episode was on July 30. Thunderstorms produced strong wind gusts of more than 75 miles per hour and rainfall averaging one to two inches over a widespread area. Many of the areas hit were the same counties that were ravaged by the previous episodes of severe weather. In Rusk, Douglas and Sawyer Counties downed trees and power lines and washed out roads were once again very common. The storms' intensity persisted as they traveled eastward and wrecked further havoc in Oneida,

Vilas and Florence Counties. Tragically, this storm killed three people and inflicted dozens of injuries as trees fell on people and homes.

The collective impact of the series of storms was tremendous especially to the infrastructure of the very sparsely populated, poor, rural communities in these counties. Roads were severely damaged with washouts, scouring, culverts washed away and bridges destroyed. Getting the main roads passable was a tremendous burden on towns that often had a one or two person road crew. Because of the multiple storms, some roads or sections of road were repeatedly damaged, with crews just completing repairs only to have them washed out again several days later. Many persons were forced to take alternate routes of travel driving literally hundreds of miles out of their way to get to their destinations.

High winds and tornadoes also blocked roads with debris. In Oneida and Vilas Counties especially, debris was just shoved to the side of the major roads so as to provide emergency access. It was many weeks before the debris along the right of way was totally removed. Even after cleanup of the roads and right of ways, there remained hundreds of acres of downed timber on private land and local, county, state and national forests. This downed timber created a danger for forest fires that continued into 2000. In light of the fact that it was prime camping season, the state was very fortunate that more campers and park users were not killed or injured. The high winds also took their toll on rural electric cooperatives. There were many downed power lines and utility lines.

Dozens of homes were also affected by the severe weather. In some counties such as Douglas and Florence many residents reported basement flooding. Others experienced water in living areas. In Solon Springs in Douglas County, the St. Croix Lake was so high that homes were surrounded by water. Another problem was contamination of water supply wells due to flooding. Falling trees and high winds damaged dozens of homes and farm buildings. Thousands of residents and businesses were affected by the widespread power outages. Initial damage assessment figures reported $1.5 million in losses to private property and $6.5 million on public damages for a total of $8 million. A total of $5,158,534 in Public Assistance grants were awarded to 167 applicants.

The Mitigation Strategy Report dated August 24 identified activities to be implemented in the following areas: Community mitigation education and outreach; Coordination with other disaster assistance programs; Mitigation project development; and NFIP mitigation opportunities and promotion.

HMGP funds available for the declaration amounted to $812,059 with $609,044 representing the 75% federal share and a state and local match of $101,529 each. The state received twenty pre-applications totaling $4,438,999. Each pre-application was reviewed, scored and ranked. The IDRG reconvened and discussed the pre-applications and established HMGP funding priorities. After discussion with the IDRG, a decision was made to ask eight applicants (thirteen applications) to participate in the

formal application process. Two applicants withdrew. After review of the applications and benefit-cost analyses, the recommendation was made to fund projects as follows:

**HMGP Applicants for FEMA 1284-DR**

| APPLICANT | COUNTY | AMOUNT |
|---|---|---|
| Florence, Town of | Florence | $250,240 |
| Head of the Lakes Electric Coop. | Douglas | $235,760 |
| Superior, City of | Douglas | $320,000 |
| State Management Costs | WEM | $ 6,059 |
| TOTAL | | $812,059 |

Based on the funding available and project costs, the applicants are providing greater than the required 12.5% local match. The Town of Florence received a grant for the purpose of a constructing a new municipal well; the Head of Lakes Electric Cooperative replaced 6.3 miles of existing overhead power lines to underground; and the City of Superior for costs of construction of a 700-foot storm water interceptor sewer to connect to the existing storm sewer. In addition, two of the applications (Village of North Fond du Lac in Fond du Lac County and Village of Thiensville in Ozaukee County) were funded under declarations 1236 and 1238 with unspent funds from other projects.

**FEMA-1332-DR-WI**

On June 23, 2000, the President declared a major disaster for 12 counties as a result of severe storms, straight-line winds and flooding that began on May 26. By the end of the incident period (July 19), thirty counties had been included in the declaration: Thirteen counties for both Public and Individual Assistance (Columbia, Crawford, Dane, Grant, Iowa, Juneau, Kenosha, Lafayette, Milwaukee, Richland, Sauk, Vernon and Walworth); Fourteen for Public Assistance only (Adams, Ashland, Barron, Burnett, Forest, Green, Iron, Jackson, Monroe, Oneida, Polk, Rusk, Sawyer and Washburn); and another three (Dodge, Racine and Waukesha) for Individual Assistance. The Hazard Mitigation Grant Program was made eligible statewide.

The disaster started after a very wet month of May. The National Weather Service indicated that it was the wettest month ever for most locations in southern Wisconsin going back through the weather books to 1870. Generally, 8 to 11 inches were measured, with some locations in eastern Iowa and Dane Counties unofficially receiving between 16 and 18 inches. The wet, rainy weather culminated in a series of severe thunderstorms and heavy rains that began May 26 and continued into early June.

The storms produced record rainfalls, tornadoes and hurricane force winds. From 9:00 p.m. on May 29 through 8:00 p.m. on June 2, between 8 and 10 inches of rain fell along a line from southern Vernon County through northern Richland County to central Sauk County, over northwest Iowa County into northwest Dane County and over northern Lafayette County. Because soils were already saturated, the heavy rains pushed most mainstream rivers over flood stage and caused severe and widespread flooding.

Three tornadoes were documented on June 1, in Dodge, Juneau and Monroe Counties. The one in Dodge County, an F2, occurred just after 6:00 p.m. and was on the ground for more than 16 miles. The tornado destroyed or did major damage to several dozen homes in Iron Ridge, a small community of 800 in Dodge County. Elsewhere, there were notable downbursts or wind gusts in the 75 to 100 mph range, accompanied by hail as large as golf balls. Rains reappeared on June 3-4 and added another one to two inches to already saturated soils.

The collective impact of these series of storms was tremendous, especially to the infrastructure of the counties. For many of the communities, roads were severely damaged with washouts, scouring, culverts washed away and bridges destroyed. Just getting the main roads passable was a tremendous burden on the towns, which sometime have a one or two person road crew. Because of multiple storms, some roads or sections of road were damaged repeatedly, with crews just effecting repairs, only to have them washed out again several days later.

High winds and tornadoes also blocked roads with debris and downed power and utility lines. In Juneau and Monroe Counties especially, debris was just shoved to the side of the major roads so as to provide access for emergency vehicles and power crews. It was weeks before debris along the right-of-way was totally removed. This was of great concern to local officials and residents, as many of the roads were nothing more than narrow fire lanes, and the debris made the roadways even narrower. Even after the cleanup, there remained acres of downed timber and debris on private land and in local, county and state forests.

The high winds and flooding also impaired electrical service and took their toll on the rural electric cooperatives. Power crews did a commendable job of restoring service, considering the multiple events, the widespread area of impact and the condition of the roadways. Phone service was also affected, mostly by the rain, and it took at least 2 weeks to have all service fully restored.

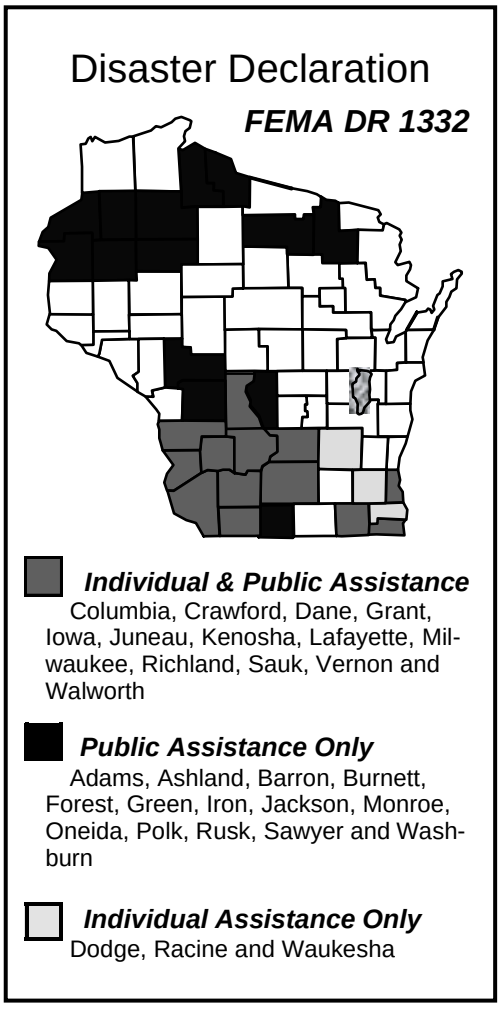
Dozens of homes were also affected by the flooding and severe winds. In the majority of the counties, basement flooding was common, jeopardizing furnaces and water heaters. Grant County reported a dozen or more homes that had major damage or were destroyed. Several communities reported sewer back up in residences. Still others had access problems, as roads were either blocked with debris, inundated with water or had bridges washed away. Private well contamination and septic tank problems were reported. Thousands of residences and businesses were affected by the widespread power outages and even those citizens whose structures sustained no physical damage, had to deal with spoiled food or commodities. Shelters were opened, as necessary, in the affected areas to accommodate those displaced from their homes or to serve as relief stations for those involved with the cleanup.

Initial damages assessment figures reported $11.4 million in private property and $17.3 million in public damages for a total of $28.7 million. A preliminary damage assessment was completed for sixteen counties. On June 13, the state requested that Public

Assistance be made available to sixteen counties and Individual Assistance for ten of the counties plus contiguous counties.

Another major storm system moved across southeastern corner of the state on June 12 and 13. Kenosha and Walworth Counties received 3 to 5 inches of rain on already heavily saturated soils. Since the Governor's original request, rains continued to fall across southern Wisconsin. In Kenosha, damages were countywide and the County Executive declared a State of Emergency. At one point, more than 100 roads were closed due to high water with 41 county roads remaining closed for several days. Property owners reported losses due to basement flooding, sewer backup and backed up wells. A boating unit assisted with evacuations of a mobile home park in Pleasant Prairie and homes in the Town of Somers. Several communities in Walworth County were also impacted. One village evacuated 100 residences bordering a rapidly rising retention pond. The request included Public Assistance for all three counties, and Individual Assistance for Kenosha and Walworth. The Governor amended his request on June 14 to include the Counties of Jackson, Kenosha, and Walworth.

On June 23, the President declared twelve counties from the Governor's original request eligible for Public Assistance only. On June 28, FEMA advised that Individual Assistance was not granted, as it was determined that the impacts to individuals were not beyond state and local capabilities.




The Governor appealed the above decision on June 30, as additional damages were uncovered in several counties, including Dane, Grant, and Kenosha. The appeal requested that FEMA re-evaluate the information and make Individual Assistance available to the twelve counties and all contiguous counties.

On June 30, the disaster declaration was amended to add Columbia, Kenosha, Jackson, and Walworth Counties for Public Assistance only. Subsequent to the Governor's appeal, on July 11 Crawford, Dane, Grant, Kenosha, Milwaukee, Vernon and Walworth Counties were all declared eligible for Individual Assistance.

On July 2, storms roared through southeastern Wisconsin. Strong winds and heavy rains (4 to 6.5 inches) with the subsequent loss of power caused water and sewage to backup in nearly 7,000 homes. That storm also spawned a F1 tornado that affected the City of Oak Creek and portions of northern Racine County. On July 10, the WEM Division Administrator on behalf of the Governor

asked that both Public and Individual Assistance be extended to Milwaukee County, and Public Assistance in Racine County. In addition, he requested that the incident period be extended to July 5. Ironically, the incident period was closed effective July 5. However, on July 8 and 9 the state once again experienced another 4 to 10 inches of rain that resulted in flash flooding in many of the same areas already included in the declaration. In Sauk, Vernon and Crawford Counties, roads affected in the earlier storms were once again damaged, in some cases more severely. With soils saturated and rivers and lakes at or near flood stage, most of the southern half of the state remained at risk with damages occurring with each storm event. More damages were reported in Barron, Burnett, Forest, Oneida, Polk, Rusk, Sawyer and Washburn. On July 12 the Governor requested that the incident period be reopened.

On July 13, Public Assistance was extended to Milwaukee County. This would be the third presidential disaster declaration in four years for the county. On July 13, the WEM Division Administrator requested that in addition to Public Assistance, that Individual Assistance also be granted to Racine County. Effective July 18, Racine County was made eligible for Individual Assistance, but denied Public Assistance. In addition, the Counties of Richland and Sauk were also made eligible for Individual Assistance as a result of the Division Administrator's request the day before.

As a result of the storms that occurred over the weekend of the 10th, ten sparsely populated counties in the northern half of the state were seriously impacted, sustaining almost $2 million in Public Assistance costs with almost $1 million in road damages. Therefore, on July 17, the Division Administrator requested that Ashland, Barron, Burnett, Forest, Iron, Oneida, Polk, Rusk, Sawyer and Washburn Counties be included in the declaration for Public Assistance. On July 18 the request was granted and the incident period was closed effective July 19.

Based on calls received on the FEMA teleregistration number, on July 21 the State Coordinating Officer requested that Individual Assistance be granted to Columbia, Iowa, Juneau and Waukesha Counties, and on August 8 for Juneau County. The requests were granted on July 26 and August 9. As a result of the severe weather extending from May 26 through July 19, the final count was 30 counties included in the federal declaration. Thirteen counties were declared for both Public and Individual Assistance, fourteen for Public Assistance only, and three counties for Individual Assistance only.

Under the Disaster Housing Program, 4,139 individuals were eligible for assistance with more than $6 million disbursed. In the Individual and Family Grant Program, 4,033 applications have been approved for the program with over $4.5 million issued to disaster victims making it the second largest IFG program in terms of dollars for the state. The Public Assistance Program received 447 applications for disaster assistance totaling to date $13,857,393.

The Mitigation Strategy Report dated July 17, 2000, identified activities to be implemented in the following areas: Community mitigation education and outreach,

coordination with other disaster assistance programs, mitigation project development and National Flood Insurance Program mitigation opportunities and promotion.

Hazard Mitigation (HMGP) funds available for the declaration are $4,424,019 with $3,318,014 representing the 75% federal share with the state and local match of $553,002.50 each. Pre-applications for the program were mailed to potential applicants on September 5 with a due date of October 9. The state received 89 pre-applications totaling $29.8 million. The pre-applications were categorized as follows:

**HMGP Pre-Applications for 1332-DR by Category**

| NUMBER OF PRE-APPS | CATEGORY | AMOUNT |
|---|---|---|
| 13 | Acquisition | $14,225,523 |
| 17 | Detention | $ 8,327,638 |
| 7 | Sewer | $ 1,658,966 |
| 7 | Drainage | $ 2,310,000 |
| 32 | Road Related | $ 1,244,790 |
| 12 | Miscellaneous | $ 2,014,120 |
| 1 | Ineligible | $ 1,800 |
| **89 Total** | | **$29,782,837** |

Each pre-application was reviewed, scored and ranked. Based on the funding priorities previously established by the Interagency Disaster Recovery Group, those communities that applied for acquisition were requested to participate in the formal application process. Formal applications have been forwarded to 9 additional communities with proposed projects that were feasible and addressed state mitigation priorities. A total of 16 completed formal applications were returned. After review of the applications and benefit-cost analyses, the recommendation was made to fund the projects as follows.

**HMGP Applicants for FEMA 1332-DR**

| APPLICANT | COUNTY | AMOUNT REQUESTED |
|---|---|---|
| Baraboo, City of | Sauk | $ 150,000 |
| Crandon, City of | Forest | $ 110,000 |
| Cumberland, City Municipal | Barron | $ 380,520 |
| Dane Co. Emergency Mgmt. | Dane | $ 33,000 |
| Eau Claire, City of | Eau Claire | $1,488,562 |
| Elm Grove, Village of | Waukesha | $ 943,638 |
| Jefferson County | Jefferson | $ 555,743 |
| Kenosha County | Kenosha | $ 643,997 |
| Shell Lake, City of | Washburn | $ 50,000 |
| Sun Prairie, City of | Dane | $ 30,000 |
| State Management Costs | WEM | $ 38,559 |
| **TOTAL** | | **$4,424,019** |

Four applications involved acquisition and demolition, one demolition only, one relocation/floodproofing, three retrofit projects, one structural and one planning grant. The Jefferson and Kenosha Counties and the Village of Elm Grove used the grant funds to further their ongoing acquisition programs. The City of Eau Claire incurred significant

damages from storms and flooding that occurred in September 2000. The State requested and was denied a federal disaster declaration. However, the State was able to award HMGP funds to the City for the acquisition of ten homes that suffered major damages. Other projects involved burying overhead power lines, construction of a storm sewer, relocating a picnic shelter, installing back flow valves and installing surge protectors on warning sirens.

**FEMA-3163-EM-WI**

On January 24, 2001, the President declared a state of emergency in the State of Wisconsin. The declaration was based on emergency measures performed to save lives and protect public health and safety resulting from record/near record snow on December 11-31, 2000. Dane, Door, Green, Kenosha, Kewaunee, Manitowoc, Milwaukee, Racine, Rock, Sheboygan and Walworth Counties for emergency protective measures (Category B) under the Public Assistance program for a period of 48 hours. Later Columbia, Ozaukee and Waukesha counties were added to the emergency.

**FEMA-1369-DR-WI**

On May 11, 2001, the President declared a major disaster for 17 counties as a result of flooding and severe storms that began on April 10th. By the time the incident period would close on July 6th an additional 15 counties would be added to the declaration for a total of 32 counties. Eighteen Counties would be declared for both Individual and Public Assistance, and another 14 for Public Assistance only.

Heavy December snowfalls contributed to spring flooding. In mid-April, rain and snowmelt caused the Mississippi River and many of its tributaries to flood. Floodwaters along the Mississippi River from Alma to Prairie du Chien rose to the highest levels since 1965. Spring snowmelt flood outlooks issued by the National Weather Service in March indicated that minor to moderate flooding could be expected along the Mississippi River, assuming normal precipitation and temperatures. However, a cooler than normal spring was not conducive to a gradual snowmelt in the northern reaches o the river basin. Warmer weather in early April resulted in a sudden melt and combined with persistent rainfalls, the Mississippi River began to swell. Early in the week of April 8th, the NWS issued statements indicating the gravity of the situation and communities all along the River began an intense flood-fighting effort.

The River crested at near record stages in most Wisconsin locations during the week of April 15th and then slowly began to recede. The recession was short-lived, however, when additional heavy rains and snowfall in the northern reaches of the river basin caused the River to rise gain. It crested for the second time in most locations during the last week in April, and remained above flood stage for weeks.

In northern Wisconsin, snowmelt flooding saturated the sandy soils and water tables rose. Persistent showers during the first weeks in April kept those levels high and then heavy rains, from 3 to 5 inches, snow and ice the weekend of April 21 and 22 brought the situation to disastrous proportions. Rivers and creeks quickly exceeded flood stager and lakes overflowed.

The prolonged flood fighting efforts took their toll, not only financially, but also emotionally on the affected communities and individuals. Millions of dollars were spent on emergency protective measures to protect property and save lives. Damage to infrastructure was significant as was the damages to municipal, county, and state parks, forests and recreational areas. Two of the State's historical properties, Villa Louis in Prairie du Chien and Stonefield in Cassville, sustained damage.

More than 2,000 residences were damaged with varying levels of water in them. More than 200 businesses were impacted, including 100 that closed due to the flooding. Even those businesses that did not sustain physical damage suffered economic loss with the closure of the Mississippi River to all traffic. The same was true of the affected communities, most of which thrive on the commerce provided by the River and the tourism industry.

The scope of the disaster expanded when severe storms hit the west-central and east-central areas of the State on June 11 with hurricane-force winds, several tornados, golf and baseball size hail and heavy rains. More than 30 counties reported damage totaling more than $11 million. One week later on June 18th, a F3 tornado hit Burnett and Washburn Counties. This tornado touched down near Grantsburg and continued traveling east for over 25 miles to an area just outside of Spooner. There was extensive damage and destruction along the tornado's path. The tornado destroyed much of the small community of Siren with a population of 874. Damage was concentrated in a six-block wide where numerous homes and businesses were completely leveled, 3 people killed and 16 people injured.

Under the Housing Program over $1.6 million was distributed to almost 1,100 households. A total of $707,028 was distributed to 250 applicants under the Individual and Family Grant Program. WEM received 518 applications from local governments for Public Assistance and distributed $25,854,670 through the program making it the largest Public Assistance Program to date. The Small Business Administration provided more than $20 million in low-interest home repair loans, business damage loans and business economic recovery injury loans.

The Mitigation Strategy dated June 2, 2001, identified activities that included identifying and cataloging mitigation opportunities in the impacted communities; implementing acquisition, relocation, demolition, and/or floodproofing mitigation measures; maximizing financial resources for mitigation opportunities; and ensuring long-term mitigation through comprehensive floodplain management and local building practices.

For the first time, there was an opportunity to document the benefits of past mitigation efforts. Pierce County received a HMGP grant after the 1993 flood to acquire fifty-nine properties located on Trenton Island, which is located in the middle of the Mississippi River. Another 7 properties sold to the Red Wing Area Fund, a local conservation group. A flood that occurred in 1997 as well as the flooding in 2001 illustrated the benefits of the buyout program. The extensive losses caused in 1993 would have been

multiplied in the 1997 and 2001 floods and in future floods if the homes and businesses participating in the buyout program had remained on the island. To demonstrate the benefits of the program, a success story was developed on the Trenton Island project. The story, as well as other success stories, can be found on WEM's website at http://emergencymanagement.wi.gov and FEMA Region V's website at www.fema.gov/mitigationbp/sstoryfind.do.

Hazard Mitigation (HMGP) funds available for the declaration were $4,390,075 with $3,292,556 representing the 75% federal share with the state and local match of $548,759.50 each. WEM received 74 pre-applications for project grant funds totaling over $25 million. The pre-applications were categorized as follows:

**HMGP Pre-Applications for 1369-DR by Category**

| NUMBER OF PRE-APPS | CATEGORY | AMOUNT |
|---|---|---|
| 12 | Acquisition | $ 6,730,357 |
| 6 | Floodproofing-Elevation | $ 457,417 |
| 11 | Drainage/Detention | $ 5,476,171 |
| 9 | Sewer | $ 6,116,196 |
| 9 | Miscellaneous | $ 646,668 |
| 20 | Road Related | $ 2,221,770 |
| 7 | 5% Special Projects | $ 3,467,370 |
| **74 Total** | | **$25,115,949** |

After reviewing, scoring and ranking the applications, 19 communities were requested to participate in the formal application process. Upon review of the applications and completion of the benefit-cost analyses the following applications were submitted to FEMA and approved for funding.

**HMGP Applicants for FEMA 1369-DR**
**Project Grants**

| APPLICANT | COUNTY | AMOUNT REQUESTED |
|---|---|---|
| Burnett County | Burnett | $ 29,425 |
| Crawford County | Crawford | $ 713,548 |
| Dairyland Electric Power Coop. | Vernon | $ 12,000 |
| Douglas County | Douglas | $ 93,600 |
| Grant County | Grant | $ 471,850 |
| Grant County | Grant | $ 20,770 |
| Jefferson County | Jefferson | $ 336,845 |
| Juneau County | Juneau | $ 169,436 |
| Kenosha County | Kenosha | $ 414,500 |
| Dept. of Natural Resources | State | $ 96,450 |
| Shell Lake, City of | Washburn | $ 250,000 |
| Superior, City of | Douglas | $ 86,317 |
| Trempealeau County | Trempealeau | $1,059,000 |
| State Management Costs | WEM | $ 333,811 |
| **TOTAL** | | **$4,087,552** |

This was the first declaration that communities were eligible to apply for funds for the development of an all hazards mitigation plan. Based on 7% of the HMGP funds planning grants were awarded as follows:

**HMGP Applicants for FEMA 1369-DR**
**Planning Grants**

| APPLICANT | COUNTY | AMOUNT REQUESTED |
|---|---|---|
| Burnett County | Burnett | $ 60,000 |
| Dane County | Dane | $ 40,000 |
| Douglas County | Douglas | $ 53,333 |
| Grant County | Grant | $ 50,000 |
| Juneau County | Juneau | $ 20,000 |
| Shell Lake, City of | Washburn | $ 19,000 |
| Superior, City of | Douglas | $ 55,000 |
| Sun Prairie, City of | Dane | $ 5,190 |
| **TOTAL** | | **$302,523** |

**FEMA-1429-DR-WI**

On July 19, 2002, the President declared a major disaster for Adams, Clark, Dunn, Marathon, Marinette, Portage, Waushara, and Wood Counties for Public Assistance as a result of heavy rains, flooding and severe storms that took place June 21-25.

Severe weather began on June 21 with tremendous rainfall in central Wisconsin caused by a nearly stationary warm front. Heavy and persistent rains continued into June 22, with totals being reported anywhere from 5 to 15 inches. Intermittent rainfalls occurred over the next several days further saturating soils and keeping river levels and water tables high. The National Weather Service issued numerous flash flood watches and warnings throughout the period. On June 23, a cold front associated with the weather pattern triggered another bout of severe weather, including heavy rains and a tornado. Marinette County was hardest hit by this event, with flash flooding doing substantial damage to the infrastructure in the City of Marinette and the Village of Crivitz. Homes and businesses also sustained various degrees of damage. On June 25, another storm occurred with high winds and heavy rains. In Clark County, the City of Abbotsford was particularly impacted, with several businesses and homes sustaining tornado damage. Numerous trees were downed and two minor injuries were reported. Dunn County was also affected with numerous trees down and the Rural Electric Cooperative sustaining damage.

The impact of the storms was tremendous to the public, private and agricultural sectors. More than 350 residences incurred minor damage with basement flooding and sewer backup. A number of individuals were evacuated from their homes during the height of the flooding, oftentimes because access was totally cut-off. Detours caused others to drive many miles out of their way to get to their homes or places of business. Local emergency crews and volunteers helped sandbag around residences and businesses in an attempt to minimize damages. Private well contamination and septic tank problems were also reported.

The agricultural sector in the impacted counties reported damage to cranberries, potatoes, sweet corn, peas, snap beans, corn, soybeans, oats, barley, ginseng and alfalfa. In some cases it was too late to replant. The storms took their greatest toll on the public sector. Roads were severely damaged with washouts, scouring, culverts washed away and bridges. In Clark and Dunn counties high winds and tornadoes blocked roads with debris and downed power and utility lines. In the City of Marinette storm sewers were damaged or collapsed with damages to infrastructure at more than $500,000. Similar situations were experienced in numerous other communities in the eight affected counties.

WEM received 104 applications from local governments for Public Assistance and distributed $4,495,653 million through the program. The Farm Service Agency made emergency loans available to farmers in 30 counties (the original 8 plus 22 contiguous counties).

Hazard Mitigation (HMGP) funds available for the declaration were $662,603 with $496,952 representing the 75% federal share with the state and local match of $82,825.50 each. WEM received 38 pre-applications totaling $7.5 million. The pre-applications included 8 for acquisitions, 13 structural, 6 road and culverts, 2 educational, 4 power related, and 4 other.

Disaster declaration 1429-DR was followed by 1432-DR declared September 10th. The amount of HMGP funds available combined from both disasters was less than $2 million. Since the declarations were so close together and the amount of funds was limited, the decision was made to pool the HMGP funds available from both declarations and use to fund projects that met the state's priority. Upon review of the formal applications and completion of the benefit-cost analyses the following applications were submitted to FEMA and approved for funding.

**HMGP Applicants for FEMA 1429-DR**

| APPLICANT | COUNTY | AMOUNT REQUESTED |
|---|---|---|
| Crandon, City of | Forest | $ 21,000 |
| Curtis, Village of | Clark | $ 60,000 |
| Elm Grove, Village of | Waukesha | $208,401 |
| Oliver, Village of | Douglas | $255,100 |
| Portage County | Portage | $ 40,849 |
| State Management Costs | WEM | $ 77,253 |
| **TOTAL** | | **$662,603** |

Three applications included acquisition with the other two for the development of all hazard mitigation plans.

**FEMA 1432-DRI-WI**

On September 10, 2002, the President declared a major disaster for Polk, Rusk and Taylor Counties for Individual and Public Assistance along with 16 contiguous counties for Individual Assistance as a result of severe storms, tornadoes and flooding that occurred September 2-6, 2002.

Severe weather began early in the morning on September 2, 2002. Heavy rains occurred in the far western counties of the State. In Polk County Village of Osceola the rains caused an old mill dam to breach and floodwaters crashed through a mobile home park. The torrent continued downstream, overtopping a second dam and causing extensive road damage. Other townships in the county were also affected by almost 5 inches of rain. The storms continued to intensify as the day progressed, prompting the National Weather Service to issue Severe Thunderstorm or Tornado Watches for much of the northern half of the State. The National Weather Service confirmed a total of six tornadoes, two each in Marathon and Fond du Lac Counties and one each in the Taylor and Rusk Counties.

The initial thunderstorms that developed in Burnett and Polk Counties intensified into supercells as they entered into Rusk and Sawyer Counties around 4:30 p.m. and produced a F3 tornado that destroyed homes and businesses in Ladysmith in Rusk County. Forty minutes later another supercell thunderstorm moved across southwest Taylor County and spawned a tornado that moved through the Town of Gilman where it blew the roof off the high school. The same storm system moved east into Marathon County and produced a F0 tornado near Athens and a F1 tornado in the northern suburbs of Wausau.

The tornado in Taylor and Rusk Counties was the most devastating, particularly in Rusk County. It touched down at approximately 4:20 p.m. about one and one-half miles west-southwest of downtown Ladysmith and remained on the ground for approximately 30 minutes. It traveled at about 30 mph. It left a path of destruction 15 miles long and one-quarter mile wide. For part of its track in downtown Ladysmith it was rated an F3 on the Fujita scale, the rest of the track was F2 intensity. Once outside Ladysmith the tornado dissipated to an F1 level. The tornado in Taylor County, F2 intensity, touched down at 5:11 p.m. near Gilman and lifted at 5:50 p.m. west of Medford.

The impact of the tornadoes and storms was tremendous to the public and private sectors. More than 200 residences incurred various degrees of damage. In Ladysmith, population just under 4,000, more than 32 homes were destroyed, 71 incurred major damage and 110 minor damage. Twenty-four businesses were destroyed and 11 incurred major damage. Those businesses employed about 160 individuals either full or part time. The economic impact of the event in Ladysmith was estimated at $29.5 million.

Under the Housing Program over $125,000 was distributed to 95 households. A total of $250,635 was distributed to 66 applicants under the Individual and Family Grant Program. WEM received 52 applications from local governments for Public Assistance and distributed over $2,743,600 through the program.

Utilizing FEMA HMTAP (Hazard Mitigation Technical Assistance Program) funds, the report *Bracing for the Future: Construction Techniques to Protect against Future Wind Damage in Ladysmith* was developed in partnership with FEMA, WEM and the City of

Ladysmith. The report identified the different types of damages sustained to both residential and commercial structures as well as the Gilman High School along with explanation as to the cause. The report further outlined wind-damage reduction techniques along with relative costs. The mitigation strategies in the report focused on construction enhancements that would allow a building or structure to resist winds above the current building code. The report can be found on WEM's website at http://emergencymanagement.wi.gov.

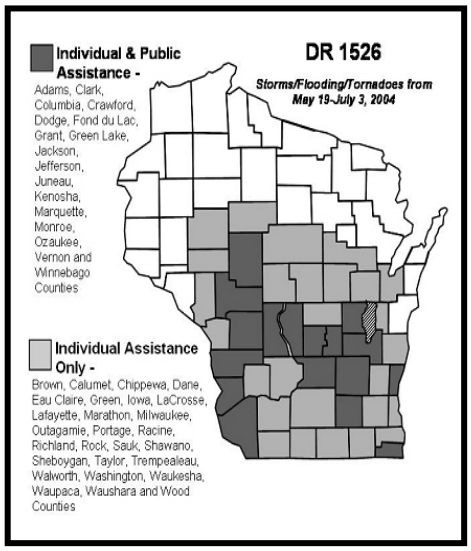
Hazard Mitigation (HMGP) funds available for the declaration were $1,089,584 with $817,188 representing the 75% federal share with the state and local match of $136,198 each. WEM received 25 pre-applications totaling $7.5 million. Several of the pre-applications were also submitted under 1429-DR. The pre-applications included 7 for acquisitions and 11 structural measures.

As stated previously, since declarations 1429-DR and 1432-DR were so close together and the amount of funds was limited, the decision was made to pool the HMGP funds available from both declarations and use to fund projects that met the state's priority. Upon review of formal applications and completion of the benefit-cost analyses the following applications were submitted to FEMA and approved for funding.

**HMGP Applicants for FEMA 1432-DR**

| APPLICANT | COUNTY | AMOUNT REQUESTED |
|---|---|---|
| Ferryville, Village of | Crawford | $ 74,500 |
| Oliver, Village of | Douglas | $ 150,600 |
| Osceola, Village of | Polk | $ 543,140 |
| Polk County | Polk | $ 60,000 |
| Portage County | Portage | $ 6,800 |
| Rusk County | Rusk | $ 29,250 |
| Rusk County | Rusk | $ 29,856 |
| St. Croix Falls, City of | Polk | $ 84,950 |
| State Management Costs | WEM | $ 110,488 |
| **TOTAL** | | **$1,089,584** |

The applications included 4 acquisitions, 2 purchase and distribution of weather alert radios, and 2 for the development of all hazard mitigation plans.




**FEMA 1526-DR-WI**

On June 18, 2004, the President declared a major disaster as a result of severe storms and flooding that began on May 19th. The following counties were declared for the Public Assistance Program: Clark, Columbia, Crawford, Dodge, Fond du Lac, Grant, Green Lake, Kenosha, Ozaukee, Vernon, and Winnebago Counties. Individual Assistance was declared for Columbia, Dodge, Fond du Lac, Jefferson, Kenosha, Ozaukee, and Winnebago counties. On July 2, 2004, 6 more counties were added for Public Assistance and 37 for Individual

Assistance bringing the total number of counties to 44 (17 for Public Assistance and 44 for Individual Assistance.) This would be the greatest number of declared counties in one summer since 1993 when 47 counties received federal aid. The declaration initially covered damages that occurred between May 19 and July 3, 2004. On October 8th, based on a request by the Governor submitted on July 8th, the incident period was reopened to cover damages that occurred beginning May 7 through July 3, 2004.

Rainfall during early May left soils saturated and rivers and stream banks near full. This set the stage for the overland and riverine flooding that occurred in the latter half of the month when a second period of record precipitation occurred. According to the National Weather Service, at some official observation sites in southern Wisconsin, new all-time May precipitation records were set. In some cases, new all-time monthly records were broken. Repeated rains persisted over the southern half of Wisconsin during most of May and through June. Repeated rounds of thunderstorms with heavy rains caused record or near record flooding along the Fox, Rock, Crawfish, Kickapoo and Fond du Lac Rivers, among many others. In the latter part of June, subsequent to the original declaration, severe storms, flooding and tornadoes occurred in additional counties.

Columbia and Dodge Counties reported damages to roads, homes and businesses as a result of heavy rains that occurred over a 24-hour period on June 9-10 when up to 9 inches of rain fell. Especially hard hit was the small community of Randolph. Over 250 homes and 15 businesses reported basement or first floor flooding. Heavy rains caused damage to the Cambria Dam, washing out a major state highway. The City of Fond du Lac and the Village of North Fond du Lac also incurred significant damages in addition to evacuating approximately 300 homes.

Damage to private residences and businesses was tremendous. The Preliminary Damage Assessment (PDA) reports indicated that more than 5,000 primary residences were damaged to varying degrees. Some had water in them for weeks. Many had collapsed, cracked or bulging basement walls and foundations. The PDA indicated that about 62% of those affected are low to moderate income and that almost all of the structures sustaining damage were uninsured. Tourism was also significantly impacted. Many parks and trails were damaged and/or destroyed. Several dams were threatened and incurred damages.

The agricultural sector also sustained considerable damage. This is very significant in that most of the affected counties have economies dependent on agriculture. Many early plantings of crops were washed out by the torrential rains.

Then on the evening of June 23rd severe thunderstorms swept across the State spawning 16 confirmed tornados, killing one person and causing millions in damages. The date ranks fourth in the number of tornadoes striking Wisconsin on a single day. The storm created a path 3 miles wide by 9 miles long in Adams County causing significant damages in the Towns of Easton and New Chester. A tornado touched down in a campground in Warrens in Monroe County injuring 6 people. A F3 tornado in Markesan in Green Lake County caused extensive tree and building damage. One

person was killed when the tornado destroyed his home. Tornados touched down in Dane, Green Lake, Dodge, Fond du Lac, Marquette, Outagamie, and Portage Counties. The tornadoes ranged in strength from F0 to F3. Numerous other counties reported wind damages.

Over 8,000 people applied for federal assistance with close to 2,978 households approved for $5,100,075 under the Housing Assistance Program. Over 1,975 were approved for $1,468,795 million in Other Needs Assistance. Over 2,000 people have applied for Disaster Unemployment Assistance, with 224 claims approved in the amount of $156,041. The Small Business Administration received over 1,300 applications for low-interest loans with 349 approved for $9.9 million. 386 communities have applied to the Public Assistance Program with grants approved in the amount of $14,245,186.

During the Disaster Field Operations, a data collection effort was conducted in Jefferson (Blackhawk Island area) and Kenosha Counties (Fox River area.) Damaged structures were inventoried and information collected for potential mitigation opportunities. Both Counties have been implementing buyout programs since the 1993 floods and indicated their intent to apply for additional HMGP funds. The structure inventory will assist the counties in determining which properties should be considered for mitigation as well as assist in completing the HMGP application. In addition, success stories were documented and completed for both counties on past mitigation efforts. The stories, as well as other success stories, can be found on WEM's website at http://emergencymanagement.wi.gov and FEMA's website at http://www.fema.gov/mitigationbp/sstoryfind.do.

The potential for substantially damaged structures in the floodplain was high. Therefore, FEMA, WDNR and WEM staff conducted Substantial Damage Training Workshops in Madison, Oshkosh, Waukesha, and Portage. The training will assist those officials responsible for determining structures that may be substantially damaged in accordance with their local floodplain ordinance. FEMA and WDNR staff provided additional technical assistance to several communities.

This was the first declaration that the program will receive 7.5% of the Individual and Public Assistance Programs, versus 15%. WEM received 73 pre-applications totaling $15.6 million. Pre-applications were reviewed, scored and ranked. Projects that met the State priorities and make the biggest impact on reducing future disaster costs were considered for funding.

**HMGP Pre-Applications for 1526-DR by Category**

| Number of Pre-Apps | Category | Amount |
|---|---|---|
| 9 | Acquisition | $ 4,978,500 |
| 1 | Floodproofing | $ 24,950 |
| 4 | Studies | $ 791,000 |
| 4 | Warning systems | $ 197,790 |
| 9 | Hazard Mitigation Plans | $ 328,000 |
| 10 | Roadwork | $ 739,919 |
| 5 | Sewer | $ 2,218,000 |
| 22 | Structural | $ 2,194,150 |
| 9 | Miscellaneous | $ 4,168,563 |
| **73** | **Total** | **$15,640,872** |

The HMGP allocation for the disaster was $1,847,086. Three planning grants under the 7% allocation were funded; 3 projects under the 5% allocation for the purchase and distribution of NOAA weather radios; and 4 projects for acquisition and demolition of floodprone properties. The following projects were funded.

**HMGP Applicants for FEMA 1526-DR**

| Applicant | County | Amount Requested |
|---|---|---|
| Columbia County | Columbia | $ 45,000 |
| Dodge County | Dodge | $ 50,000 |
| Eau Claire County | Eau Claire | $ 30,000 |
| Oshkosh, City of | Winnebago | $ 411,050 |
| Oneida County | Oneida | $ 25,000 |
| Kenosha County | Kenosha | $ 798,470 |
| Jackson County | Jackson | $ 6,080 |
| Grant County | Grant | $ 286,470 |
| Ferryville, Village | Crawford | $ 45,811 |
| Dodge County | Dodge | $ 34,508 |
| State Management Costs | All | $ 114,697 |
| **Total** | | **$1,847,086** |

**FEMA-3249-EM-WI**

In response to Hurricane Katrina, the State Emergency Operations Centers (EOC) was activated from September 6-20, 2005. Through the EOC WEM processed requests from the Gulf States for assistance through the Emergency Management Assistance Compact (EMAC). Over 50 individuals traveled to the Gulf States through the EMAC. On September 8, 2005, Governor Doyle requested the President declare an emergency declaration for the State of Wisconsin as a result of Hurricane Katrina that occurred on August 29, 2005. The emergency declaration was requested to cover 100% of the costs associated with providing emergency shelter and mass care for he evacuees that were arriving in the State from the Gulf States. The emergency declaration was granted

on September 13th. WEM was responsible for administering the emergency declaration. In addition to the evacuees arriving from Hurricane Katrina, costs associated with evacuees from Hurricane Rita were also later included.

On September 6th, the Governor advised FEMA that Wisconsin was prepared to provide shelter for up to 1,150 evacuees at the Tommy G. Thompson Youth Center (950) at Wisconsin State Fair Park and the South Milwaukee Community Center (250.) The Tommy G. Thompson Youth Center was designated as the shelter to receive evacuees from Hurricanes Katrina and Rita. The shelter was managed by the American Red Cross and the Salvation Army. On September 8th, 170 evacuees, along with 26 animals, arrived via two FEMA-charted flights. The shelter which closed November 1, 2005, housed 365 evacuees, including some who self-evacuated. Most evacuees were placed in housing with some going to hotels. The American Red Cross served 827 cases. The highest number of households registered with FEMA identifying that they were in Wisconsin was 1,994 on October 26, 2005.

Under the emergency declaration issued by the President eligible costs would be reimbursed 100% through the Public Assistance Program. This included costs incurred by State agencies and local governments in response to Hurricanes Katrina and Rita. Those costs included shelter and transitional housing costs for evacuees. Cost incurred in the emergency declaration totaled $1,120,372.

**FEMA 1719-DR-WI**

On August 26, 2007, President Bush declared a major disaster as a result of severe storms and flooding that began on August 18th. The following counties were declared eligible for the Individual Assistance Program (IA): Crawford, La Crosse, Richland, Sauk and Vernon. The Hazard Mitigation Grant Program was declared eligible statewide. On August 31, the Governor requested that the following counties be declared for IA: Columbia, Dane, Grant, Green, Iowa, Jefferson, Kenosha, Racine and Rock. The Governor also requested a Public Assistance (PA) request for Crawford, Dane, La Crosse, Richland, Sauk, and Vernon counties. Amendment 2 to the disaster declaration included 9 additional counties for IA (Columbia, Dane, Grant, Green, Iowa, Jefferson, Kenosha, Racine and Rock) and 5 counties (Crawford, La Crosse, Richland, Sauk and Vernon) for PA.

Heavy rainfall began on August 18 and continued through the week. Soils became saturated and rivers and streams overflowed their banks. At some official observation sites in southern Wisconsin, new all-time August 24-hour precipitation records were set, Gays Mills (7.41 inches), Prairie du Chien (6.52 inches) and Viroqua (9.23 inches), and in La Crosse County and a new all-time monthly records were set for any month of the year with 17.00 inches of rainfall, according to the National Weather Service. The cause of the storms and record precipitation was an unusually stagnant weather pattern that persisted over the southwestern half of Wisconsin from August 18 to 31. Repeated rounds of thunderstorms with heavy rains caused record or near record flooding along the Kickapoo (crested 6 feet above flood stage), Pine, Fox, Rock and Crawfish Rivers, among many others.

Damage to private residences and businesses was tremendous. Some residences had water in them for days. Many residences had cracked or bulging basement walls and foundations. Many affected residents were low to moderate income and almost all of them sustaining damage were uninsured. Many businesses were also affected.

The agricultural sector sustained considerable damage. This is very significant in that most of the declared counties have economies dependent on agriculture. The Wisconsin Farm Services Office had requested an Administrator's Designation for physical loans.

Over 4,000 people applied for federal assistance with 2,902 households approved for $7,495,433 under the Housing Assistance Program. Another 651 were approved for $499,236 in Other Needs Assistance. The Small Business Administration approved 234 low-interest loans for over $6 million. The Public Assistance Program approved 144 grants to state and local governments, and eligible private non-profit organizations for a total of $12,828,586.

WEM received 46 pre-applications totaling $14.6 million.

**HMGP Pre-Applications for 1719-DR by Category**

| Number of Pre-Apps | Category | Amount |
|---|---|---|
| 8 | Acquisition | $12,534,493 |
| 2 | Floodproofing | $ 255,250 |
| 7 | Warning systems | $ 395,121 |
| 13 | Hazard Mitigation Plans | $ 405,927 |
| 5 | Roadwork | $ 131,088 |
| 4 | Sewer | $ 588,475 |
| 6 | Structural | $ 316,096 |
| 1 | Miscellaneous | $ 5,664 |
| **46** | **Total** | **$14,632,114** |

Pre-applications were reviewed, scored and ranked. Projects that met the State priorities and make the biggest impact on reducing future disaster costs were considered for funding. Wisconsin has an approved "enhanced" state mitigation plan, therefore, eligible for 20% of the Public and Individual Assistance Programs. This declaration would be the first for the State to receive the additional HMGP funding. The HMGP allocation for the disaster would be $5,552,079. Three planning grants (2 for plan updates to meet the 5-year plan requirement) under the 7% allocation were funded; 2 projects for elevation; and 6 projects for acquisition and demolition of floodprone properties. Funding is pending for a project under the 5% allocation for an automated, high water warning system for dams in Vernon County. In addition, there are funds pending approval for Gays Mills in the amount of $108,175 and Chaseburg in the amount of $94,125. The following projects have been funded to date:

**HMGP Applicants for FEMA 1719-DR**

| Applicant | County | Amount Requested |
|---|---|---|
| Chaseburg, Village of | Crawford | $1,712,550 |
| Crawford County | Crawford | $ 40,000 |
| Gays Mills, Village of | Crawford | $1,321,691 |
| Kenosha County | Kenosha | $1,392,414 |
| Mount Pleasant, Village of | Racine | $ 263,400 |
| Oregon, Village | Dane | $ 105,920 |
| Richland County | Richland | $ 36,000 |
| Soldiers Grove, Village of | Crawford | $ 152,781 |
| Vernon County | Vernon | $ 40,000 |
| State Management | All | $ 171,023 |
| **Total** | | **$5,235,779** |

**FEMA-3285-EM-WI**

A major snowfall began on February 5 and continued through February 7, 2008. The event included heavy snowfall, strong gusty winds out of the north and even thunder. The heavy snow fell at the rate of one to three inches per hour in some of the hardest hit areas. Several locations in Rock, Walworth, Jefferson and Ozaukee counties reported the highest amounts of 20 to 21 inches. Numerous locations in the 13 counties (Dane, Dodge, Green, Jefferson, Kenosha, Lafayette, Milwaukee, Ozaukee, Racine, Rock, Walworth, Washington and Waukesha) included in this request reported amounts between 12 and 19 inches. Wind speeds between 15 to 25 mph, with gusts up to 35 mph and isolated gusts reported at 60 mph, created near blizzard or white out conditions especially in rural areas. Visibilities of less than ¼ mile were common and drifts of 2 to 4 feet made travel extremely dangerous.

It is important to note that the February 5 – 7 event is just one of many snowfalls that occurred in southern Wisconsin since December 1, 2007. In fact, Madison received more than 100 inches of snow this season, making it the snowiest winter on record (previous record was 76.1 inches). The Madison area received measurable snowfall on more than 50 days since December 1, 2007.

The repeated snowfalls, and particularly the February 5-7 storm, inflicted hardships on many Wisconsin communities and totally depleted snow removal budgets. Schools across much of southern Wisconsin have been closed on more than one occasion. The storms also forced the cancellation of numerous air flights from the Milwaukee and Dane County airports. The snow also curtailed shopping activity at retail establishments and malls have been closed due to treacherous travel conditions.

Snow depths in many areas were at record levels. These snow depths made it increasingly difficult to find places to put the snow. It was piled high at street intersections and around fire hydrants, increasing the risk to public safety from traffic accidents and residential fires. The unusual depths also made it difficult for homeowners and businesses to keep sidewalks cleared, increased the hazards for pedestrian traffic, especially school children and the disabled.

On March 19, 2008, the President declared a snow emergency in the State of Wisconsin. This declaration was based on emergency measures performed to save lives and protect public health and safety resulting from record snow and near record snow during the period of February 5-6, 2008. The counties declared were Dane, Dodge, Green, Jefferson, Milwaukee, Rock, Walworth and Washington counties for emergency protective measures (Category B) under the Public Assistance program for any continuous 48-hour period during or proximate to the incident period. On April 18, 2008, the FEMA-State Agreement was amended to included Kenosha, Racine and Waukesha counties to the snow emergency. Funding was provided to 475 eligible applicants totaling $11,291,568.

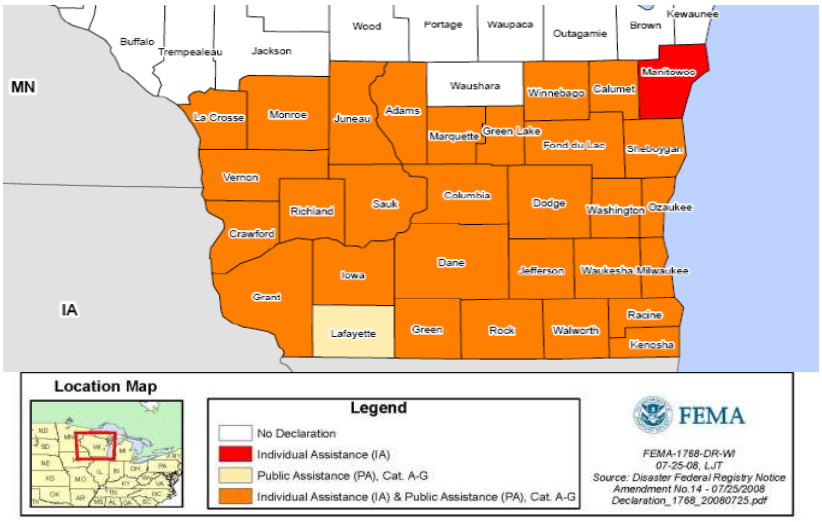
**FEMA 1768-DR-WI**

Severe weather began on June 5, 2008 with dozens of thunderstorms and tornado watches and warnings issued. Heavy rainfall, hail, damaging winds and several tornadoes were reported. Next, a warm weather front tracked from west to east across Wisconsin on Saturday, June 7. This event coincided with a moist and unstable air mass moving northward triggering an outbreak of severe weather and heavy rains throughout the afternoon and continuing into the next morning. Numerous super cell thunderstorms developed over the state spawning tornadoes, funnel clouds, rotating wall clouds and flash flooding over all of southern Wisconsin. On Sunday, June 8, the warm, moist air lingered in the state when a cold front tracked east out of the northern plains. A line of thunderstorms tracked across the state ahead of the front producing severe thunderstorms and heavy rains. The rains combined with the already saturated soils worsened the flooding conditions necessitating rescues, evacuations, road closures and sandbagging. The continuing weather pattern persisted on Monday, Tuesday, and Wednesday (June 9-11.) On Thursday, June 12, a slow moving cold front combined with warm moist air again passed through the state producing tornadoes, severe thunderstorms, and heavy rainfall. Collectively amounts ranged from 6 to over 15 inches. The greatest amount was 15.35 inches south of Portage in Columbia County. Depending on location, 24-hour and monthly rainfall records were established. All of this rain fell on top of a ground that was saturated due to all-time record winter snowfalls of 70 to 122 inches across southern Wisconsin which were roughly double normal amounts. At least 38 river gauge sites set new all-time record-high crests; in some cases exceeding flood stage by 6 to over 11 feet. The Baraboo River in Baraboo crested at 11.48 feet over floodstage. In some cases, rivers remained in flood stage into late July, and many low spots in farm fields still had standing water into September. From June 7 to 13, there were 20 tornadoes reported where the average number in a year for Wisconsin is 21.

The State EOC was activated 24/7 from June 7-24. Interstates and hundreds of roads were closed making travel very difficult. WEM provided over 700,000 sandbags to communities in the impacted area. Thirty-five shelters were open and served 2,623 people. Over 77,000 meals were served. Over 160 waster water treatment plans diverted 90 million gallons of sewage. There were three confirmed deaths. Damages are estimated at $926 million and climbing.

Small rural and urban communities alike were devastated by the repeated flooding and storms. Tens of thousands of homes, businesses and farms were damaged or destroyed. Damage to public facilities is in the tens of millions of dollars. Both the agriculture and tourism industries, representing the heart of state and local economies, will suffer significantly. The worst flooding occurred on the Baraboo, Kickapoo, Rock, Fox (northern and southeastern) and Crawfish Rivers. Many of the communities are still recovering from flooding that occurred ten months ago resulting in federal disaster declaration 1719-DR-WI. In some cases, the June 2008 flooding was worse than the 1993 flooding.

On June 9, Governor Jim Doyle declared a State of Emergency for 30 counties. On June 13, the Governor requested a presidential declaration for 6 counties. On June 14, President Bush declared the following counties eligible for the Individual Assistance (IA) Program: Columbia, Crawford, Milwaukee, Sauk and Vernon. Subsequently, the following 26 counties were added to the declaration: Adams, Calumet, Dane, Dodge, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Juneau, Kenosha, La Crosse, LaFayette, Marquette, Manitowoc, Monroe, Ozaukee, Racine, Richland, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago. Twenty-nine communities were declared for both Public and Individual Assistance. Manitowoc County was declared for Individual Assistance only and Lafayette County for Public Assistance bringing the total to 31 counties. The incident period was June 5 through July 25, 2008.




Over 40,799 people applied for Individual Assistance. As of November 3, 2008, 20,097 households have received housing assistance totaling $47,819,622 with another 9,327 households approved for Other Needs Assistance totaling $6,464,187. The Small Business Administration has approved 1,903 low-interest loans for individuals and businesses totaling $45,031,200. Nearly 1,400 flood insurance claims were paid totaling over $12 million. Nearly 10,000 people visited a Disaster Recovery Center. A

total of 844 communities are eligible for funding through the Public Assistance Program. To date, $21,491,763 has been approved in Public Assistance Program. Based on the preliminary damage assessment, this figure could reach $88 million. This disaster is proving to be the largest ever in the State.

All counties in the State of Wisconsin are eligible to apply for assistance under the Hazard Mitigation Grant Program (HMGP). Based on the number of destroyed homes, the priority of acquisition and demolition of substantially damaged structures was established early after the disaster. Forty-eight communities requested "buyout" applications. As of November 1, 2008, the State had received 15 buyout applications for 234 properties totaling nearly $35 million. In addition, WEM received 118 pre-applications totaling $40 million. WEM is in the process of scoring and ranking the pre-applications, however, based on funds available and the established priority, does not anticipate funding projects submitted through the pre-application process, and will focus its efforts on buyout applications.

Another interesting development from the June 2008 flooding involved the creation of the Wisconsin Recovery Task Force (WRTF). This Task Force was instructed by the Governor to focus on mitigation, agriculture, business, housing, human needs, and infrastructure concerns. The Task Force is comprised of many state and federal agencies. Ultimately, the mission of the WRTF is to assist individuals, businesses, and communities to recover quickly, safely, and with more resistance to future disasters. The primary goal of the WRTF is to identify the unmet needs of the communities and citizens of Wisconsin and assist them during the recovery. A WRTF report was presented to the Governor. The WRTF will continue to meet to implement the recommendations of the report and to support long term recovery efforts in hardest impacted communities.

The Wisconsin Hazard Mitigation Team (WHMT) played an integral part in identifying the key players that comprise the Wisconsin Recovery Task Force. Members of the WHMT are members of the Mitigation Subcommittee. Without the Wisconsin Hazard Mitigation Team, it is very likely that the Wisconsin Recovery Task Force would not have been created as quickly as it was.

This disaster was considered an "incident of national significance." As a result FEMA activated ESF-14, Long Term Recovery, for the first time in the state. ESF-14 provided 5 FEMA employees and 8 contractors for long-term recovery. The Team worked with the communities of Gays Mills in developing a long term recovery plan that identified potential relocation sites and potential funding sources. In addition, they worked with Rock Springs to address recovery issues. Information gathered from these planning efforts will assist with recovery in other impacted communities.

In addition to activating ESF-14, FEMA deployed the Mitigation Assessment Team (MAT) to conduct engineering analyses to determine causes of failures and successes of structures within the declared area. A report is expected to be completed within 6 months that will contain recommendations that the state, communities, and

organizations/agencies can take to reduce future damages and protect lives and property.

Disaster 1768-DR was the 29th Presidential Declaration in Wisconsin since 1971, and the 19th disaster since 1990. The state had multiple declarations in 1990, 1992, 1998, and 2002. Declarations have been granted in every year since 1990 except for 1994, 1995, 2003, 2005 and 2006. In the last 22 years, all but one of the State's 72 counties, Oconto, has been directly affected by disaster declarations. Additionally, in the years since 1990, 6 requests for declarations have been denied. The unprecedented frequency and severity of natural disasters established in the last decade has continued into the present one.

It is a goal of WEM to never return HMGP funds to FEMA if at all possible. To that end, as projects are completed, any unspent funds are obligated to other projects incurring funding shortfalls. Appendix E identifies the projects and actual amounts awarded to date for the declarations.

# APPENDIX C

# CAPABILITY ASSESSMENT FORM

# APPENDIX C
# STATE HAZARD MITIGATION TEAM
# AGENCY CAPABILITY ASSESSMENT FOR MITIGATION

## SURVEY FORM

The purpose of this assessment is to determine and describe the existing resources that are available within the state for reducing the state's vulnerability to natural hazards. This includes those activities and functions that take place agency-wide that support hazard mitigation activities directly or indirectly in reducing exposure or losses from natural hazards such as floods, tornadoes and windstorms, hail and lightning, snow and ice storms, extreme heat, drought, etc. This would include ongoing programs and activities in the following areas:

**Financial Assistance or Grant Programs:** Funding mechanisms that support hazard mitigation directly or indirectly at the state and/or local level. Examples include but are not limited to:

1. Community Development Block Grant programs that help to improve infrastructure and housing in low to moderate-income communities;

2. Land preservation programs such as the Stewardship Programs that conserve wetlands, coastal resources or erosion prone areas, all of which are hazardous areas for development; and

3. The Department of Transportation's Flood Damage Aids Program that can include funding for mitigation activities in making road repairs.

**Policies, Authorities, Regulations:** Include policies, authorities or regulations relating to development, land-use practices, environmental, etc., that minimizes the risk of natural hazards to people, property or the environment. This would include those that pertain to just within your agency as well as those that your agency is responsible for implementing at the state and local level. This would include, but is not limited to:

1. Regulation of development activities that prevent unwise and unsafe construction or development practices such as building codes and inspections, floodplain/shoreland/wetland regulations, stormwater management;

2. Executive Order 73 that requires state agencies that own, rent or construct facilities within the 500-year floodplain to follow certain floodplain management practices as identified in the order;

3. Land-use and planning regulations such as the Smart Growth Initiative; and

4. Standards for construction of infrastructure such as streets, roads, bridges, utilities, etc.

**Technical Assistance:** Assistance provided by your agency or another source that would support mitigation activities at the state and/or local level. Example:

1. Technical assistance provided by the Department of Natural Resources to local communities on floodplain management issues;

2. Assistance provided by Wisconsin Emergency Management to local governments that are preparing hazard mitigation plans; and

3. Assistance provided by State Historical Society in the environmental review process on mitigation projects, and technical assistance provided to local communities who undertake mitigation projects involving structures in an historic district, etc.

**Training, Education, Public Information Programs:** Programs that provide information to the public and/or private sector that would encourage individuals and businesses to reduce their risk from natural hazards. Examples could include:

1. Insurance information including flood insurance;

2. Training for insurance agents, real estate agents, building inspectors, zoning administrators, planning directors, emergency management personnel, etc.;

3. Hazard awareness campaigns such as Tornado Awareness Week, Coastal Awareness Month, etc.;

4. Booths at the State Fair, safety fairs, etc.; and

5. Articles, newsletters, publications, such as the Floodplain-Shoreland Management Notes and the Community Flood Mitigation Planning Guidebook produced by the Department of Natural Resources.

**Agency Functions/Initiatives:** Activities internal to the agency that directly or indirectly support hazard mitigation. Examples may include:

1. Interagency cooperation such as participating on the Wisconsin Hazard Mitigation Team, the Coastal Hazards Work Group, etc.; and

2. Internal policies or procedures that would reduce the risk of loss such as adequate insurance coverage, instituting design standards to improve sheltering

in agency structures, and following the state and local environmental and floodplain practices in the design and construction of agency structures.

**INSTRUCTIONS:** The following pages provide a format to describe your agency's resources that support hazard mitigation activities in each of the five categories. Each type of agency activity has a separate page or form. If your agency has several financial assistance or grant programs, simply make extra copies of the form and describe each grant program separately. Similarly, make extra copies of other forms as needed. Attach supporting documentation or additional information as you feel is necessary. This document will be forwarded to you via e-mail in the event you wish to download the forms so that the assessment can be completed electronically.

**As the Point-of-Contact designated for your agency, you are responsible for coordinating with those individuals within your agency that can provide the information necessary to complete the capability assessment for your agency.**

If you have any questions, please call Roxanne Gray, State Hazard Mitigation Officer, at 608-242-3211, or Susan Boldt, Assistance State Hazard Mitigation Officer at 608-242-3214.

**PLEASE RETURN YOUR AGENCY'S RESPONSE**
**NO LATER THAN MARCH 15, 2004 TO:**

**ROXANNE GRAY**
**STATE HAZARD MITIGATION OFFICER**
**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**2400 WRIGHT STREET, P.O. BOX 7865**
**MADISON, WI 53707**
**E-Mail: Roxanne.Gray@dma.state.wi.us**

**FINANCIAL ASSISTANCE OR GRANT PROGRAMS**
(Funding that supports hazard mitigation at the state and/or local level)

**1. AGENCY:**

**2. POINT-OF-CONTACT:**

**3. PROGRAM NAME:**

**4. PROGRAM GOALS:**

**5. PROGRAM DESCRIPTION:**

**6. ELIGIBLE APPLICANTS:**

**7. NATURAL HAZARDS ADDRESSED (SEE LIST FOR POTENTIAL HAZARDS):**

**8. SPECIAL RESTRICTIONS OR REQUIREMENTS:**

**9. LEGISLATIVE OR OTHER AUTHORITY:**

**10. IDENTIFY HOW THE ACTIVITY ADDRESSES AND SUPPORTS MITIGATION:**

**11. IDENTIFY WHERE THE ACTIVITY DOES NOT ADEQUATELY SUPPORT MITIGATION:**

**12. DESCRIBE THE EFFECTIVENESS OF THIS ACTIVITY ON LOCAL MITIGATION POLICIES, PROGRAMS AND CAPABILITIES:**

**13. EXAMPLES OF COMPLETED PROJECTS FUNDED BY THE PROGRAM THAT SUPPORT HAZARD MITIGATION:**

**14. DESCRIBE AND DISCUSS ANY FUNDING ISSUES:**

**15. PROGRAM ADMINISTRATOR:**

**TITLE:**

**DIVISION/SECTION/BUREAU:**

**ADDRESS:**

**CITY:** **ZIP:**

**TELEPHONE:** **FAX:**

**E-MAIL ADDRESS:**

**POLICIES, AUTHORITIES, REGULATIONS**
(Policies, authorities or regulations relating to development, land-use practices or the environment that minimizes the risk of natural hazards to people, property or the natural resources).

**1. AGENCY:**

**2. POINT-OF-CONTACT:**

**3. NAME OF POLICY, AUTHORITY OR REGULATION:**

**4. GOALS OF POLICY, AUTHORITY, OR REGULATION:**

**5. DESCRIPTION OF POLICY, AUTHORITY, OR REGULATION:**

**6. LEGISLATIVE ORIGIN OF POLICY, AUTHORITY, OR REGULATION:**

**7. REGULATED COMMUNITY:**

**8. HOW DOES THE POLICY, AUTHORITY, OR REGULATION SUPPORT HAZARD MITIGATION:**

**9. IDENTIFY WHERE THE POLICY, AUTHORITY, OR REGULATION DOES NOT ADEUATELY SUPPORT MITIGATION:**

**10. NATURAL HAZARDS ADDRESSED (SEE LIST FOR POTENTIAL HAZARDS):**

**11. DESCRIBE THE EFFECTIVENESS OF THE POLICY, AUTHORITY, OR REGULATION ON LOCAL MITIGATION:**

**12. DESCRIBE AND DISCUSS ANY FUNDING ISSUES:**

**13. PROGRAM ADMINISTRATOR:**

**TITLE:**

**DIVISION/SECTION/BUREAU:**

**ADDRESS:**

**CITY:** **ZIP:**

**TELEPHONE:** **FAX:**

**E-MAIL ADDRESS:**

**TECHNICAL ASSISTANCE**
(Assistance provided by your agency or another source that would support mitigation activities at the state and/or local level.)

**1. AGENCY:**

**2. POINT-OF-CONTACT:**

**3. TYPE OF TECHNICAL ASSISTANCE PROVIDED:**

**4. PURPOSE OR GOAL OF THE TECHNICAL ASSISTANCE:**

**5. DESCRIPTION OF THE TECHNICAL ASSISTANCE PROVIDED:**

**6. COMMUNITY THAT BENFITS FROM THE TECHNICAL ASSISTANCE:**

**7. LEGISLATIVE OR OTHER AUTHORITY:**

**8. HOW DOES THE TECHNICAL ASSISTANCE SUPPORT HAZARD MITIGATION:**

**9. IDENTIFY WHERE THE TECHNICAL ASSISTANCE DOES NOT ADEQUATELY SUPPORT MITIGATION:**

**10. NATURAL HAZARDS ADDRESSED (SEE LIST FOR POTENTIAL HAZARDS):**

**11. DESCRIBE THE EFFECTIVENESS OF THE TECHNICAL ASSISTANCE ON LOCAL MITIGATION:**

**12. DESCRIBE AND DISCUSS ANY FUNDING ISSUES:**

**13. PERSON RESPONSIBLE FOR PROVIDING THE ASSISTANCE:**

**TITLE:**

**DIVISION/SECTION/BUREAU:**

**ADDRESS:**

**CITY:** **ZIP:**

**TELEPHONE:** **FAX:**

**E-MAIL ADDRESS:**

**TRAINING, EDUCATION, PUBLIC INFORMATION PROGRAMS**
(Programs that provide information to the public and/or private sector that would encourage individuals and/or businesses to reduce their risk from natural hazards).

**1. AGENCY:**

**2. POINT-OF-CONTACT:**

**3. NAME OF TRAINING, EDUCATION OR PUBLIC INFORMATION ACTIVITY:**

**4. TRAINING, EDUCATION, OR PUBLIC INFORMATION GOALS:**

**5. DESCRIPTION OF ACTIVITY:**

**6. TARGET AUDIENCE:**

**7. LEGISLATIVE OR OTHER AUTHORITY:**

**8. NATURAL HAZARDS ADDRESSED (SEE LIST FOR POTENTIAL HAZARDS):**

**9. HOW DOES THE TRAINING, EDUCATION, OR PUBLIC INFORMATION ACTIVITY SUPPORT HAZARD MITIGATION:**

**10. IDENTIFY WHERE THE TRAINING, EDUCATION OR PUBLIC INFORMATION ACTIVITY DOES NOT ADEQUATELY SUPPORT MITIGATION:**

**11. DESCRIBE THE EFFECTIVENESS OF THE TRAINING, EDUCATION OR PUBLIC INFORMATION ACTIVITY ON LOCAL MITIGATION:**

**12. DESCRIBE AND DISCUSS ANY FUNDING ISSUES:**

**13. PERSON RESPONSIBLE FOR THE ACTIVITY:**

**TITLE:**

**DIVISION/SECTION/BUREAU:**

**ADDRESS:**

**CITY:** **ZIP:**

**TELEPHONE** **FAX:**

**E-MAIL ADDRESS:**

**AGENCY FUNCTIONS/INITIATIVES**
(Activities internal to the agency that directly or indirectly support hazard mitigation).

**1. AGENCY:**

**2. POINT-OF-CONTACT:**

**3. NAME OF INITIATIVE/ACTIVITY:**

**4. PURPOSE OR GOAL OF INITIATIVE:**

**5. INITIATIVE DESCRIPTION:**

**6. LEGISLATIVE OR OTHER AUTHORITY:**

**7. NATURAL HAZARDS ADDRESSED (SEE LIST FOR POTENTIAL HAZARDS):**

**8. HOW DOES INITIATIVE SUPPORT HAZARD MITIGATION:**

**9. IDENTIFY WHERE THE INITIATIVE DOES NOT ADEQUATELY SUPPORT MITIGATION:**

**10. DESCRIBE THE EFFECTIVENESS OF THE INITIATIVE ON LOCAL MITIGATION:**

**11. DESCRIBE AND DISCUSS ANY FUNDING ISSUES:**

**12. PERSON RESPONSIBLE FOR THE INITIATIVE:**

**TITLE:**

**DIVISION/SECTION/BUREAU:**

**ADDRESS:**

**CITY:** **ZIP:**

**TELEPHONE:** **FAX:**

**E-MAIL ADDRESS:**

# APPENDIX D

# MITIGATION PROJECTS COMPLETED IN THE STATE

# APPENDIX D

## FUNDED MITIGATION PROJECTS AND PLANS IN STATE – HAZARD MITIGATION GRANT PROGRAM

| Disaster Number | Year | Community | County | Cost HMGP Funds | Project Description | Comments |
|---|---|---|---|---|---|---|
| DR-874 | 1990 | Darlington, City | Lafayette | $ 605,572 | Part of a larger project funded under DR-993. 12 commercial structures acquired. 19 commercial structures floodproofed | An additional $178,608 locally provided (used for match in DR-994) Local match was purchase of land for business park |
| DR-874 | 1990 | DePere, City | Brown | $ 95,160 | Storm sewer project | An additional $42,301 locally provided |
| DR-912 | 1991 | Jefferson County | Jefferson | $ 108,684 | Acquisition of 3 residential structures | Local match provided by HUD & DNR |
| DR-959 | 1992 | Washara County | Washara | $ 38,868 | Completion of a Geographic Information System (GIS) in a defined area of the 100 year floodplain of the Pine River | |
| DR-963 | 1992 | Cross Plains, Village | Dane | $ 37,000 | Clearwater infiltration abatement project | |
| DR-963 | 1992 | DeForest, Village | Dane | $ 202,034 | Construction of the Linde Detention Basin | An additional $67,394 provided locally CDBG provided $485,000 to construct Halsor Street Detention Basin and a storm sewer leading to the basins |
| DR-963 | 1992 | Sun Prairie, City | Dane | $ 137,340 | Development of a stormwater management plan and improvement of a storm sewer | Additional $91,021locally provided |
| DR-964 | 1992 | Black River Falls, City | Jackson | $ 281,929 | Construction of storm sewers | $43,971 provided by CDBG funds |
| DR-964 | 1992 | Blair, City | Trempealeau | $ 109,144 | Implementation of modifications to the Lake Henry Dam | $109,173 provided by CDBG funds and $43,460 provided by DNR funds |
| DR-994 | 1993 | Darlington, City | Lafayette | $4,175,790 | Acquisition of 12 commercial structures and floodproofing of 19 commercial structures | Local match provided = $178,608 purchase of business park $282,084 CDBG funds $187,744 DNR funds |
| DR-994 | 1993 | Eau Claire, City | Eau Claire | $2,152,831 | Acquisition of 45 residential structures and 5 vacant parcels – Floodproofing of 1 commercial structure | $461,000 CDBG funds = local match |
| DR-994 | 1993 | Eau Claire County | Eau Claire | $1,217,227 | Acquisition of 16 residential structures and 1 commercial structure – Floodproofing of 2 residential structures | $265,250 CDBG funds = local match |
| DR-994 | 1993 | Jefferson County | Jefferson | $ 458,635 | Acquisition of 7 structures (Flood Mitigation Assistance funds helped purchase one of these structures) | This was part of a larger project that included $500,000 CDBG funds and $611,000 DNR funds |
| DR-994 | 1993 | Pierce County | Pierce | $6,000,000 | Acquisition of 67 residential structures, 3 commercial structures and 3 vacant parcels | Local match provided by CDBG funds An additional $187,989 was provided by program revenue. ($52,211 of that amount given to Darlington towards floodproofing project) |
| DR-1131 | 1996 | Monroe, City | Green | $ 143,311 | Construction of a detention pond | Additional $36,218 locally provided |
| DR-1131 | 1996 | Oakfield, School Dist. | Fond du Lac | $ 202,216 | Reinforcement of walls in new school | |

## FUNDED MITIGATION PROJECTS AND PLANS IN STATE – HAZARD MITIGATION GRANT PROGRAM, continued

| Disaster Number | Year | Community | County | Cost HMGP Funds | Project Description | Comments |
|---|---|---|---|---|---|---|
| DR-1180 | 1997 | Brookfield, City | Waukesha | $ 139,203 | Acquisition of 1 residential structure | |
| DR-1180 | 1997 | Eau Claire County | Eau Claire | $ 143,090 | Acquisition of 1 residential structure | |
| DR-1180 | 1997 | Menomonee Falls, Vil | Waukesha | $1,969,799 | Acquisition of 11 residential structures | |
| DR-1180 | 1997 | Milwaukee, City | Milwaukee | $1,545,412 | Acquisition of 19 residential structures and floodproofing of 35 residential structures | |
| DR-1180 | 1997 | Milwaukee County | Milwaukee | $ 70,117 | Production of flood mitigation video with a corresponding brochure. Created a mitigation educational display and supported staff to man it at the State Fair. | |
| DR-1180 | 1997 | Oak Creek, City | Milwaukee | $ 112,182 | Acquisition of one residential substantially damaged structure in the Root River floodway | |
| DR-1180 | 1997 | Wauwatosa, City | Milwaukee | $2,168,097 | Acquisition of 22 residential structures, 1 commercial structure and 2 vacant parcels | $831,325 Hud Disaster Recovery funds, $59,735 CDBG funds and $222,170 DNR funds provided for this project |
| DR-1180 | 1997 | West Allis, City | Milwaukee | $ 273 | Proposed acquisition of 1 residential structure | After a prolonged effort by the City to acquire the property the owner refused. |
| DR-1236 | 1998 | Brookfield, City | Waukesha | $ 140,060 | Acquisition of 1 residential structure | |
| DR-1236 | 1998 | Elm Grove, Village | Waukesha | $ 921,601 | Acquisition of 1 residential structure and 1 commercial structure | |
| DR-1236 | 1998 | Menomonee Falls, Vil | Waukesha | $ 397,396 | Acquisition of 2 residential structures | This project is a continuation of the DR-1180 project for Menomonee Falls |
| DR-1236 | 1998 | Milwaukee, City | Milwaukee | $ 91,630 | Acquisition of 2 residential structures | This project is a continuation of the DR-1180 project for Milwaukee |
| DR-1236 | 1998 | New Berlin, City | Waukesha | $ 93,947 | Acquisition of 1 residential structure | |
| DR-1236 | 1998 | Thiensville, Village | Ozaukee | $ 123,047 | Construction of a detention pond | |
| DR-1238 | 1998 | Brown Deer, Village | Milwaukee | $1,018,831 | Acquisition of 9 residential structures | CDBG funds used for local match |
| DR-1238 | 1998 | Darlington, City | Lafayette | $ 117,478 | Floodproofing of 1 commercial structure | This project was partially funded by DR-994, program revenue from Pierce County 994 project and this grant under DR-1238 |
| DR-1238 | 1998 | Kenosha County | Kenosha | $1,094,835 | Acquisition of 18 residential structures in the Fox River floodway | Local match provided by CDBG |
| DR-1238 | 1998 | No. Fond du Lac, Vil | Fond du Lac | $ 228,063 | Acquisition of 2 residential structures | |
| DR-1238 | 1998 | Sheboygan, City | Sheboygan | $1,873,000 | Acquisition of 16 residential structures | |
| DR-1238 | 1998 | Thiensville, Village | Ozaukee | $ 60,000 | Construction of a detention pond | Supplements funds under 1236-DR |
| DR-1284 | 1999 | Florence, Town | Florence | $ 250,240 | Closing well and opening new well | |
| DR-1284 | 1999 | Head of Lakes | Douglas | $ 164,156 | Burying overhead electrical lines | |
| DR-1284 | 1999 | Superior, City | Douglas | $ 320,000 | Storm sewer project | |

## FUNDED MITIGATION PROJECTS AND PLANS IN STATE – HAZARD MITIGATION GRANT PROGRAM, continued

| Disaster Number | Year | Community | County | Cost HMGP Funds | Project Description | Comments |
|---|---|---|---|---|---|---|
| DR-1332 | 2000 | Baraboo, City | Sauk | $ 136,254 | Demolition | Partial demolition of commercial structure |
| DR-1332 | 2000 | Baraboo, City | Sauk | $ 13,746 | All Hazards Mitigation Plan | Plan is approved. Money left from demolition project was reobligated to developing a plan. |
| DR-1332 | 2000 | Crandon, City | Forest | $ 110,000 | Construction of a storm sewer | |
| DR-1332 | 2000 | Cumberland Utility | Vernon | $ 380,520 | Bury overhead electrical lines | |
| DR-1332 | 2000 | Dane County EM | Dane | $ 32,670 | Surge protectors on all county sirens | |
| DR-1332 | 2000 | Eau Claire, City | Eau Claire | $1,488,562 | Acquisition of 9 residential structures | |
| DR-1332 | 2000 | Elm Grove, Village | Waukesha | $ 943,638 | Acquisition of 2 apartment buildings. | |
| DR-1332 | 2000 | Jefferson County | Jefferson | $ 555,743 | Acquisition of 5 residential structures. | |
| DR-1332 | 2000 | Kenosha County | Kenosha | $ 643,997 | Acquire 9 residential structures | CDBG was used for local match. |
| DR-1332 | 2000 | Shell Lake, City | Washburn | $ 50,000 | Relocated community shelter | |
| DR-1332 | 2000 | Sun Prairie, City | Dane | $ 30,000 | Provided backflow valves to city residences | |
| DR-1369 | 2001 | Burnett County | Burnett | $ 29,425 | Purchase/distribute weather alert radios | Addtnl. $ for more radios ($44,265) |
| DR-1369 | 2001 | Crawford County | Crawford | $ 713,548 | Acquisition of County Highway Maintenance shop | |
| DR-1369 | 2001 | Dairyland Electric | Vernon | $ 10,938 | Hazard Tree Training | |
| DR-1369 | 2001 | DNR | Richland | $ 84,390 | Acquisition of 1 residential property | |
| DR-1369 | 2001 | Douglas County | Douglas | $ 93,600 | Acquisition of 1 substantially damaged residential property | |
| DR-1369 | 2001 | Grant County | Grant | $ 471,850 | Acquisition of 3 residential structures | |
| DR-1369 | 2001 | Grant County | Grant | $ 20,770 | Floodproofing of 1 residential structure | |
| DR-1369 | 2001 | Jefferson County | Jefferson | $ 336,845 | Acquisition of 4 residential structures | Project continuation along Rock River |
| DR-1369 | 2001 | Juneau County | Juneau | $ 169,432 | Purchase and install 33 tornado shelters | |
| DR-1369 | 2001 | Kenosha County | Kenosha | $ 414,500 | Acquisition of 5 residential structures | Project continuation along Fox River |
| DR-1369 | 2001 | Shell Lake, City | Washburn | $ 250,000 | Engineering study for water diversion project | |
| DR-1369 | 2001 | Superior, City | Douglas | $ 86,316 | Acquisition of 1 residential structure | |
| DR-1369 | 2001 | Trempealeau County | Trempea-leau | $1,059,000 | Acquisition of 7 residential properties and 1 commercial structure | |
| DR-1369 | 2001 | Burnett County | Burnett | $ 60,000 | All Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Dane County | Dane | $ 40,000 | All Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Douglas County | Douglas | $ 53,333 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Grant County | Grant | $ 50,000 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Juneau County | Juneau | $ 20,000 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Shell Lake, City | Washburn | $ 19,000 | All-Hazards Mitigation Plan | Plan is approved. |

## FUNDED MITIGATION PROJECTS AND PLANS IN STATE – HAZARD MITIGATION GRANT PROGRAM, continued

| Disaster Number | Year | Community | County | Cost HMGP Funds | Project Description | Comments |
|---|---|---|---|---|---|---|
| DR-1369 | 2001 | Sun Prairie, City | Dane | $ 5,190 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1369 | 2001 | Superior, City | Douglas | $ 55,000 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1429 | 2002 | Curtiss, Village | Clark | $ 40,000 | Acquisition of 1 residential structure | |
| DR-1429 | 2002 | Curtiss, Village | Clark | $ 20,000 | Engineering study for drainage area | |
| DR-1429 | 2002 | Elm Grove, Village | Waukesha | $ 208,400 | Acquisition of 1 commercial structure | |
| DR-1429 | 2002 | Oliver, Village | Superior | $ 255,100 | Acquisition of 2 residential structures | |
| DR-1429 | 2002 | Portage County | Portage | $ 40,849 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1429 | 2002 | Crandon, City | Forest | $ 21,000 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1432 | 2002 | Ferryville, Village | Crawford | $ 74,500 | Acquisition of 1 residential structure | |
| DR-1432 | 2002 | Oliver, Village | Superior | $ 150,600 | Acquisition of 1 residential structure | |
| DR-1432 | 2002 | Osceola, Village | Polk | $ 543,140 | Acquisition of 9 mobile homes and 1 cabin | |
| DR-1432 | 2002 | Portage County | Portage | $ 6,800 | Purchase and distribute weather radios | |
| DR-1432 | 2002 | Rusk County | Rusk | $ 29,250 | Purchase and distribute weather radios | |
| DR-1432 | 2002 | St. Croix Falls, City | Polk | $ 84,950 | Acquisition of 1 residential structure | |
| DR-1432 | 2002 | Polk County | Polk | $ 60,000 | All-Hazards Mitigation Plan | Plan is approved. |
| DR-1432 | 2002 | Rusk County | Rusk | $ 29,855 | All-Hazards Mitigation Plan | Funds withdrawn due to lack of progress |
| DR-1526 | 2004 | Dodge County | Dodge | $ 34,508 | Purchase and distribute weather radios. | |
| DR-1526 | 2004 | Ferryville, Village | | $ 45,811 | Acquisition and demolition. | |
| DR-1526 | 2004 | Grant County | Grant | $ 286,470 | Acquisition of 3 residential structures. | |
| DR-1526 | 2004 | Jackson County | Jackson | $ 6,080 | Purchase and distribute weather radios. | |
| DR-1526 | 2004 | Kenosha County | Kenosha | $ 798,470 | Acquisition of 26 residential structures.. | |
| DR-1526 | 2004 | Oneida County | Oneida | $ 25,000 | Purchase and distribute weather radios. | |
| DR-1526 | 2004 | Oshkosh, City | Winnebago | $ 394,654 | Acquisition of 2 residential structures. | |
| DR-1526 | 2004 | Columbia County | Columbia | $ 45,000 | All -Hazards Mitigation Plan | |
| DR-1526 | 2004 | Dodge County | Dodge | $ 19,894 | All-Hazards Mitigation Plan | Plan has been approved |
| DR-1526 | 2004 | Eau Claire County | Eau Claire | $ 28,907 | All-Hazards Mitigation Plan | Plan has been approved. |
| DR-1719 | 2007 | Oregon, Village | Dane | $ 105,920 | Acquisition of 1 SD residential structure | |
| DR 1719 | 2007 | Mt. Pleasant, Village | Racine | $ 263,400 | Acquisition of 2 SD residential structures | |
| DR 1719 | 2007 | Gays Mills, Village | Crawford | $ 740,925 | Acquisition of 8 residential and 1 commercial SD structures | |
| DR 1719 | 2007 | Gays Mills, Village | Crawford | $ 580,766 | Elevation of 18 residential structures (17 SD) | |
| DR 1719 | 2007 | Gays Mills, Village | Crawford | $ 108,175 | Acquisition of property (amendment) | Pending approval |
| DR 1719 | 2007 | Chaseburg, Village | Vernon | $ 856,650 | Acquisition of 8 SD residential properties | |

## FUNDED MITIGATION PROJECTS AND PLANS IN STATE – HAZARD MITIGATION GRANT PROGRAM, continued

| | | | | | | |
|---|---|---|---|---|---|---|
| DR 1719 | 2007 | Chaseburg, Village | Vernon | $ 94,125 | Acquisition of 1 SD property (amendment) | Pending Approval |
| DR 1719 | 2007 | Chaseburg, Village | Vernon | $ 855,900 | Acquisition of 4 commercial properties (2SD) | |
| DR 1719 | 2007 | Soldier's Grove, Village | Crawford | $ 152,781 | Acquisition of 1 residential property (2 mobile homes)<br>Elevation of 3 residential properties | |
| DR 1719 | 2007 | Kenosha County | Kenosha | $ 1,392,414 | Acquisition of 23 residential properties (3 SD) | Requested $3,293,949<br>Also applied to PDM (denied) |
| DR 1719 | 2007 | Richland County | Richland | $ 36,000 | All Hazards Mitigation Plan | |
| DR 1719 | 2007 | Crawford County | Crawford | $ 40,000 | Update of All Hazards Mitigation Plan | |
| DR 1719 | 2007 | Vernon County | Vernon | $ 40,000 | Update of All Hazards Mitigation Plan | |
| DR 1719 | 2007 | Vernon County LCD | Vernon | $ 114,000 | Automated high water warning system for 11 dams | Pending approval |

**89 Projects and 11 Plans: Total of $46,066,759 ($34,550,069 or 75% federal funds) in HMGP FUNDS**

## FUNDED MITIGATION PROJECTS AND PLANS – FLOOD MITIGATION ASSISTANCE PROGRAM

| Year | Community | County | Cost FMA Funds | Project Description | Comments |
|---|---|---|---|---|---|
| **1996 1997** | **Kenosha County** | **Kenosha** | **$ 6,000** | **Flood Mitigation Plan** | **Approved by FEMA on 2-11-02** |
| **1996 1997** | **Ozaukee County** | **Ozaukee** | **$ 9,733** | **Flood Mitigation Plan** | **Conditionally approved by FEMA 2-05-04** |
| **1997** | **Darlington, City** | **Lafayette** | **$156,133** | **Acquisition and demolition of an automobile dealership** | **Completed** |
| **1998** | **Crawford County** | **Crawford** | **$ 17,333** | **Flood Mitigation Plan** | **Approved by FEMA on 12-19-01** |
| **1998** | **Eau Claire County** | **Eau Claire** | **$ 8,433** | **Flood Mitigation Plan** | **Approved by FEMA on 8-22-00** |
| **1998** | **Jefferson County** | **Jefferson** | **$ 15,239** | **Flood Mitigation Plan** | **Approved by FEMA on 2-13-02** |
| **1998** | **Darlington, City** | **Lafayette** | **$420,001** | **Floodproofing of 1 commercial structure and partial funding for acquisition of 1 commercial structure (funded under FMA-00 also)** | **Local match was provided by a global match under DR-994** |
| **1998** | **Jefferson County** | **Jefferson** | **$115,332** | **Acquisition of 2 residential structures (supplemented FEMA 994 funds)** | **Local match provided by a global match under DR-912 and DR-994** |
| **1999** | **Milwaukee, City** | **Milwaukee** | **$ 5,000** | **Flood Mitigation Plan** | **Approved by FEMA on 12-20-02** |
| **1999** | **Brookfield, City** | **Waukesha** | **$ 10,000** | **Flood Mitigation Plan** | **Approved by FEMA on 1-14-02** |
| **1999** | **Kenosha County** | **Kenosha** | **$166,800** | **Acquisition of 2 residential structures** | **Local match provided by a global match under DR-1238** |
| **2000** | **No. Fond du Lac, Vil** | **Fond du Lac** | **$ 12,743** | **Flood Mitigation Plan** | **Approved by FEMA on 9-11-03** |
| **2000** | **Oak Creek, City** | **Milwaukee** | **$ 5,000** | **Flood Mitigation Plan** | **Conditionally approved.** |
| **2000** | **Brookfield, City** | **Waukesha** | **$ 46,267** | **Acquisition of 1 repetitive loss property (Supplemented FMA 2001 funds)** | |
| **2000** | **Darlington, City** | **Lafayette** | **$151,213** | **Acquisition of 1 commercial repetitive loss structure. (Supplemented FMA 1998 funds)** | **Local match was provided by a DNR Urban Rivers Grant** |
| **2001** | **Brookfield, City** | **Waukesha** | **$140,219** | **Acquisition of 1 repetitive loss property (Supplemented FMA 2000 funds)** | |
| **2001** | **Eau Claire, City** | **Eau Claire** | **$ 19,009** | **Flood Mitigation Plan** | **Approved by FEMA on 12-26-02** |
| **2001** | **Kenosha County** | **Kenosha** | **$ 53,448** | **Acquisition of 1 residential structure** | **Continuation of Fox River project** |
| **2002** | **Dane County** | **Dane** | **$ 18,400** | **Flood Mitigation Plan** | **Conditionally approved** |
| **2002** | **Darlington, City** | **Lafayette** | **$ 152,167** | **Acquisition and demolition of Darlington Firehouse** | **Located in the Pecatonica River floodplain** |
| **2003** | **No. Fond du Lac, Vil** | **Fond du Lac** | **$ 120,400** | **Acquisition of 1 residential structure** | |
| **2003** | **State of WI** | **All** | **$ 16,320** | **Technical support for applicants** | |
| **2005** | **La Crosse, City** | **LaCrosse** | **$ 17,865** | **Flood Mitigation Plan** | **Part of County plan. Forwarded to FEMA 2/08.** |
| **2005** | **Jefferson County** | **Jefferson** | **$ 147,200** | **Acquisition.** | **Complete.** |
| **2005** | **WI Emergency Mgmt.** | **All** | **$ 14,548** | **TA to implement & administer FMA program.** | **Personnel, Equip. & Review Appraiser** |
| **2006** | **Clark County** | **Clark** | **$ 13,817** | **Flood Mitigation Plan info added.** | **Approved by LEPC.** |
| **2006** | **Kenosha County** | **Kenosha** | **$ 0** | **---** | **Request FEMA to withdraw funds because negotiations failed.** |

FUNDED MITIGATION PROJECTS AND PLANS – FLOOD MITIGATION ASSISTANCE PROGRAM, continued

| Year | Community | County | Cost FMA Funds | Project Description | Comments |
|---|---|---|---|---|---|
| **2007** | **Kenosha County** | **Kenosha** | **$ 180,441** | **Acquisition. Demo next quarter.** | **Expect completion by 9/30/08.** |
| **2007** | **WI Emergency Mgmt.** | **All** | **$ 5,360** | **Technical assistance to subgrantees.** | **Salary, travel and supplies.** |

**12 Projects, 13 Plans and 3 Technical: Total of $2,044,421 ($1,533,316 or 75% federal funds) in FMA Funds**

## FUNDED MITIGATION PROJECTS AND PLANS – PRE-DISASTER PROGRAM

| Year | Community | County | Cost PDM Funds | Project Description | Comments |
|---|---|---|---|---|---|
| 2002 | Adams County | Adams | $ 40,398 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Bayfield County | Bayfield | $ 44,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Chippewa County | Chippewa | $ 38,596 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Clark County | Clark | $ 20,736 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Crawford County | Crawford | $ 40,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Darlington, City | Lafayette | $ 14,700 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Elm Grove, Village | Waukesha | $ 4,369 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Fond du Lac County | Fond du Lac | $ 73,154 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Green County | Green | $ 10,406 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Kenosha County | Kenosha | $ 24,200 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Milwaukee, City | Milwaukee | $ 23,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | No. Fond du Lac, Vil | Fond du Lac | $ 13,027 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Oneida County | Oneida | $ 28,465 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Rock County | Rock | $ 17,600 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Sheboygan, City | Sheboygan | $ 30,156 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Trempealeau County | Trempealeau | $ 64,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Vernon County | Vernon | $ 63,256 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | Winnebago County | Winnebago | $ 58,849 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2002 | State of Wisconsin | All | $ 15,520 | State Management Costs | Workshops conducted and training materials distributed. |
| 2002 | Mississippi RPC | All | $ 50,000 | All-Hazards Mitigation Planning Guidance | |
| 2003 | Barron County | Barron | $ 31,619 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Lincoln County | County | $ 25,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Marathon County | Marathon | $ 67,283 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Milwaukee County | Milwaukee | $ 27,927 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Pierce County | Pierce | $ 48,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Sauk County | Sauk | $ 12,750 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | Wood County | Wood | $ 44,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| 2003 | State of WI | All | $ 32,834 | State Management Costs | Conduct workshops & distribute materials |
| C2003 | Calumet County | Calumet | $ 30,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| C2003 | Florence County | County | $ 45,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| C2003 | Ho-Chunk Nation | Tribal | $ 79,990 | All-Hazards Mitigation Plan | Prelim approval by FEMA. Ho-Chunk is providing 31.08% of cost |
| C2003 | Kewaunee County | County | $ 36,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| C2003 | Lac du Flambeau | Tribal | $ 40,000 | All-Hazards Mitigation Plan | Plan has been approved. |
| C2003 | State of WI | All | $ 176,812 | State Management Costs | On schedule. |
| 2003C | Barron County | Barron | $ 138,600 | Construction. | Completed, closed by FEMA. |
| 2003C | Deer Park, Village | St. Croix | $ 109,880 | Acquisition/demolition | Project complete. |

## FUNDED MITIGATION PROJECTS AND PLANS – PRE-DISASTER PROGRAM, continued

| Year | Community | County | Cost PDM Funds | Project Description | Comments |
|---|---|---|---|---|---|
| 2003C | Kenosha County | Kenosha | $ 390,073 | Acquisition/demolition. | Project complete |
| 2003C | Middleton, City | Dane | $ 17,212 | Stormwater project | Project complete |
| 2003C | Portage County | Portage | $ 787,653 | Bury overhead power lines | Project complete |
| 2003C | Thiensville, Village | Ozaukee | $2,308,620 | Bury overhead power lines | Project underway |
| 2005C | Brown County | Brown | $ 99,267 | All-Hazards Mitigation Plan | Plan Approved. |
| 2005C | Buffalo County | Buffalo | $ 60,000 | All-Hazards Mitigation Plan | Final stages |
| 2005C | Dunn County | Dunn | $ 40,000 | All-Hazards Mitigation Plan | Plan Approved. |
| 2005C | Forest County | Forest | $ 30,000 | All-Hazards Mitigation Plan | Plan forwarded to FEMA |
| 2005C | Iron County | Iron | $ 53,536 | All-Hazards Mitigation Plan | Plan approved |
| 2005C | Jackson County | Jackson | $ 60,000 | All-Hazards Mitigation Plan | Plan approved |
| 2005C | Jefferson County | Jefferson | $ 60,000 | All-Hazards Mitigation Plan | Plan approved |
| 2005C | Lacrosse County | Lacrosse | $ 80,000 | All-Hazards Mitigation Plan | Plan approved |
| 2005C | Lafayette County | Lafayette | $ 21,166 | All-Hazards Mitigation Plan | Under development |
| 2005C | Langlade County | Langlade | $ 30,000 | All-Hazards Mitigation Plan | Plan approved |
| 2005C | Manitowoc County | Manitowac | $ 95,132 | All-Hazards Mitigation Plan | Plan needs revisions |
| 2005C | Marinette County | Marinette | $ 50,000 | All-Hazards Mitigation Plan | Plan needs revisions |
| 2005C | Ozaukee County | Ozaukee | $ 50,000 | All-Hazards Mitigation Plan | Final stages |
| 2005C | Sheboygan County | Sheboygan | $ 53,000 | All-Hazards Mitigation Plan | Plan forwarded to FEMA |
| 2005C | Waupaca County | Waupaca | $ 45,224 | All-Hazards Mitigation Plan | Under development |
| 2005C | Waushara County | Waushara | $ 47,000 | All-Hazards Mitigation Plan | Plan forwarded to FEMA/revisions required |
| 2005C | Darlington, City | Lafayette | _ | Acquisition/demolition | Project owner rejected offer, Funds deobligated. |
| 2005C | State of WI | All | $ 189,091 | Planning grant for state structure inventory | Underway |
| 2005C | State of WI | All | $ 150,321 | Statement Management costs | Ongoing |
| 2006C | St. Croix County | St. Croix | $ 42,798 | All-Hazards Mitigation Plan | Plan approved |
| 2006C | Washburn County | Washburn | $ 44,000 | All-Hazards Mitigation Plan | Under development |
| 2006C | Shawano County | Shawano | $ 69,613 | All-Hazards Mitigation Plan | Under development |
| 2006C | Darlington, City | Lafayette | $ 65,000 | Acquisition/demolition | Project Complete. |
| 2006C | WEM | All | $ 22,141 | State Management costs | Ongoing |
| 2007C | Dane County | Dane | $ 234,820 | All-Hazards Mitigation Plan Update | Underway |
| 2007C | Marquette County | Marquette | $ 35,470 | All-Hazards Mitigation Plan | Plan forwarded to FEMA |
| 2007C | Monona, City | Dane | $ 47,560 | All-Hazards Mitigation Plan | Under development |
| 2007C | Oconto County | Oconto | $ 89,250 | All-Hazards Mitigation Plan | Under development |
| 2007C | Outagamie | Outagamie | $ 95,720 | All-Hazards Mitigation Plan | Under development |
| 2007C | UW River Falls | Pierce | $ 34,714 | All-Hazards Mitigation Plan | Under revision |
| 2007C | Walworth County | Walworth | $ 45,000 | All-Hazards Mitigation Plan | Under development |
| 2007C | Waukesha | Waukesha | $ 63,976 | All-Hazards Mitigation Plan | Under development |
| 2007C | WEM Plan Update | All | $ 402,574 | State Hazard Mitigation Plan Update | HAZUS statewide flood risk assessment completed. |

## FUNDED MITIGATION PROJECTS AND PLANS – PRE-DISASTER PROGRAM, continued

| Year | Community | County | Cost PDM Funds | Project Description | Comments |
|---|---|---|---|---|---|
| 2007C | WEM | All | $ 70,092 | State Management costs | Ongoing |
| 2008C | Adams County | Adams | $ 40,000 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Clark County | Clark | $ 31,895 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Darlington, City of | Lafayette | $ 20,000 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Fond du Lac County | Fond du Lac | $ 45,832 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Oneida County | Oneida | $ 30,000 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Racine County | Racine | $ 40,000 | All Hazards Mitigation Plan Update | Under development |
| 2008C | Winnebago County | Winnebago | $ 21,290 | All Hazards Mitigation Plan Update | Under development |
| 2008C | WEM | All | $ 23,897 | State Management Costs | Ongoing |

**66 Plans, 8 Projects, 6 Technical Grants: Total of $7,953,064 ($5,964,798) in PDM Funds**

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – COMMUNITY FACILITIES

| Applicant | Contract # | Award | Project Description |
|---|---|---|---|
| Adams County | FY94-0096 | $255,000 | Construct storm sewer to serve Front, Main, North and Roberts Streets. |
| City of Appleton | FY94-0075 | $ 15,225 | Relocate main sewer and stabilize slope to prevent mudslide in Allicia Park. |
| City of Augusta | FY95-0035 | $ 59,555 | Install storm sewer. |
| City of Baraboo | FY95-0027 | $339,797 | Slope stabilization, storm sewers, reconstruct well and install pump house controls. |
| Town of Baraboo | FY95-0022 | $172,000 | Stabilize slopes where flood-induced erosion threatens homes. |
| City of Black River Falls | FY95-0030 | $500,000 | Supplemental levee. Infrastructure replacement. |
| City of Black River Falls | FY94-0081 | $623,063 | Flood Control-reconstruct levee and add floodwall to dam. |
| City of Blair | FY97-0005 | $109,173 | Flood mitigation project. |
| City of Blair | FY94-0092 | $190,066 | Flood-related sewer and street repair. |
| Clark County | FY94-0093 | $ 27,935 | Repair flood damaged road and highway washouts, trails and bridges, dams and dikes, campgrounds, parks and facilities. |
| Crawford County | FY95-0001 | $322,600 | Reconstruct salt storage facility and extend water main to the Olson subdivision of Soldier's Grove. |
| City of Darlington | FY95-0037 | $355,584 | Professional project management for business relocation, acquisition and demolition. Floodproof 41 downtown businesses. |
| Village of Deforest | FY95-0039 | $495,000 | Install storm sewer. Expand detention ponds. |
| Town of Dekorra | FY95-0034 | $ 92,146 | Wisconsin Lake shoreline repair and roadwork. |
| Village of Ferryville | FY94-0090 | $ 34,300 | Provide sanitary sewer to residents west of the Burlington Northern Railroad. |
| Town of Foster | FY94-0062 | $ 44,178 | Replace culvert and roadway. |
| La Crosse County | FY94-0079 | $ 69,264 | Construct sediment trap, raise 3,700 feet of road 6 inches and pave County Highway ZN. |
| Village of Lake Delton | FY94-0085 | $ 6,331 | Dredge Lake Delton and stabilize slope in a ravine (administration only). |
| Village of Lyndon Station | FY95-0040 | $277,500 | Install storm sewer. |
| City of Clauston | FY94-0088 | $ 57,470 | Repair drainage ditch, roadway and culverts at the intersection of the Henry's subdivision drainage ditch, Elm St. and Marshall Dr. |
| Village of Menomonee Falls | FY99-0504 | $171,261 | CDBG DRA grant to acquire two of ten floodplain properties (land and buildings). |
| Portage County | FY95-0032 | $181,000 | Homeowner assistance, street repairs and repair of Jordan Dam. |
| City of Prairie du Chien | FY95-0041 | $266,175 | Acquisition and relocation from floodplain and some housing projects. |
| Village of St. Nazianz | FY01-0242 | $400,000 | Clean-up, emergency relief and security measures related to the severe storms and high winds that occurred May 12, 2000. |
| City of River Falls | FY95-0033 | $374,000 | Repair road embankment/retaining wall along North main Street. |
| City of Shell Lake | FY04-10234 | $750,000 | Construction of a drainage pipe to lower lake levels to relieve the flooding. |
| Village of Siren | FY02-0225 | $500,000 | Emergency clean up, infrastructure and streetscape repair and replacement. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – COMMUNITY FACILITIES, continued

| Applicant | Contract # | Award | Project Description |
|---|---|---|---|
| Town of Wheatland | FY94-00080 | $112,000 | Reconstruct one mile of road on Will Kumlin Road. |
| Village of Oakfield | FY97-0291 | $ 72,000 | Purchase and demolish Oakfield Middle School destroyed in 7/18/96 tornado. Construct stormwater detention basin and park in its place. |

**29 Projects: Total of $6,872,623 in CDBG Public Facilities Funds**

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| Fond du Lac County | July 18, 1996 | 87039 | 9nn/25/96-6/30/98 | $500,000 | Rehabilitation of damaged housing units, the demolition and clearance of uninhabitable housing units and construction of replacement housing units. |
| Village of Germantown | June 21, 1997 | 87195.02 | 11/1/97-6/30/99 | $453,750 | Rehabilitation of damaged housing units, the demolition and clearance of uninhabitable housing units and construction of replacement housing units. |
| Town of Ellsworth | June 26, 1998 | 87195.25 | 10/16/98-6/30/99 | $ 36,457 | Private Bridge Replacement |
| Rock County | August 4, 1998 | 87195.26 | 11/16/98-3/31/00 | $495,000 | Rehabilitation of damaged housing units, replacement of wells/septic systems and water/ sewer lines, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Door County | August 23, 1998 | 88195.01 | 11/16/98-3/31/00 | $495,000 | Rehabilitation of damaged housing units, replacement of wells and septic systems and new construction to replace lost units. |
| Sheboygan County | August 6, 1998 | 88195.02 | 11/16/98 - 3/31/01 | $495,000 | Rehabilitation of damaged housing units, replacement of water/sewer lines as well as wells/septic systems and the demolition and clearance of hazardous structures. |
| Town of Wheatland | April 23, 1999 | 89195.01 | 7/1/99 - 6/30/01 | $500,000 | Acquire/demolish homes/hazardous structures and provide relocation assistance to homeowners. |
| Kenosha County | June 14-20, 1999 | 89195.02 | 7/14/99 - 3/31/01 | $648,000 | Acquire/demolish homes/hazardous structures and provide relocation assistance to homeowners. |
| Village of Oregon | May 16-17, 1999 | 89195.03 | 9/9/99 - 3/31/01 | $500,000 | Acquire/demolish homes/hazardous structures and provide relocation assistance to homeowners. |
| Florence County | July 15-16, 1999 | 89195.04 | 10/13/99 - 3/31/01 | $352,000 | Rehabilitation of damaged housing units. |
| Ashland County | July 1, 1999 | 89195.05 | 11/8/99 - 6/30/01 | $500,000 | Rehabilitation of damaged housing units, replacement of wells and septic systems, the demolition and clearance of hazardous structures, new construction to replace lost units OR acquisition/relocation. |
| Manitowoc County | May 12, 2000 | 80195.01 | 8/18/00 - 12/31/01 | $249,700 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water and sewer lines or wells and septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM, continued

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| City of Baraboo | June-July 2000 | 80195.02 | 11/8/00 - 3/31/02 | $137,500 | Rehabilitation of damaged housing units and the replacement of water/sewer lines and well/septic systems. |
| Grant County | May-June 2000 | 80195.03 | 12/1/00 - 3/31/02 | $363,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Kenosha County | May-July 2000 | 80195.04 | 11/8/00 - 3/31/02 | $250,000 | Acquisition/relocation and the demolition and clearance of hazardous structures and acquisition. |
| Vernon County | July 9-10, 2000 | 80195.05 | 11/8/00 - 3/31/02 | $220,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Chippewa County | Sept. 11, 2000 | 80195.06 | 12/1/00 - 3/31/02 | $110,000 | Rehabilitation of damaged housing units and the replacement of water/sewer lines and wells/septic systems. |
| City of Prairie du Chien | April 10 –2 July 6, 2001 | 81195.01 | 8/16/01-3/31/03 | $335,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Burnett County | June 18, 2001 | 81195.02 | 8/16/01-3/31/03 | $750,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Washburn County | June 18, 2001 | 81195.03 | 8/16/01-3/31/03 | $250,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Village of Siren | June 18, 2001 | 81195.04 | 8/16/01-3/31/03 | $250,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM, continued

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| Rusk County | June 11, 2001 | 81195.05 | 10/8/01-3/31/04 | $720,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Trempealeau County | April 10- July 6, 2001 | 81195.06 | 10/8/01-3/31/03 | $ 41,375 | Acquisition/relocation and the demolition and clearance of hazardous structures and acquisition. |
| Town of Kronenwetter | April 18, 2002 | 83011.01 | 7/8/02-12/31/03 | $110,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Marinette County | June 21-25, 2002 | 83011.02 | 10/14/02-3/31/04 | $220,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Portage County | June 21-25, 2002 | 83011.03 | 10/30/02-12/31/03 | $110,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| City of Ladysmith | Sept 2-6, 2002 | 83001.04 | 10/30/02-3/31/04 | $500,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Taylor County | Sept 2-6, 2002 | 83011.05 | 10/30/02-12/31/03 | $120,438 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Village of Osceola | Sept 2-6, 2002 | 83011.06 | 12/27-02-6/30/04 | $187,000 | Acquisition/relocation and the demolition and clearance of hazardous structures and acquisition. |
| City of Shell Lake | June 6, 2003 | Contract pending | | | Acquisition/relocation and the demolition and clearance of hazardous structures and acquisition. |
| City of Two Rivers | March 12, 2004 | EAP #04-01 | 4/16/04-12/31/04 | $110,000 | Rehabilitation of homes damaged by sewer back up caused by broken water main. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM, continued

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| City of Antigo | March 27, 2004 | EAP #04-02 | 5/5/04-12/31/04 | $165,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Marinette County | March 27, 2004 | EAP #04-01 | 6/16/04-12/31/04 | $220,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Village of Randolph | May 21, 2004 | EAP #05-01 | 7/27/04-6/30/05 | $385,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Kenosha County | May 21, 2004 | EAP #05-06 | 12/23/04-6/30/06 | $109,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| City of Berlin | May 21, 2004 | EAP #05-03 | 9/1/04-12/31/05 | $356,314 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Green Lake County | May 21, 2004 | EAP #05-04 | 9/20/04-9/30/05 | $275,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Grant County | May 21, 2004 | EAP #05-05 | 9/20/04-3/31/06 | $297,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Adams County | May 21, 2004 | EAP #06-01 | 7/20/05-6/30/06 | $220,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM, continued

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| Richland/Vernon Counties | August 18,2005 | EAP #06-02 | 10/3/05-12/31/06 | $821,810 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Columbia County | June 6, 2006 | EAP #06-03 | 9/6/06-12/31/07 | $75,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Village of Viola | August 18, 2005 | FY06-12097 | 10/12/05-12/31/06 | $600,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Langlade County Housing | June 7, 2007 | CDBG-EAP #07-01 | 8/30/07-12/31/08 | $110,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Town of Riverview-Housing | June 7, 2007 | CDBG-EAP #07-02 | 8/30/07-12/31/08 | $466,620 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Town of Riverview-Fire Station | June 7, 2007 | EMER FY07-18182 | 9/10/07-12/31/08 | $180,407 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Grant County (Bagley) | July 18, 2007 | CDBG-EAP #07-03 | 10/1/07-12/31/08 | $401,500 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Crawford County | August 18-31, 2007 | CDBG-EAP #07-08 | 11/20/07-12/31/08 | $216,700 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |

## FUNDED MITIGATION PROJECTS IN STATE
## COMMUNITY DEVELOPMENT BLOCK GRANT – EMERGENCY ASSISTANCE PROGRAM, continued

| Grantee Name | Date of Disaster | Contract # | Contract Period | Award Amount | Project Description |
|---|---|---|---|---|---|
| Green County | August 18-31, 2007 | CDBG-EAP #07-10 | 12/20/07-12/31/08 | $275,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Kenosha County | August 18-31, 2007 | CDBG-EAP #07-11 | 12/20/07-12/31/09 | $300,000 | Acquisition/Demolition |
| LaCrosse County | August 13-31, 2007 | CDBG-EAP #07-04 | 11/20/07-12/31/08 | $320,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Richland County | August 18-31, 2007 | CDBG-EAP #07-06 | 11/20/07-12/31/08 | $467,500 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Vernon County | August 13-31,2007 | CDBG-EAP #07-05 | 11/20/07-12/31/08 | $440.000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Chaseburg Village | August 18-31, 2007 | CDBG-EAP #07-09 | 11/20/07-12/31/08 | $377,000 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |
| Gays Mills | August 18-31, 2007 | CDBG-EAP #07-07 | 11/29/07-12/31/08 | $459,900 | Rehabilitation of damaged housing units, replacement of housing units, replacement of water/sewer lines or wells/septic systems, the demolition and clearance of hazardous structures and acquisition/relocation. |

**53 PROJECTS: Total of $17,547,971 in CDBG – EAP Funds**

## FUNDED MITIGATION PROJECTS IN STATE
## MUNICIPAL FLOOD CONTROL-DEPARTMENT OF NATURAL RESOURCES

| Grantee Name: | Grant No. | Project Name: | Award Amount: | Grant Period: |
|---|---|---|---|---|
| City of Chippewa Falls | MFC-09211-A-02 | Allen Park Property Acquisition/Downtown Entrance | $147,200.00 | 3/1/02-6/30/03 |
| City of Chippewa Falls | MFC-09211-L-02 | LAG Portion - Allen Park Property Acquisition/Downtown Entrance | $ 32,352.00 | 3/1/02-6/30/031 |
| City of Darlington | MFC-33216-A-02 | Firehouse Property Acquisition | $273,200.00 | 3/1/02-6/30/03 |
| Village of Fox Point | MFC-40126-A-02 | Dean Road Flood Attenuation Property Acquisition | $490,190.00 | 3/1/02-12/31/03 |
| Milwaukee Metropolitan Sewerage District | MFC-40702-A-02-ROOT | Root River Flood Management Property Acquisition | $785,000.00 | 3/1/02-2/28/05 |
| City of Mequon | MFC-45255-A-02 | Trinity Creek Easement Acquisition | $200,000.00 | 3/1/02-12/31/03 |
| City of Shell Lake | MFC-65282-A-02 | Flood Relief Discharge Acquisition | $138,000.00 | 3/1/02-6/30/03 |
| City of Shell Lake | MFC-65282-L-02 | LAG - Administrative Support Grant | $ 21,000.00 | 3/1/02-2/28/05 |
| Village of Slinger | MFC-66181-A-02 | Tennies/Glen Hills Stormwater Basin Acquisition | $ 80,831.00 | 3/1/02-2/28/05 |
| Village of Elm Grove | MFC-67122-A-02 | Underwood Creek Flood Control Property Acquisition | $744,678.00 | 3/1/02-8/31/04 |
| City of Brookfield | MFC-67206-A-02-UNDER | Underwood Creek Flood Storage Property Acquisition | $257,004.00 | 3/1/02-6/30/03 |
| Town of Menasha | MFC-70008-A-02 | Palisades Drainage Easement Acquisition | $600,000.00 | 3/1/02-2/28/06 |
| City of Oshkosh | MFC-70266-A-02 | Murdock Avenue Detention Basin Easement Acquisition | $350,000.00 | 3/1/02-6/30/04 |
| Village of Cassville | MFC-22111-04 | Stormwater/Floodwater Control Structures | $ 50,135.40 | 12/1/04-12/31/06 |
| City of Monroe | MFC-23251-04-30th | 30th Street Acquisition | $369,442.50 | 1/1/04-12/31/08 |
| City of Monroe | MFC-23251-04-VILLA | Villa East Detention Basin | $ 68,180.00 | 1/1/04-12/31/05 |
| Village of Mount Pleasant | MFC-51008-04 | Pike River Restoration | $394,040.00 | 1/1/04-12/31/05 |
| Village of Bruce | MFC-54106-04 | Chippewa River Flood Abatement | $283,423.90 | 1/1/04-12/31/06 |
| City of Oshkosh | MFC-70266-04-ANCHARA | Ancharage Basin Relief Channel Construction | $800,000.00 | 1/1/04-12/31/06 |
| Town of Paris | MFC-22046-05 | WEST LANE PROPERTY ACQUISITION | $ 45,780.00 | 9/1/05-8/31/07 |
| City of Darlington | MFC-33216-06 | Burns Property Acquisition Project | $ 62,500.00 | 1/1/06-12/31/07 |
| City of Wauwatosa | MFC-40291-06 | Muellner Building & Parks Dept. Building Floodproofing | $800,000.00 | 1/1/06-12/31/08 |
| City of Prescott | MFC-47271-06 | Prescott Flood Control | $222,233.00 | 1/1/06-12/31/08 |
| City of Beloit | MFC-53206-06 | Rock River Parking Deck Removal | $800,000.00 | 1/1/06-12/31/07 |
| City of New Berlin | MFC-67261-06 | U-314 Fullerton Avenue Property | $147,070.00 | 1/1/06-12/31/07 |
| City of Brookfield | MFC-67206-06 | Calhoun Dam Removal & Channel Restoration | $207,922.50 | 12/15/06-12/15/08 |
| City of Appleton | MFC-08201-08 | Northland Creek Floodplain Lowering and Channel Restoration | $200,000.00 | 5/1/08-4/30/10 |
| Village of Muscoda | MFC-22153-08 | Balmoral Dam Removal | $196,350.00 | 5/1/08-4/30/10 |
| Town of Wheatland | MFC-30016-08 | Fox River Flood Mitigation Program | $200,000.00 | 5/1/08-4/30/10 |

| | | | | |
|---|---|---|---|---|
| Village of Whiting | MFC-49191-08 | Sherman Avenue Drainage Improvements | $125,000.00 | 5/1/08-4/30/10 |
| Village of Mount Pleasant | MFC-51151-08 | Pike River Restoration-Phase 4B (Municipal Flood Control Grant Portion) | $200,000.00 | 5/1/08-4/30/10 |
| Town of Fulton | MFC-53012-08 | Arnold Trust Property | $200,000.00 | 5/1/08-4/30/10 |
| City of Oshkosh | MFC-70266-08 | Baldwin Basin Drainage Improvements | $200,000.00 | 5/1/08-4/30/10 |
| City of Chippewa Falls | MFC-09211-08 | Chippewa Falls Riverfront Development | $200,000.00 | 5/15/08-4/30/10 |
| Village of Oregon | MFC-13165-08 | Florida/N. Burr Oak Property Acquisition | $200,000.00 | 5/15/08-5/14/10 |
| City of LaCrosse | MFC-32246-08 | Ebner Coulee Floodway Project | $166,063.00 | 6/15/08-6/14/10 |
| Village of Gays Mills | MFC-12131-08 | Gays Mills Flood Recovery | $128,590.00 | 6/16/08-6/15/10 |
| Village of Chaseburg | MFC-62111-08 | Chaseburg Cook Creek Clearance | $278,592.50 | 6/16/08-6/15/10 |

**38 Projects: Total of $10,664,778 in MFC Funds**

# APPENDIX E

# REPETITIVE LOSS REPORT

# State of Wisconsin Repetitive Loss Report

April 2004

Prepared by:

FEMA Region V
536 South Clark Street
Chicago, IL 60605

and

Wisconsin Emergency Management
2400 Wright Street - P.O. Box 7865
Madison, WI 53707-7865

# EXECUTIVE SUMMARY

FEMA Region V provided the Wisconsin Emergency Management (WEM) with an updated copy of the April 2004 Federal Emergency Management Agency (FEMA) Repetitive Loss Database for Wisconsin. WEM collated the database with its data on mitigation to produce the most accurate depiction of the current status of repetitive loss properties in Wisconsin.

The State of Wisconsin Repetitive Loss Report was developed to serve as a written summary of the communities with repetitively flooded properties and to use as an attachment to the Wisconsin State Hazard Mitigation Plan. Communities with a repetitive loss property were contacted to verify the current address, property owner and the building status of each property. The database findings include a brief discussion of the 407 repetitive loss properties, the repetitive loss communities and the success of the mitigation projects through the Hazard Mitigation Grant Program (HMGP), the Flood Mitigation Assistance (FMA) program, the Pre-disaster Mitigation Program (PDM) and other state and local hazard mitigation efforts.

The updated database shows that 71 of the repetitive loss properties (17.45%) are currently in the process of or have been removed or protected from the threat of flooding by acquisition, elevation, floodproofing, levees or other structural measures. Of these 71 properties, 47 (11.55% of all RLP) were acquired and 8 (1.97% of all RLP) were floodproofed. In addition there are 16 properties (3.93%) in the process of flood mitigation. There are 320 properties (78.62%) that remain floodprone and 68 NFIP communities with repetitive loss properties. The NFIP list contained incomplete addresses and owner information, which caused updated information on 16 properties (3.93%) to remain unknown. Since those properties were included on the list, they were considered as part of the NFIP communities but no mitigation status was inferred.

Acquisition was the most common choice of mitigation by the majority of communities. The success of acquisitions is most evident in communities with widespread damage such as Kenosha County, the City of Wauwatosa and the Village of Brown Deer. In these communities acquisitions eliminated a majority of the repetitive loss properties and reduced the risk of future loss. The implementation summary suggests using the updated database as a resource to prioritize mitigation projects for future HMGP, PDM, FMA and other program grants. It is also suggested that the repetitive loss data become part of the Wisconsin Hazard Mitigation Team's (WHMT) criteria in funding mitigation projects.

## TABLE OF CONTENTS

**LIST OF TABLES**

# ACRONYMS

| | |
|---|---|
| FEMA | Federal Emergency Management Agency |
| FIA | Federal Insurance Administration |
| FMA | Flood Mitigation Assistance Program |
| HMGP | Hazard Mitigation Grant Program |
| NFIP | National Flood Insurance Program |
| PDM | Pre-Disaster Mitigation Program |
| PIN | Parcel Identification Number |
| RLP | Repetitive Loss Property |
| RLR | Repetitive Loss Report |
| WEM | Wisconsin Emergency Management |

# I. INTRODUCTION

## A. Purpose

The Wisconsin Hazard Mitigation Repetitive Loss Report, referred to as the Repetitive Loss Report (RLR), is intended to serve as an attachment to the State of Wisconsin Hazard Mitigation Plan. The RLR provides information, by community, on the status of repetitive loss properties in Wisconsin. The report can be used as a floodplain management tool and to provide information to communities for flood mitigation grants administered by WEM.

## B. Framework

FEMA, through the Federal Insurance Administration (FIA), collects data on each property in the United States when a flood insurance claim is made. When more than one flood insurance claim of at least $1,000 is made within a ten-year period, the property is classified as a repetitive loss property. Information on these repetitive loss properties is collected for each state and compiled in the FEMA repetitive loss database. However, the information collected by FIA is not standardized and has errors that require correction through the methodology described in Section II.

## C. Intent

Under federal disaster declaration FEMA-1432-DR-WI, a staff person was provided by FEMA to update the existing FEMA repetitive loss database with accurate information on each of the 407 properties listed and to assist the state in identifying those communities that warrant implementation of mitigation measures. The updated repetitive loss database is the source of information for this report. The RLR can serve as a statewide plan for addressing repetitive loss properties. Identifying communities, which have the highest repetitive loss, allows WEM to rank the repetitive loss properties and make conclusive funding decisions for mitigation projects. The success of these projects reduces the financial strain placed on local, state and federal resources by eliminating future flood losses.

## II. METHODOLOGY

### A. Organization

The methodology used for data collection consisted of contacting community officials to obtain the most current information for properties in their jurisdiction. Information was also acquired from Public Property Record databases available online. The updated information was then entered into the Wisconsin database. Many of the communites were contacted by telephone since most communities with repetitive loss properties in Wisconsin have only 1 or 2 repetitive loss properties. The information requested included the updated owner's name, property address, building status, mitigation status and parcel identification number (PIN). The PIN was requested because several of the repetitive loss properties are located in rural areas and have a rural route or other non-descript address. The PIN provides an exact location whereas an incomplete address, aside from being vague, can misdirect the search and lead to inaccurate or duplicate information.

The property verification was kept brief so community officials were not overburden with time consuming, in-depth requests. This proved to be very effective in getting a quick response from many communities while providing the state with relevant updated information.

### B. Building Status Options

There were six (6) building status options provided to the community official. The official was asked to select only one option per property so that the property's building status could be easily categorized. The options are listed below.

1. **Bought out or relocated** - Structure has been acquired or relocated out of the floodplain using a federal, state or local flood mitigation program. Property is now open space.

2. **Approved mitigation project** - Structure is in a mitigation project that has been approved for funding but has not yet begun.

3. **Elevated or floodproofed** - Structure is no longer subject to repetitive flood damages.

4. **Repaired but floodprone-same owner** - Structure has been repaired and re-occupied. Structure is still subject to flooding.

5. **Repaired but floodprone-new owner** - Structure has been repaired and re-occupied with a new owner. Structure is still subject to flooding.

X. **No information** - If no updated information was available on the properties, they were identified as "X" on the database.

C. Data Collection

Data collection was accomplished through a telephone call made to the community official and through Public Property Records available online. The updated community information received was entered in the database. Changes to the database were finalized after all the communities were contacted and the findings were summarized in this Plan of Action.

## III. DATA COLLECTION FINDINGS

### A. Number of Repetitive Loss Properties and Duplicate Properties

The hard copy of the FEMA database used in this report was printed in August 2003 and identified 410 repetitive loss properties statewide in Wisconsin. Examining the database revealed 3 duplications, reducing the current total of properties to 407.

### B. Repetitive Loss Property Building Status

The Wisconsin database identifies that 47 (11.55%) of the 407 statewide repetitive loss properties have been removed from the threat of flooding by acquisition. There are 16 repetitive loss properties (3.93%) that have been floodproofed and another 8 (1.97%) that are in the process of flood mitigation through acquisition. Therefore, 71 repetitive loss properties (17.45%) are not or will no longer be vulnerable to flooding by the end of 2005. Generally, acquisition is preferred over floodproofing because acquisition completely removes structures from the floodplain, eliminating flood risk to the property and its owners. Floodproofing reduces the risk to repetitive loss structures while allowing the structures to stay in place. This alternative is preferable in some circumstances involving historical or cultural reasons, but is only possible if the property is protected above the 100-year flood elevation.

Table 1. Repetitive Loss Property Building Status

| Building Status Description | Building Status Code | Number of Properties | Percent of Total |
|---|---|---|---|
| Bought Out (acquired) | 1 | 47 | 11.55% |
| Approved Mitigation Project | 2 | 16 | 3.93% |
| Elevated or Floodproofed | 3 | 8 | 1.97% |
| Floodprone-Same Owner | 4 | 252 | 61.91% |
| Floodprone-New Owner | 5 | 68 | 16.71% |
| No Information Available | X | 16 | 3.93% |
| Total | | 407 | 100.00% |

There are 320 (78.62%) repetitive loss properties where flood mitigation has not taken place. These properties are presumed to remain floodprone. Of these 320 properties, 68 have changed ownership. These new property owners form an important group, since they may be unaware of the real flood threat and the previous repetitive losses. The lack of flood experience or knowledge of the damage could deter them from participating in future mitigation projects, even though their probability of flooding is greater than others participating in the project who were not on the RLR.

Table 2. Repetitive Loss Property Building Status Grouped by Flood Risk

| Flood Risk | Building Status Description (Building Code) | Number of Properties | Percent of Total |
|---|---|---|---|
| Mitigated | Bought Out (1)<br>In Mitigation Project (2)<br>Elevated/Floodproofed (3) | 71 | 17.45% |
| Remain Floodprone | Same Owner (4)<br>New Owner (5) | 320 | 78.62% |
| Unknown | No Information Available (X) | 16 | 3.93% |
| Total | | 407 | 100.00% |

There are 16 (3.93%) properties that have no updated information available. This was usually due to incomplete or inadequate addresses and owner's names that were two or more decades old. These two factors made it virtually impossible for some community officials to track down the property.

C. Repetitive Loss Communities

The Wisconsin database identifies 68 communities with repetitive loss properties. The data collection showed that there were two main reasons for the discrepancies in several Wisconsin communities, which were incorrectly listed as a repetitive loss community in the NFIP database. Some of the properties were secondary or seasonal homes, but on the NFIP community list the owner's primary residence was given rather than the location of the flooded secondary home. Another reason for inaccurate data was a property being in the unincorporated portion of a county, but the original database listed the property in the nearest incorporated community. These errors have been corrected in the Wisconsin database and a discrepancy report was submitted to FEMA for corrections to the main NFIP database. It is important to note that communities in the Wisconsin database are listed and arranged as NFIP communities.

The updated list of communities with repetitive loss properties yields the following data. Most communities with repetitive loss properties in Wisconsin have five or less repetitive loss properties, as displayed in Table 3. The ten communities with the most repetitive loss properties and the status of those properties are described in Table 4.

Table 3. Repetitive Loss Communities
Grouped by Number of Repetitive Loss Properties

| Number of Repetitive Loss Properties | Number of Communities | Percent of Communities |
|---|---|---|
| 1-5 | 58 | 85.29% |
| 6-10 | 6 | 8.82% |
| 11-20 | 2 | 2.95% |
| 21-50 | 1 | 1.47% |
| 51+ | 1 | 1.47% |
| Total | 68 | 100.00% |

Table 4. Top Ten Communities
with Highest Number of Repetitive Loss Properties (RLP)

| Rank | Community Name | Total RLP | Building Status of Total RLP in Community (by building status codes) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 | X |
| 1 | Milwaukee, City | 214 | 7 | | | 156 | 48 | 3 |
| 2 | Wauwatosa, City | 21 | 7 | 11 | | 3 | | |
| 3 | Darlington, City | 11 | 3 | | 6 | 2 | | |
| 4 | Jefferson County | 11 | 3 | | | 5 | | 3 |
| 5 | Brown Deer, Village of | 10 | 10 | | | | | |
| 6 | Pierce County | 10 | 1 | | | 8 | 1 | |
| 7 | Kenosha County | 9 | 8 | | | 1 | | |
| 8 | Thiensville, Village of | 8 | | | | 7 | 1 | |
| 9 | Trempealeau County | 6 | | 2 | 1 | 3 | | |
| 10 | Brookfield, City of | 6 | 1 | | | 3 | 2 | |

D. Success of Post-Disaster Acquisitions

After the Midwest Flood of 1993 (FEMA-DR-994-WI), the HMGP had new resolve to address repetitive flood losses and unprecedented funding to accomplish the task. Although some acquisitions were planned prior to 1993, the size of the 1993 disaster guided future acquisition projects by refining Wisconsin's implementation policies and procedures for acquisition grants, specifically the HMGP. The success of the post-1993 acquisitions can be seen by an impressive reduction in repetitive losses.

Table 5. Success of Acquisition in Reducing Repetitive Losses

| Community | Repetitive Loss Properties (RLP) | Number & (%) of Local RLP Acquired | Number of RLP Remaining | Flood Risk of RLP Remaining | |
|---|---|---|---|---|---|
| | | | | Mitigated or in Process | Flood Prone |
| Brown Deer, Village | 10 | 10 (100%) | 0 | 0 | 0 |
| Kenosha County | 9 | 8 (88.9%) | 1 | 0 | 1 |
| Wauwatosa, City | 21 | 7 (33.3%) | 14 | 11 | 3 |
| Darlington, City | 11 | 9 (81.8%) | 2 | 0 | 2 |

The Village of Brown Deer and Kenosha County are two communities where acquisition projects have eliminated the majority of local repetitive loss properties. The Village of Brown Deer acquired 100 percent of its repetitive loss properties while Kenosha County acquired 88.9 percent. The City of Wauwatosa and the City of Darlington are two communities that have embraced flood mitigation through floodproofing as well as acquisition.

## IV. IMPLEMENTATION SUMMARY

### A. Funding Sources

The primary source of mitigation funds is the Section 404 Hazard Mitigation Grant Program (HMGP). The HMGP can provide local communities 87.5 percent (75 percent federal, 12.5 percent state) of the funds to implement immediate and long-term hazard mitigation measures following a federal disaster declaration. Communities must provide a non-Federal match of 12.5 percent either through a state agency or through a local funding source. HMGP projects are scored and selected by WEM on a variety of criteria that favor permanent and cost effective mitigation of flood damaged structures. Repetitive loss structures are excellent candidates for mitigation with HMGP funds.

The second source of flood mitigation funds is the FMA program. FMA is state-administered through WEM and is a cost-share program (75% federal, 25% local match) through which states and communities can receive grants for flood mitigation planning, technical assistance and mitigation projects. The overall goal of the FMA is to fund cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes and other NIFP-insured structures. Other goals are to: Reduce the number of repetitively or substantially damaged structures and the associated claims on the NFIP; Encourage long-term, comprehensive mitigation planning; Respond to the needs of communities participating in the NFIP; and Complement other federal and state mitigation programs with similar goals. There are three requirements to receive mitigation project funds under FMA. Local communities need to develop a Flood Mitigation Plan that identifies those structures that are vulnerable to flood damage, establish mitigation priorities and include an action plan to reduce flood vulnerability. Recent guidance stipulates the FMA funds must be used to mitigate repetitive loss properties. Structures with repetitive losses are likely to be highly vulnerable. A successful flood mitigation plan will identify any repetitive loss properties and will show how the community plans to mitigate those properties.

PDM is another source of mitigation funds. PDM's main objective is to reduce overall risk to the population and structures, while also reducing reliance on funding from actual disaster declarations. The State administers the program through the National Pre-Disaster Mitigation fund, which is allocated yearly from Congress. An approved Standard State Mitigation Plan is required for the State to remain eligible for to receive the money and local governments applying to the program must have an approved all-hazard mitigation plan. All projects funded through PDM must be located physically in a participating NFIP community and the 75% Federal/ 25% Local cost share still applies.

The significant difference between HMGP and both PDM and FMA are that the FMA/PDM funds are allocated to the state annually, not tied to a federal disaster declaration. FMA/PMD funding is limited to only flood mitigation and is also generally smaller in magnitude compared to the HMGP funding. As a result, FMA/PDM funds are often used to supplement HMGP projects.

B. Mitigation Recommendations and Projects

The Plan of Action provides the state with a resource to identify the properties with the most repetitive losses and to prioritize specific mitigation recommendations for those properties. The state utilizes the Repetitive Loss Report statistics from past and current mitigation projects to provide guidance for future mitigation projects and reduce flood losses. Repetitive loss information is a consideration of the funding criteria for future mitigation projects. When a community submits an application for mitigation funding, the state refers to the Repetitive Loss Report to determine if the repetitive loss properties are identified on the application. If they are not identified and the properties fit within the original scope of the project, the state should recommend that the repetitive loss properties become part of the project. RLP information is also provided to local governments to address and include in development of Flood and/or All-Hazard Mitigation Plans.

C. Standardized Information

Since some of the repetitive loss properties were unidentified due to poor location information, it is suggested that FEMA standardize their method of data collection for the repetitive loss properties. The consistent use of PINs on the flood insurance application would be one method of such standardization.

D. Updates

The Repetitive Loss Report will remain an addendum to the State of Wisconsin Hazard Mitigation Plan. Updates of the Repetitive Loss Report will be accomplished every year or two as new claim information is available from the NFIP and as remaining repetitive loss properties are mitigated through state programs.

E. Target Repetitive Loss Properties

In December 1999, FEMA issued guidance that stated emphasis should be given to addressing the target repetitive loss properties identified in FEMA's Repetitive Loss Strategy. Target properties were defined as structures with four or more losses and structures with two to three losses where cumulative payments exceeded the property value. According to these criteria, there are twelve such properties, eleven residential and one business, in Wisconsin. These properties are located within eleven communities. Eight properties on the RLR are currently involved in mitigation projects but only one of the target properties has been mitigated. Any eligible mitigation proposal for target repetitive loss properties in Wisconsin would be an extremely high priority for mitigation funding at WEM.

F. Severe Repetitive Loss Properties

The Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 was signed into law on June 30, 2004. The Act includes measures to address those properties that result in a disproportionate amount of claims on to the NFIP. The Act creates a pilot program for mitigation of severe repetitive loss properties, and funding in the FMA Program will be increased from $20 to $40 million for five years. "Severe repetitive loss properties" are defined as NFIP-insured single-family properties (1-4 family) that meet one of two triggers: 4 or more claims of at least $5,000 that cumulate to more than $20,000; or at least 2 claims with cumulative amount exceeding the value of the

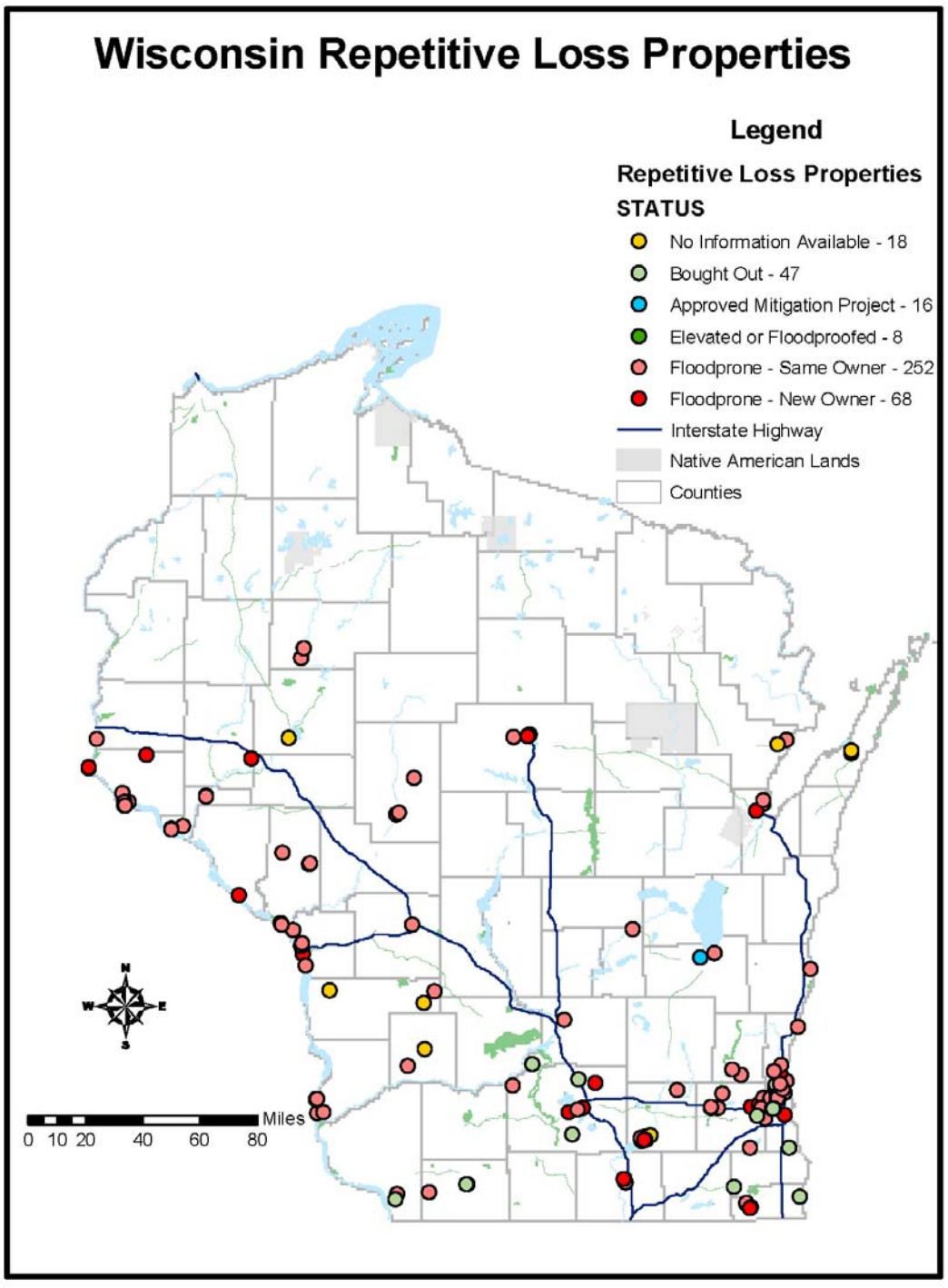
property. There is an estimated 6,200 properties nationwide that fit within this definition. Grants under the pilot program the non-federal match is 25%, however, if a state has an approved Section 322 mitigation plan that includes a strategy to reduce the number of severe repetitive loss properties, than the non-federal share is reduced to 10%. If the owner of a severe repetitive loss property refuses an offer made under the program, the flood insurance premium will increase to 150%; and again increased another 150% subsequent to each future claim of more than $1,500. At no time can the premium be more than the actuarial rate. Any eligible mitigation proposal for properties that fit this criteria in Wisconsin would be an extremely high priority for mitigation funding at WEM.

ATTACHMENT A

Table 6. List of Communities with Repetitive Loss Properties

| NFIP COMMUNITY | Repetitive Loss Properties | | | | |
|---|---|---|---|---|---|
| | Total | Acquired | Floodproofed | In Process | Remaining |
| Bayside, Village | 2 | | | | 2 |
| Berlin, City | 1 | | | | 1 |
| Blair, City | 2 | | | | 2 |
| Brookfield, City | 6 | 2 | | | 4 |
| Brown, County | 1 | | | | 1 |
| Brown Deer, Village of | 10 | 10 | | | 0 |
| Butler, Village | 2 | | | | 2 |
| Chaseburg, Village | 1 | | | | 1 |
| Chippewa Falls, City | 2 | | | | 2 |
| Clark County | 1 | | | | 1 |
| Columbia County | 3 | | | | 3 |
| Crawford County | 2 | | 1 | | 1 |
| Dane County | 2 | 1 | | | 1 |
| Darlington, City | 11 | 3 | 6 | | 2 |
| Delafield, City | 1 | | | | 1 |
| Door County | 1 | | | | 1 |
| Dunn County | 1 | | | | 1 |
| Durand, City | 2 | | | | 2 |
| Elm Grove, Village | 2 | 1 | | | 1 |
| Fond Du Lac County | 1 | | | | 1 |
| Fountain, City | 1 | | | | 1 |
| Glendale, City | 4 | | | | 4 |
| Grant County | 2 | 1 | | | 1 |
| Hillsboro, City | 2 | | | | 2 |
| Howard, Village | 2 | | | | 2 |
| Janesville, City | 2 | | | | 2 |
| Jefferson County | 11 | 1 | | 2 | 8 |
| Kenosha County | 9 | 7 | | | 2 |
| Kenosha, City | 1 | 1 | | | 0 |
| LaCrosse County | 3 | | | | 3 |
| LaCrosse, City of | 2 | | | | 2 |
| Lafayette County | 1 | | | | 1 |
| Loyal, City | 1 | | | | 1 |
| Madison, City of | 1 | | | | 1 |
| Marathon City, Village of | 1 | | | | 1 |
| Marathon County | 1 | | | | 1 |
| Mazomanie, Village of | 1 | | | | 1 |
| Mequon, City | 2 | | | | 2 |
| Milwaukee, City of | 214 | 7 | | | 207 |
| Monona, City | 2 | | | | 2 |
| Muskego, City of | 1 | | | | 1 |
| Neillsville, City | 2 | | | | 2 |
| New Berlin, City | 1 | 1 | | | 0 |
| N. Fond Du Lac, Village | 1 | | | 1 | 0 |
| Oak Creek, City of | 1 | 1 | | | 0 |

| NFIP Community | Repetitive Loss Properties | | | | |
|---|---|---|---|---|---|
| | **Total** | **Acquired** | **Floodproofed** | **In Process** | **Remaining** |
| Oconto County | 2 | | | | 2 |
| Oconto, City | 2 | | | | 2 |
| Oregon, Village | 2 | 2 | | | 0 |
| Pepin County | 5 | | | | 5 |
| Pierce County | 10 | 1 | | | 9 |
| Port Washington, City of | 1 | | | | 1 |
| Prairie Du Chien, City of | 3 | | | | 3 |
| Prescott, City of | 5 | | | | 5 |
| Richland County | 2 | | | | 2 |
| River Hills, Village of | 2 | | | | 2 |
| Rusk County | 2 | | | | 2 |
| Sheboygan, City of | 1 | | | | 1 |
| Silver Lake, Village of | 1 | | | | 1 |
| St. Croix County | 2 | | | | 2 |
| Sturgeon Bay, City of | 1 | | | | 1 |
| Thiensville, Village of | 8 | | | | 8 |
| Tomah, City of | 1 | | | | 1 |
| Trempealeau County | 6 | | 1 | 2 | 3 |
| Trempealeau, Village of | 1 | | | | 1 |
| Washington County | 2 | | | | 2 |
| Waukesha County | 3 | | | | 3 |
| Wausau, City of | 1 | 1 | | | 0 |
| Wauwatosa, City of | 21 | 7 | | 11 | 3 |
| Total | 407 | 47 | 8 | 16 | 336 |
| Percent | 100% | 11.55% | 1.97% | 3.93% | 82.56% |
| Duplicates | 3 | | | | |


Wisconsin Repetitive Loss Properties
Legend
Repetitive Loss Properties
STATUS
No Information Available - 18
Bought Out - 47
Approved Mitigation Project - 16
Elevated or Floodproofed - 8
Floodprone - Same Owner - 252
Floodprone - New Owner - 68
Interstate Highway
Native American Lands
Counties
N
W
E
S
Miles
0 10 20 40 60 80

# APPENDIX F

# WISCONSIN HAZARD MITIGATION TEAM

## WISCONSIN HAZARD MITIGATION TEAM

| NAME | AGENCY | ADDRESS | PHONE | FAX | E-MAIL |
|---|---|---|---|---|---|
| Anderson, Tom | Department of Health Services | 1 W. Wilson Street<br>Room 118<br>Madison, WI 53707 | 608-266-7089 | | Andertn@dhfs.state.wi.us |
| Angel, Kate | Department of Administration<br>Division of Inter-Governmental Relations/WI Coastal Management Program | 101 E. Wilson Street<br>10th Floor<br>Madison, WI 53708 | 608-267-7988 | | Kathleen,angel@wisconsin.gov |
| Ashley, Sheila | US Dept. of Housing and Urban Development | 310 W. Wisconsin Ave., Suite 1380<br>Milwaukee, WI 53203-2289 | 414-297-3214, ext. 8014 | 414-297-3947 | Sheila_L._Ashley@hud.gov |
| Boldt, Susan | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3214 | 608-242-3248 | Susan.boldt@wisconsin.gov |
| Brueske, Stephen | National Weather Service Sullivan *(Milwaukee) Forecast Office | N3533 Hardscrabble Road<br>Dousman, WI 53118-9419 | 262-965-5061, ext. 642 | 262-965-4296 | Stephen.brueske@noaa.gov |
| Cullen, Scot | Public Service Commission, Gas & Energy Division | P.O. Box 7854<br>Madison, WI 53707 | 608-267-9229 | 608-266-3957 | Scot.cullen@psc.state.wi.us |
| Draeger, James | State Historical Society of Wisconsin, Historic Preservation | 816 State Street<br>Madison, WI 53706 | 608-264-6511 | | jrdaeger@whs.wisc.edu |
| Fasick, Robert | Department of Transportation, Division of Transportation System Development, Bureau of Highway Operations | 4802 Sheboygan Ave.<br>Room 501<br>P.O. Box 7986<br>Madison, WI 53707 | 608-266-3438 | 608-267-7856 | Robert.fasick@dot.state.wi.us |
| Flogstad, Greg | Mississippi River Regional Planning Commission | 1707 Main Street<br>Suite 240<br>LaCrosse, WI 54601 | 608-785-9396 | 608-785-9394 | greg@mrrpc.com |
| Fowler, David | Wisconsin Association of Floodplain, Stormwater and Coastal Managers | MMSD<br>260 W. Seeboth Street<br>Milwaukee, WI 53204 | 414-277-6368 | 414-225-2263 | dfowler@mmsd.com |

| | | | | | |
|---|---|---|---|---|---|
| Foye, Keith | Department of Agriculture, Trade and Consumer Protection<br>Land Management Section<br>Bureau of Land and Water Resources | 2811 Agriculture Drive<br>P.O. Box 8911<br>Madison, WI 53708 | 608-224-4603 | | Keith.foye@datcp.state.wi.us |
| Gouika, Robert | U.S. Department of Housing and Urban Development | 77 W. Jackson Blvd.<br>Chicago, IL 60604 | 312-353-6236, ext. 2037 | | Robert_goulka@hud.gov |
| Gray, Roxanne | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3211 | 608-242-3248 | Roxanne.gray@wisconsin.gov |
| Heinrichs, Gary | Department of Natural Resources | 101 S. Webster Street<br>2nd Floor (WT/2)<br>P.O. Box 7921<br>Madison, WI 53707-7921 | 608-266-3093 | 608-267-2800 | Gary.heinrichs@wi.gov |
| Herreid, Peter | Department of Administration<br>Division of Intergovernmental Relations, Comprehensive Planning Program Team | 101 E. Wilson St.<br>10th Floor<br>Madison, WI 53702 | 608-267-3369 | | Peter.Herreid@wisconsin.gov |
| Hunkins, Drew | Office of the Commissioner of Insurance | 121 E. Wilson Street<br>Madison, WI 53707 | 608-266-7418 | 608-264-8115 | Drew.hunkins@oci.state.wi.us |
| Kalscheur, Katherine | Department of Administration<br>Division of State Facilities | 101 E. Wilson St.<br>Madison, WI 53702 | 608-267-0509 | | Katherine.kalscheur@wisconsin.gov |
| Kapela, Rusty | National Weather Service Sullivan *(Milwaukee) Forecast Office | N3533 Hardscrabble Road<br>Dousman, WI 53118-9419 | 262-965-5061, ext. 726 | 262-965-4296 | Kapela,Rusty@noaa.gov |
| Kawski, Lynsey | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3222 | 608-242-3248 | Lynsey.kawski@wisconsin.gov |
| Kleiboer, Diane | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3200 | 608-242-3248 | Diane.kleiboer@wisconsin.gov |

| | | | | | |
|---|---|---|---|---|---|
| Kollmann, Linda | Wisconsin Emergency Management Association | Winnebago County Emergency Management<br>4311 Jackson Street<br>P.O. Box 2808<br>Oshkosh, WI 54901 | 920-236-7464 | 920-303-3175 | lkollmann@co.winnebago.wi.us |
| Krapf, Tom | USDA/Natural Resources Conservation Service | 8030 Excelsior Drive, Suite 200<br>Madison, WI 53717 | 608-662-4422, ext. 232 | 608-276-5890 | Tom.krapf@wi.usda.gov |
| LaWall, David | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3252 | 608-242-3247 | Lawald@wisconsin.gov |
| Leece, Terri | Voluntary Organizations Active in Disasters | The Salvation Army/ Disaster Services<br>179 North Court<br>Nekoosa, WI 54427 | 715-325-6376<br>715-572-4147 (cell) | | Terri_leece@usc.salvatinarmy.org |
| McDermott, Linda | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3219 | 608-242-3248 | Linda.Mcdermott@wisconsin.gov |
| Meneguin, Dan | Department of Commerce, Division of Safety and Buildings | 201 W. Washington Ave.<br>Madison, WI 53703 | 608-266-0056 | 608-264-8795 | dmeneguin@commerce.state.wi.us |
| Price, Jack | Economic Development Administration | 111 N. Canal Street, Suite 855<br>Chicago, IL 60606 | 312-353-7148, ext. 159 | | jprice@eda.doc.gov |
| Reynolds, Del | US Department of Housing and Urban Development | 310 W. Wisconsin Ave., Suite 1380<br>Milwaukee, WI 53203-2289 | 414-297-3214, ext. 8000 | 414-297-3947 | Delbert_F._Reynolds@hud.gov |
| Reed, Larry | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3203 | 608-242-3248 | Larry.reed@ wisconsin.gov |
| Savage-Hart, Megan | Federal Emergency Management Agency, Federal Insurance and Mitigation Division | 536 S. Clark St.<br>6th Floor<br>Chicago, IL 60605 | 312-408-5225 | 312-408-5551 | Megan.savage@dhs.gov |
| Sheffer, Ralph | Department of Natural Resources | W7303 CTH CS/Q<br>Poynette, WI 53955 | 608-635-8101 | 608-635-8107 | Ralph.sheffer@wisconsin.gov |

| | | | | | |
|---|---|---|---|---|---|
| Smith, Johnnie | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3232 | 608-242-3247 | Smith.johnnie@wisconsin.gov |
| Stoikes, Robert | Department of Military Affairs, Division of Emergency Management | 2400 Wright Street<br>P.O. Box 7865<br>Madison, WI 53707 | 608-242-3226 | 608-242-3248 | Robert.stoikes@wisconsin.gov |
| Stone, Caryn | Department of Commerce, Division of Housing & Community Development | 201 W. Washington Avenue<br>P.O. Box 7970<br>Madison, WI 53707 | 608-267-3682 | 608-266-8969 | Caryn.stone@wisconsin.gov |
| Walsh, Pat | University of Wisconsin-Extension Dept. of Biological Systems Engineering | 460 Henry Mall<br>Room 116<br>Madison, WI 53706 | 608-265-8152 | 608-262-1228 | pwwalsh@wisc.edu |
| Watson, Bob | Department of Natural Resources, Division of Water | 101 S. Webster St., 2nd Floor<br>P.O. Box 792<br>Madison, WI 53707 | 608-266-8037 | 608-264-9200 | Robert.Watson@wi.gov |
| Wells, Lori | USDA/Rural Development | 4949 Kirschling Ct.<br>Stevens Point, WI 54481 | 715-345-7680 | 715-345-7669 | Lori.wells@wi.usda.gov |
| Woodbury, David | Department of Natural Resources | 101 S. Webster Street<br>5th Floor<br>Madison, WI 53707 | 608-266-2598 | | David.woodbury@wi.gov |

# APPENDIX G

# STATE ADMINISTRATIVE PLAN FOR THE HAZARD MITIGATION GRANT PROGRAM

# STATE OF WISCONSIN

# ADMINISTRATIVE PLAN

# for the

# HAZARD MITIGATION GRANT PROGRAM

Section 404

PL 100-707
The Robert T. Stafford Disaster Relief
and
Emergency Assistance Act

**Division of Emergency Management**

**Department of Military Affairs**
August 1, 2008

**STATE OF WISCONSIN**
**HAZARD MITIGATION GRANT PROGRAM**
**ADMINISTRATIVE PLAN**

## I. PURPOSE

The purpose of this Plan is to establish the organization, staffing, and process to be used by the State of Wisconsin, Division of Emergency Management, in administering and managing the Section 404 Hazard Mitigation Grant Program. It also explains how the State will meet All Hazards Mitigation planning requirements.

The Hazard Mitigation Grant Program (HMGP) was created in November 1988, by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The HMGP assists the State and its local governments in implementing long-term hazard mitigation measures following a major disaster declaration. In December 1993, the President signed the Hazard Mitigation and Relocation Assistance Act that amends Section 404 to increase federal funding of HMGP projects to 75 percent of a project's total eligible costs. The HMGP funding base was also amended to 15% of the projected obligated grants made under the Stafford Act Disaster Assistance Programs. In 1997 Section 404 was again amended so that HMGP funds are now available in all counties within the affected State following a major disaster declaration by the President. An interim final rule was published on February 26, 2002 for 44 CFR Parts 201 and 206 that increased HMGP funding base to 20% if the State has an approved Enhanced State Mitigation Plan. The objectives of the HMGP are as follows:

- To prevent future losses of lives and property damage due to disasters;
- To implement the State and local All Hazards Mitigation Plans;
- To enable mitigation measures to be implemented during recovery from a disaster; and
- To provide funding for previously identified mitigation measures.

As implied above, the HMGP is closely tied to the State All Hazards Mitigation Plan required in Disaster Mitigation Act of 2000 (DMA2K) and is implemented subsequent to a Presidential Disaster Declaration. Section 404, Hazard Mitigation Grant Program (HMGP), in combination with Flood Mitigation Assistance (FMA), Pre-Disaster Mitigation (PDM), Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) as well as ongoing programs at the county and State levels, comprise an overall pre- and post-disaster hazard mitigation strategy for the State of Wisconsin. This strategy will be further detailed and State agencies responsibilities, both pre- and post-disaster, further defined in the State of Wisconsin Hazard Mitigation Plan approved December 14, 2005.

## II. AUTHORITIES AND REFERENCES

A. Public Law 93-288, as amended by PL 100-707
B. FEMA Regulations, 44 CFR, Part 201
B. FEMA Regulations, 44 CFR, Part 206, Subparts M and N
C. FEMA Regulations, 44 CFR Part 207
D. FEMA Regulations, 44 CFR Part 80
E. FEMA Regulations, 44 CFR, Part 10.8 Determination of Requirement for Environmental Review
F. FEMA Regulations, 44 CFR, Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
G. FEMA Regulations, 44 CFR, Part 14, Administration of Grants, Audits of State and Local Governments
H. HMGP and FMA Financial Grants Management Resource Guide
I. Hazard Mitigation Grant Program Compendium of Current Guidance
J. Hazard Mitigation Grant Program Desk Reference
K. OMB Circular A-21 Cost Principles for Educational Institutions
L. OMB Circular A-87 Cost Principles for State and Local Governments
M. OMB Circular A-102 Uniform Administrative Requirements for Grants and Cooperative Agreements
N. OMB Circular A-122 Cost Principles for Non-Profit Organizations
O. OMB Circular A-133 Audits of States, Local Governments, and Non-Profit Organizations
P. Executive Order 11988, Floodplain Management
Q. Executive Order 11990, Protection of Wetlands
R. Executive Order 12612, Federalism
S. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Families
T. Wisconsin Statutes, Chapter 166
U. Wisconsin Statutes, Chapter 87.30
V. Wisconsin Administrative Code NR116
W. State of Wisconsin Administrative Plan for the Public Assistance Program
X. Wisconsin Emergency Operations Plan
Y. Wisconsin State Statue, Chapter 32; Administrative Code 202-Wisconsin Relocation Law

## III. DEFINITIONS

"Act" refers to PL 93-288, the Disaster Relief Act of 1974 as amended by PL 100-707, The Robert T. Stafford Disaster Relief and Emergency Assistance Act and as further amended by the Hazard Mitigation and Relocation Assistance Act of 1993.

"Applicant" means a State agency, local government, Indian tribal government, or eligible private nonprofit organization, as defined in Subpart N of 44 CFR, Part 206, submitting an application to the grantee for assistance under the Hazard Mitigation Grant Program.

"Application" means the initial request for HMGP funding to be submitted to FEMA by the State (as outlined in 206.436 of 44 CFR).

"Base Flood" means the flood having a 1% chance of being equaled or exceeded in any given year also referred to as the 100 year flood.

"Benefit Costs Analysis" (BCA) is an analysis to demonstrate that a project is cost-effective and will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur. Costs and benefits are computed on a net present value basis.

"Building" means a walled and roofed structure, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site as well as a manufactured home on a permanent foundation.

"Categorical Exclusion" means the categories of actions or categorical exclusions that normally would not require an Environmental Impact Statement or Environmental Assessment. 44 CFR Part 10.8 identifies the categorical exclusion of actions that have no significant effect on the human environment.

"Community" means any State or area or political subdivision thereof, or any Indian tribe or authorized tribal organization that has authority to adopt and enforce floodplain management regulations for the areas within its jurisdiction.

"Community Rating System" (CRS) recognizes community efforts beyond the minimum NFIP standards by reducing flood insurance premiums for property owners.

"Contractor" means any individual, partnership, corporation, agency or other entity (other than an organization engaged in the business of insurance) performing work by contract for the Federal Government or a State or local agency.

"Designated Area" means any emergency or major disaster-affected portion of a State that has been determined eligible for federal assistance.

"Disaster Recovery Center" (DRC) is the center that is strategically located in a disaster area and that is opened after a Presidential Disaster Declaration. Federal, State and local agencies with disaster assistance programs temporarily locate in the DRC's to assist individuals in completing their applications and answer questions of

individual disaster victims. Mitigation information is also made available at the DRC's.

"Disaster Mitigation Act of 2000 (DMAK2)" is the Act that created All Hazards planning requirements for the states and local communities as a condition for receiving federal disaster assistance. It also created the Pre-Disaster Mitigation Program.

"Emergency" means any occasion or instance for which, in the determination of the President, Federal assistance is needed to supplement State and local efforts and capabilities to save lives and to protect property and public health and safety, or to lessen or avert the threat of a catastrophe in any part of the United States.

"Enhanced State Hazard Mitigation Plan" is the hazard mitigation plan approved under 44 CFR part 201.5 as a condition of receiving increased funding under the HMGP.

"Environmental Assessment" (EA) is an assessment prepared when a project does not qualify for a categorical exclusion and serves to determine whether an Environmental Impact Statement is needed.

"Environmental Impact Statement" (EIS) is a report prepared for all actions significantly affecting the environment.

"Estimated Ceiling" is the maximum amount of HMGP funds available in a particular disaster (15% of other FEMA assistance programs or 20% of other FEMA assistance programs if the State has an approved Enhanced State Mitigation Plan).

"Federal Coordinating Officer" (FCO) means the person appointed by the Director of FEMA, or in his absence the Deputy Regional Administrator, to coordinate Federal Assistance in an emergency or major disaster.

"Federal Hazard Mitigation Officer" (FHMO) is the FEMA employee responsible for carrying out the overall responsibilities for hazard mitigation and for Subparts M and N of 44 CFR, including coordinating post-disaster hazard mitigation actions with other agencies of government at all levels.

"FEMA-State Agreement" is an agreement that states the understandings, commitments, and conditions for assistance under which FEMA disaster assistance shall be provided in a Presidential Disaster Declaration. This agreement imposes binding obligations on FEMA, states, and their local governments in the form of conditions for assistance that are legally enforceable.

"Finding of No Significant Impact" (FONSI) is a determination that an action will have no significant impact on the environment.

"Flood Mitigation Assistance" (FMA) is a pre-disaster grant program that provides assistance to state and local governments for developing flood hazard mitigation

plans, implementation of mitigation projects, and technical assistance in reducing or eliminating flood hazards for insurable structures under the NFIP and to address repetitive loss claims.

“Governor’s Authorized Representative” (GAR) is the person empowered by the Governor to execute, on behalf of the State, all necessary documents for disaster assistance.

“Grant” means an award of financial assistance. The total HMGP grant award for the State shall not exceed 15 percent (20 percent with an approved Enhanced State Hazard Mitigation Plan) of the estimated total eligible federal share of assistance provided under the Stafford Act.

“Grantee” means the government to which a grant is awarded and which is accountable for the use of the funds provided. The Grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document. For purposes of this regulation the State of Wisconsin is the grantee.

“Hazard Mitigation” means any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.

“Hazard Mitigation Grant Program” (HMGP) means the program authorized under Section 404 of the Stafford Act that provides funding for certain mitigation measures and is in conformance with the State Hazard Mitigation Plan.

“Hazard Mitigation Action Plan” is a report developed by the State Hazard Mitigation Officer (SHMO), the Federal Hazard Mitigation Officer (FHMO), FEMA National Flood Insurance Program (NFIP) personnel, and WI Department of Natural Resources (DNR) after a Presidential Disaster is declared. This report will identify mitigation opportunities and issues to be addressed.

“Hazard Mitigation Plan Update” refers to the review and revision of the State Hazard Mitigation Plan that is completed every three years. This plan may also be reviewed and revised after a federal disaster declaration but this revision is not required.

“Human Services Officer” is the federal/state person designated to administer the Individuals and Households Program for a particular disaster declaration.

“Individuals and Households Program” is the supplementary federal assistance provided under the Stafford Act to individuals and families adversely affected by a major disaster or emergency.

“Joint Field Office” (JFO) functions as the focal point for directing and coordinating disaster operations after a declaration.

“Local Government” means any county, city, village, town, district or other political subdivision of any state; any Indian tribe or authorized tribal organization; and includes any rural community, unincorporated town, or other public entity for which an application for assistance is made by the State or a political subdivision thereof.

“Lock-In Ceiling” is the guaranteed level of hazard mitigation funding in a particular disaster. It is the estimated ceiling at an established date after which point the amount of HMGP funds can only increase, not decrease.

“Major Disaster” is any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought) or, regardless of cause, any fire, flood or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under the Stafford Act to supplement the efforts and available resources of states, local governments and disaster relief organizations in alleviating the damage, loss, hardship or suffering thereby.

“Management Costs” are any indirect costs, administrative expenses, and any other expenses not directly chargeable to a specific project that are reasonably incurred by a grantee or subgrantee in administering and managing the HMGP grant award.

"Market Value" is generally defined as the amount of cash, or on terms reasonably equivalent to cash, for which in all probability the property would have sold on the effective date of the evaluation, after a reasonable exposure time on the open competitive market, from a willing and reasonably knowledgeable seller to a willing and reasonably knowledgeable buyer, with neither acting under the any compulsion to buy or sell, giving due consideration to all available economic uses of the property at the time of the valuation.

“Measure” means any mitigation measure, project, or action proposed to reduce the risk of future damage, hardship, loss or suffering from disasters.

“National Environmental Policy Act” (NEPA) is the act which requires that actions affecting the environment comply with specific policies and procedures.

“National Flood Insurance Program” (NFIP) means the program authorized by 42 U.S.C. 4001-4128.

“Pre-Disaster Mitigation Program” (PDM) is a program authorized by section 203 of the Stafford Act, 42 U.S.C. 5133, as amended by section 102 of the Disaster Mitigation Act of 2000 (DMA), Pub. L. 106-390, 114 Stat. 1552, to assist States and communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures while also reducing reliance on funding from actual disaster declarations.

“Preliminary Damage Assessment” (PDA) is a joint federal/state assessment effort conducted within 3 to 5 days of a disaster to refine, or correct, previous damages estimates for both the public and private sectors, that are used in the Governor’s decision on whether or not a federal disaster assistance request is in order, and whose figures are then utilized to substantiate any such request.

“Private Nonprofit Facility” means any private nonprofit educational, utility, emergency, medical or custodial care facility, including a facility for the aged or

disabled, and other facility providing essential governmental type services to the general public, and such facilities on Indian reservations. Further definition can be found in the State of Wisconsin Public Assistance Program Administrative Plan and 44 CFR Section 206.221 and further clarified in the Federal Register/Vol. 68, No. 120/Monday, June 23, 2003 Notices.

“Program Income” means gross income received by the grantee or subgrantee directly generated by a grant-supported activity, or earned only as a result of the grant agreement during the grant period.

“Project” means any mitigation measure, project, or action proposed to reduce risk of future damage, hardship, loss or suffering from disasters. The term “project” is used interchangeably with the term “measure” in the federal hazard mitigation regulations.

“Project Worksheet” is a report of damages to publicly owned facilities caused by a major disaster or emergency including location, description, and estimate of required work.

“Public Assistance” means federal financial assistance provided to state and local governments or to eligible private nonprofit organizations for eligible disaster-related costs.

“Public Assistance Officer” (PAO) is the federal/state person designated to administer the Public Assistance Program for a particular disaster declaration.

“Public Assistance Permanent Work” is the restorative work that must be done, through repairs or replacement, to restore an eligible facility on the basis of its pre-disaster design and in conformity with current applicable codes, specifications, and standards.

“Public Entity” means an organization formed for a public purpose whose direction and funding are provided by one or more political subdivisions of the State.

“Public Facility” means the following facilities owned by the State or local government: A flood control, navigation, irrigation, reclamation, public power, sewage treatment and collection, water supply and distribution, watershed development, or airport facility, any non-federal aid street, road, or highway; and any other public building, structure or system, including those for educational, recreational or cultural purposes; or any park.

"Purchase Offer" is the initial value assigned to the property, which is later adjusted by applicable additions and deductions, resulting in a final offer amount to a property owner.

"Qualified Alien" mans a person within the meaning of the term as defined at 8 U.S.C. 1641.

"Qualified conservation organization" means a qualified organization with conservation purpose pursuant to 26 CFR 1.170A-14 and applicable implementing regulations, that is such as organization at the time it acquires the property interest and that was such an organization at the time of the major disaster declaration, of at least 2 years prior to the opening of the grant application period.

“Regional Administrator” is a director of a FEMA Regional Office, or his/her designated representative. As used in this Plan, Regional Administrator also means the Federal Coordinating Officer (FCO) who has been appointed to exercise the authority of the Regional Administrator for a particular emergency or major disaster.

“Repetitive Flood Claims” (RFC) grant program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 (P.O. 108-264). Up to $10 million is available annually for FEMA to provide RFC funds to assist States and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).

“Section 404” of the Stafford Act authorizes the Hazard Mitigation Grant Program that provides funding for cost-effective hazard mitigation measures.

“Section 406” of the Stafford Act authorizes Public Assistance grants to repair, restore, or replace damaged facilities belonging to public and private nonprofit entities, and other associated expenses, including emergency protective measures and debris removal.

“Severe Repetitive Loss (SRL)” Program was authorized by the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act of 2004 to provide funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program (NFIP)/

“SF 424” (Standard Form 424) is the Application for Federal Assistance to be included as part of the State Hazard Mitigation Application.

“Special Flood Hazard Area” means an area having special flood, mudslide, and/or flood-related erosion hazards, as shown on the hazard identification maps published by the National Flood Insurance Program (NFIP).

“Stafford Act” is the Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988, which amended the Disaster Relief Act of 1974, PL 93-288 and which was further amended in 1993 by the Hazard Mitigation and Relocation Assistance Act.

“Standard Flood Insurance Policy” means the flood insurance policy issued by the Federal Insurance Administrator or an insurer pursuant to an arrangement with the Administrator pursuant to Federal statutes and regulations, known as a Write Your Own Company.

“Standard State All Hazards Mitigation Plan” (SSAHMP), a requirement of DMA2K, is the State plan that includes a systematic evaluation of the nature and extent of vulnerability to the effects of natural hazards and identifies the actions needed to

minimize future vulnerability to hazards. The Plan further delineates State agency responsibilities both pre- and post-disaster in implementing the State All Hazards Mitigation Program. This plan is approved under 44 CFR part 201, as a condition of receiving Stafford Act Assistance as outlined in 201.4. This plan is reviewed and revised every three years. If it is warranted and time permits, it will also be revised after each Presidentially Declared Disaster.

"Standards" means codes, specifications or standards for the construction of facilities.

"State Administrative Plan for the HMGP" means the plan developed by the State to describe the procedures for administration of the HMGP.

"State Coordinating Officer" (SCO) is the person appointed by the Governor to act in cooperation with the Federal Coordinating Officer (FCO) to manage disaster recovery efforts.

"State Financial Management Officer" (SFMO) is the representative of the State government who is responsible for managing the HMGP accounts, processing payment requests, developing financial procedures, and maintaining financial records.

"State Hazard Mitigation Officer" (SHMO) is the representative of the State government who is the primary point of contact with FEMA, other state and federal agencies, and local units of government in the planning and implementation of pre- and post-disaster mitigation programs and activities required under the Stafford Act. The SHMO is also appointed as one of the Alternate GAR's.

"State Management Costs" are the indirect costs, administrative expenses, and any other expenses not directly chargeable to a specific project that are reasonably incurred by the grantee or subgrantee in administering and managing a HMGP Grant.

"Subgrant" means an award of financial assistance under a grant by a grantee to an eligible subgrantee.

"Subgrantee" means the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided. Subgrantees can be a State agency, local government, private nonprofit organization, or Indian tribe as outlined in 206.434 of 44 CFR.

"Supplement" means an amendment to a Hazard Mitigation Grant.

"Wisconsin Hazard Mitigation Team" (WHMT) (formally the Interagency Disaster Recovery Group and State Hazard Mitigation Team) is coordinated by Wisconsin Emergency Management and is composed of key Federal and State agency representatives and other public or private sector bodies or agencies. The purpose of the Team, which functions both pre- and post-disaster, is to evaluate hazards,

identify strategies, coordinate resources, and implement measures that will reduce the vulnerability of people and property to damage from hazards. This group is also responsible for updating the State of Wisconsin Hazard Mitigation Plan.

## IV. PROGRAM MANAGEMENT AND ADMINISTRATION RESPONSIBILITY

The Governor of the State of Wisconsin has designated the Department of Military Affairs (DMA), Division of Wisconsin Emergency Management (WEM), as the State agency responsible for management and administration of the HMGP, PDM, FMA, RFC, and SRL programs. The Administrator of the Division is the official who has overall management responsibility for the program. The responsibility for program coordination, implementation, and administration is delegated to Roxanne K. Gray, the Division's State Hazard Mitigation Officer (SHMO). The SHMO complies with federal requirements and involves appropriate State and local governments in the pre- and post-disaster hazard mitigation program.

The SHMO maintains close coordination with the Department of Natural Resources (DNR), Shoreland and Waterways Protection Section. As the State's lead floodplain management agency, DNR plays a key role in providing technical assistance for the mitigation programs and in developing the Hazard Mitigation Action Plan in flood disasters.

## V. STAFFING AND ASSIGNMENT OF RESPONSIBILITIES

### A. Staffing

The staffing pattern for administering the HMGP will be flexible and capable of expansion, depending upon the estimated number of applicants for the Program and upon the type of disaster. At a minimum, it will consist of the State Hazard Mitigation Officer (SHMO), an Assistant State Hazard Mitigation Officer, Response and Recovery Planner, Hazard Mitigation Planner, the Financial Management Officer, and appropriate members of the Wisconsin Hazard Mitigation Team (WHMT).

If necessary, the GAR/SCO will employ temporary hires to assist the SHMO and provide program support. The need for such hires will be determined by the SHMO and will serve as the basis for determining State Management Costs. The State Management Cost Project Narrative will be submitted to the Regional Administrator for approval.

B. Responsibilities

1. Governor's Authorized Representative/State Coordinating Officer GAR/SCO

The Administrator of the Division of Emergency Management, the Bureau Director of Response and Recovery, or the Disaster Resources Section Supervisor serves as the GAR/SCO and as such has overall management responsibility for the program. He/she is the State official who is ultimately responsible for ensuring that the State properly carries out the HMGP and Hazard Mitigation Planning responsibilities on a day-to-day basis and subsequent to a Presidential Disaster Declaration. In this regard, the GAR/SCO will monitor the activities of the SHMO and the WHMT. The GAR/SCO will do the following:

a. Ensure an Administrative Plan is developed, outlining how the State will administer the Hazard Mitigation Grant Program.
b. Ensure that a process exists for identifying potential hazard mitigation projects and for prioritizing among those projects.
c. Ensure that all potential applicants are notified of the program and receive the assistance to which they are entitled.
d. Ensure that a proper initial application and any necessary supplemental applications, including Standard Form 424 (SF 424), are submitted in a timely fashion to the Regional Administrator.
e. Ensure that technical assistance is provided to potential applicants and/or eligible subgrantees.
f. Ensure that adequate procedures are developed for the timely distribution of financial assistance to eligible subgrantees.
g. Ensure that a system is developed to monitor completion of approved projects within federally required timeframes.
h. Ensure that a system exists to monitor subgrantee accounting systems to ensure compliance with 44 CFR parts 13 and 14.
i. Ensure that appropriate State agencies are on the WHMT and assist in the development or updating of the State All Hazards Mitigation Plan.
j. Ensure that DMA2K requirements, including development or updating of the State All Hazards Mitigation Plan are met and closely tied to administration of the HMGP.
k. Ensure participation of the appropriate local agencies in the administration and implementation of the HMGP and All Hazards Mitigation planning requirements.

2. State Hazard Mitigation Officer (SHMO)/Alternate Governor's Authorized Representative (GAR).

The State Hazard Mitigation Officer is responsible for program coordination, implementation and administration and also serves as an Alternate GAR. The SHMO will accomplish the necessary program work required of the State to deliver the HMGP to eligible subgrantees and to meet the planning requirements of DMA2K. The SHMO or the Assistant SHMO will do the following:

a. Update the Administrative Plan that outlines how the State will administer the HMGP and implement the Plan in a Presidential Disaster Declaration.
b. Implement a process for identifying potential hazard mitigation projects and for prioritizing among those projects.
c. Coordinate with the FHMO in estimating the amount of FEMA money available for the HMGP, and in administering the program, including submitting required reports to FEMA.
d. Coordinate with State/Federal Public Assistance Officers (PAO) Officer to ensure that all eligible mitigation opportunities are explored and funded through the program.
e. Coordinate with the FCO/SCO, FHMO, Human Services staff and local officials in establishing mitigation requirements at the DRC's.
f. Submit to FEMA Regional Administrator a request for State Management Costs along with a Management Cost Project Narrative.
g. Notify potential applicants of the program and brief them, with appropriate handout materials, on elements of the program.
h. Coordinate with the FHMO in developing the Hazard Mitigation Action Plan after a declaration.
i. Provide technical assistance to potential applicants and/or eligible subgrantees in developing and submitting applications.
j. Conduct the required benefit cost analyses using FEMA's BCA computer model on proposed HMGP projects.
k. Complete the NEPA review process for proposed projects. This will include the following tasks: Coordinate with the FEMA Regional Environmental Officer (REO), Project Officer, and other State and Federal agencies during the project development process to address environmental issues; Complete formal consultation required specifically of Federal agencies under Federal environmental laws other than NEPA including, but not limited to, formal endangered species consultation or historic preservation Memorandums of Agreement and Programmatic Agreements; Undertake environmental review tasks (including tasks related to the National Historic Preservation Act); gather necessary environmental data through the applicant, past studies, and informal consultation with State and other Federal agencies; recommend level of review under the National Environmental Policy ACT (NEPA); Complete and submit the Record of Environmental Consideration (REC) and all supporting documentation at the same time, or prior to, the submission of

the project application. Ensure that the required public notices are completed and that the Environmental Closeout Declaration is completed and signed by the Subgrantee.

l. Prepare and submit the initial Hazard Mitigation Grant Program application and any supplemental applications per federal requirements.
m. Develop and implement a system for monitoring the status of approved projects, for processing time extension requests and appeals, and for closing out completed projects.
n. Coordinate with the State Financial Management Officer (FMO) in monitoring subgrantee accounting systems to meet requirements of 44 CFR Parts 13 and 14.
o. Review and revise the State Hazard Mitigation Plan according to planning requirements ensuring coordination as required and appropriate with administration of the HMGP.
p. Involve and coordinate with appropriate State agencies through the WHMT in meeting HMGP and planning requirements. In a Presidential Disaster Declaration, this includes identifying potential projects and providing technical assistance to subgrantees.
q. Involve the appropriate local agencies and the County Emergency Government Director in the administration of the HMGP and planning requirements. This includes development of county/local hazard mitigation plans, participation in developing the Hazard Mitigation Plan or plan amendment, and monitoring the status of projects.
r. Follow-up with State agencies and local governments to ensure that appropriate hazard mitigation actions are taken subsequent to a disaster. This involves coordination of plans and actions of local governments to assure that they are not in conflict with each other or State plans.
s. Ensure that the activities, programs and policies of State agencies related to hazard evaluation, vulnerability, and mitigation, are coordinated and contribute to the overall lessening or avoiding of vulnerability to natural hazards.

3. Financial Management Officer (FMO)

The State Financial Management Officer is the Budget and Policy Analyst and will do the following:

a. Manage the accounts that are opened specifically for the HMGP including performing financial disbursements and financial revisions, processing payment requests, closing out the program accounts (deobligations) and processing bills for collection, if any.
b. Process payment requests and enter disbursements into the State financial management system.

c. Develop financial procedures for implementing the provisions of the Single Audit Act.
d. Receive subgrantee single audits and review for compliance.
e. Maintain financial records of all disbursements to subgrantees and prepare fiscal documents for processing the final claim, process the final State payment, and close the file (account).
f. Maintain records of State management costs eligible for reimbursement as provided for in FEMA regulations.
g. Maintain proper accountability of records related to the procurement of property and services under the Hazard Mitigation Grant Program.

4. Wisconsin Hazard Mitigation Team (WHMT)

The WHMT functions on both a day-to-day and disaster basis. Its members include representatives of the following State agencies: The Departments of Military Affairs, Administration, Commerce, State Historical Society, Natural Resources, Transportation, Health and Family Services, Agriculture, Trade and Consumer Protection, the Public Service Commission, Office of Commissioner of Insurance, University of Wisconsin Extension and other agencies as deemed appropriate. In addition, a representative from the Regional Planning Commissions; the Wisconsin Association of Floodplain, Stormwater and Coastal Managers; Wisconsin Emergency Management Association; and Volunteer Organizations Active in Disasters also participate. The following federal agencies are included in the Group: U.S. Department of Agriculture, Economic Development Administration, Federal Emergency Management Agency, and the Department of Housing and Urban Development. Different personnel from the agencies may be involved depending upon whether the activity is pre- or post-disaster and upon the nature of the disaster and the type of damage it has generated. The purpose and goal of the WHMT is to assist the local governments in the recovery phase, provide technical assistance when possible, prevent duplication of efforts and funding, identify and prioritize mitigation projects, and identify funding options for implementing mitigation projects, whether through the individual agencies or by “packaging” various funding programs. This group is also responsible for reviewing and revising the State Hazard Mitigation Plan per planning requirements.

When a disaster occurs, the SHMO will convene the WHMT to brief them on the situation and any actions that have been taken to date. The agencies will provide an update on any funding sources and/or technical assistance they may be able to provide during the recovery phase. The WHMT will assist the SHMO in implementing the HMGP and in fulfilling Hazard Mitigation planning requirements. The WHMT will assist the SHMO in identifying potential hazard mitigation projects and providing technical assistance to eligible subgrantees.

The WHMT will meet on a regular basis after a declaration, even weekly if necessary, to coordinate recovery efforts. The SHMO is responsible for making meeting arrangements and developing the agenda as well as chairing the meetings. In addition to the above activities, the WHMT will review pre-applications to identify funding sources and establish funding priority as well as prevent any duplication of programs. The WHMT will work to package funding where possible to ensure implementation of mitigation projects.

Agency participation in post-disaster hazard mitigation activities is authorized under Chapter 166 of the Wisconsin Statutes, specifically under the Governor's Declaration of an Emergency. Such a gubernatorial proclamation directs appropriate State agencies to contribute whatever resources are at their disposal, including personnel, to the response and recovery effort and to make their involvement an agency priority.

5. Local Hazard Mitigation Officer/Team (LHMO)(LHMT)

   The County Emergency Management Director (or his/her designee) will act as the LHMO. The LHMO will call upon other local agencies to act as members on the Local Hazard Mitigation Team (LHMT) and participate, as necessary, in implementing the HMGP. The LHMO will be the point of contact for projects within his/her jurisdiction determined eligible for HMGP funding and will provide information and reports to the SHMO as requested. The LHMO will coordinate with HMGP subgrantees in administration of the HMGP. In addition, the LHMO will coordinate with the SHMO in supporting the efforts of reviewing and revising the All Hazards Mitigation Plan.

## VI. ALL HAZARDS MITIGATION PLANNING REQUIREMENTS

A. Immediately following the declaration of a disaster, the SHMO will meet with as many affected local governments as feasible for the purpose of surveying the damaged area. The survey is intended, among other things, to identify the following:

   1. The prevalent hazard or type of hazard which resulted in damage, the type and extent of that damage, and possible mitigation measures that could be considered in the recovery process.

   2. Possible measures for funding under the Hazard Mitigation Grant Program or under other Federal or State mitigation, disaster assistance or financial assistance programs.

   3. The FHMO and SHMO will contact appropriate Federal and State agencies for participation in the surveys as required. In flood disasters DNR, because of its technical expertise, will be asked to take a key role in the survey.

Further, they will determine which counties/communities will be evaluated, based upon the extent of the damages and their repeated occurrence. Every effort will be made to survey each of the counties included in the declaration. If an actual on-site survey cannot be done, then a phone survey will be done with the County Emergency Management Director to identify specific mitigation problems or concerns.

B. All Hazards Mitigation Planning

1. WEM has primary responsibility for preparation of the State of Wisconsin Hazard Mitigation Plan, which is a requirement to receive assistance under the Stafford Act. At the time of a declaration of a major disaster, the State will make every effort to review and revise this Plan to take into account special needs identified for that particular declaration. (CFR 201.4)

2. At a minimum, the plan will be adopted by the State and will contain the following:

   a. Documentation of the planning process to include coordination among agencies and integration with other planning efforts.
   b. An evaluation of the natural hazards in the State and/or in the designated disaster area to include a vulnerability analysis and risk assessment.
   c. A description and analysis of State and local hazard management policies, programs, and capabilities already in place or available to mitigate the hazards.
   d. Hazard mitigation goals and objectives and proposed strategies, programs, and actions to reduce or avoid long-term vulnerability to hazards.
   e. A description of how the State will coordinate with local mitigation planning efforts.
   f. A method of how the State will provide funding or technical assistance to local governments.
   g. A description of how the State will prioritize jurisdictions that will receive mitigation planning and project grants and other State assistance.
   h. A method of implementing, monitoring, evaluating, and updating the mitigation plan. At a minimum, this will occur every three years to ensure that implementation occurs as planned, and to ensure that the plan remains current.

3. The purpose of the plan is to assist the State and local governments in developing hazard mitigation capabilities and programs as part of their day-to-day or normal operations. The plan will also be modified or expanded to take into account special needs identified in declared declarations areas within the State.

4. The State WEM is responsible for monitoring and evaluating implementation of the Hazard Mitigation Plan and for updating and resubmitting the Plan to FEMA for approval every 3 years.

## VII. SECTION 404 HMGP ELIGIBILITY

A. Applicant Eligibility - The following are eligible to apply for the Hazard Mitigation Grant Program.

1. State and local governments (For project grants, they must have an approved All Hazards Mitigation Plan with the proposed measure listed in their plan. If they do not have an approved plan, they may apply for a Planning Grant.)

2. Certain private nonprofit organizations or institutions that own or operate a private nonprofit facility as defined in 44 CFR 206.221(e) and further clarified in the Federal Register/Vol. 68, No. 120/ Monday, June 23, 2003/Notices. (To be eligible, they must have participated in a local hazard mitigation plan and the proposed measure listed in the plan.)

3. Indian tribes or authorized tribal organizations (For project grants, they must have an approved All Hazards Mitigation Plan with the proposed measure listed in their plan. If they do not have an approved plan, they may apply for a Planning Grant.)

.

B. Project Eligibility - To be eligible for the Hazard Mitigation Grant Program, a project must meet the federal minimum project criteria listed below. In addition to the federal criteria, the State of Wisconsin may consider other basic criteria when evaluating potential HMGP projects, including the applicant's compliance with NFIP, State, and local floodplain regulations and participation in the Community Rating System. (It should be noted that the HMGP cannot retroactively fund projects.)

1. Be in conformance with the State and Local Hazard Mitigation Plan.

2. Have a beneficial impact upon the project area.

3. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands and 44 CFR Part 10, Environmental Considerations.

4. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. (Projects that merely identify or analyze hazards or problems without a funded, scheduled implementation program, are not eligible.)

5. Be cost-effective and substantially reduce the risk of future damage, hardship, loss, or suffering resulting from a major disaster. The State, in applying for the grant, must demonstrate this by documenting that the project does the following: (Note, the cost-effective assessment must include both a numerical evaluation of benefits and costs and an accompanying narrative statement.)

    a. Addresses a problem that has been repetitive, or a problem that poses a significant risk if left unsolved (*i.e.* evaluating the hazard in terms of the frequency and intensity of expected occurrences).
    b. Will not cost more than the anticipated value of the reduction in both direct damages (property) and subsequent negative impacts (loss of function, deaths, injuries) to the area if future disasters were to occur. Both costs and benefits will be computed on a net present value basis (*i.e.* obtaining expected damage estimates as a function of hazard intensity).
    c. Has been determined to be the most practical, effective, and environmentally sound alternative after consideration of a range of options, including the "no action" alternative.
    d. Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address.
    e. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

C. Types of Projects - Projects may be of any nature that will result in protection to public or private property. Eligible projects include, but are not limited to, the following:

1. Acquisition and/or relocation of structures from hazard-prone areas.

2. Retrofitting of facilities, such as elevation or floodproofing to protect structures from future damage.

3. Development of State or local mitigation standards to protect new and substantially improved structures from disaster damage.

4. Structural hazard control or protection projects, such as debris basins or small floodwalls.

5. Construction activities that will result in protection from hazards.

6. Development of comprehensive Hazard Mitigation programs with implementation as an essential component.

7. Development or improvement of warning systems such as the purchase and distribution of NOAA weather radios.

8. Development or update of an All Hazards Mitigation Plan (7% set aside)

D. Funding

1. Federal - FEMA will make Hazard Mitigation Grant Program funds available to the State of Wisconsin in accordance with the following federal regulations:

    a. The total federal funds provided shall not exceed 15 percent (twenty percent if the State has an approved Enhanced State Hazard Mitigation Plan) of the estimated total eligible federal funds spent on the Public and Individual Assistance Programs for each disaster declared under the Stafford Act.
    b. The federal funds provided will be based on the cost-sharing provisions outlined in the FEMA-State Agreement. The federal share of hazard mitigation projects may not exceed 75% of the eligible cost of those projects.
    c. HMGP funds cannot be used as a substitute or replacement to fund projects or programs that are available under other federal authorities, nor can they be used as a match for other federal funds. (Regulations explaining the cost-share requirements can be found at 44 CFR Section 13 Subpart C.)
    d. A set-aside of up to 5% of the total HMGP funds for each declaration is available for the State to use at its discretion for mitigation measures. Projects or activities eligible under the set-aside are those projects that are difficult to evaluate against traditional program cost-effectiveness and eligibility criteria but are generally recognized to provide a benefit in reducing potential losses from a future disaster. In-lieu of the traditional cost-benefit analysis, WEM will include a narrative that identifies the mitigation benefits and indicates that there is a reasonable expectation that future damage or loss of life or injury will be reduced or prevented. Set-aside projects still have to be reviewed for compliance with environmental laws.
    e. A set-aside of up to 7% of the total HMGP funds for each disaster is available to the State for State, local and or tribal planning efforts.

2. State - State funding for HMGP projects is authorized under Chapter 166, Wis. Statues and will be made available when a Presidential declaration is received. The non-federal share will be split evenly between the State and the subgrantee.

3. Subgrantee – The non-federal share is split evenly between the State and the subgrantee and can come from any funding source (state, local, or private) provided it is not federal funds. The non-federal share does not need to be

cash; in-kind services or materials may be used. Funds in excess of the cost-share requirement may be provided from a combination of other federal, state, local or private funding sources.

4. Lock-in Ceiling The lock-in ceiling is the guaranteed level of HMGP funding for a particular disaster. Within 30-35 days of the disaster declaration an HMGP a preliminary lock-in is established. The estimated ceiling is maintained at that same amount for the first six months at which point the first ceiling review is completed and a revised lock-in ceiling is established. The estimate is reevaluated based upon 15% (20%) of other grants under the declaration. If it results in an increase in the estimate, the lock-in ceiling will reflect the increase and vice versus for a decrease. Only at the time of the first HMGP ceiling review shall a decrease in available funds be incorporated into the lock-in. Therefore, the first lock-in ceiling represents the minimum amount of HMGP funds available for a given disaster. The first review for the lock-in ceiling will remain at that amount until 12 months after the disaster declaration at which point the final review will take place. If the resulting estimate amount has increased, the final lock-in ceiling amount will reflect the increase. The HMGP ceiling timeline is:

| | |
|---|---|
| 30-35 days: | Initial establishment of the HMGP estimated ceiling. |
| 6 months: | Ceiling is reviewed and the lock-in ceiling is adjusted upward or downward if necessary. |
| 12 months: | Final lock-in ceiling is established. |

## VIII. IDENTIFICATION AND NOTIFICATION OF APPLICANTS

A. Identification - It is the GAR/SCO's responsibility to ensure that potential applicants for the HMGP are identified. This is primarily accomplished by the SHMO through the following means:

1. Identifying those communities that have adopted a FEMA approved All Hazards Mitigation Plan.

2. Information acquired during the Preliminary Damage Assessment (PDA), and through the community visits conducted after the declaration is granted.

3. A review of the State Hazard Mitigation Plan, especially that portion of the plan that contains an inventory of projects previously identified for funding should it become available.

4. Consultation between the SHMO and FHMO.

5. Through the activities of the WHMT.

6. Information provided by the Public Assistance Officer on possible projects based on information from approved Project Worksheets or through contacts with applicants for the Public Assistance Program.

B. Notification - The GAR/SCO is also responsible for ensuring that potential applicants are notified of the availability of HMGP funding and of program requirements. This will be accomplished by the SHMO as follows:

1. At the Applicants Briefing for the Public Assistance Program, the SHMO and the SPAO will coordinate as to the nature of the HMGP Program information and presentation to be made at the briefing. An overview of the program, to include the eligibility requirements, will be presented at the briefing(s). The intent will be to create an early awareness of the existence of the program and to indicate that more detailed information will be provided, as necessary, at a later date.

2. A letter will be mailed to all applicants for the Public Assistance Program, at a minimum, advising of the availability of the HMGP funds. Accompanying the letter will be a HMGP Pre-Application Form that interested applicants must return to the SHMO. In addition communities outside the declared disaster area may apply to the program. A pre-application will be mailed to communities with previously identified projects and/or previous contacts as well as the County Emergency Directors in non-declared counties. In addition the Pre-Application and information is posted on WEM's website.

3. The HMGP Pre-Application Form is intended to assist the State in making an initial determination on project eligibility prior to the subgrantee completing a formal application package. A Ranking and Scoring Pre-Application worksheet is completed by the SHMO and the results are presented to the WHMT. The full project application package will be sent to those applicants

with the highest priority ranking and whose proposed projects are most viable and have the greatest potential for funding. (See Section IX.D. on reviewing, ranking and selecting projects.) Letters will be mailed to applicants whose projects are denied.

4. The SHMO may meet with communities completing the full application package to assist them in the application process. County Emergency Management Directors will also be invited. The briefing will include the following: general program overview; eligibility; application process; selection process; project management; and technical assistance.

5. At the discretion of the SHMO and FHMO, a press release describing the program may be developed and issued.

## IX. PROGRAM ADMINISTRATION

A. Initial Application Process

1. Within 60 days of the disaster declaration the State will notify FEMA in writing of its intent to participate or not participate in the Hazard Mitigation Grant Program. This is actually done twice, in that the Governor requests the HMGP in his request for a Presidential Disaster Declaration and the SCO/SHMO sends a letter to the Regional Administrator that the State intends to participate in the Hazard Mitigation Grant Program. As needed, the SHMO will call upon FEMA Region V for technical assistance on program administration or management.

2. The SHMO is responsible for ensuring that HMGP Application Packages are distributed to all potential applicants. Potential applicants are those who have already gone through the pre-application process and whose projects have been selected for further funding consideration.

3. Applicants for HMGP funding must submit a completed application package within the timeframe specified by the SHMO. Submittal of applications for mitigation projects are encouraged as soon as possible after the disaster occurs so that mitigation opportunities are not lost during reconstruction.

   The application package will include a completed HMGP Disaster Application form, Assurances, Statement of Assurances for Property Acquisitions Projects with warranty deed restrictions attached, budget worksheet, BCA Property Data Worksheet, Damage Assessment Worksheet, Notice of Voluntary Interest, Model Acknowledgements of Conditions for Mitigation of Property in a SFHA for elevation projects, appropriate maps and any other

documents to support the project. The SHMO will use the information provided to run the Benefit Cost Analysis (BCA) and to assess the environmental effects of the proposed project.

4. The subgrantee is required to have a FEMA approved All Hazards Mitigation Plan to be eligible for project funds. A subgrantee who does not meet this requirement can apply for Hazard Mitigation Grant Program planning funds to develop a plan. The plan would have to be completed and approved within one year from the declaration date, and prior to receiving a project grant.

B. Special Considerations for Property Acquisition/Relocation Projects

Because of heir unique nature, special considerations are required in the administration of acquisition and relocation projects. Subgrantees must comply with the special considerations found in 44 CFR Section 206.434(e); and Part 80, Property Acquisition and Relocation for Open Space; and any other related guidance. Section X covers the requirements for property acquisition and relocation in detail.

In general, properties eligible for acquisition include those where:

- The property will be acquired from a willing, voluntary seller.
- Property contains an at-risk structure, including those that are damaged or destroyed due to an event. In some cases, undeveloped, at-risk land adjacent to an eligible property with existing structures may be eligible.
- All incompatible easements or encumbrances can be extinguished.
- The property is not contaminated with hazardous materials at the time of acquisition, other than incidental demolition or household waste.
- If the structure on the property is to be relocated, the relocated structure must be placed on a site located outside of the 100-year floodplain, outside of any regulatory erosion zones, and in conformance with any other applicable state or local land use regulations.
- The property cannot be part of an intended, planned or designated project area for which the land is to be acquired by a certain date, and or where there is an intention to use the property for any public or private future use inconsistent with the open space deed restrictions and FEMA acquisition requirements (examples includes roads and flood control levees); and
- The property will not be subdivided prior to acquisition, except for portions outside the identified hazard area, such as the Special Flood Hazard Area or any risk zone identified by FEMA.

As part of the project application, subgrantees must attach the Statement of Assurances for Property Acquisition Projects along with the attached Model Statement of Voluntary Participation and Warranty Deed Restrictions. In addition, the subgrantee must include with the application, the completed and signed Notice of Voluntary Interest, either Sample 1 or 2 for each property owner that will participate in the project. The project application will also include the Benefit-Coast Analysis Property Data Worksheet for each property, and a Budget Cost Worksheet. (See Attachment D.)

Every three years the State will contact the communities that have purchased land with HMGP monies and have them verify in writing that the land requirements (open space, public ownership, etc.) are being adhered to.

C. Special Considerations for Projects in Special Flood Hazard Aras (SFHA)

For projects related to mitigation of properties in SFHA (e.g., elevation and floodproofing), each participating Property Owner's signed acknowledgement of conditions for having a property in a SFHA mitigated with FEMA grant funds must be provided to the Grantee and FEMA prior to award. The acknowledgement addresses the information identified on the Model Acknowledgement of Conditions for Mitigation of Property in a SFHA with FEMA Grant Funds (Attachment D), and have equivalent effect.

D. Reviewing, Ranking, and Selecting Projects

1. The SHMO and other mitigation staff will review the pre-applications submitted for HMGP funding. The eligibility of the applicants will be verified. The review of the pre-applications may reveal that eligible projects are competing for limited HMGP funding. The SHMO and staff will score, rank and prioritize the project based on FEMA and the State's criteria and based on information provided in the pre-application and gathered from site visits or community meetings.

2. The SHMO will convene the WHMT to discuss the pre-applications and identify potential funding sources for projects as well as make sure there is no duplication of efforts among the agencies involved. Projects that are eligible for technical or financial assistance through other state or federal agencies will be referred to those agencies.

3. Based on the recommendations of the WHMT and the State's priority, the SHMO will make a formal recommendation to the GAR/SCO as to which projects should be selected for further HMGP funding consideration.

4. The GAR/SCO will make the final decision regarding the selection of projects for potential funding. Formal HMGP application packages will be sent to those communities selected for further grant consideration.

5. It should be noted that since 1993, FEMA has placed the acquisition of floodplain property as the first priority for HMGP funding; and since 1998 FEMA has further designated the acquisition of repetitive loss structures as their top priority. The following has been adopted as the State's priority for HMGP funds:

   a. Acquisition and demolition of floodplain properties determined to be substantially damaged per a community's floodplain zoning ordinance;
   b. Acquisition and demolition of repetitive loss structures that meet FEMA's BCA;
   c. Acquisition and demolition of damaged floodplain properties that meet FEMA's BCA;
   d. Acquisition and demolition of floodplain properties that meet FEMA's BCA;
   e. Acquisition and demolition of flood damaged properties not in the floodplain that meet FEMA's BCA;
   f. Elevation or floodproofing or retrofitting flood damaged structures in the floodplain that meet FEMA's BCA;
   g. Elevation or Floodproofing or retrofitting flood damaged structures not in the floodplain that meet FEMA's BCA;
   h. Other hazard reduction projects (such as detention ponds, storm sewer improvements, protection of utilities, drainage, etc.) that meet FEMA's BCA.

   Additional criteria:

   a. Mitigation activities that fit within an overall plan for development in the community, disaster area, or state.
   b. Mitigation activities that if not taken will have a severe detrimental impact on the community such as the loss of life, loss of essential services, damage to critical facilities, or economic hardship.
   c. Mitigation activities that have the greatest potential for reducing future disaster losses.
   d. Mitigation activities that are designed to accomplish multiple objectives, including damage reduction, environmental enhancement, historical preservation, recreational opportunities, and economic recovery.
   e. The community's level of interest and demonstrated degree of commitment to mitigation programs and activities.

6. The SHMO will review the formal HMGP applications to ensure that adequate information has been provided and the project meets all the minimum eligibility requirements. The SHMO will contact the community to obtain any necessary additional information and for involving appropriate members of the WHMT in the review process.

E. Submission of State Application for HMGP Funding

1. Following completion of the applications and as soon as possible after the Presidential Disaster Declaration, the SHMO will submit them to FEMA, Region V Administrator. This will be accomplished within 12 months of the declaration. If necessary, two 90-day requests may be made to extend the application period. All funds will be obligated within two years of the declaration.

2. The SHMO will forward to FEMA the application package that will contain the following:

   a. DMA Form 139 (Section 404-HMGP Disaster Application) that includes:

      Name of the subgrantee and its assigned FIPS and DUNS number
      Primary and secondary contact person for the project
      Project cost estimate
      Project title and description
      Project location (including maps)
      Detailed description of the project
      Pictures of project
      Work schedule and estimated completion dates
      Cost breakdown for the project
      Considered alternatives
   b. DMA Form 1017A (Assurances)
   c. Statement of Assurances for Property Acquisition Projects (if applicable) with attached warranty deed restrictions.
   d. Signed Notice of Voluntary Interest Forms (if applicable)
   e. Summary of the completed BCA along with documentation and a narrative consistent with HMGP regulations.
   f. Environmental review (Record of Environmental Consideration-REC) consistent with 44 CFR Part 10.)

3. The SHMO will enter into NEMIS all appropriate information for each application

4. E-mail will be sent to FEMA informing them that an application package has been forwarded to their office.

F. Project Approval

1. After FEMA's mitigation staff approves an application over $1 million, they will forward a draft press release to Region V External Affairs Officer (EAO). The EAO will notify the appropriate congressional members and the SHMO. The project approval and announcement is considered "close hold" information, not to be shared until the congressional member is about to make the announcement. If the congressional member chooses not to make the announcement, the EAO will coordinate with the state's Public Affairs Officer and the SHMO on the use of a joint federal/state release.

2. If the project has been approved, the SHMO will initiate a State/Local Hazard Mitigation Grant Program Assistance Agreement that will be signed by WEM and the subgrantee before the project can commence.

3. After the State/Local Hazard Mitigation Grant Program Assistance Agreement has been signed, the applicants will be directed to commence work on the project. The SHMO will provide the applicant with appropriate information on HMGP requirements, including how to request reimbursement of funds, the requirement to submit quarterly progress reports, requests for extensions of time, etc.

G. Project Management

1. WEM will be the grantee for project management and accountability of funds in accordance with 44 CFR Parts 13. Approved applicants for HMGP funding are considered subgrantees and as such are accountable to WEM (the grantee) for funds awarded to them.

2. The WEM Financial Management Officer (FMO) will manage the accounts funded by FEMA for approved projects under HMGP. The FMO will not draw federal funds from the account until advised by the SHMO and FEMA has obligated funds for this purpose. The FMO and SHMO will be jointly responsible for ensuring that all procurements using HMGP funds will follow the policies and procedures outlined in 44 CFR 13.36. By signing the Assurances that are part of the grant application, the subgrantee is so agreeing.

3. The SHMO and the subgrantee will implement a record keeping and financial system for each project based upon the approved work schedule.

4. Subgrantees will submit Quarterly Status Reports to the SHMO. The due dates for these reports are January 15, April 15, July 15, and October 15. The SHMO in turn will submit a quarterly progress report to FEMA indicating the status and completion date for projects in all open disaster declarations. Any problems or

circumstances affecting completion dates, scope of work, or project costs which are expected to result in noncompliance with the approved grant conditions will also be described in the report. The FMO is responsible for submitting the financial quarterly report to FEMA.

5. Upon completion of the grant, the SHMO will certify to FEMA that costs incurred in the performance of eligible work are allowable, that the approved work was completed, and that the mitigation measure is in compliance with the Federal-State Agreement and the State/Local HMGP Assistance Agreement. A project closeout worksheet providing a complete assessment of project accomplishment will also be prepared by the SHMO and submitted to FEMA. The FMO is responsible for submitting the final financial report to FEMA.
6. Subgrantees will maintain financial records and receipts necessary to document all their expenditures relative to their projects. Such records may include specifications, bid tabulations, contract awards, invoices, receipts, checks, job orders, equipment usage, payroll information, and any other necessary documentation that would be required for an audit. A sample spreadsheet will be provided to each subgrantee.

7. The SHMO will monitor and evaluate project accomplishments, and adherence to the work schedule. Problems will be reported immediately to the GAR/SCO and Region V. If a subgrantee is found to be non-compliant with any of the agreed upon terms of the HMGP, the SHMO will take actions appropriate for the circumstances and as outlined in 44 CFR 13.43. Except as provided for in 44 CFR 13.43, awards may also be terminated for convenience by the SHMO as per procedures outlined in 44 CFR 13.44.

8. The SHMO will review requests for reimbursement of expenditures, time extension requests, cost overruns, and appeals.

    a. Reimbursement of Funds

        1) The reimbursement of funds will be based on expenditures already incurred and within the dollar amount of the approved project.

        2) Advancement of funds may be made in some extraordinary situations upon prior approval of the State. The subgranttee will be advised to deposit any advance HMGP funds into a separate non-interest bearing bank account. If any interest is generated, the subgranttee will be instructed that those funds shall be expended for project administrative purposes before any additional project funds are drawn down. Subgrantees should reconcile earned interest each calendar quarter. If

earned-and-expended interest exceeds $100 at any time during the calendar year, all interest in excess of $100 shall be returned to the U.S. Treasury.

3) A request for funds during project implementation must be submitted in writing to the SHMO. The request must be accompanied by adequate supporting documentation for both project and any in-kind match (44 CFR 13.24). The retention period begins at the time the subgrantee's closing report has been accepted by the State. (44 CFR 13.42)

4) When the request is approved, disbursement documentation will be prepared and forwarded to the FMO for processing. When the reimbursement check is received, the SHMO will forward it, along with a cover letter, to the applicant.

5) If the request is denied, the applicant will be so advised, in writing, and given the reason for the denial.

b. Time Limits and Extensions

1) Time Limits - Generally, projects must begin within 90 days of grant approval and be completed per the approved work schedule (no later than 3 years from the date funds were obligated for their project). The specific time schedule for each project will be detailed in the approved project application. Exceptions may be granted for certain types of projects and/or special circumstances.

2) Time Extensions - If an applicant is unable to complete a project by the time specified in the project application, he/she must immediately notify the SHMO in writing and request a time extension. The request should explain why the completion deadline will not be met, what project work remains, and a probable date for project completion. After reviewing the time extension request, the SHMO will notify the applicant of the decision.

If the extension request means that their activity period will go beyond the disaster close date, the SHMO will request up to a one-year disaster period of performance extension. The SHMO will make this request to Region V 60 days prior to the close of the disaster. If at the end of the 1-year extension another extension is requested by the subgrantee, the SHMO again will submit the request to Region V 60 days prior to the "new" disaster close date. The disaster period of performance cannot exceed 7 years.

c. Cost Overruns

1) Applicants will be required to notify the SHMO in writing as soon as they determine that they will have a cost overrun. The letter should include the dollar amount of the overrun, the reason for the overrun, and provide appropriate justification and documentation (invoices, copies of contracts, pictures, etc.) to support the additional costs.

2) The SHMO will evaluate each cost overrun. If the evaluation indicates that the cost overrun is justified, and if HMGP funds are available for a supplement to the grant, the SHMO will submit a request, along with supporting documentation, to the FHMO for approval.

3) The subgrantee will be notified in writing of the FHMO's decision on the overrun.

d. Appeals

1) An applicant may elect to appeal any decision made by the SHMO or FEMA on its project.

2) Such appeals must be in writing to the SHMO and contain new or additional information that justifies reconsideration.

3) The applicant appeal must be submitted to the SHMO within 60 days of the date of the letter notifying the applicant of the action being appealed.

4) Upon receipt of an appeal from a subgrantee, the SHMO will review the material submitted and forward the appeal with a written recommendation to the Regional Administrator within 60 days.

5) The FEMA Regional Administrator has 90 days to make a determination on the appeal or to request additional information from the State.

6) If the FEMA Regional Administrator denies the appeal, the subgrantee may appeal again through the SHMO and FEMA Regional Administrator. This appeal is sent to the FEMA Director for Mitigation within 60 days of the Regional Administrator's denial. The Associate Director/Executive Associate Director's appeal determination within 90 days will be the Agency's final administrative decision on the matter.

9. Program Income

   Certain types of hazard mitigation projects will allow the subgrantee to earn income in the course of implementing the project (i.e. through salvage of property prior to demolition, etc.) Program income shall be applied to the project or deducted, in accordance with 44 CFR 13.25, from outlays which may be both federal and non-federal, as outlined in 44 CFR 13.25 (g), unless the federal agency regulations or the grant agreement specify another alternative

   If any interest is generated on advancement of funds (they will be advised to use non-interest bearing accounts), the subgrantee will be instructed that the interest funds shall be expended for project administrative purposes before any additional project funds are drawn down. They will also be instructed to reconcile earned interest each calendar quarter. If earned-and-expended interest exceeds $100 at any time during the calendar year, they will be told to return the excess of $100 to the U.S. Treasury.

10. Project Completion and Closeout

    a. Within 30 days of project completion, the applicant will notify the SHMO in writing. The written closeout letter and notification will include a final report along with documentation for final reimbursement and a signed copy of the environmental closeout declaration if appropriate.
    b. The SHMO will review the documentation to ensure that all claims and costs are eligible and that work performed is in compliance with the approved project application.
    c. The SHMO will authorize final payment of the federal and state shares of the grant. In addition, the SHMO will also authorize payment of allowable subgrantee management costs, in accord with FEMA regulations and the State Administrative Plan. Such expenses will be listed separately from actual project-related expenditures.
    d. A site visit will be made to do a final inspection.
    e. Upon completion of a project, the SHMO will prepare a Project Closeout Worksheet and submit it to FEMA for their approval and signature. In addition, the SHMO will request FEMA to complete the grant closeout process.
    f. When all projects under a single disaster have been completed, the SHMO will prepare the Declaration Closeout Letter and Worksheet for the HMGP and forward it to FEMA for their approval and signature requesting that the declaration for HMGP be closed. The FMO will close out the

HMGP Program financially by submitting a SF 20-10, certifying project completion. All valid expenditures made in the performance period will be liquidated within 90 days following the expiration of the period of performance.

11. Audits

    a. The Division of Emergency Management and each subgrantee expending $500,000 or more in federal financial assistance shall ensure that audits are conducted in accordance with 44 CFR Part 14.
    b. The FMO will review audits for the grantee and subgrantee and report any problems to the SHMO and FEMA. The SHMO or FMO will take appropriate or required action.
    c. If there is evidence of noncompliance, the FMO will take appropriate corrective action within six months.
    d. If FEMA elects to conduct a federal audit of the HMGP, the grantee and subgrantee will cooperate as necessary.

12. Technical Assistance

    If an applicant requires technical assistance in the course of applying for and/or implementing a Hazard Mitigation Project, he/she should contact the SHMO. The SHMO will call upon appropriate agencies from the WHMT or coordinate with other state or federal agencies, in addition to the regional planning commissions to provide such assistance.

13. Management Costs

    In accordance with 44 CFR Part 207, the State can request FEMA provide a grant equal to 4.89% of the federal share of the estimated eligible program costs for the HMGP for the declaration. The grant is awarded after the State provides adequate documentation to FEMA that supports the costs and activities for which funding will be used. Management costs can include indirect costs, administrative expenses, and any other expenses not directly chargeable to a specific project that are reasonably incurred by the grantee or subgrantee in administering and managing the HMGP program and grant awards.

    a. State Management Costs cover the cost to support activities and administer the HMGP. State Management Costs generally represent regular and overtime time salaries and associated fringe benefits of state personnel administering the HMGP and may include personnel costs for State staff housed in departments other than the Emergency Management agency. Eligible staff costs include the State's cost of regular full-time or

part-time contractual personnel dedicated to the HMGP, and personnel with whom the State has contracted for specific tasks necessary for management and administration of the HMGP program such as certified review appraisers. The costs for goods and services, equipment, travel, per diem, and lodging, also are components of the State's management costs.

b. In addition, the State will pass through to subgrantees management costs for their costs associated with the administration of their approved HMGP grant. Costs can include those incurred for requesting, obtaining, and administering the grant. This includes the costs for submitting quarterly reports, preparing requests for reimbursements, conducting inspections, completing closeout documents, and any required audits. Subgrantee management costs are based on 1% (one percent) of the final net eligible costs in the FEMA approved HMGP grant.

   Additional funds may be requested in extraordinary situations with adequate documentation and if management cost funds are available.

   The subgrantee must maintain documentation on management cost expenses. The subgrantee is not required to provide documentation to the State, but must maintain records for minimum of three years after closeout of the grant. Activities and costs that can be charged directly to the HMGP grant with proper documentation are not eligible for management cost funding and should be charged as project costs.

   The State will track funds expended for subgrantee management costs for each subgrantee on its disbursement spreadsheet as well as cumulatively for all subgrantees for the disaster.

c. Determination of Management Cost Funding

   1) Between 30 and 35 days after the declaration date, FEMA will provide the State with the preliminary lock-in amount for management costs based on projections at the time of the federal share for the disaster. If requested by the State, FEMA will obligate up to 25% of the estimated state management cost lock-in amount at this time.
   2) At 6 months after the date of declaration, FEMA will revise the preliminary lock-in amount for management costs based on the projections at that time of the federal share for the disaster.
   3) At 12 months after the date of the declaration, FEMA will determine the final lock-in amount for management costs based on the projections at that time of the federal share for the disaster.

d. Requesting Management Cost Funding

Following notification from FEMA of the preliminary lock-in amount and within 120 days from the declaration date, the Division will submit a HMGP project narrative that describes the activities, projected personnel requirements, subgrantee management costs, and other costs related to the management of the program for that disaster. Documentation to the support the management cost request will include:

1) The State's plan for expending and monitoring the funds and ensuring sufficient funds are budgeted for grant closeout.
2) An estimate of the percentage of pass-through fund that the State will make available to subgrantees.

FEMA will approve or reject the HMGP project narrative on management costs within 30 days of its receipt. If FEMA rejects the narrative, it will provide the State definitive reasons for the denial as well as clearly identify the additional documentation required for approval. He State will have 30 days to submit a revised narrative for consideration and approval.

At 6 months after the declaration date, the State may request an additional obligation of 10% of the management cost funds, based on the revised 6 month preliminary lock-in amount. This request for additional funds will include documentation to support the request.

At 12 months after the declaration date, FEMA will notify the State of the final lock-in amount. The State will submit a final funding request, based upon the final lock-in amount, to the FEMA Regional Administrator. The final funding request will include any necessary revisions to the required supporting documentation. FEMA will obligate the remaining funds upon approval of the final request.

The State's quarterly reports will include HMGP grantee and subgrantee management cost expenses.

The performance period for HMGP management costs will be 8 years from the date of the declaration, or 6 months following the latest performance period date of a subgrantee project, whichever is sooner.

## X. SPECIAL CONSIDERATIONS FOR PROPERTY ACQUISITION/RELOCATION PROJECTS

Because of their unique nature, special considerations are required in the administration of acquisition and relocation projects. Subgrantees must comply with the special considerations, 44 CFR Section 206.434(e); Part 80, Property Acquisition and Relocation for Open Space; and any other related guidance.

A. State Roles and Responsibilities

1. Serve as the point of contact by coordinating with the subgrantees and with FEMA to ensure that the project is implemented per regulations.

2. Provide technical assistance to the subgrantees

3. Ensure that projects are not framed in a manner that has the effect of circumventing federal regulations.

4. Ensure that the proposed activity complies with federal regulations including that the property acquisition activities remain voluntary in nature, and that the subgrantee and property owners are aware of said requirement.

5. Submit subapplications in accordance to program schedules and requirements with all required information for FEMA to determine eligibility, technical feasibility, cost effectiveness, and environmental compliance.

6. Review any proposals for subsequent transfer of property interest and obtaining FEMA approval and ensure that uses are compatible with open space requirements.

7. Make no applications for or provide federal disaster assistance or other FEMA assistance for the property or any open-space related improvements after the property is acquired.

8. Ensure that acquired properties remain in open space and use in perpetuity.

9. Report on property compliance with the open space requirements after grant award.

B. Subgrantee Roles and Responsibilities

1. Coordinate with the State and with property owners to ensure that the project is implemented in compliance with federal regulations

2. Submit subapplications in accordance to program schedules and requirements with all required information for the State and FEMA to determine eligibility, technical feasibility, cost effectiveness, and environmental compliance.

3. Ensure that projects are not framed in a manner that has the effect of circumventing federal regulations.

4. Coordinate with the property owners to ensure that they understand the benefits and responsibilities of the project and that participation in the program is voluntary.

5. Develop the project application and implement the project in accordance with federal regulations ensuring that all terms of the required deed restrictions and grant award are enforced.

6. Ensure that there are fair procedures and processes to compensate property owners and tenants such as determining property values and/or the amount of the mitigation offer, and reviewing property owner disputes regarding such offers.

7. Make no application for federal disaster assistance, flood insurance, or other FEMA benefits for the property or any open-space related improvements after the property is acquired.

8. Take and retain full ownership or if transferring the property obtaining State and FEMA approval.

9. Submit to the State and FEMA proposed uses on the property for open space compatibility determinations.

10. Monitor and report on property compliance after the grant is awarded.

C. Pre-Award Requirements

1. FEMA may fund eligible pre-award project costs at its discretion and as funds are available. Grantees and subgrantees may be reimbursed for eligible pre-award costs for activities directly related to the development of the project proposal. The costs can only be incurred during the open application period. Costs incurred prior to grant award that are associated with actual implementation of the project are not eligible.

D. Post-Award Requirements

1. Project Implementation

a. The subgrantee will not acquire property contaminated with hazardous materials. A contaminated property must be certified clean prior to acquisition. This excludes disposal of incidental demolition and household hazardous wastes. Grant funds cannot be used for clean-up or remediation of contaminated properties.

b. The subgrantee will obtain a title insurance policy to ensure that it acquires property with clear title. The property interest generally must transfer by a general warranty deed. Any incompatible easements or other encumbrances to the property must be extinguished before acquisition.

c. The offer to purchase is based on the current market value of the property or the "pre-event" market value for the major disaster under which funds are available. When multiple disasters have affected the same property, the State and subgrantee shall determine which is the relevant event.

d. A property owner who did not own the property at the time of the event, or who is not a National of the United States or qualified alien, is not eligible for an offer to purchase based on pre-event market value for the property. Subgrantees will ask each participating property owner to certify that they meet the requirement prior to offering pre-event market value.

e. Certain tenants who must relocate as a result of the project are entitled to relocation benefits under the Uniform Relocation Assistance and Real Property Acquisition Policies Act (such as moving expenses, replacement housing rental payments and relocation assistance advisory services.) They may also be entitled to relocation assistance under the State's Relocation Assistance Law, StateStutute 32, Comm Code 202.

f. If an offer to purchase for a residential property is less than the cost of the home-owner occupant to purchase a comparable replacement dwelling outside of the floodplain in the same community, the subgrantee may make available a supplemental payment to the property owner in accordance with criteria determined by the Administrator. In Wisconsin, home-owner occupants may be eligible for relocation assistance under the State's Relocation Assistance Law, StateStutute 32, Comm Code 202.

g. The subgrantee must notify each property owner in writing of what it considers the market value of the property. The market value will be determined by an appraisal completed by a State certified and licensed

appraiser. The offer will clearly state that the property owner's participation in the project is voluntary. At the time the offer to purchase is presented, the property owner will be requested to sign the Statement of Voluntary Participation.

h. Structures on the acquired property must be demolished or relocated within 90 days of acquisition by the community. The FEMA Regional Administrator may grant an exception to this deadline only for a particular property based on written justification if extenuating circumstances exist, but a final date for removal must be specified.

i. The subgrantee, upon settlement of the property, shall record the required warranty deed restrictions.

2. Land Use and Oversight

a. Acquired property shall be dedicated and maintained in perpetuity as open space for the conservation of natural and floodplain functions. These may includes parks for outdoor recreational activities, wetlands management, nature reserves, cultivation, grazing, camping (except where adequate warning time is not available to allow for evacuation), unimproved unpaved parking lots; buffer zones, and other uses FEMA determines compatible with open space uses.

b. Allowable uses generally do not include walled building levees, dikes, or floodwalls, paved roads, highways, bridges, cemeteries, landfills, storage of hazardous or toxic materials, above or below ground pumping and switching stations, above or below ground storage tanks, paved parking, off-site fill or other uses that obstruct the natural and beneficial functions of the floodplain.

c. No new structures or improvements will be built on the property except those listed below and will be floodproofed or elevated to at least 2 feet above the base flood elevation:
   1) A public facility that is open on all sides and functionally related to a designed open space or recreational use.
   2) Public restroom.
   3) A structure that is compatible with open space and conserves the natural function of the floodplain which the Administrator approves in writing before the construction of the structure begins.

d. Any improvements shall be in accordance with proper floodplain management regulations, policies and practices.

e. No federal entity or source may provide disaster assistance for any purpose nor may any application for such assistance be made to any federal entity or source for the acquired property.

f. The property is not eligible for flood insurance coverage for damage to structures after the property is acquired except for pre-existing structures being relocated off the property as a result of the project.

g. After acquisition of the property, the subgrantee shall convey any interest in the property only if the FEMA Regional Administrator, through the State gives prior written approval in accordance with federal regulations.
   1) The request must include a signed statement from the proposed transferee that it acknowledges and agrees to be bound by terms of the federal regulations, and documents its status as a qualified conservation organization if applicable.
   2) Subgrantee may convey the property only to another public entity or a qualified conservation organization.
   3) Subgrantee may convey an easement or lease to a private individual or entity for purposes compatible with the uses described above with prior approval of the FEMA Regional Administrator.
   4) Conveyance of any property must reference and incorporate the original deed restrictions, and include a provision for the property to revert to the subgrantee or State in the event that the transferee ceases to exist or loses it eligible status.

h. FEMA and the State have the right to enter upon the property, at reasonable times and with reasonable notice, to inspect the property to ensure compliance.

i. Every 3 years the subgrantee will provide a report to FEMA Regional Administrator, through the State, certifying that they have inspected the property within the proceeding month and that the property continues to be maintained consistent with the federal open space requirements and the grant award.

j. The subgrantee, Sate and FEMA are responsible for taking measures to bring the property back into compliance if the property is not maintained according to federal regulations.
   1) The State will notify the subgrantee and any holder of the property in writing and advise them that they have 60 days to correct the violation.
   2) If the subgrantee or any current holder of the property fails to demonstrate a good faith effort to correct the violation within the 60-day period, the State shall enforce the terms of the grant by taking measures it deems appropriate.

3) FEMA may take measures it deems appropriate including, but not limited to withholding FEMA mitigation awards and assistance from the Sate and subgrantee; requiring transfer of title, brining an action at law or inequity in a court of competent jurisdiction against the State, subgrantee and/or respective successors.

E. Close-out Requirements

Upon closeout of the grant, the subgrantee, through the State, shall provide FEMA the following:

1. A copy of the recorded warranty deed for each property with the FEMA required deed restrictions included.

2. A photo of each property that was acquired after project completion.

3. The latitude and longitude coordinates for each property acquired.

4. Identification of each property as a repetitive loss property, if applicable.

5. Other information as deed appropriate by the Administrator and the State.

## XI. PLAN REVIEW AND UPDATING

A. This Administrative Plan will be reviewed annually to ensure compliance with law, implementing regulations, and state policies. It will be updated as needed to reflect regulatory or policy changes, or to improve program administration. Upon update, it will be submitted to FEMA Region V for review and approval.

The FEMA Regional Administrator shall acknowledge receipt of the plan in writing to WEM and the SHMO. Written comments from FEMA shall state whether the plan is approved, shall detail any shortcomings and shall include a suggested method and timeline for correction, if necessary.

B. Following a Presidential Disaster Declaration, the SHMO will prepare any updates, amendments, or revisions to the plan that are required in order to meet current policy guidance or changes in the administration of the Hazard Mitigation Grant Program. The plan will be submitted to FEMA Region V for approval.

## XII. ATTACHMENTS

A. State Notification Letter of Intent to Participate in the HMGP

B. HMGP Pre-Application (DMA Form 141) and Cover Letter

C. Ranking and Scoring Pre-Applications and Pre-Application Ranking (DMA Form 140)

D. HMGP Formal Application Package

Cover Letter Acquisition and Elevation
Instructions for Applicants
Environmental Assessment Requirements
Section 404-HMGP Disaster Application (DMA Form 139A) for Acquisition/Relocation/Floodproofing
Assurances (DMA Form 1017A)
Statement of Assurances for Property Acquisition Projects
- Exhibit A – Model Warranty Deed Restrictions

Budget Cost Worksheet for Acquisition/Relocation Projects
Property Data Worksheets for Acquisition/Relocation/Elevation Projects
Notice of Voluntary Interest – Sample 1
Notice of Voluntary Interest – Sample 2
Model Statement of Voluntary Participation
Budget Cost Worksheet for Elevation Projects
Model Acknowledgement of Conditions for Mitigation of Property in SFHA with FEMA Grant Funds
Cover Letter Structural Projects
Section 404-HMGP Disaster Application (DMA Form 139) for Structural or Other Types of Projects
Damage Assessment Worksheet
HMGP Planning Application
HMGP Planning Application Instructions

E. National Environmental Policy Act

Request Letter for Categorical Exclusion Information
Concurrence Form
Record of Environmental Consideration
Public Notice Procedures
Final Public Notice
Environmental Closeout Declaration

F. Notification Letter of Grant Approval

G. State/Local HMGP Assistance Agreement (Acquisition)
State/Local HMGP Assistance Agreement (Elevation)
State/Local HMGP Assistance Agreement (Non-Acquisition)
State/Local HMGP Assistance Agreement (Planning)

H. Request for Reimbursement of Funds (DMA Form 167)

I. Sample Spreadsheet for Documenting Expenses

J. Subgrantee Quarterly Status Report for Non-Structural Projects (DMA Form 168)

K. Subgrantee Quarterly Status Reports for Structural and Other Projects and Planning

L. State Quarterly Status Report

M. Sample Project Closeout Letter
WEM Project Closeout Worksheet
WEM Planning Closeout Worksheet
WEM State Management Closeout Worksheet

N. Sample Declaration Closeout Letter
WEM Declaration Closeout Worksheet (DMA Form 142)

O. Land Use Requirements Letter
Land Use Requirements Form
Warranty Deed Restrictions

P. State Management Cost Project Narrative

Date

Regional Administrator
Federal Emergency Management Agency
536 South Clark Street, 6th Floor
Chicago IL 60605

Dear _____:

I would like to inform you of the State's intention to apply for the Section 404, Hazard Mitigation Grant Program under declaration FEMA-____-DR-WI.

Pre-applications for the Hazard Mitigation Grant Program will be sent to the communities in the designated disaster area in the near future as well as other areas throughout the state. My staff has also started coordination with the WI Department of Natural Resources.

If you have any questions, please call the State Hazard Mitigation Officer, at (608) 242-3211.

Sincerely,

State Coordinating Officer
Wisconsin Emergency Management

cc: Director of Mitigation Division, Region V

**DATE:**

**TO:** Local Officials and Zoning Administrators in communities included in Federal Disaster Declaration FEMA- -DR-WI
County Emergency Management Directors
County Board Chairperesons
Local Officials of other selected communities

**FROM:** Diane Kleiboer, State Coordinating Officer/Deputy Administrator

**SUBJECT: PRE-APPLICATION FOR THE SECTION 404-HAZARD MITIGATION GRANT PROGRAM**

As a result of Presidential Disaster Declaration FEMA- -DR-WI funding is available for mitigation activities through the Section 404-Hazard Mitigation Grant Program. The counties that were included in the declaration as a result of (disaster type) between (dates) are (list counties).

The Hazard Mitigation Grant Program (HMGP) provides grants to state and local governments, eligible private non-profit organizations, and Indian tribes to fund long-term, permanent mitigation measures following a major disaster declaration. These grants are available statewide and are 75% federally funded through the Federal Emergency Management Agency (FEMA), 12.5% state funded through Wisconsin Emergency Management (WEM) and 12.5% is the required local match. The local match can be provided by other funding sources as long as it is not federal dollars. It can be a soft or in-kind match. In addition, the local match can be greater than 12.5%. The funds available for the HMGP for this declaration are estimated at $_____ and are based on 15% (20%) of the federal funds spent on the Public Assistance and Individual Assistance Programs for the declaration.

**The objective of the program is to eliminate or reduce future disaster damages to improved property.** Grants can be used to fund projects on public or private property. Eligible projects include, but are not limited to, the acquisition and relocation of flood prone properties, floodproofing or retrofitting measures including elevation, wind resistant retrofitting or construction, and construction of safe rooms and storm shelters. Other fundable projects include the development of mitigation standards to protect structures from disaster damages and small structural control projects such as detention ponds, stormwater improvements are also fundable. In addition, funds are available for developing local all hazard mitigation plans as well as updating existing plans. A project can be considered for funding even if damages did not occur during this event if the application shows that past damages have occurred and that the project can reduce future damages. Mitigation for hazards other than flooding can be considered as long as the program criteria can be met. The program cannot fund costs to make disaster repairs, purchase equipment, pay for plans and studies that merely analyzes a situation, or pay for projects that are already started or completed.

To be eligible for HMGP funding, specific criteria must be met:

1. The community must be participating and be in good standing in the National Flood

Insurance Program if a special flood hazard area has been identified by FEMA.

2. The proposed project must be cost-effective and show that the benefits of the project will outweigh the cost. It must pass the Benefit Cost Analysis, which is the most difficult requirement for project approval.

3. The project must be environmentally sound and will require environmental documentation prior to funding.

4. The applicant will have to show that other alternatives (2 at a minimum) were considered and that the alternative selected is the most feasible and will solve the problem. The applicant will have to demonstrate that the proposed project will eliminate or substantially reduce future disaster damages.

5. The applicant must have a FEMA approved all hazard mitigation plan. The proposed mitigation measure must be in conformance with the goals and objectives of the local hazard mitigation plan as well as the State Hazard Mitigation Plan. Those communities without a FEMA approved plan may apply for HMGP funds for the development of such a plan. The Plan would have to be completed, adopted and approved by FEMA within one year of the declaration prior to receiving any project grant funds. In addition, those communities that have an approved mitigation plan may apply for HMGP funds to revise or update their existing plan to meet the five-year plan update requirement. Wisconsin Emergency Management encourages the development of countywide hazard mitigation plans.

HMGP funds are available statewide. Communities in the declared area will receive priority consideration and are strongly encouraged to apply for this program. For each proposed project complete the enclosed Pre-Application Form attaching any pertinent information that will support the project. Submit it to this office no later than (date).

WEM staff will review, score, rank and prioritize for funding consideration. Projects that will have the greatest impact for preventing or reducing future disaster damages and meet the program requirements will receive HMGP grant approval based on grant dollars available. Those applicants whose proposed projects have the greatest potential for funding approval will be asked to submit a detailed formal application.

Both the FEMA's and the State's priority for HMGP projects focus on the acquisition, demolition, relocation, and floodproofing or elevation of floodplain properties. Pre-applications that match these priorities will receive priority consideration with the mitigation of substantially damaged structures receiving the highest priority. Substantially damaged properties are those structures that have incurred damages that exceed 50% of the equalized assessed value. HMGP funds can be used to fund structural projects if the project will eliminate or substantially reduce damages to improved property.

Pre-applications that do not receive further consideration for HMGP funding will be referred to the Wisconsin Hazard Mitigation Team members for funding under other programs that may be available through the agencies represented on the group.

Mitigation projects not funded through the HMGP under this declaration may be considered under

other FEMA mitigation programs such as the Pre-Disaster Mitigation, Flood Mitigation Assistance, Repetitive Flood Claims or the Severe Repetitive Loss Programs. These programs have annual funding cycles. The application period for these programs is from June 19, 2008 until December 19, 2008. The Hazard Mitigation Assistance (HMA) Unified Program Guidance can be found at: http://emergencymanagement.wi.gov/docview.asp?docid=14147&locid=18.

If you have any questions, please feel free to call Roxanne Gray, State Hazard Mitigation Officer, at 608-242-3211, Susan Boldt, Assistant State Hazard Mitigation Officer, at 608-242-3214, Lynsey Kawski, Disaster Response and Recovery Planner, at 608-242-3222, or Robby Stoikes, Hazard Mitigation Planner, at 608-242-3226.

Enclosures:

Pre-Application, Section 404-Hazard Mitigation Grant Program, DMA Form 141
Hazard Mitigation Grant Program

cc: Wisconsin Regional Emergency Management Directors
Wisconsin Hazard Mitigation Team

STATE OF WISCONSIN
DPARTMENTOF MILITARY AFFAIRS
DIVISION OF EMERGENCY MANAGEMENT
P.O. BOX 7865
MADISON, WI 53707-7865
608-242-3232



**STATE OF WISCONSIN**
**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**Pre-Application Form**
**Section 404-Hazard Mitigation Grant Program**
**FEMA- -DR-WI**

1. NAME OF APPLICANT:_____ COUNTY: _____

2. PRIMARY CONTACT PERSON:_____

   TITLE:_____

   ADDRESS:_____CITY:_____

   ZIP:_____ TELEPHONE:_____FAX:_____

   E-MAIL ADDRESS_____

3. ALTERNATE CONTACT PERSON:_____

   TITLE:_____

   TELEPHONE:_____FAX:_____

   E-MAIL ADDRESS_____

4. TYPE OF PROJECT

   _____ Acquisition and Demolition
   _____ Relocation
   _____ Structural Hazard Control
   _____ Education
   _____ Development or update of All Hazard Mitigation Plan
   _____ Floodproofing/Elevation
   _____ Wind resistant retrofit or construction
   _____ Education
   _____ Other

5. MITIGATION PLANNING
   Name of All Hazard Mitigation plan: _____
   Date Plan Approved: _____
   Location of project/mitigation action in Plan (attach copy): Page Number _____

6. LOCATION OF PROJECT (Road or street address, geographic landmarks, legal description, etc. Include legible maps/drawings of the location. Provide a map showing the range and section for the project area.)

   _____

   _____

   _____

7. IS PROJECT LOCATED IN A 100-YEAR FLOODPLAIN? (If yes, attach a FIRM map with the location)

   _____Yes _____No _____Floodway_____Floodfringe

8. BRIEF DESCRIPTION OF PROJECT (If acquisition, what are the plans for the “open land”):

_____

_____

_____

_____

9. BRIEF DESCRIPTION OF THE PROBLEM:

_____

_____

_____

_____

10. BRIEF DESCRIPTION OF DAMAGES AND THE REDUCTION IN FUTURE DAMAGES (include damages to improved property, infrastructure, public safety costs, economic impact, etc.):

_____

_____

_____

_____

11. FREQUENCY THAT DAMAGES OCCUR (Number of times or the years that the event has occurred causing damages, etc.)

_____

_____

_____

_____

12. HOW DOES THE PROPOSED PROJECT ELIMINATE OR REDUCE FUTURE DAMAGES?

_____

_____

_____

13. OTHER ALTERNATIVES CONSIDERED FOR SOLVING THE PROBLEM: (List at least 2. One alternative can be "do nothing.")

_____

_____

_____

14. TOTAL ESTIMATED COST OF THE PROJECT (Attach any supporting documentation available such as preliminary designs, estimated costs from contractors, studies or reports, pictures, etc.):

_____

_____

_____

_____

15. SOURCE OF FUNDING FOR APPLICANT SHARE (12.5%):

_____

_____

_____

_____

ATTACH ANY ADDITIONAL INFORMATION THAT IS PERTINENT TO THE PROPOSED PROJECT AND WILL SUPPORT THE APPLICATION.

**RETURN COMPLETED PRE-APPLICATION FORM NO LATER THAN Date TO:**

**STATE OF WISCONSIN**
**DEPARTMENT OF MILITARY AFFAIRS**
**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**2400 WRIGHT STREET**
**P.O. BOX 7865**
**MADISON, WI 53707**

# STATE OF WISCONSIN
# HAZARD MITIGATION GRANT PROGRAM
# FEMA- -DR-WI

## RANKING AND SCORING PRE-APPLICATIONS

**Introduction:** It is the responsibility of the State to identify and select hazard mitigation projects to be recommended to the Federal Emergency Management Agency (FEMA) for final approval and funding of the Hazard Mitigation Grant Program (HMGP) under the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988.

In order to do this, the Division of Emergency Management established the Wisconsin Interagency Disaster Recovery Group (IDRG) now referred to as the Wisconsin Hazard Mitigation Team (WHMT) after the 1993 mid-west floods. WEM will review, evaluate, and rank eligible pre-applications and present the findings to the WHMT for further review and discussion of funding options among the programs available through the various agencies represented. The WHMT members include representatives of the following State agencies: The Departments of Military Affairs, Administration, Commerce, State Historical Society, Natural Resources, Transportation, Health and Family Services, Agriculture, Trade and Consumer Protection, the Public Service Commission, Office of Commissioner of Insurance and other agencies as deemed appropriate. In addition, a representative from the Regional Planning Commissions, the WI Association of Floodplain, Stormwater and Coastal Managers, Wisconsin Emergency Management Association, Volunteer Organizations Active in Disasters and the University of WI Extension also participate. The following federal agencies are included in the Group: U.S. Department of Agriculture, Economic Development Administration, Federal Emergency Management Agency, and the Department of Housing and Urban Development.

Before an applicant will be considered for HMGP funding, it must meet minimum criteria set by FEMA and the State. This criteria includes:

1. The proposed project must conform with the goals of the local and State Hazard Mitigation Plans.

2. The proposed project must not encourage development in Special Flood Hazard Areas.

3. Communities that have mapped flood hazard areas must participate in the National Flood Insurance Program and be in good standing.

4. The proposed project must be in conformance with the community's comprehensive land use plan, or capital improvements program where such plans and programs exist and listed in their All-Hazard Mitigation plan.

**Procedures:** The WHMT will review HMGP pre-applications and ensure that the proposed projects are eligible, meet the minimum above criteria, and rank the pre-applications. A list of recommended projects based on ranking and funding availability will be submitted to WEM Administrator for approval. Some projects may be referred to other agencies for appropriate funding. In addition, the WHMT will "package" funding for projects where possible to maximize the funding that is available. Those proposed projects with the highest priority and based on funding availability would be invited to complete the formal application for HMGP funding.

**Priority/Ranking System:** Proposed projects will be evaluated based on Project Type, Site Vulnerability, Project Benefits, and other considerations. Non-Structural projects will receive top priority for funding and include projects that involve acquisition, relocation, and elevation. All projects of this type will receive the highest ranking and the greatest consideration for funding.

**STATE OF WISCONSIN**
**HAZARD MITIGATION GRANT PROGRAM**
**FEMA- -DR-WI**

**PRE-APPLICATION RANKING**

APPLICANT:_____ COUNTY: _____
AMOUNT REQUESTED: $_____ SCORE: _____ RANK: _____

| **PROJECT TYPE** | **POINTS** |
|---|---|
| Non-Structural Mitigation: | |
| Acquisition | |
| Residential | 35 |
| Critical Facility | 35 |
| Commercial | 25 |
| Relocation | |
| Residential | 30 |
| Critical Facility | 30 |
| Commercial | 20 |
| Elevation | |
| Residential | 25 |
| Critical Facility | 25 |
| Commercial | 15 |
| Planning (with implementation) | 10 |
| Development and implementation of zoning and building code ordinances, etc. | 15 |
| Educational Programs for public officials and citizens | 15 |
| Structural Mitigation: | |
| Storm Water Drainage Improvements | 10 |
| Detention/Retention Ponds | |
| Storm Sewer Improvements | |
| Other | |
| Bluff Stabilization | 5 |
| Channelization | 5 |
| Construction of small levees/berms for critical facilities | 5 |
| Erosion and sediment control | 5 |
| Other | 5 |

| | |
|---|---|
| Ineligible Activities:<br>Warning Systems, Purchase of Equipment, dams, planning without Implementation | 0 |
| **Project Type Section Sub-Total** (35 points possible) | |
| **SITE VULNERABILITY** | |
| Flood Event Frequency<br>5+<br>4<br>3<br>2<br>1<br>0 | <br>25<br>20<br>15<br>10<br>5<br>0 |
| Does the Project involve removing structures from:<br>Floodway<br>Flood Fringe | <br>10<br>5 |
| Does the project address multiple hazards? | 10 |
| **Site Vulnerability Section Sub-Total** (45 points possible) | |
| **PROJECT BENEFITS** | |
| Does the project alleviate or reduce the need for emergency services during disasters? | 5 |
| Does the project alleviate or reduce damages to improved structures? | 10 |
| Does the project have a beneficial impact on more than one community or is it multi-jurisdictional? | 10 |
| Does the project solve a problem independently or is it part of another solution with assurance that the project will be completed? | 5 |
| Is the project a long-term solution to a repetitive or imminently dangerous situation? | 10 |
| Does the project directly prevent death and injury by reducing a person's vulnerability to the hazard? | 5 |
| Does the project substantially reduce future disaster costs? | 0-10 |
| Does the project reduce the cost of repairing repetitive damages? | 0-10 |
| Does the project restore floodplains and/or wetlands? | 5 |
| Does the project have multiple objectives such as damage reduction, environmental enhancement and economic recovery? | 0-10 |
| Does the project promote economic growth and community development? | 0-10 |

| | |
|---|---|
| Does the project promote development of recreational areas/historic areas? | 0-10 |
| Does the project provide flood protection beyond the 100-year flood event? | 10 |
| **Project Benefits Section Sub-Total** (110 points possible) | |
| **OTHER ITEMS TO CONSIDER** | |
| Is the project in the declared area? | 10 |
| Mitigation Plan Approved Flood=5 Approved All-Hazards=10<br>Working on All-Hazards =5 | 10 |
| Does the proposed project involve the use of innovative approaches to mitigation or mitigation measures? | 5 |
| Has the applicant submitted the project under a previous disaster? | 5 |
| Are other agencies willing to provide funds towards funding the project? | 10 |
| Is the applicant willing to put funds towards the project over and above the 12.5% local match? | 10 |
| Are there funds available to fund the entire project? | 5 |
| Is there future maintenance required on the project? | -10 |
| Does the community participate in the CRS? | 5 |
| **Other Items to Consider Section Sub-Total** (60 points possible) | |
| **TOTAL SCORE:** (250 total points possible)<br>**PROJECT RANK:** | |

Date

Authorized Representative
Subgrantee
Address
City, State Zip

Dear _____:

As a result of federal disaster declaration FEMA-____-DR-WI declared (date), funding was made available through the Hazard Mitigation Grant Program (HMGP) to provide grants to local governments to fund long-term permanent mitigation measures following a major disaster declaration. The grants are 75% federally funded through the Federal Emergency Management Agency (FEMA), 12.5% state funded through this Division, and the remaining 12.5% is the local match. The local match can be greater than the 12.5%. The objective of the program is to prevent or reduce future disaster damages and grants can be used to fund projects on either public or private property.

The amount of federal funds available for the HMGP is based on 15% (20% if State has an approved Enhanced State Mitigation Plan) of the federal funds spent on the Individuals and Households Program and the Public Assistance Program for the declaration. It is estimated that there will be approximately $_____ in HMGP funds available for this declaration. This office received __ pre-applications for the program exceeding $_____. As you can see, the demand for mitigation dollars far outweighs the amount of funding available.

The Wisconsin Division of Emergency Management has completed a thorough review of the pre-applications. As advised in the letter you received with the pre-application, those projects involving acquisition, demolition, relocation, and floodproofing or elevation of floodplain properties will still remain the State's highest priority for HMGP projects. Projects that will make the biggest impact for preventing or reducing future disaster damages and have the potential for receiving grant approval are requested to participate in the formal application process for further grant consideration.

_____ submitted a pre-application for the acquisition and demolition of __ properties located along _____ in the amount of $_____. Based on WEM's review of this proposal and program criteria, _____ is invited to participate in the formal application process for further grant consideration.

Enclosed is the HMGP application packet that includes the application (DMA Form 139A), Assurances for Non-Construction (DMA Form 1017A), Statement of Assurances for Property Acquisition Projects, general instructions and environmental assessment requirements, as well as worksheets to assist you in gathering the information and data required for the application. **Please read the instructions carefully, and be as thorough and accurate as possible in completing the forms.** The answers to questions 4 and 5 of the application should be documented as thoroughly as possible. **This information is critical in determining the cost effectiveness for the proposed project.**

The application requests detailed information that is needed for this office to complete the necessary reviews, including the cost/benefit analysis and environmental considerations. Where actual data or information is not available, you should provide the most accurate estimates. You may have to survey the property owners to get the information required. Based on the limited HMGP funds available, I am requesting that the application include prioritizing the properties in the order they would be acquired. You may want to start with primary residences and with properties that incur the most flood damages. **Due to the competitiveness of the program, it is important that you answer all the questions as completely as possible. An incomplete application cannot be processed.**

There are specific criteria that must be met by applicants in order to be eligible for funding:

1. The community must be participating, and be in good standing with the National Flood Insurance Program. The Department of Natural Resources may conduct a site visit during the application review process to determine if a community is compliant.

2. The proposed project must be in conformance with the goals and objectives of the community's All-Hazard Mitigation Plan.

3. The proposed project must be cost-effective. This means that the project will have to show the benefits of the project outweigh the cost. **In order to demonstrate this, the application must contain the necessary detail.** Only those projects that meet the cost/benefit requirement will receive further consideration for HMGP funding.

4. The project must be environmentally sound. Some HMGP projects may receive a categorical exclusion from an environmental assessment. The applicant will have to demonstrate that the proposed project will not have any associated "extraordinary circumstances" within the project area. Presence of extraordinary circumstances will require an environmental assessment or environmental impact statement. WEM will be preparing the required documents, although applicants will be required to provide the basic information required. FEMA has the responsibility for making sure that all projects meet the requirements of the National Environmental Protection Act (NEPA).

5. Applicants will have to show that other alternatives (the "do nothing" and one other) were considered, and that the proposed project is the most feasible and will actually solve a problem.

In addition to the above criteria, below are certain other program requirements that you should be aware of for proposed acquisition projects:

- Property owners must **voluntarily** elect to participate in the program.

- The acquired property will be deed restricted requiring that it will be maintained as open space in perpetuity, and that no future federal disaster assistance will be made available at the site.

- Replacement housing for those whose properties are acquired cannot be in another 100-year floodplain.

- Property will be purchased based on the fair market value as determined by an appraisal. The cost for appraisals is an eligible project cost. (Appraisals do not need to be completed for the HMGP application. It is suggested that you arrive at an estimated FMV based on tax assessments, etc.)

- Projects involving more than one property will need to conform to the Uniform Relocation Assistance and Real Property Acquisition Policies Act (URA) (for tenants only) and the State's Relocation Law (for tenants and owner-occupies).

For additional information regarding the Hazard Mitigation Grant Program visit http://www.fema.gov/government/grant/hmgp/index.shtm.

For information and guidance regarding acquisition project requirements visit http://www.fema.gov/government/grant/resources/index.shtm, and the Unified Hazard Mitigation Assistance (HMA) Requirements, **Section 2.3.13 Property Acquisition and Relocation for Open Space**, http://www.fema.gov/library/viewRecord.do?id=3324.

The application is due in this office **no later than (date).** If (applicant) completes the application prior to the above date, it should be submitted to this office so that we can begin to review the application and complete the required cost/benefit analysis.

A thorough review will be completed on all formal applications received for HMGP funding. Formal applications will be considered on __ projects totaling $_____. Based on the limited funds available, the program will be very competitive and only those projects that meet the benefit-cost requirement and make the biggest impact in reducing future disaster damages will receive further consideration for grant funding. Therefore, it is imperative that all the questions in the applications be answered completely and accurately.

A training session will be held on (date) from (time) to provide information on how to complete the application and answer any questions that you may. The session will be held (location). Please plan on attending this training session.

If you have any questions or need additional information or would like to schedule a meeting, please do not hesitate to contact me at 608-242-3211; Susan Boldt, Assistant Hazard Mitigation Officer, at 608-242-3214; Lynsey Kawski, Disaster Response and Recovery Planner, at 608-242-3222; or Robert Stoikes, Hazard Mitigation Planner, at 607-242-3226.

Sincerely,

ROXANNE K. GRAY
State Hazard Mitigation Coordinator
Wisconsin Emergency Management

cc Regional Emergency Management Director
County Emergency Management Director

Department of Natural Resources

**STATE OF WISCONSIN**
**Department of Military Affairs**
**Division of Emergency Management**
**2400 Wright Street**
**P.O. Box 7865**
**Madison, WI 53707**
**608-242-3232, 608-242-3248 fax**

# HAZARD MITIGATION GRANT PROGRAM (HMGP)
# INSTRUCTIONS FOR APPLICANTS

## The Hazard Mitigation Grant Program (HMGP)

The HMGP is a federal program administered in the State by the Wisconsin Division of Emergency Management (WEM). The program's objective is to reduce repetitive losses from natural disasters. This is accomplished by funding cost-effective projects intended to eliminate/reduce future disaster expenditures for the repair/replacement of public and private property, and for the relief of personal loss, hardship, and suffering. *Note: Projects cannot be retroactively funded through HMGP. Therefore, projects already in progress or completed will not be considered.*

## Minimum Project Criteria

To be eligible for HMGP funding, a project must meet the following minimum criteria:

1. Conform with the State and Local Hazard Mitigation Plan.

2. Have a beneficial impact upon the designated disaster area, whether or not located in the disaster area.

3. Conform with 44 CFR Part 9, Floodplain Management and Protection of Wetlands, and 44 CFR Part 10, Environmental Considerations. (Refer to the attached Environmental Assessment Requirements.)

4. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. Projects that merely identify or analyze hazards or problems are not eligible.

5. The project must be cost-effective and substantially reduce the risk of further damages, hardship, loss, or suffering resulting from a major disaster. Wisconsin Emergency Management, using data and information supplied by the applicant, will have to demonstrate this to FEMA by documenting that the project:

   A. Addresses a problem that has been repetitive, or a problem that possesses a significant risk if left unsolved.

B. Will not cost more than the anticipated value of the reduction in both direct damages and subsequent negative impacts to the area if future disasters were to occur. Cost-benefit analyses will be conducted on applications submitted to determine cost effectiveness of the proposed project.

C. Has been determined to be the most practical, effective, and environmentally sound alternative after considering a number of options.

D. Contributes, to the extent practicable, to a long-term solution to the problem it is intended to address.

E. Considers long-term changes to the areas and entities it protects, and has manageable future maintenance and modification requirements.

F. In conformance with the goals and objectives of the community's all hazard mitigation plan.

## Additional Criteria

In addition to the above federal criteria, must have a FEMA approved hazard mitigation plan to be eligible for project funds. Subgrantees that do not have an All Hazard Mitigation Plan will be required to develop a plan and have the plan approved within 12 months of the declaration to be considered for funding.

## Instructions for Completing the Application for HMGP

Eligible applicants must apply for the HMGP through the Wisconsin Emergency Management (WEM). The HMGP application will be reviewed and evaluated by WEM and the Federal Emergency Management Agency (FEMA) before a final decision regarding project approval is made. No projects will be retroactively funded through the HMGP.

1. Read and review all of the attached documents carefully.

2. Complete the Disaster Application for Section 404-Hazard Mitigation Grant Program Funding (DMA Form 139 or 139A) as thoroughly and accurately as possible. Be sure to sign and date the application.

3. Sign and date the Assurances (DMA 1017A).

4. For acquisition and demolition projects, sign and date the Statement of Assurances for Property Acquisition Projects.

5. Send two copies of the signed and completed application and any supporting documentation along with the assurances to the address provided on the application.

6. Along with the hard copy, submit the application and supporting documentation on disk in Word, Excel, PDF or Access format, if possible.

Applicants will be notified by letter of the approval/disapproval of their application. This will be done after thorough review at the earliest possible date.

Questions regarding the application process or program administration should be directed to Roxanne Gray, State Hazard Mitigation Officer, at 608-242-3211, (Roxanne.gray@wisconsin.gov); Susan Boldt, Assistant Hazard Mitigation Officer, at 608-242-3214 (susan.boldt@wisconsin.gov); Lynsey Kawski, Disaster Response and Recovery Planner at 608-242-3222 (lynsey.kawski@wisconsn.gov); or Robert Stoikes, Hazard Mitigation Planner, at 608-242-3226 (Robert.stoikes@wisconsin.gov.)

**STATE OF WISCONSIN**
**Division of Emergency Management**

**Hazard Mitigation Grant Program (HMGP)**
**Environmental Assessment Requirements**

The National Environmental Policy Act (NEPA) of 1969, Public Law 91-190, as amended requires that environmental information be available to public officials and citizens before decisions are made and actions are taken. This information is consolidated and analyzed in environmental documents, either Environmental Assessments or Environmental Impact Statements. It is FEMA's responsibility to prepare the environmental document, although the project applicant will be required to provide much of the basic information, including any special studies that need to be performed. Coordination with all appropriate agencies and individuals is very important. The environmental assessment must be completed before FEMA can make a funding determination. Depending on the project, this process can be quite time consuming.

Certain projects funded under HMGP may be categorically excluded from an environmental assessment. There are 18 categories of projects that may be excluded from an extensive environmental review. Projects that fit within one of the categories do not receive a blanket exclusion. The applicant must still demonstrate that the project will not have any associated "extraordinary circumstances" within the project area. Presence of extraordinary circumstances will require an environmental assessment or environmental impact statement.

**Authority**: Projects funded under the HMGP must comply with all appropriate environmental requirements. This includes compliance with the National Environmental Policy Act (NEPA) of 1969, PL 91-190, as amended; Executive Order 11988, Floodplain Management; and Executive Order 11990, Protection of Wetlands. Detailed guidance for implementing NEPA can be found in FEMA regulations at 44 CFR Part 10. 44 CFR Part 9 addresses compliance with Executive Orders 11988 and 11990. Other environmental legislation that may be applicable in this process includes: Section 7 of the Endangered Species Act of 1973, Section 106 of the Historic Preservation Act of 1966, Section 40 (b) (1) of the Clean Water Act of 1977, and Section 10 of the Rivers and Harbors Act of 1899.

**Further information regarding the Environmental Assessment requirements that must be met for a particular (potential) HMGP project will be forwarded by WEM to the applicant, as appropriate.**

STATE OF WISCONSIN
DEPARTMENT OF MILITARY AFFAIRS
DIVISION OF EMERGENCY MANAGEMENT
P.O. BOX 7865
MADISON, WI 53707-7865
608-242-3232



**SECTION 404-HAZARD MITIGATION GRANT PROGRAM**
**DISASTER APPLICATION FOR**
**ACQUISTION/RELOCATION/FLOODPROOFING**

**Disaster Declaration #: FEMA-_____-DR-WI** **Declaration Date:** _____

**Applicant:** _____
*(Political Subdivision, Quasi-Government, Non-Profit Organization)*

**FIPS Code:** _____ **D-U-N-S Number**_____**EIN Number**_____

**Street/PO Box:** _____

**City:** _____ **Zip Code:** _____ **County:** _____

**Primary Contact Person:**_____

**Title:**_____

**E-Mail Address:** _____

**Phone:** _____ **Fax #:**_____

**Secondary Contact Person:**_____

**Title**:_____

**Phone:** _____ **Fax #:**_____

**E-Mail Address:**_____

---

The undersigned hereby submits this application for financial assistance under the Hazard Mitigation Grant Program and hereby certifies that the applicant will fulfill all requirements of the program contained in federal and/or state program guidelines including the submission of all appropriate forms. The project will meet all applicable local codes and standards as well as other appropriate state and federal requirements.

I do hereby certify, as the Chief Executive Officer, that the funding and/or resources which will be dedicated to support the 12.5% local share of the project are available and will be utilized to support the undertaking of the project during the specified performance period. Evidence of this commitment will be made available to the state and/or federal governments upon request.

I certify, to the best of my knowledge and belief, that information in this application and supporting documentation is true and correct, and that it has been duly authorized by the governing body of the applicant.

**Typed Name and Title:** _____

**Applicant's Signature:** _____

**Date Signed:** _____

---

**NOTE:** *If your project is approved, work must begin within 90 days of the obligation of funds.*

STATE OF WISCONSIN
DEPARTMENT OF MILITARY AFFAIRS
DIVISION OF EMERGENCY MANAGEMENT
P.O. BOX 7865
MADISON, WI 53707-7865
608-242-3232



All questions must be answered completely and accurately. WEM and FEMA staff reviewing the application will not be familiar with your community, the specific project area and the need for the proposed project. Therefore, it is the responsibility of the applicants to ensure that their application addresses all of the required items. This is particularly important given the competitive nature of the grant program. If you are unsure as to the meaning of a particular question, contact WEM prior to attempting to answer that question.

**1. PROJECT COST ESTIMATE**

Section 404-HMGP Funds Requested:

| | |
|---|---|
| Total | $_____ |
| Federal Share (75%) | $_____ |
| State Share (12.5%) | $_____ |
| Applicant Share (12.5%) | $_____ |
| Other Funding Sources: | $_____ |

**2. PROJECT TITLE AND DESCRIPTON**

**3. PROJECT LOCATION** (Include maps)

Road or street address, geographic landmarks, longitude/latitude, legal description, etc. Include a copy of the Parcel Map (Tax Map, Property Identification Map, etc.) with each property in the project clearly marked on the map. Include legible map/drawings of the location. Include a current locally adopted floodway map or flood insurance rate map (FIRM) indicating the project location. FIRMs are typically available from your local floodplain administrator who may be located in the planning, zoning, or engineering office. Maps can also be ordered from the Map Service Center at 1-800-358-9616. For more information about FIRMs, contact your local agencies or visit the FIRM site on the FEMA WebPage at http://www.fema.gov/fhm.

**4. DETAILED DESCRIPTION OF PROPOSED PROJECT**

For a proposed **Non-Structural Project** (i.e., acquisition, relocation, demolition, elevation, floodproofing) complete the enclosed **Property Data Worksheet** for each structure in the project. In addition, you should complete and attach with supporting documentation the Data Documentation Template (DDT.) NOTE: Property owners must be willing to participate voluntarily. Interested property owners must sign a "Notice of Voluntary Interest." Attached are two samples that may be utilized to fulfill this requirement.

**5. INDIRECT DAMAGES AND OTHER IMPACTS**

A. For the project area, list government response costs incurred in this event as well as all past events (including Presidentially declared disasters and non-declared events) and when they occurred (i.e. fire, police, public works, social services, infrastructure etc.) which would potentially be reduced or eliminated by the proposed project.

B. Other negative impacts on the community from events such as interruption to local business, persons unemployed due to the event, losses of public services, etc.

**NOTE: Information provided in questions 4 and 5 are critical to the calculation of a benefit-cost analysis and must be provided. Where actual data is not available, use your most accurate estimates.**

**6. INDEPENDENT SOLUTION**

Will the proposed project solve the problem independently or is it part of a larger solution? If part of a larger solution, indicate whether the project as a whole will be completed.

**7. POSITIVE IMPACTS**

Describe positive impacts besides reducing damages that the proposed project will provide.

**8. WORK SCHEDULE AND ESTIMATED COMPLETION DATES**

Include a work schedule for the proposed project. The schedule should indicate major milestones or phases of the project and the expected completion date of each phase. Phases of a project for acquiring property would consist of the following activities: Survey property owners for interest in the program and extent of damages incurred; prioritizing structures to be acquired based on funding availability; development of program procedures/policies; development of relocation assistance plan; title searches; appraisals; closings; demolition; site clean-up; and project close-out. Phases for a project involving elevation would include: Survey property owners for interest in the program and extent of damages incurred; prioritizing structures to be elevated based on funding availability; development of program procedures/policies; development of relocation assistance plan, if required; preliminary design and cost estimates; final design; construction; inspection; and project close-out.

**9. COST BREAKDOWN**

Provide a breakdown of cost elements (see the attached Budget Cost Worksheet).

**10. CONSIDERED ALTERNATIVES**

Describe other options or alternatives that have been considered to deal with the problem, the estimated cost, and explain why they were rejected or eliminated from consideration. In addition to the proposed project, you must provide at least one other alternative besides “do nothing”. Provide justification for the selection of the proposed project over the alternatives. The reason may be monetary, environmental, physical, degree of effectiveness, maintenance costs, other reasonable cause or a combination of these factors.

**11. ENVIROMENTAL CONSIDERATIONS**

An environmental assessment is required for certain projects before the grant can be approved. It is FEMA’s responsibility to prepare the environmental document, although the applicant will be required to provide much of the information, including any special studies that need to be performed. Describe the type of land use (rural, residential, commercial, urban, etc.) Identify all of the following that may apply to the proposed project:

_____ Threatened or endangered species in the area
_____ Location is on or within 100 feet of wetlands
_____ Obtaining permits
_____ Building/site is a historical landmark
_____ Area contains known archeological artifacts
_____ Toxic or hazardous materials located in the area
_____ Area contains a wildlife or habitat refuge

_____ Located in a designated floodplain
_____ Involves incorporating unproven technology with unknown risks
_____ Project does not impact environment at all

**12. LAND USE PLAN**

For acquisition or relocation projects, summarize the land-use plan for use of the property following acquisition. [Property acquired through the HMGP must remain in open space uses per 44 CFR 206.434(e).]

**13. HAZARD MITIGATION PLAN**

Hazard Mitigation projects must be in conformance with the goals and objectives of the local approved all hazard mitigation plan.

- Provide the name of the Local Hazard Mitigation Plan and date approved.
- Provide a copy of the goals/objectives and the mitigation strategy/action item that references the proposed project from the approved hazard mitigation plan.

**14. ADDITIONAL COMMENTS/INFORMATION**

Include any additional information that will support the proposed project, which you feel is appropriate for use in reviewing this application.

**MAIL THE COMPLETED APPLICATION TO:**

**State of Wisconsin**
**Department of Military Affairs**
**Division of Emergency Management**
**2400 Wright Street**
**P.O. Box 7865**
**Madison, WI 53707-7865**

## ASSURANCES
## CONSTRUCTION AND NON-CONSTRUCTION PROJECTS

**As the duly authorized representative of the applicant, I certify that the applicant:**

1. Has the legal authority to apply for federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-federal share of project costs) to ensure proper planning, management and completion of the project described in this application.

2. Will give the awarding agency, the Comptroller General of the United States, and if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.

3. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review, and approval of construction plans and specifications (construction projects).

4. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progress reports and such other information as may be required by the assistance awarding agency or State (construction projects).

5. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.

6. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.

7. Will comply with the Intergovernmental Personnel Act of l970 [42 U.S.C. (4728-4763)] relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 CFR 900, Subpart F).

8. Will comply with the Lead-Based Paint Poisoning Prevention Act [42 U.S.C. (4801 et seq.)] which prohibits the use of lead based paint in construction or rehabilitation of residence structures.

9. Will comply with all federal statutes relating to non-discrimination. These include but are not limited to:

(a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color, or national origin;

(b) Title IX of the Education Amendments of 1972, as amended [20 U.S.C. (1681-1683, and 1685-1686)] which prohibits discrimination on the basis of sex;

(c) Section 504 of the Rehabilitation Act of 1973, as amended [29 U.S.C. (794)] which prohibits discrimination on the basis of handicaps;

(d) The Age Discrimination Act of 1975 as amended [42 U.S.C. (6101-6107)] which prohibits discrimination on the basis of age;

(e) The Drug Abuse Office and Treatment Act of 1972 (P.L. 93-255), as amended, relating to non-discrimination on the basis of drug abuse;

(f) The Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to non-discrimination on the basis of alcohol abuse or alcoholism;

(g) 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended relating to confidentiality of alcohol and drug abuse patient records;

(h) Title VIII of the Civil Rights Act of 1968 [42 U.S.C. (3601 et seq.)], as amended relating to non-discrimination in the sale, rental or financing of housing;

(i) Any other non-discrimination provisions in the specific statute(s) under which application for federal assistance is being made, and

(j) The requirements on any other non-discrimination Statute(s) which may apply to the application.

10. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provides for fair and equitable treatment of persons displaced or whose property is acquired as a result of federal and federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of federal participation in purchases.

11. Will comply with the provisions of the Hatch Act [5 U.S.C. (1501-1508 and 7324-7328)] which limit the political activities of employees whose principal employment activities are funded in whole or in part with federal funds.

12. Will comply, as applicable, with the provisions of the Davis-Bacon Act [40 U.S.C. (276a to 276a-7)], the Copeland Act [40 U.S.C. (276c) and 18 U.S.C. (874)], the Contract Work Hours and Safety Standards Act [40 U.S.C. (327-333)] regarding labor standards for federally assisted construction subagreements (construction projects).

13. Will comply with the Flood Insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

14. Will comply with environmental standards which may be prescribed pursuant to the following:

    (a) Institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514;

    (b) Notification of violating facilities pursuant to EO 11738;

    (c) Protection of wetlands pursuant to EO 11990;

    (d) Evaluation of flood hazards in floodplains in accordance with EO 11988;

    (e) Assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 [16 U.S.C. (1451 et seq.)];

    (f) Conformity of federal actions to state (Clean Air) Implementation Plans under Section 176© of the Clean Air Act of 1955, as amended [42 U.S.C. (7401 et seq.)];

    (g) Protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93-523); and

    (h) Protection of endangered species under the Endangered Species Act of 1973, as amended, (P.L. 93-250).

15. Will comply with the Wild and Scenic Rivers Act of 1968 [16 U.S.C. (1271 et seq.)] related to protecting components or potential components of the national wild and scenic rivers system.

16. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended [16 U.S.C. (470)], EO 11593 (identification and preservation of historic properties), and the Archaeological and Historic Preservation Act of 1974 [16 U.S.C. (469a-1 et seq.)].

17. Project will be implemented in accordance with 44 CFR Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

18. In accordance with the provisions of Section 319 of P.L. 101-121, and implementing regulations at 44 CFR Part 18, the subgrantee shall submit to the Department of Military Affairs, Division of Emergency Management, a "Certification Regarding Lobbying" and "Disclosure of Lobbying Activities" (Form SF-LLL) for Public Assistance awards of $100,000 or more. The subgrantee shall require that the language of this certification be included in all award documents for all subawards of $100,000 or more at all tiers (including subcontracts, subgrants, and contracts under grants) and that all subgrantees shall certify and disclose accordingly. "Certifications Regarding Lobbying" and Forms SF-LLL must be submitted to the Department of Military Affairs with the subgrantee's request for final reimbursement.

19. Will comply with all applicable requirements of all other federal laws, executive orders, regulations and policies governing this program.

20. Will comply with the required financial and compliance audits in accordance with the Single Audit Act of 1984, as listed below.

## FEDERAL AUDIT REQUIREMENTS

For subgrantees who are state (includes Indian tribes) or local governments:

If the subgrantee expends total direct and indirect federal assistance of:

** $500,000 or more per year, the subgrantee agrees to obtain a financial and compliance audit made in accordance with the Single Audit Act of 1996 (P.L. 104-156) and the federal Office of Management and Budget (OMB) Circular A-128. The law and circular provide that the audit shall cover the entire operations of the subgrantee government or, at the option of the subgrantee government, it may cover departments, agencies or establishments that received, expended, or otherwise administered federal financial assistance during the year.

Audits shall be made annually unless the state or local government has, by January 1, 1987, a constitutional or statutory requirement for less frequent audits. For those governments, the cognizant agency shall permit biennial audits, covering both years, if the government so requests. It shall also honor requests for biennial audits by governments that have an administrative policy calling for audits less frequent than annual, but only for fiscal years beginning before January 1, 1987.

For subgrantees who are institutions of higher education, hospitals, or other nonprofit organizations:

If the subgrantee receives total direct and indirect federal assistance of $300,000 or more per fiscal year, the subgrantee agrees to obtain a financial and compliance audit made in accordance with OMB Circular A-133 (or a federal law or OMB Circular that supersedes Circular A-133). The audit shall cover either the entire organization or all federal funds of the organization. The audit must determine whether the subgrantee spent federal assistance funds in accordance with applicable laws and regulations.

Audits shall usually be made annually, but not less frequently than every two years.

The audit shall be made by an independent auditor. An independent auditor is a state or local government auditor or a public accountant who meets the independence standards specified in the General Accounting Office's Standards for Audit of Governmental Organizations, Programs, Activities, and Functions.

The audit report shall state that the audit was performed in accordance with the provisions of OMB Circular A-128 (or A-133 as applicable.)

The reporting requirements for audit reports shall be in accordance with the American Institute of Certified Public Accountant's (AICPA) audit guide, "Audits of State and Local Governmental Units" issued in 1986. The federal government has approved the use of the audit guide.

In addition to the audit report, the subgrantee shall provide comments on the findings and recommendations in the report, including a plan for corrective action taken or planned and comments on the status of corrective action taken on prior findings. If corrective action is not necessary a statement describing the reason it is not should accompany the audit report.

The subgrantee agrees that the grantor, the Legislative Auditor, the State Auditor and any independent auditor designated by the grantor shall have such access to subgrantee's records and financial statements as may be necessary for the grantor to comply with the Single Audit Act the OMB Circular A-128.

Grantees of federal financial assistance from subgrantees are also required to comply with the Single Audit Act and the OMB Circular A-128.

The subgrantee agrees to retain documentation to support the schedule of federal assistance.

Required audit reports must be filed with the State Legislative Audit Bureau and with the Department of Military Affairs within six months of the subgrantee's fiscal year end. If a federal cognizant audit agency has been assigned for the subgrantee, copies of the required audit reports will be filed with that agency also.

The Department of Military Affairs' audit report should be addressed to:

Wisconsin Department of Military Affairs
Division of Emergency Management
2400 Wright Street
P.O. Box 7865
Madison, WI 53707-7865

## STATE ASSURANCES OF DISASTER APPLICATION SUBGRANTEES

In accordance with the State Department of Military Affairs, Division of Emergency Management, State Administrative Plan, as a subgrantee I agree to the following:

1. Subgrantee's Duties

   The subgrantee shall perform the tasks specified in the State Administrative Plan and shall complete the tasks therein during the period specified in the Federal/State Agreement dated _____.

2. Terms for Reimbursement

   a. The Department of Military Affairs, Wisconsin Division of Emergency Management, shall reimburse the subgrantee their eligible costs incurred by the subgrantee in accordance with the Hazard Mitigation Grant Program. This reimbursement will be made from funds made available through the Federal Emergency Management Agency (P.L. 93-288 as amended by P.L. 100-707) and the State Legislature. The subgrantee shall be reimbursed only for those costs specified in the approved Hazard Mitigation Grant and supplements thereto.

   b. The Department of Military Affairs, Division of Emergency Management, shall reimburse the federal and state shares to the subgrantee in accordance with the requirements specified in the Federal/State Agreement.

   c. All claims for reimbursement shall be supported by written documentation including receipts, invoices.

   d. Reimbursement for costs will not be paid on any encumbrance made by the subgrantee prior to the dates as specified in an approved grant.

3. Records and Documentation

a. The subgrantee shall be responsible for keeping records that fully disclose the amount and disposition of funds and the total costs of each project for which the funds are provided. The accounting procedures utilized by the subgrantee shall provide for the accurate and timely recording of the receipt of funds and expenditures.

b. The books, records, documents and accounting procedures and practices of the subgrantee relevant to this agreement are subject to examination by the Department of Military Affairs, by either the legislative auditor or state auditor as appropriate, and by the federal government.

c. Subgrantee shall obtain an annual (or biennial covering both years) financial and compliance audit, made by an independent auditor, in accordance with the Single Audit Act of 1996 (P.L. 104-156) and Office of Management and Budget Circular A-128, (or Circular A-133), as applicable. See assurance 19, page 4.

d. All accounts and records shall be retained by the subgrantee for a period of three years after completion of the final audit or until all litigation, claims, or audit findings involving the records have been resolved, whichever is later.

e. The subgrantee shall provide written quarterly progress reports on a form prescribed by the Department of Military Affairs, Division of Emergency Management.

4. Miscellaneous

a. When the Department of Military Affairs, Division of Emergency Management, finds that there has been a failure to comply with the provisions of this agreement or with provisions of the Hazard Mitigation Grant Program, or that the purposes for the funds have not been, or will not be fulfilled, notwithstanding any other provisions of this agreement to the contrary, The Department of Military Affairs, Division of Emergency Management may take such action as it deems necessary and appropriate to protect the interest of the federal government and State of Wisconsin, including the refusal to disburse additional funds and requiring the repayment of any funds already disbursed.

b. The State of Wisconsin and the Department of Military Affairs, Division of Emergency Management, its agents and employees shall not be liable to the Subgrantee, or to any individuals or entities with whom the Subgrantee contracts for any direct, indirect, incidental, consequential or other damages sustained or incurred as a result of activities, actions or inactions on the part of the Grantee for services rendered pursuant to the Grant Agreement. The subgrantee agrees to indemnify and save and hold the Department of Military Affairs, Division of Emergency Management, its agents and employees harmless from all claims or causes of action arising from the performance of this grant by the subgrantee or subgrantee's agent or employees.

c. The Department of Military Affairs' authorized agent for the purposes of this contract is Jeff Whittow, Administrative Officer, Division of Emergency Management.

_____

Signature of Authorized Certifying Official Title

_____

Applicant Organization Date

**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**State-Local Hazard Mitigation Grant Program**
**Statement of Assurances for Property Acquisition Projects**

This Statement of Assurances between the Wisconsin Division of Emergency Management (the WEM/Grantee) and the _____ (the Subgrantee) shall be effective on the date signed by WEM and the Subgrantee.

As the duly authorized representative of the sub-applicant, I certify that the sub-grantee:

1. The Subgrantee hereby assures and certifies that the project will comply with the property acquisition and relocation requirements per 44 CFR Section 206.434(e) and Section 80, and related federal and state guidance.

2. Will ensure that participation by property owners is voluntary. The prospective participants have been informed in writing that participation in the program is voluntary and that the subgrant will not use its eminent domain authority to acquire the property should negotiations fail.

3. Will ensure each property owner will be informed, in writing, of what the subgrantee considers to be the fair market value of the property. The subgrantee will use the Statement of Voluntary Transaction to document this and will provide a copy for each property after grant award.

4. Will accept all of the requirements of the FEMA grant and the deed restriction governing the use of the land, as restricted in perpetuity to open-space uses. The subgrantee will apply and record a deed restriction on each property in accordance with the language in the attached FEMA Model Deed Restriction. The community will seek FEMA approval for any changes in language differing from the Model Deed Restriction. No new structure will be erected on the property other than a restroom or public facility that is open on all sides and functionally related to open space use. Any structure must be constructed in compliance with the state and local floodplain management ordinances, meet NFIP minimum requirements, and are compatible with open space uses and floodplain management policy and practices. Allowable open space uses can include, but are not limited to, parks, nature preserves, cultivation, grazing, and unimproved pervious parking areas.

5. Will ensure that the land will be unavailable for the construction of flood damage reduction levees and other incompatible purposes, and it not part of an intended, planned, or designated project area for which the land is to be acquired by a certain date.

6. Will demonstrate that it has consulted with the U.S. Corps of Engineers regarding the subject land's potential future use for the construction of a levee system, and will reject future consideration of such use if it accepts FEMA assistance to convert the property to permanent open space.

7. Will demonstrate that it has coordinated with the State Department of Transportation to ensure that no future, planned improvements or enhancements to the federal aid systems are under consideration that will affect the subject property.

8. Provide certification that each participant who will receive pre-event fair market value is a National of the United States or qualified alien by asking all acquisition project participants (property owners) to certify that they are either a National of the United States or a qualified alien. Participants who refuse to certify, or who are not Nationals of the United States or qualified aliens, will receive no more than the appraised current market value for their property.

9. Will remove existing structures within 90 days of settlement.

10. Post grant award, will ensure that a property interested is conveyed only with the prior approval of the FEMA Regional director and only to another public entity or to a qualified conservation organization pursuant to 26 CFR 1.170A-14.

11. Will submit every three years to the grantee, who will then submit to the FEMA Regional Director, a report certifying that it has inspected the subject property within the month preceding the report, and that the property continues to be maintained consistent with the provisions of the grant. If the subject property is not maintained according to the terms of the grant, the grantee and FEMA, its representatives, and designated authorities, and assigns are responsible for taking measures to bring the property back into compliance.

12. Will not seek or accept the provision, after settlement, disaster assistance for any purpose from any federal entity with respect to the property, and FEMA will not distribute flood insurance benefits for that property for claims related to damage occurring after the date of the property settlement.

As duly authorized representative of the subgrantee, I hereby certify that the subgrantee will comply with the identified assurances and certifications.

**SIGNATURE OF SUBGRANTEE'S AUTHORIZED REPRESENTATIVE:**

_____

Date Signed

Name Typed _____Title _____

Subgrantee Jurisdiction _____

The deed conveying the property to the locality must reference and incorporate Exhibit A (or equivalent name). Exhibit A should be attached to the deed when recorded.

**Exhibit A**

In reference to the property or properties ("Property") conveyed by the Deed between [property owner] participating in the federally-assisted acquisition project ("the Grantor") and the [Village/City/County], its successors and assigns ("the Grantee"):

WHEREAS, The Robert T. Stafford Disaster Relief and Emergency Assistance Act, ("The Stafford Act"), 42 U.S.C. § 5121 et seq., identifies the use of mitigation grants under § 5170, Hazard Mitigation Grant Program Section 404 ("HMGP"), to assist States and local governments in implementing cost-effective hazard mitigation measures to reduce injuries, loss of life, and damage and destruction of property,

WHEREAS, the HMGP program provides a process for a local government, through the State, to apply for federal funds for mitigation assistance to acquire interests in property, including the purchase of structures in the floodplain, to demolish and/or remove the structures, and to maintain the use of the Property as open space in perpetuity;

WHEREAS, [State] has applied for and been awarded such funding from the [Department of Homeland Security] Federal Emergency Management Agency ("FEMA"), and has entered into a FEMA-State Agreement ("Grant Agreement"), dated [date] and herein incorporated by reference;

WHEREAS, the Property is located in [Village/City/County], [Village/City/County] participates in the National Flood Insurance Program ("NFIP") and is in good standing with NFIP as of the date of the Deed;

WHEREAS, the [Village/City/County], acting by and through the [Village/City/County Board], has applied for and been awarded federal funds pursuant to an agreement with [State] dated [date] ("State-Local Agreement") and herein incorporated by reference;

WHEREAS, the terms of the Stafford Act, Federal program requirements consistent with 44 C.F.R. 206.434(e), the Grant Agreement, and the State-local Agreement require that the Grantee agree to conditions that restrict the use of the land to open space in perpetuity in order to protect and preserve natural floodplain values;

NOW, therefore, the grant is made subject to the following terms and conditions:

1. Terms. Pursuant to the terms of the Stafford Act, Federal program requirements consistent with 44 C.F.R. 206.434(e), the Grant Agreement, and the State-local Agreement, the following conditions and restrictions shall apply in perpetuity to the

Property described in the attached deed and acquired by the Grantee pursuant to FEMA program requirements concerning the acquisition of property for open space:

a. Compatible uses. The Property shall be used only for purposes compatible with open space, recreational, or wetlands management practices; in general, such uses include parks for outdoor recreational activities, nature reserves, unimproved permeable parking lots and other uses consistent with Hazard Mitigation Grant Program Guidance for open space acquisition.
b. Structures. No new structures or improvements shall be erected on the Property other than:
    - A public facility that is open on all sides and functionally related to the open space use;
    - A public rest room; or
    - A structure that is compatible with the uses described in Paragraph 1(a), above, and approved by the Director in writing prior to the commencement of the construction of the structure.
    - Any structures built on the Property according to this paragraph shall be floodproofed or elevated to the Base Flood Elevation plus two foot of freeboard.
c. Disaster Assistance. No disaster assistance from any Federal source for any purpose related to the Property may be sought, nor will such assistance be provided;
d. Transfer. The Grantee agrees that it shall convey any interest in the Property only if the Regional Director of FEMA gives prior approval of the transferee in accordance with this paragraph. The Grantee may only convey an interest in the Property to another public entity or to an organization with conservation purposes qualified under Section 170(h) of the Internal Revenue Code of 1954, as amended, and applicable implementing regulations. However, the Grantee may convey an easement or lease to a private individual or entity for purposes compatible with the uses described in Paragraph 1(a), above, including agriculture, with the prior approval of the Regional Director.

    If title to the Property is transferred to a public entity other than a qualified state or federal agency with a conservation mission, it must be conveyed subject to a Conservation Easement that shall be recorded with the deed and shall incorporate all terms and conditions set forth herein, including the easement holder's responsibility to enforce the easement. This shall be accomplished by one of the following means:

    i. The Grantee shall convey, in accordance with section (d), above, a conservation easement to someone other than the title holder, or

    ii. At the time of title transfer, the Grantee shall retain such conservation easement, and record it with the deed.

2. Inspection. FEMA, its representatives, and assigns, including [State], shall have the right to enter upon the Property, at reasonable times and with reasonable notice, for the purpose of inspecting the Property to ensure compliance with the terms of the grant.

3. Monitoring and Reporting. Every three years on [Date], the Grantee, through [State], shall submit to the FEMA Regional Director a report certifying that the Grantee has inspected the subject Property within the month preceding the report, and that the Property continues to be maintained consistent with the provisions of the grant.

4. Enforcement. If the subject Property is not maintained according to the terms of the grant, the Grantee, [State], and FEMA, its representatives, and assigns are responsible for taking measures to bring the Property back into compliance.

    a. The State will notify the Grantee in writing and advise the Grantee that it has 60 days to correct the violation.
    b. If the Grantee fails to demonstrate a good faith effort to come into compliance with the terms of the grant within the 60-day period, the State shall enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to bringing an action at law or in equity in a court of competent jurisdiction.
    c. FEMA, its representatives and assigns may enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to the following:

        i. Requiring transfer of title in accordance with Paragraph 1(d). The Grantee shall bear the costs of bringing the Property back into compliance with the terms of the grant; or

        ii. Bringing an action at law or in equity in a court of competent jurisdiction against the State or the Grantee.

5. Severability. Should any provision of this grant or the application thereof to any person or circumstance be found to be invalid or unenforceable, the rest and remainder of the provisions of this grant and their application shall not be affected and shall remain valid and enforceable.

Standard signature block:

[Signed by Grantor(s) and Grantee, witnesses and notarization in accordance with local law.]

_____ _____

Grantor's Signature Date

_____

Name (printed or typed)

_____ _____

Grantee's Signature Date

_____ _____

Name (printed or typed) Date

# HAZARD MITIGATION GRANT PROGRAM
# BUDGET COST WORKSHEET
## ACQUISITION/RELOCATION PROJECTS

| ADDRESS | TYPE* | ESTIMATED FMV | TITLE SEARCHES | APPRAISALS | ABSTRACTS/ TITLE INSURANCE | LEGAL FEES | SURVEYS (if required) | CLOSING COSTS | RELOCATION ASSISTANCE COSTS (comparable housing) | DEMOLITION/ SITE RESTORATION | OTHER COSTS** | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| **TOTALS** | | | | | | | | | | | | |

*TYPE: Unimproved Land (vacant), Primary Residence, Secondary or recreational property, rental property (2-4 family), rental property (multi-family 5 or more units), Mobile Home, Commercial, Public or other (specify)

**OTHER COSTS: Include costs for project management, relocation specialist, and other costs associated with implementing the project.

**ACQUISITION/RELOCATION/ELEVATION PROJECTS**
**BENEFIT-COST ANALYSIS PROPERTY DATA WORKSHEET**

**PROPERTY OWNER (List all Property Owners):**_____

**PROPERTY ADDRESS:**_____

**CITY:** _____ **STATE:** WI **ZIP:**_____

**PARCEL/TAX NUMBER:**_____**RANGE/TOWN SECTION** _____**COUNTY**_____

**LATITUDE**_____**LONGITUDE**_____**(need to 6 digits)**

***LOCATED IN FLOODPLAIN:** Floodway _____Floodfringe_____ Regional Flood Elevation_____
First Floor Elevation_____Lowest Finished Floor Elevation _____ Ground Elevation_____

**FLOOD INSURANCE:** No____ Yes____ Policy # _____Policy Provider_____

**SUBSTANTIALLY DAMAGED**_____ If yes, attach substantial damage determination from local floodplain manager or building inspector.

***BUILDING TYPE:**1-story w/o basement____2-story w/o basement_____Split-level w/o basement____
Split level with basement___1-story with basement___2-story with basement__ Manufactured home___

***FOUNDATION TYPE:** Basement _____ Crawlspace _____ Elevated on Posts, Piers or Columns ____
Slab on grade ____ Other _____

***BUILDING USE:** Primary Residence___ Secondary Residence___Rental Property____2-4 Family ____
Multi-Family (5-more units)____Commercial Property____ Public Building____ Other (explain)_____

***APPROXIMATE YEAR OF CONSTRUCTION** _____**SQUARE FOOTAGE OF LIVING SPACE** _____

***AVERAGE SQ FT PER MONTH RENTAL HOUSING FOR PROJECT AREA**_____

***AVERAGE SQ FT REPLACEMENT COST FOR HOUSING IN THE PROJECT AREA**_____

**ANY KNOWN ENVIRONMENTAL HAZARDS (hazardous materials, contamination, past spills, etc.):**
_____
_____
_____

*Please attach as much documentation as possible for these starred items. (i.e. tax records, appraisals, letters from homeowners, photographs, elevation certificate, surveys, letter from construction or contracting firm, letter from local building inspection department, photocopy of page or pages from standard cost reference manuals, rental costs from realtors, leasing agents or newspapers etc).

**DAMAGES (list for each occurrence)**

DATE (month/year): _____ Presidential Disaster Declaration (if applicable)_____
FLOOD DEPTH: Feet in basement_____ Feet over first floor_____ For how long_____
STRUCTURAL DAMAGES:$_____ DAMAGE TO CONTENTS: $_____
WAS THE STRUCTURE UNINHABITABLE: _____ For how long_____
FREQUENCY OF EVENT (if known): _____5 _____10 _____25 _____50 _____100 year _____other
OTHER INFORMATION:

DATE (month/year): _____ Presidential Disaster Declaration (if applicable)_____
FLOOD DEPTH: Feet in basement_____ Feet over first floor_____ For how long_____
STRUCTURAL DAMAGES:$_____ DAMAGE TO CONTENTS: $_____
WAS THE STRUCTURE UNINHABITABLE: _____ For how long_____
FREQUENCY OF EVENT (if known): _____5 _____10 _____25 _____50 _____100 year ___other
OTHER INFORMATION:

DATE (month/year): _____ Presidential Disaster Declaration (if applicable)_____
FLOOD DEPTH: Feet in basement_____ Feet over first floor_____ For how long_____
STRUCTURAL DAMAGES:$_____ DAMAGE TO CONTENTS: $_____
WAS THE STRUCTURE UNINHABITABLE: _____ For how long_____
FREQUENCY OF EVENT (if known): _____5 _____10 _____25 _____50 _____100 year ___other
OTHER INFORMATION:

The following information needs to be as accurate as possible as it is critical for the FEMA cost/benefit analysis which is very sensitive to this data.

**FLOOD HAZARD DATA** (FROM THE COMMUNITY'S FLOOD INSURANCE STUDY)

| FLOOD FREQUENCY (YEARS) | DISCHARGE (CFS) | ELEVATION (FEET) |
|---|---|---|
| 10 | | |
| 50 | | |
| 100 | | |
| 500 | | |

**FIRM MAP NUMBER:** _____

**FLOOD SOURCE:** Riverine __ Closed Basin ____ Stormwater Runoff ___Coastal Basin __Other _____

**PHOTOGRAPHS:** Attach three or more color photographs (2 copies of each) showing a front view, a side view, and a back view of each structure to be acquired. Attach photographs to the worksheet for that property.

**Estimated Costs for Acquisition/Demolition/Relocation Projects:**

**Fair Market Value:** **Relocation Assistance (if applicable):** **Appraisal:**

**Title Work/Insurance:** **Legal Fees:** **Surveys:** **Closing Costs:**

**Demolition:** **Other Costs:** **TOTAL ESTIMATE $**

**Estimated Costs for Floodproofing Projects:**

**Design Fees:** **Permit/Inspection Fees:** **Construction:** **Other Costs:**

**TOTAL ESTIMATE $**

**If Elevating – How many feet is the FFE being raised?**

**Describe the Floodproofing Method to be Used:**_____

_____

_____

_____

# SAMPLE 1

## NOTICE OF VOLUNTARY INTEREST

(Name of Community), WISCONISN
Property Acquisition Project
(Town, Village, City, County) Hall Meeting, (Date)

**Homeowner Interest Sign-Up Sheet and Voluntary Notice**

FEMA requires the local government t inform all prospective participants of the following:

**NOTICE: Participation in this project for open-space acquisition is *voluntary.* Neither the *State* nor the *Local Government* will use its eminent domain authority t o acquire the property for open-space purposes if you choose not to participate, or if negotiations fail.** Signing this does not commit you to any action.

| Property Address | Owner(s) Mailing Address | Owner(s) Name and Phone # | Owner(s) Signature | Interested Yes or No |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

# SAMPLE 2

## NOTICE OF VOLUNTARY INTEREST

(Name of Community), WISCONSIN
Property Acquisition Project

**Homeowner Interest Sign-up Sheet and Voluntary Notice**

Please complete this form if you are interested in exploring further your options for reducing your flood losses. Signing this does not commit you to any action.

Property Address:

Owner(s) Mailing Address:

Owner(s) Name(s):

Contact Phone Number:

**The local government is required by FEMA t o inform you that your participation in this project for open-space acquisition is *voluntary.* Neither the *State* nor the *Local Government* will use its eminent domain authority to acquire the property for open-space purposes if you choose not to participate, or if negotiations fail.**

_____ _____
Owner's Signature Date

_____ _____
Owner's Signature Date

_____ _____
Owner's Signature Date

## Model Statement of Voluntary Participation
**(To be Presented at the Time of Offer)**

THIS AGREEMENT is made and entered into this _____ day of _____, ____, by and between _____, hereinafter referred to as "Sub-grantee," by its authorized agent, _____, and _____, hereinafter referred to as "Seller." The parties agree as follows:

1. Seller affirms that he/she/they is/are the owner/owners of property located at _____, hereinafter referred to as "property."

2. Sub-grantee has notified Seller that the Sub-grantee may wish to purchase property, and, if Seller agrees to sell, Seller must permanently relocate from property.

3. Sub-grantee has notified Seller that it believes the fair market value (FMV) of property, as of _____ is $_____ as determined by appropriate valuation procedures publicized and implemented by Sub-grantee.

4. Sub-grantee has notified Seller that Seller is not required to sell property and Sub-grantee will not use its power of eminent domain for the purpose of this acquisition project to acquire property if Seller chooses not to sell it.

5. Sub-grantee has notified Seller that if Seller agrees to sell property to Sub-grantee, such a transaction is voluntary. Consequently, Seller is not entitled to relocation benefits provided by the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, which are available to property owners who must sell their properties involuntarily.

6. Sub-grantee affirms that it has provided the notifications and explained the information described in the preceding paragraphs, and property identified above is not a part of an intended, planned, or designated project area where all or substantially all of the property within the area is to be acquired within specific time limits.

7. This Agreement shall expire on _____, unless Seller has voluntarily sold property to Sub-grantee by that date.

_____ Date_____
Property Owner Signature

_____ Date_____
Property Owner Signature

_____ Date_____
Subgrantee's Authorized Agent Signature

# HAZARD MITIGATION GRANT PROGRAM
# BUDGET COST WORKSHEET
## FLOODPROOFING-ELEVATION PROJECTS

| ADDRESS | TYPE* | RECLOCATION ASSISTANCE (if required) | DESIGN FEES | PERMIT/INSPECTION COSTS | CONSTRUCTION COSTS | OTHER COSTS** | TOTAL |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| **TOTALS** | | | | | | | |

*TYPE: Primary Residence, Secondary or Recreational Property, rental (2-4 family), rental property (multi-family 5 or more unites), Mobile Home; Commercial, Public or other (specify)
**OTHER COSTS: Include costs for project management, and other costs associated with implementing the project.

**MODEL ACKNOWLEDGEMENT OF CONDITIONS FOR MITIGATION OF PROPERTY IN A SPECIAL FLOOD HAZARD ARESA (SFHA) WITH FEMA GRANT FUNDS**

Property Owner _____

Street Address_____

City, State Zip Code _____

Deed dated _____, Recorded _____

Tax Map _____, block _____, parcel _____

Base Flood Elevation at the site is _____ fee (NGVD)

Map Panel Number _____, effective date _____

As a recipient of Federally funded hazard mitigation assistance under the Hazard Mitigation Grant Program, as authorized by 42 U.S.C. §5170c, the property owner accepts the following conditions:

1. That the Property Owner has insured all structures that will **not** be demolished or relocated out of the SFHA for the above-mentioned property to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less, through the National Flood Insurance Program (NFIP), as authorized by 42 U.S.C. §4001 *et seq.,* as long as the Property Owner holds title to the property as required by 42 U.S.C. §4012a.

2. The Property Owner will maintain all structures on the above-mentioned property in accordance with the floodplain management criteria set forth in Title 44 of the Code of Federal Regulations (CFR) Part 60.3 and City/County Ordinance as long as the Property Owner holds title to the property. The criteria below meets the requirements of the local Ordinance, <u>which are more restrictive and supersede those set forth in Title 44 of the CFR Part 60.3</u> as outlined in Attachment A, FEMA Model Acknowledgement of Conditions. These criteria include, but are not limited to, the following measures:

    i. Lowest floor of structure must be elevated on compacted fill at or above the Flood Protection Elevation (Base flood elevation plus two feet.);

    ii. Dryland access shall be provided to the elevated structure. If existing street are below the Regional Flood Elevation, the community may only approve the project if one of the following options is implemented;

The community has an adequate natural disaster plan which has been approved by Wisconsin Emergency Management and the Wisconsin Department of Natural Resources; or

Local police, fire and ambulance services have provided written assurances that wheeled vehicles can access the affected properties during a regional flood event.

iii. No mechanical, electrical, plumbing devices, or appurtenant will be installed below the Flood Protection Elevation; and

For a complete, detailed list of these criteria, see City/County Ordinance attached to this document.

3. The above conditions are binding for the life of the property. To provide notice to subsequent purchasers of these conditions, the Property Owner agrees that the City/County will legally record with the county or appropriate jurisdiction's land records a notice that includes the name of the current property owner (including book/page reference to record of current title, if readily available), a legal description of the property, and the following notice of flood insurance requirements:

"This property has received Federal hazard mitigation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the property regardless of transfer of ownership of such property. Pursuant to 42 U.S.C. §5154a, failure to maintain flood insurance on this property may prohibit the owner from receiving Federal disaster assistance with respect to this property in the event of a flood disaster. The Property Owner is also required to maintain this property in accordance with the floodplain management criteria of Title 44 of the Code of Federal Regulations Part 60.3 and City/County Ordinance."

4. Failure to abide by the above conditions may prohibit the Property Owner and/or any subsequent purchasers from receiving Federal disaster assistance with respect to this property in the event of any future flood disasters. If the above conditions are not met, FEMA may recoup the amount of the grant award with respect to the subject property, and the Property Owner may be liable to repay such amounts.

This agreement shall be binding upon the respective parties' heirs, successors, personal representatives, and assignees.

THE CITY/COUNTY OF _____

A _____ municipal corporation

By:_____

[Name, Title]

Of the City/County of _____

&

_____
[Name of Property Owner]

WITNESSED BY:

_____
[Name of Witness]

[Seal]

Notary Public

**ATTACHMENT A**

FEMA

# Model Acknowledgement of Conditions For Mitigation of Property in a Special Flood Hazard Area With FEMA Grant Funds

Property Owner _____

Street Address _____

City , State Zip Code _____

Deed dated _____, Recorded _____

Tax map _____, block _____, parcel _____

Base Flood Elevation at the site is _____ feet (NGVD).

Map Panel Number _____, effective date _____

As a recipient of Federally-funded hazard mitigation assistance under the Hazard Mitigation Grant Program, as authorized by 42 U.S.C. §5170c / Pre-Disaster Mitigation Program, as authorized by 42 U.S.C. §5133 / Flood Mitigation Assistance Program, as authorized by 42 U.S.C. §4104c / Severe Repetitive Loss, as authorized by 42 U.S.C. §4102a, the Property Owner accepts the following conditions:

1. That the Property Owner has insured all structures that will **not** be demolished or relocated out of the SFHA for the above-mentioned property to an amount at least equal to the project cost or to the maximum limit of coverage made available with respect to the particular property, whichever is less, through the National Flood Insurance Program (NFIP), as authorized by 42 U.S.C. §4001 *et seq.*, as long as the Property Owner holds title to the property as required by 42 U.S.C. §4012a.

2. That the Property Owner will maintain all structures on the above-mentioned property in accordance with the flood plain management criteria set forth in Title 44 of the Code of Federal Regulations (CFR) Part 60.3 and City/County Ordinance as long as the Property Owner holds title to the property. These criteria include, but are not limited to, the following measures:

i. Enclosed areas below the Base Flood Elevation will only be used for parking of vehicles, limited storage, or access to the building;

ii. All interior walls and floors below the Base Flood Elevation will be unfinished or constructed of flood resistant materials;

iii. No mechanical, electrical, or plumbing devices will be installed below the Base Flood Elevation; and

iv. All enclosed areas below Base Flood Elevation must be equipped with vents permitting the automatic entry and exit of flood water.

For a complete, detailed list of these criteria, see City/County Ordinance attached to this document.

3. The above conditions are binding for the life of the property. To provide notice to subsequent purchasers of these conditions, the Property Owner agrees that the City/County will legally record with the county or appropriate jurisdiction's land records a notice that includes the name of the current property owner (including book/page reference to record of current title, if readily available), a legal description of the property, and the following notice of flood insurance requirements:

"This property has received Federal hazard mitigation assistance. Federal law requires that flood insurance coverage on this property must be maintained during the life of the property regardless of transfer of ownership of such property. Pursuant to 42 U.S.C. §5154a, failure to maintain flood insurance on this property may prohibit the owner from receiving Federal disaster assistance with respect to this property in the event of a flood disaster. The Property Owner is also required to maintain this property in accordance with the flood plain management criteria of Title 44 of the Code of Federal Regulations Part 60.3 and City/County Ordinance."

4. Failure to abide by the above conditions may prohibit the Property Owner and/or any subsequent purchasers from receiving Federal disaster assistance with respect to this property in the event of any future flood disasters. If the above conditions are not met, FEMA may recoup the amount of the grant award with respect to the subject property, and the Property Owner may be liable to repay such amounts.

This Agreement shall be binding upon the respective parties' heirs, successors, personal representatives, and assignees.

THE CITY/COUNTY OF _____

A _____ municipal corporation

By: _____

[Name, Title]

of the City/County of _____

&

_____

[Name of Property Owner]

WITNESSED BY:

_____

[Name of Witness]

[SEAL]

Notary Public

Date

Applicant
Address
City, State Zip

Dear _____:

As a result of federal disaster declaration FEMA-_____DR-WI declared (date), funding was made available through the Hazard Mitigation Grant Program (HMGP) to provide grants to local governments to fund long-term permanent mitigation measures following a major disaster declaration. The grants are 75% federally funded through the Federal Emergency Management Agency (FEMA), 12.5% state funded through this Division, and the remaining 12.5% is the local match. The local match can be greater than the 12.5%. The objective of the program is to prevent or reduce future disaster damages and grants can be used to fund projects on either public or private property.

The amount of federal funds available for the HMGP is based on 15% (20%) of the federal funds spent on the Individuals and Households and Public Assistance Programs for the declaration. It is estimated that there will be approximately $_____ in HMGP funds available for this declaration. This office received __ pre-applications exceeding $_____. As you can see, the demand for mitigation dollars far outweighs the amount of funding available.

The Wisconsin Division of Emergency Management has completed a thorough review of the pre-applications. As advised in the letter you received with the pre-application, those projects involving acquisition, demolition, relocation, and floodproofing or elevation of floodplain properties will still remain the State's highest priority for HMGP projects. Projects that will make the biggest impact for preventing or reducing future disaster damages and have the potential for receiving grant approval are requested to participate in the formal application process for further grant consideration.

Applicant submitted a pre-application for (type of project) in the amount of $_____. Based on WEM's review of this proposal and program criteria, applicant is invited to participate in the formal application process for further grant consideration.

Enclosed is the HMGP application packet that includes the application (DMA Form 139), Assurances (DMA Form 1017A), general instructions and environmental assessment requirements. **Please read the instructions carefully, and be as thorough and accurate as possible in completing the forms.** The answers to questions 4, 5, and 6 of the application should be documented as thoroughly as possible. **This information is critical in determining the cost effectiveness for the proposed project.**

The application requests detailed information that is needed for this office to complete the necessary reviews, including the cost/benefit analysis and environmental considerations. Where actual data or information is not available, you should provide the most accurate estimates. **Due to the competitiveness of the program, it is important that you answer all the questions as completely as possible.**

There are specific criteria that must be met by applicants in order to be eligible for funding:

1. The community must be participating, and be in good standing with the National Flood Insurance Program. The Department of Natural Resources may conduct a site visit during the application review process to determine if a community is compliant.

2. The proposed project must be in conformance with the goals and objectives of the community's All-Hazard Mitigation Plan.

3. The proposed project must be cost-effective. This means that the project will have to show the benefits of the project outweigh the cost. **In order to demonstrate this, the application must contain the necessary detail.** Only those projects that meet the cost/benefit requirement will receive further consideration for HMGP funding.

4. The project must be environmentally sound. Some HMGP projects may receive a categorical exclusion from an environmental assessment. The applicant will have to demonstrate that the proposed project will not have any associated "extraordinary circumstances" within the project area. Presence of extraordinary circumstances will require an environmental assessment or environmental impact statement. WEM will be preparing the required documents, although applicants will be required to provide the basic information required. FEMA has the responsibility for making sure that all projects meet the requirements of the National Environmental Protection Act (NEPA).

5. Applicants will have to show that other alternatives (the "do nothing" and one other) were considered, and that the proposed project is the most feasible and will actually solve a problem.

A thorough review will be completed on all formal applications received for HMGP funding. There will be (number) formal applications totaling $_____ under consideration. Based on the limited funds available, the program will be very competitive and only those projects that meet the benefit-cost requirement and make the biggest impact in reducing future disaster damages will receive further consideration for grant funding. Therefore, it is imperative that all the questions in the applications be answered completely and accurately.

For additional information regarding the Hazard Mitigation Grant Program visit http://www.fema.gov/government/grant/hmgp/index.shtm.

The application is due in this office **no later than (date).** If (applicant) completes the application prior to the above date, it should be submitted to this office so that we can begin to review the application and complete the required cost/benefit analysis.

A training session will be held on (date) from (time) to provide information on how to complete the application and answer any questions that you may have. The session will be held (location). Please plan on attending this training session.

If you have any questions or need additional information or would like to schedule a meeting, please do not hesitate to contact me at 608-242-3211; Susan Boldt, Assistant Hazard Mitigation Officer, at 608-242-3214; Lynsey Kawski, Disaster Response and Recovery Planner, at 608-242-3222; or Robert Stoikes, Hazard Mitigation Planner, at 607-242-3226.

Sincerely,

ROXANNE K. GRAY
State Hazard Mitigation Officer
Wisconsin Emergency Management

cc Regional Emergency Management Director
County Emergency Manager
Department of Natural Resources

STATE OF WISCONSIN
DEPARTMENT OF MILITARY AFFAIRS
DIVISION OF EMERGENCY MANAGEMENT
P.O. BOX 7865
MADISON, WI 53707-7865
608-242-3232



**DISASTER APPLICATION FOR SECTION 404**
**HAZARD MITIGATION GRANT PROGRAM**

**Disaster Declaration #: FEMA-____-DR-WI** **Declaration Date**: _____

**Applicant:** _____ _____
*(Political Subdivision, Quasi-Government, Non-Profit Organization)*

**FIPS Code:** _____ **D-U-N-S Number**_____**EIN Number**_____

**Street/PO Box:** _____

**City:** _____**Zip Code:** _____**County:**_____

**Primary Contact Person:**_____

**Title:**_____

**Phone:**_____**Fax #**_____

**E-Mail Address**_____

**Secondary Contact Person:** _____

**Title:**_____

**Phone:**_____**Fax #:**_____

**E-Mail Address:**_____

---

The undersigned hereby submits this application for financial assistance under the Hazard Mitigation Grant Program and hereby certifies that the applicant will fulfill all requirements of the program contained in federal and/or state program guidelines including the submission of all appropriate forms. The project will meet all applicable local codes and standards as well as other appropriate state and federal requirements.

I do hereby certify, as the Chief Executive Officer, that the funding and/or resources which will be dedicated to support the 12.5% local share of the project are available and will be utilized to support the undertaking of the project during the specified performance period. Evidence of this commitment will be made available to the state and/or federal governments upon request.

I certify, to the best of my knowledge and belief, that information in this application and supporting documentation is true and correct, and that it has been duly authorized by the governing body of the applicant.

**Typed Name and Title:** _____

**Applicant's Signature:** _____

**Date Signed:** _____

---

**Note:** *If your project is approved, work must begin within 90 days of the obligation of funds.*

STATE OF WISCONSIN
DEPARTMENT OF MILITARY AFFAIRS
DIVISION OF EMERGENCY MANAGEMENT
P.O. BOX 7865
MADISON, WI 53707-7865
608-242-3232



All questions must be answered completely and accurately. WEM and FEMA staff reviewing the application will not be familiar with your community, the specific project area and the need for the proposed project. Therefore, it is the responsibility of the applicants to ensure that their application addresses all of the required items. This is particularly important given the competitive nature of the grant program. If you are unsure as to the meaning of a particular question, contact WEM prior to attempting to answer that question.

**1. PROJECT COST ESTIMATE**

Section 404-HMGP Funds Requested:

| | | |
|---|---|---|
| Total | | $_____ |
| Federal Share | (75%) | $_____ |
| State Share | (12.5%) | $_____ |
| Applicant Share | (12.5%) | $_____ |
| Other Funding Sources: | | $_____ |

**2. PROJECT TITLE AND DESCRIPTON**

**3. PROJECT LOCATION (Include maps and photographs)**

Road or street address, geographic landmarks, legal description, etc. Provide a map showing the range and town sections for the project area. Indicate the project site on this map. Include a current locally adopted floodway map or flood insurance rate map (FIRM) indicating the project location. FIRMs are typically available from your local floodplain administrator who may be located in the planning, zoning, or engineering office. Maps can also be ordered from the Map Service Center at 1-800-358-9616. For more information about FIRMs, contact your local agencies or visit the FIRM site on the FEMA Web Page at http://www.fema.gov/fhm. Also, include several photographs of the location for the proposed project site.

**4. DETAILED DESCRIPTION OF PROPOSED PROJECT**

Provide a detailed description of the problem to be solved and damages to be reduced or eliminated as a direct result of the proposed project. Indicate whether the problem is repetitive. You should take into account damage to public and private property, both residential and commercial, threats to public health and safety, and government response costs (fire, police, public works, social services). Include the total number of persons and structures including both residential and commercial that will benefit from this project. Also, include infrastructure that may be protected as a result of the project.

**5. HAZARDS TO BE MITIGATED/LEVEL OF PROTECTION**

a. Select the type of hazards the proposed project will mitigate:

Flood_____ Wind_____ Other_____

b. Fill in the level of protection the proposed project will provide (e.g. 23 structures protected against the 100-year [1%] flood). List data in flood levels (10, 25, 50, 100) and/or mph winds.

_____structures protected against the_____
_____structures protected against the_____
_____structures protected against the_____
_____structures protected against the_____

## 6. COST EFFECTIVENESS OF THE PROPOSED PROJECT

Answer the following questions as completely and accurately as possible and provide as much detail as possible for each question. **The information provided is critical to the calculation of a benefit-cost analysis and must be provided. Where actual data is not available, use your most accurate estimates.**

a. What is the project life in years (permanent or long-term as opposed to temporary or short-term)?

b. Damages (dollar amount) from this event as well as all past events including Presidentially declared disasters and non-declared events. Indicate damage history including the month and year of each occurrence, storm event (10, 20, 50 year, etc.), a description of the event and damage/costs associated with the event. Indicate the actual or estimated dollar losses for each event including government response costs (fire, police, public works, human services), damages (including contents) to residential and commercial structures, damages (including contents) to critical facilities (schools, hospitals, etc.), damages to infrastructure (roads, sewer, public buildings, parks, etc.), as well as any other facilities affected. (Use the enclosed Damage Assessment Worksheet.)

**Actual dollar losses for all the above categories are essential to calculate the benefit-cost analysis.**

Also include other negative impacts on the community from the events such as economic, persons unemployed due to the event, essential services disrupted including interruption to local businesses, threats to public safety, etc.

c. Indicate the frequency at which damages begin if the proposed project is not implemented, as well as the frequency to which the project would provide protection, i.e., 5, 10, 15, 50 or 100 year storm, etc.

d. Describe any other positive impacts besides reducing damages that the proposed project will provide.

## 7. INDEPENDENT SOLUTION

Will the proposed project solve the problem independently or is it part of a larger solution? If part of a larger solution, indicate when the project as a whole will be completed.

## 8. WORK SCHEDULE AND ESTIMATED COMPLETION DATES

Include a work schedule for the proposed project. The schedule should indicate major milestones or phases of the project and the expected completion date of each phase. (i.e., engineering, design, permit process, project management, construction, etc.)

## 9. COST BREAKDOWN

Provide a breakdown of cost elements such as engineering and design, project management, construction, etc.

## 10. ROUTINE MAINTENANCE

If the project will require routine maintenance, include who will provide that maintenance following completion of the project and a maintenance schedule through the life of the project including yearly costs.
**Applicants are responsible for any and all future maintenance costs on an approved project.**

## 11. CONSIDERED ALTERNATIVES

Describe in detail other options or alternatives that have been considered to deal with the problem, the estimated cost, and explain why they were rejected or eliminated from consideration. In addition to the proposed project, **you must provide at least one other alternative besides "do nothing".** Describe the impacts on the project area if no action is taken. Provide justification for the selection of the proposed project over the alternatives. Factors may be monetary, environmental, physical, degree of effectiveness, maintenance costs, other reasonable cause or a combination of these factors.

## 12. ENVIROMENTAL CONSIDERATIONS

An environmental assessment is required for certain projects before the grant can be approved. It is FEMA's responsibility to prepare the environmental document, although the applicant will be required to provide much of the information, including any special studies that need to be performed. Describe the type of land use (rural, residential, commercial, urban, etc.) Identify all of the following which may apply to the proposed project:

_____ Threatened or endangered species in the area
_____ Location is on or within 100 feet of wetlands
_____ Obtaining permits
_____ Building/site is a historical landmark
_____ Area contains known archeological artifacts
_____ There are toxic or hazardous materials located in the area
_____ Area contains a wildlife or habitat refuge
_____ Located in a designated floodplain
_____ Involves incorporating unproven technology with unknown risks
_____ Project does not impact environment at all

## 13. HAZARD MITIGATION PLAN

Hazard Mitigation projects must be in conformance with the goals and objectives of the local approved all hazard mitigation plan.

- Provide the name of the Local Hazard Mitigation Plan and date approved.
- Provide a copy of the goals/objectives and the mitigation strategy/action item that references the proposed project from the approved hazard mitigation plan.

## 14. ADDITIONAL COMMENTS/INFORMATION

Include any additional information that will support the proposed project, which you feel is appropriate for use in reviewing this application.

**MAIL THE COMPLETED APPLICATION TO:**

**State of Wisconsin**
**Department of Military Affairs**
**Division of Emergency Management**
**2400 Wright Street**
**P.O. Box 7865**
**Madison, WI 53707-7865**

## DAMAGE ASSESSMENT WORKSHEET

| **EVENT** (description) (Presidentially declared disaster or non-declared disaster) | **DATE** (month & year) | **STORM EVENT** (10, 20, 50 year, etc.) | **GOVERNMENT RESPONSE COSTS** (fire, police, public works, human services) | **ESSENTIAL SERVICES DISRUPTED** (water, sewer, electrical, etc.) | **DAMAGES TO STRUCTURES INCLUDING CONTENTS** (residential & commercial) | **DAMAGES TO CRITICAL FACILITIES INCLUDING CONTENTS** (schools, hospitals, etc.) | **DAMAGES TO INFRASTRUCTURE** (roads, sewer, public buildings parks) |
|---|---|---|---|---|---|---|---|
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |
| | | | $ | | $ | $ | $ |

**STATE OF WISCONSIN**
**Department of Military Affairs**
**Division of Emergency Management**
**2400 Wright Street**
**P.O. Box 7865**
**Madison, WI 53707**
**608-242-3232, 608-242-3248 fax**

# HAZARD MITIGATION GRANT PROGRAM (HMGP) PLANNING GRANT APPLICATION INSTRUCTIONS

## The Hazard Mitigation Grant Program (HMGP)

The HMGP is a federal program administered in the State by the Wisconsin Division of Emergency Management (WEM). The program's objective is to reduce repetitive losses from natural disasters. This is accomplished by funding all hazard mitigation plan development and cost-effective projects intended to eliminate/reduce future disaster expenditures for the repair/replacement of public and private property, and for the relief of personal loss, hardship, and suffering. *Note: Projects cannot be retroactively funded through HMGP. Therefore, projects already in progress or completed will not be considered.*

The purpose of a HMGP planning grant is to assist communities develop and update comprehensive All-Hazard Mitigation Plans. The funds may be used to develop and update local mitigation plans which meet the planning criteria outlined in 44CFR Part 201 pursuant to Section 322 of the Stafford Act. A local government must have an approved All-Hazard Mitigation Plan to receive HMGP project grant funds after November 1, 2004. Countywide or multi-jurisdictional plans are encouraged for a comprehensive approach to hazard identification, evaluation and mitigation.

The Federal Emergency Management Agency (FEMA) will contribute up to 75% of the eligible costs with the WEM providing 12.5%. A 12.5% local match must be provided by a non-federal source. The local match can be supplied through cash, contributions, or in-kind services.

## Minimum Planning Grant Criteria

The applicant will use an all-hazards mitigation planning process that consists of the following activities:

- Planning process that involves the public
- Coordination with other communities, agencies and organizations
- Identification of all hazards within the community
- Risk assessment based on the identified hazards
- Development of a mitigation Strategy
- Setting goals
- Review of possible mitigation actions

- Drafting an action plan
- Adopting the plan
- Implementing, evaluating and revising the plan

Attached is a sample Scope of Work. Applications that do not include adequate description of the planning activities will be less competitive.

Eligible activities under a HMGP planning grant include conducting local planning discussions, paying for salaries/hiring a planner, surveying structures at risk and assessing losses.

HMGP funds may be used to develop tribal and local all-hazard mitigation plans which meet the planning criteria outlined in 44 CFR Part 201. See attached Summary of Section 201.6 or 201.7 regulations, for local and tribal mitigation plan requirements.

## Instructions for Completing the Application for HMGP

Applicants must apply for the HMGP planning grant through WEM. WEM will review and evaluate the grant applications and forward them to FEMA for approval. To apply:

1. Complete the HMGP Planning Grant application (DMA Form 117). Sign and date the application.

2. Sign and date the Assurances (DMA Form 1017A).

3. Also, submit the application and supporting documentation on disk in Word, Excel, Access or PDF format, if possible.

4. Send the completed application and assurances **by September 15, 2008**, to: Wisconsin Emergency Management, 2400 Wright Street, P.O. Box 53707-7865, Madison, WI.53707-7865. Attention: Roxanne Gray

Applicants will be notified by letter of the approval/disapproval of their applications.

Questions regarding the application process or program administration should be directed to Roxanne Gray, State Hazard Mitigation Officer, at 608-242-3211 or by e-mail at Roxanne.gray@wisconsin.gov, Susan Streich-Boldt, at 608-242-3214 or susan.boldt@wisconsin.gov, Lynsey Kawski, Disaster Response and Recovery Planner, at 608-242-3222 or Lynsey.kawski@wisconsin.gov, or Robby Stoikes, Hazard Mitigation Planner, at 608-242-3226 or Robert.stoikes@wisconsin.gov.

# HAZARD MITIGATION GRANT PROGRAM
# PLANNING GRANT APPLICATION

**Disaster Declaration: FEMA- -DR-WI** **Application Date: _____**

**Applicant: _____** **FIPS Code: _____**
*(Political Subdivision, Quasi-Government, Non-Profit Organization)* **DUNS Number:_____**

**Street/PO Box: _____**

**City: _____** **Zip Code: _____** **County: _____**

**Primary Contact Person: _____**

**Title: _____** **Phone: _____Fax:_____**

**E-mail Address: _____**

**Secondary Contact Person: _____**

**Title: _____** **Phone: _____Fax:_____**

**E-mail Address: _____**

I certify, to the best of my knowledge and belief, that information in this application and supporting documentation is true and correct, and that it has been duly authorized by the governing body of the applicant. It is also understood that no billable work will begin until the grant is approved and a subgrantee agreement is executed with the grantee.

**Typed Name and Title: _____**

**Applicant's Signature: _____**

**Date Signed: _____**

All questions must be answered completely and accurately. If necessary, attach additional pages and reference the question number. Type (or print clearly) your response.

## 1A. ALL-HAZARDS MITIGATION PLAN COST ESTIMATE

**Type of Plan:** ____ New Plan ____Update of Existing Plan

HMGP funds requested:

| | |
|---|---|
| Total: | $_____ |
| Federal Share (75%): | $_____ |
| State Share (12.5%): | $_____ |
| Applicant Share (12.5%): | $_____ |
| Other Funding Sources: | $_____ |

Has the applicant (local) share been committed or secured through resolution, as a budget item, or from another funding source? If yes, attach the supporting documentation. If not, describe the actions that will be taken to secure the local share.

_____
_____
_____
_____

## 1B. Estimated Budget

| | |
|---|---|
| Salaries (who, hourly salary, estimated number of hours, etc.) | $_____ |
| Fringe Benefits (describe what's included in rate) | $_____ |
| Contractual (i.e., consultant, attach bid proposal) | $_____ |
| Supplies (describe) | $_____ |
| Printing | $_____ |
| Postage | $_____ |
| Equipment (describe) | $_____ |
| Travel (estimated trips, miles per trip, rate per mile-roundtrip) | $_____ |
| Public Meetings (Number of meetings, cost per meeting i.e. room rental) | $_____ |
| In-Kind (describe) (Number of local officials x estimated hours x estimated cost) | $_____ |
| Other | $_____ |

**2. AREAS TO BE COVERED BY THE ALL-HAZARDS MITIGATION PLAN**

☐ County/Multi-jurisdictional ☐ City, Village or Town ☐ Indian Tribe or Authorized Tribal Organization

Describe the **geographic and political areas** that will be addressed in the All-Hazards Mitigation Plan and include appropriate reference maps for these areas. Please provide the populations of the communities that will participate in the plan development.

_____
_____
_____

**3A. DESCRIPTION OF THE LOCAL HAZARDS**

Provide a brief description of the hazards (Section 201.6 c (2) or Section 201.7 c (2)).

_____
_____
_____
_____

**3B. DESCRIPTION OF THE PROBLEM**

Provide a brief description of the damages incurred during storm events. Factor in damage to public and private property, threats to public health and safety, to infrastructure, and government response costs (fire, police, public works, social services).

_____
_____
_____
_____

**4A. DESCRIPTION OF PLANNING PROCESS / APPROACH**

Describe the basic planning process that will be used (201.6 (3)(b) or 201.7 c (1)). (See sample Scope of Work)

_____
_____
_____
_____
_____

**4B. COMMUNITY PLANNING INITIATIVES**

Is the jurisdiction participating in planning initiatives such as Flood Mitigation Plan, stormwater plan, Smart Growth Comprehensive Planning Grants or other plan development processes? Please identify the initiative and how it would relate to and/or support the All-Hazards Mitigation Plan.

_____
_____
_____
_____

**4C. PUBLIC PARTICIPATION**

Outline the strategy to include the public in both plan formation and review (for example team formation, committees, etc.)—Outreach methods, targeted audience, geographic representation and estimated number of meetings needed to accomplish this task.

_____
_____
_____
_____
_____

**4D. EXPECTED BENEFITS AND OUTCOMES OF THE PLANNING PROCESS**

Describe how the planning grant and planning process will benefit the community.

_____
_____
_____
_____
_____

**5. WORK SCHEDULE AND ESTIMATED COMPLETION DATES**

Provide a work schedule for developing the All-Hazards Mitigation Plan, including major milestones (see below) for the planning process and the anticipated completion date. (Note: A draft plan must be submitted within 18 months and the final plan in 24 months.)

_____
_____
_____
_____

| | |
|---|---|
| Develop Planning Team | _____ |
| Kickoff Meeting | _____ |
| Public Participation | _____ |
| Develop Community Profiles | _____ |
| Identify and Describe Hazards | _____ |
| Risk and Vulnerability Assessments | _____ |
| Development of Goals and Objectives | _____ |
| Development of Mitigation Actions | _____ |
| Development of Plan Maintenance Process | _____ |
| Submit Draft Plan | _____ |
| Revise Plan based on State Review | _____ |
| Formal Adoption | _____ |
| Submit Final Plan for Approval | _____ |

**6. ADDITIONAL COMMENTS / INFORMATION**

Provide any additional information that will support your proposed project and would be helpful when reviewing this application.

_____
_____
_____
_____

**Date**

WDNR Environmental Review Coordinator
Southeast Regional Headquarters
Department of Natural Resources
PO Box 12436
Milwaukee WI 53212-0436

Subject: Categorical Exclusion
**Project**

Dear Mr. :

The Wisconsin Division of Emergency Management is in the process of evaluating a Hazard Mitigation Project Grant application for **the project and location.** This application is the result of the presidential disaster declaration for flooding which occurred on **date**, in _____Counties. The structures are in the Fox River floodway and floodplain. These properties are located on the National Flood Insurance Rate Maps FIRM B and are located at _____.

The Federal Emergency Management Agency (FEMA) and our office are considering the use of a Categorical Exclusion for the environmental review as defined in 44 CFR 10.8(d)(2)(vii) to meet the requirements of the National Environmental Policy Act. Please review the enclosed to ensure that the proposed project does not violate regulatory authorities under your jurisdiction. Indicate, on the enclosed concurrence form, that the demolition of these properties does not have the potential to impact wetlands, floodplains, rare, threatened or endangered species, a wildlife refuge, wilderness area, or a wild and scenic river. Also, that there will not be a negative impact on wetlands, the floodplain or the air quality at this site.

I ask that you please reply as soon as possible but no later than **date**. Your efforts in this matter are greatly appreciated. If you have any questions concerning this request, please call me at 608-242-3214 or Roxanne Gray at 608-242-3211.

Sincerely,

SUSAN STREICH-BOLDT
Assistant State Hazard Mitigation Officer
Wisconsin Emergency Management

Enclosure **(use general concurrence form)**

**LOCATION**
**FEMA-____-DR-WI**
**HAZARD MITIGATION GRANT PROGRAM**
Consideration for Categorical Exclusion as defined in 44CFR 10.8 (d)(2)(vii)**(change if appropriate)**

## CONCURRENCE

DESCRIPTION: **Project and location**. This residence is in the floodplain of _____.(Sec. Town & Range).

I have reviewed the above description for the proposed project pursuant to regulations and authorities of this agency, and concur that the project will not cause a negative impact to the environment.

Name Title Date

Agency

I have reviewed the above description for the proposed project pursuant to the regulations and authority of this agency, and have determined that the project will or may cause a potential negative impact on the environment, and further investigation is warranted. Potential negative impacts are (explain and attach any documents as required):

Name Title Date

Agency

Please fax to:
Susan Streich-Boldt, Assistant SHMO
Wisconsin Division of Emergency Management
608-242-3248, 3247
or
Mail to:
2400 Wright Street, P.O. Box 7865
Madison, WI 53707-7865

**PLEASE RESPOND ASAP BUT NO LATER THAN *DATE***

# Record of Environmental Consideration

See 44 Code of Federal Regulation Part 10.

**Project Name/Number:**

**Project Location:**

**Project Description:**

## Documentation Requirements

☐ No Documentation Required **(Review Concluded)**

☐ **(Short version)** All consultation and agreements implemented to comply with the National Historic Preservation Act, Endangered Species Act, and Executive Orders 11988, 11990 and 12898 are completed and no other laws apply. **(Review Concluded)**

☐ **(Long version)** All applicable laws and executive orders were reviewed. Additional information for compliance is attached to this REC.

## National Environmental Policy Act (NEPA) Determination

☐ Statutorily excluded from NEPA review. (**Review Concluded)**
☐ Categorical Exclusion - Category Type Single Project
- ☐ No Extraordinary Circumstances exist.
  Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**
- ☐ Extraordinary Circumstances exist (See Section IV).
  - ☐ Extraordinary Circumstances mitigated. (See Section IV comments)
    Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**
  - ☐ Environmental Assessment required. See FONSI for determination, conditions and approval.

☐ Environmental Assessment required. See FONSI for determination, conditions and approval.

*Comments:*

## Reviewer and Approvals

Environmental Review prepared by:
Name:

Signature_____. Date _____.

FEMA Regional Environmental Officer or delegated approving official.
Name:

Signature_____. Date _____.

# I. Compliance Review for Environmental Laws (other than NEPA)

## A. National Historic Preservation Act

☐ Not type of activity with potential to affect historic properties. **(Review Concluded)**
☐ Applicable executed Programmatic Agreement . (insert date) Otherwise, conduct standard Section 106 review.
☐ Activity meets Programmatic Allowance # _____
Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**

**HISTORIC BUILDINGS AND STRUCTURES**

☐ No historic properties 50 years or older in project area. **(Review Concluded)**
☐ Building or structure 50 years or older in project area and activity not exempt from review.
☐ Determination of No Historic Properties Affected (FEMA finding/SHPO/THPO concurrence on file)
Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**
☐ Determination of Historic Properties Affected (FEMA finding/SHPO/THPO concurrence on file)
☐ Property a National Historic Landmark and National Park Service was provided early notification during the consultation process. If not, explain in comments
☐ No Adverse Effect Determination (FEMA finding/SHPO/THPO concurrence on file).
Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**
☐ Adverse Effect Determination (FEMA finding/SHPO/THPO concurrence on file)
☐ Resolution of Adverse Effect completed. (MOA on file)
Are project conditions required ☐ Yes (see section V) ☐ No **(Review Concluded)**

**ARCHEOLOGICAL RESOURCES**

☐ Project affects only previously disturbed ground. **(Review Concluded)**
☐ Project affects undisturbed ground.
☐ Project area has no potential for presence of archeological resources
☐ Determination of no historic properties affected (FEMA finding/SHPO/THPO concurrence or consultation on file). **(Review Concluded)**
☐ Project area has potential for presence of archeological resources
☐ Determination of no historic properties affected (FEMA finding/SHPO/THPO concurrence on file)
Are project conditions required ☐ Yes (see section V) ☐ No **(Review Concluded)**
☐ Determination of historic properties affected
☐ NR eligible resources not present (FEMA finding/SHPO/THPO concurrence on file).
Are project conditions required ☐ Yes (see section V) ☐ No **(Review Concluded)**
☐ NR eligible resources present in project area. (FEMA finding/ SHPO/THPO concurrence on file)
☐ No Adverse Effect Determination. (FEMA finding/ SHPO/THPO concurrence on file)
Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**
☐ Adverse Effect Determination . (FEMA finding/ SHPO/THPO concurrence on file)
☐ Resolution of Adverse Effect completed. (MOA on file)
Are project conditions required? ☐ Yes (see section V) ☐ No **(Review Concluded)**

| *Comments:* |
|---|
| *Correspondence/Consultation/References:* |

## B. Endangered Species Act

☐ No listed species and/or designated critical habitat present in the action area. **(Review Concluded)**
☐ Listed species and/or designated critical habitat present in the action area.
☐ No effect to species or designated critical habitat**.** (See comments for justification) **(Review Concluded)**
☐ May affect, but not likely to adversely affect species or designated critical habitat (FEMA determination/USFWS/NMFS concurrence on file) **(Review Concluded)**
☐ Likely to adversely affect species or designated critical habitat

☐ Formal consultation concluded. (Biological Assessment and Biological Opinion on file)
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## C. Coastal Barrier Resources Act

☐ Project is not located in Coastal Barriers Resource System or Otherwise Protected Area.
☐ Project does not affect a coastal barrier within the COBRA System (regardless of in or out) **(Review Concluded)**
☐ Project is located in a coastal barrier system and/or affects a coastal barrier. (FEMA determination/USFWS consultation on file)
☐ Proposed action an exception under Section 3505.a.6? **(Review Concluded)**
☐ Proposed action not excepted under Section 3505.a.6.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## D. Clean Water Act

☐ Project site located outside of and would not affect any waters of the U.S. **(Review Concluded)**
☐ Project site located in or would affect waters, including wetlands, of the U.S.
☐ Project exempted as in kind replacement or other exemption. **(Review Concluded)**
☐ Project requires Section 404/401/10 permit, including qualification under Nationwide Permits.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## E. Coastal Zone Management Act

☐ Project does not affect a coastal zone area (regardless of in or out)- (**Review concluded)**
☐ Project is not located in a coastal zone area – **(Review concluded)**
☐ Project is located in a coastal zone area and/or affects the coastal zone
☐ State administering agency does not require consistency review. **(Review Concluded)**.
☐ State administering agency requires consistency review.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## F. Fish and Wildlife Coordination Act

☐ Project is not located in or affects a waterway/body of water**. (Review Concluded)**
☐ Project affects, controls or modifies a waterway/body of water.
☐ Coordination with USFWS conducted
☐ No Recommendations offered by USFWS. **(Review Concluded)**
☐ Recommendations provided by USFWS.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## G. Clean Air Act

☐ Project will not result in permanent air emissions. **(Review Concluded)**
☐ Project is located in an attainment area. **(Review Concluded)**
☐ Project is located in a non-attainment area.
☐ Coordination required with applicable state administering agency..
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## H. Farmlands Protection Policy Act

☐ Project does not affect prime or unique farmland. **(Review Concluded)**
☐ Project causes unnecessary or irreversible conversion of prime or unique farmland.
☐ Coordination with Natural Resource Conservation Commission required.
☐ Farmland Conversion Impact Rating, Form AD-1006, completed.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## I. Migratory Bird Treaty Act

☐ Project not located within a flyway zone. **(Review Concluded)**
☐ Project located within a flyway zone.
☐ Project does not have potential to take migratory birds. **(Review Concluded)**
☐ Project has potential to take migratory birds.
☐ Contact made with USFWS
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## J. Magnuson-Stevens Fishery Conservation and Management Act

☐ Project not located in or near Essential Fish Habitat. **(Review Concluded)**
☐ Project located in or near Essential Fish Habitat.
☐ Project does not adversely affect Essential Fish Habitat. **(Review Concluded)**
☐ Project adversely affects Essential Fish Habitat (FEMA determination/USFWS/NMFS concurrence on file)
☐ NOAA Fisheries provided no recommendation(s) **(Review Concluded).**
☐ NOAA Fisheries provided recommendation(s)
☐ Written reply to NOAA Fisheries recommendations completed.
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## K. Wild and Scenic Rivers Act

☐ Project is not along and does not affect Wild or Scenic River - **(Review Concluded)**
☐ Project is along or affects Wild or Scenic River

☐ Project adversely affects WSR as determined by NPS/USFS. **FEMA cannot fund the action**. (NPS/USFS/USFWS/BLM consultation on file)
☐ Project does not adversely affect WSR. (NPS/USFS/USFWS/BLM consultation on file)
Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments*:
*Correspondence/Consultation/References:*

## L. Other Relevant Laws and Environmental Regulations

Identify relevant law or regulations, resolution and any consultation/references

# II. Compliance Review for Executive Orders

## A. E.O. 11988 - Floodplains

☐ Outside Floodplain and No Effect on Floodplains/Flood levels - **(Review Concluded)**
☐ Located in Floodplain or Effects on Floodplains/Flood levels
- ☐ No adverse effect on floodplain or can be adversely affected by the floodplain. **(Review Concluded)**,
- ☐ Beneficial Effect on Floodplain Occupancy/Values **(Review Concluded).**
- ☐ Possible adverse effects associated with investment in floodplain, occupancy or modification of floodplain environment
  - ☐ 8 Step Process Complete - documentation on file
    Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## B. E.O. 11990 - Wetlands

☐ Outside Wetland and No Effect on Wetland(s) - **(Review Concluded)**
☐ Located in Wetland or effects Wetland(s)
- ☐ Beneficial Effect on Wetland - **(Review Concluded)**
- ☐ Possible adverse effect associated with constructing in or near wetland
  - ☐ Review completed as part of floodplain review
  - ☐ 8 Step Process Complete - documentation on file
    Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

## C. E.O. 12898 - Environmental Justice For Low Income and Minority Populations

☐ No Low income or minority population in, near or affected by the project - **(Review Concluded)**
☐ Low income or minority population in or near project area
- ☐ No disproportionately high and adverse impact on low income or minority population- **(Review Concluded)**
- ☐ Disproportionately high or adverse effects on low income or minority population
  Are project conditions required? ☐ YES (see section V) ☐ NO **(Review Concluded)**

*Comments:*
*Correspondence/Consultation/References:*

# III. Other Environmental Issues

**Identify other potential environmental concerns in the comment box not clearly falling under a law or executive order (see environmental concerns scoping checklist for guidance).**

| |
|---|
| *Comments:*<br>*Correspondence/Consultation/References:* |

## IV. Extraordinary Circumstances

**Based on the review of compliance with other environmental laws and Executive Orders, and in consideration of other environmental factors, review the project for extraordinary circumstances.**

* A "Yes" under any circumstance may require an Environmental Assessment (EA) with the exception of (ii) which should be applied in conjunction with controversy on an environmental issue. If the circumstance can be mitigated, please explain in comments. If no, leave blank.

**Yes**

- ☐ (i) Greater scope or size than normally experienced for a particular category of action
- ☐ (ii) Actions with a high level of public controversy
- ☐ (iii) Potential for degradation, even though slight, of already existing poor environmental conditions;
- ☐ (iv) Employment of unproven technology with potential adverse effects or actions involving unique or unknown environmental risks;
- ☐ (v) Presence of endangered or threatened species or their critical habitat, or archaeological, cultural, historical or other protected resources;
- ☐ (vi) Presence of hazardous or toxic substances at levels which exceed Federal, state or local regulations or standards requiring action or attention;
- ☐ (vii) Actions with the potential to affect special status areas adversely or other critical resources such as wetlands, coastal zones, wildlife refuge and wilderness areas, wild and scenic rivers, sole or principal drinking water aquifers;
- ☐ (viii) Potential for adverse effects on health or safety; and
- ☐ (ix) Potential to violate a federal, state, local or tribal law or requirement imposed for the protection of the environment.
- ☐ (x) Potential for significant cumulative impact when the proposed action is combined with other past, present and reasonably foreseeable future actions, even though the impacts of the proposed action may not be significant by themselves.

| |
|---|
| *Comments:* |

## V. Environmental Review Project Conditions

General comments:

Project Conditions:

Monitoring Requirements:

# PUBLIC NOTICE PROCEDURES
# for
# FEMA Region V Environmental Assessments
# August 31, 2007

NEPA is a planning and disclosure process. Therefore both NEPA and EOs 11988 require notification of the public:

(A) when a project and its alternatives are initially being developed and scoped and;
(B) after the completion of the final draft environmental assessment, and before the signing of the *Finding of No Significant Impacts (FONSI)* and any action taken.

The requirements of (A), which is referred to as a **NOTICE OF INTENT,** can usually be met by:

1. FEMA's *General Notice for a Presidential Declaration* that is published at the beginning of each disaster. This issues notification that funds will be provided under the Stafford Act to undertake projects or;
2. FEMA or the applicant (usually the applicant) publishing a **NOTICE of INTENT** in a local newspaper to undertake a project, providing the alternatives, and then giving the public 15 days to respond, or;
3. FEMA or the applicant holding one or more public meetings on the project to solicit public comments.

Exactly which of the above vehicles used to meet the requirements of (A) will usually be determined by the scope of the proposed project, agency coordination, and previous notification and scooping work performed by the applicant. Any comments received during this phase of notification should be addressed in the EA.

The requirements of (B), which is referred to as a **FINAL NOTICE**, can usually be met by:

1. Publishing a **FINAL NOTICE** in a local newspaper and then giving the public 15 days to respond.
2. If no comments are received, then the FONSI can be signed and the project can proceed.
3. If comments are received they can be addressed individually and/or in a rewrite of the EA.
4. If significant negative comments are received, then the project should be put on hold until the issues are resolved.

## SPECIAL NOTE

The above requirements are to also be applied to a project that will be categorically excluded (CATEXed) from the preparation of an environmental assessment, but involves EO 11988 (floodplains) and/or EO 11990 (wetlands) and/or potentially or existing contentious issues.

**SAMPLE**
**OF A**
## FINAL PUBLIC NOTICE

### PUBLIC NOTICE OF A PROJECT PENDING FUNDING BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

Notification is hereby given of the Federal Emergency Management Agency's (FEMA) pending intent to provide Hazard Mitigation Funding for the (name community) to (short description of project). Funds will be provided in accordance with the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.

Under the National Environmental Policy Act (NEPA) and EO 11988, FEMA is required to provide public notice of any proposed actions in or affecting floodplains or wetlands.

The (Community, County and State) proposes to (detailed description of project, its location and its impact on the floodplain and/or wetlands and why it is the best and/or only solution to the problem).

FEMA's review has determined that no significant impact to the existing floodplain would result from this project.

Within 15 days, interested persons may submit comments, obtain more detailed information about the action or request a copy of the findings by contacting FEMA's Region V office which is located at 536 S. Clark, Chicago, IL 60605. Requests can also be made to (local program person-phone number-e-mail address) or to Amanda Ratliff, Regional Environmental Officer at (312) 408-5540 or Amanda.Ratliff@ dhs.gov.

---

**When describing the project, do not use addresses or names, as this would violate the privacy act.**

# ENVIRONMENTAL CLOSEOUT DECLARATION

It is the Federal Emergency Management Agency's (FEMA) responsibility to comply and verify that environmental laws and executive orders are met prior to approval of FEMA-funded grants. In order to comply with this responsibility it is necessary to ensure that the requirements of the environmental documents have been met prior to grant closeout.

The applicant or applicant's agent must verify that the conditions stated in the Record of Environmental Consideration, FONSI or Environmental Assessment, or any other environmental approval documentation were met. They must provide copies of all permits or other required documentation along with this signed form.

Funding will be jeopardized if the environmental conditions contained in the project approval documents were not followed and required permits were not obtained.

**This is to be completed and signed after project completion and submitted as part of the grant closeout documentation.**

Program Grant _____

Disaster Related _____

Project Number _____

Project Title _____

*I attest that all conditions listed in the environmental documentation were followed and the appropriate permit and supporting documents are on file in our office. I further attest than none of the issues listed under the Project Conditions section of the Record of Environmental Review, FONSI or Environmental Assessment were encountered that would have required further environmental coordination with FEMA.*

_____ _____
Signature of Applicant or Applicant's Agent Date

_____ _____
Signature of State Program Manager Date

_____ _____
Signature of Regional Environmental Officer Date
FEMA-Region V

Date

Authorized Representative
Community
Address
City, State Zip

Dear

I am pleased to inform you that the Federal Emergency Management Agency (FEMA) has approved funding for the applicant's name Hazard Mitigation Grant application submitted under Disaster Declaration FEMA- -DR-WI declared _____. The grant is approved in the amount of $_____ for the type of project.

The Federal Emergency Management Agency provides 75% of the funding or $_____, Wisconsin Emergency Management (WEM) provides 12.5% or $_____, and the remaining $_____ is the community's required 12.5% local match. The community may also receive management costs up to 1% (one percent) of the grant or $_____. The management cost is provided to cover the costs you will incur for administering the grant including costs for audits if required.

Enclosed are two originals of the State-Local Hazard Mitigation Grant Program (HMGP) Assistance Agreement. Please carefully review the agreement and sign both copies. Keep one for your files and return the other to this office. This agreement must be signed before funds can be drawn on the grant.

Per the agreement your are required to submit Quarterly Status Reports, DMA Form 168 (enclosed) within 15 days following the end of the quarter (October 15, January 15, April 15 and July 15), and a final report covering all aspects of the project 30 days after project completion.

In order to receive reimbursement of expenses you will need to complete and submit to this office a Request for Reimbursement of Expenses, DMA Form 167 (enclosed) along with supporting documentation (invoices and copies of payments). Advancement of funds requires prior approval from this office and will only be made in extraordinary circumstances.

Management costs of up to $_____ may be reimbursed as requested on DMA Form 167. All documentation for management costs must be kept at the local level for three years commencing on the date of the closeout for the grant.

You should refer to the signed **Assurances for Construction and Non-Construction Projects**, DMA Form 1017A, and the **State-Local Hazard Mitigation Grant Program State of Assurances for Property Acquisition Projects**, which was signed and submitted with the

application for other state and federal laws and program requirements relating to the grant which are to be adhered to.

Under HMGP, acquisition projects must meet the following criteria:

- Property owner must voluntarily elect to participate in the program. The Village will need to provide the **Statement of Voluntary Participation** signed by the property owner and the community based on the fair market value of the property as determined by the approved appraisal.
- The acquired property will be deed restricted requiring that it be maintained as open space in perpetuity, and that no future disaster assistance will be made available at those sites. The deed conveying the property to the community must reference and incorporate **Exhibit A, Model Deed Restrictions**, attached to the signed State-Local HMGP Statement of Assurances for Property Acquisition Projects.
- Replacement housing for those whose properties are acquired cannot be in another 100-year floodplain.
- The properties will be purchased based on the fair market value as determined by an appraisal. Pre or post-flood FMV may be used. If utilizing pre-flood FMV, the offer to purchase will need to take into consideration any duplication of benefits (DOB.)
- The project may have to conform to the State Relocation Law (State Statute 32.19-32.27, Commerce Code 202.) If you have any questions regarding the State Relocation Law, please contact Jack Sanderson, State Relocation Specialist at the Department of Commerce, 608-267-0317.

FEMA and this office provide grant funds and program guidance; however, the community is responsible for administering the grant and implementing the project. The community is not authorized to make an offer on the property until the appraisal has been completed and authorization has been granted by this office. The authorization letter will also identify any duplication of benefits (DOB) that may apply and that will have to be deducted from the offering price.

Substantially damaged properties that have a standard flood insurance policy at the time of flooding may be entitled to Increased Cost of Compliance (ICC) to bring the structure into compliance with local floodplain requirements. In the case of acquisition, ICC funds can be utilized for demolition costs up to $30,000. In addition, ICC funds can be applied towards the local match.

Demolition costs for those structures substantially damaged that don't have flood insurance and are part of a HMGP acquisition project may be eligible for reimbursement under the community's Public Assistance grant. I have forwarded a funding request to Dave LaWall, State Public Assistance Officer, to determine how to utilize Public Assistance funds for the demolition costs.

In completing the project, the community will need to adhere to the conditions indicated in the enclosed approval letter for the REC (Record of Environmental Consideration) dated _____.

After you have had time to review this letter and the attachments, please contact me so that we can schedule a meeting to further discuss program policies and procedures for grant administration and project implementation.

If you have any questions, please do not hesitate to call me at 608-242-3211; Susan Boldt, Assistant Hazard Mitigation Officer, at 608-242-3214; or Linda McDermott, Hazard Mitigation Specialist, at 608-242-3219.

Sincerely,

ROXANNE K. GRAY
State Hazard Mitigation Officer
Wisconsin Division of Emergency Management

Enclosures:

- State-Local Hazard Mitigation Grant Program Assistance Agreement
- Quarterly Status Report, DMA Form 168
- Request for Reimbursement Request, DMA Form 167
- Budget Summary Form
- Statement of Voluntary Participation
- Exhibit A, Model Deed Restrictions
- FEMA approval letter dated _____
- FEMA NEPA approval letter dated _____
- Record of Environmental Review signed _____

cc Regional Emergency Management Director
County Emergency Management Director

**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**State-Local Hazard Mitigation Grant Program Assistance Agreement**
**(FEMA-DR-____-WI)**
**(Acquisition)**

This Grant Agreement between the Wisconsin Division of Emergency Management (the WEM/Grantee) and the _____ (the Subgrantee) shall be effective on the date signed by the WEM and the Subgrantee. It shall apply to all Hazard Mitigation Grant Program (HMGP) assistance provided by or through WEM to the Subgrantee as a result of the Presidentially declared disaster occurring in Wisconsin (FEMA-DR-____-WI).

The purpose of this agreement is to formally recognize the goals of the HMGP and to establish guidelines by which HMGP funds are to be used. This agreement is in addition to the requirements outlined in the DMA Form 1017A, Assurances Construction and Non-Construction Projects, and the State-Local Hazard Mitigation Grant Program Statement of Assurances for Property Acquisition Projects that was signed by the above mentioned Subgrantee and submitted with the HMGP application.

Be it resolved by the Subgrantee, that the individual named below:

_____
(Name and Title)

has the legal authority and is hereby authorized to execute documents for and on behalf of the Subgrantee. The individual and this designation is to be the authorized representative for obtaining HMGP funds.

The Subgrantee hereby assures and certifies that the project will comply with the applicable State of Wisconsin and FEMA regulations. Also, the Subgrantee gives assurance and certifies with respect to and as a condition for the grant that as a minimum:

1. This Grant Agreement in the amount of $_____ will serve as the contract between WEM and the Subgrantee for the purpose of acquisition and demolition of _____ properties located in the floodplain of the _____. Seventy-five percent or $_____ represents the Federal share funded through FEMA, and 12.5 percent or $_____ represents the State share funded through WEM. The remaining 12.5 percent or $_____ is a local program match (Can not be match dollars for any other federal grants i.e. EMPG, EPCRA). The Subgrantee will be reimbursed for management costs applied to the total amount of the project up to 1% (one percent) or $_____. If there is a cost under-run for the project, final reimbursement for the federal and state share of the project costs and management costs will be adjusted based on actual costs of the project. If costs exceed the amount approved, the Subgrantee is responsible for the costs in excess of the approved grant.

2. The Subgrantee will adhere to the special conditions as identified in the approval letter for the REC (Record of Environmental Consideration) dated _____, in completing the project.

   - Securing all permits per Wisconsin statutes and comply with regulatory standards.
   - If ground-disturbing activities occur during implementation, the subgrantee will monitor excavation activity, and if any artifacts or human remains are found during excavation process all work is to cease, and the subgrantee will notify WEM, FEMA and the State Historic Preservation Officer (SHPO.)
   - If private water supply wells are present, they should be properly abandoned. Submit Well Abandonment Report Forms (DNR Form #3300-5) to DNR.
   - A Notification of Demolition and/or Renovation and Application for Permit Exemption (NR 406, 410, and 447 Wis.Adm.Code) may be required. Contact DNR to request additional information and permit application materials.
   - Steel, concrete, and other demolition materials should be recycled to the extent possible. Waste that cannot be recycled must be characterized and managed properly.
   - During demolition of the structure, placement of equipment and stockpiling of structural debris, will be confined to the front and back of the structure; heavy equipment will, where possible, be kept on the driveway, the street or other hard surfaces.
   - No on-site disposal of demolition debris will be allowed; all debris resulting from the demolition must be deposited in an approved landfill area; no debris can be deposited in wetland or floodplain areas.
   - No on-site granular material will be excavated or stripped to use for capping the foundation and/or for final landscaping.
   - Best management practices will be applied to the property.
   - Secure erosion control permit under NR 216 if the property will impact more than one acre.
   - Private septic tanks must be abandoned according to NR 812 and per Wisconsin Department of Commerce codes.
   - If deviations from the proposed scope of work result in the need for additional ground disturbance, additional removal of vegetation, or in any other unanticipated changes to the physical environment, the subgrantee must contact WEM immediately for a re-evaluation by FEMA for NEPA and other applicable environmental laws.

3. The prospective participants were provided and signed the written "Notice of Voluntary Statement", that participation in the program is voluntary and that the subgrant will not use its eminent domain authority to acquire the property should negotiations fail.

4. The subgrantee will provide the **Statement of Voluntary Participation** signed by the property owner and the subgrantee based on the fair market value of the property as determined by the approved appraisal for the property.

5. The subgrantee assures that they have consulted with the U.S. Crops of Engineers and that no plans exist for the property for the construction of flood damage reduction levees, has rejected consideration of such measures in the future in the project area, and instead has chosen to proceed with acquisition of permanent open space.

6. The subgrantee has coordinated with the State Department of Transportation to ensure that no future, planned improvements or enhancements are under consideration that will affect the property proposed for acquisition.

7. Provide certification that each participant who will receive pre-event fair market value is a National of the United States or qualified alien by asking all acquisition project participants (property owners) to certify that they are either a National of the United States or a qualified alien. Participants who refuse to certify, or who are not Nationals of the United States or qualified aliens, will receive no more than the appraised current market value for their property.

8. Existing structure will be removed within 90 days of acquisition

9. Once this Grant Agreement is signed and returned to WEM, the subgrantee may begin the project and the authorized representative may request reimbursement of expenses as identified in the budget included in the approved application. The Subgrantee will need to complete and submit to WEM a Request for Reimbursement of Expenses with appropriate documentation in order to receive grant funds. Advancement of funds may be made in some extraordinary situations upon prior approval of the Grantee.

   COSTS INCURRED PRIOR TO FEMA APPROVAL OF THE GRANT, UNLESS PRE-AWARD COSTS WERE INCLUDED AND APPROVED IN THE APPLICATION, ARE NOT ALLOWABLE COSTS FOR THE GRANT.

   Management costs are calculated on a formula identified in the State of Wisconsin Administrative Plan. The purpose of the management costs is to reimburse the Subrantee for costs to prepare the applications, quarterly reports, audits, related field inspections, record keeping, and the filing of reimbursement claims to the Grantee. The Subgrantee shall maintain proper documentation of management costs (separate from documentation for Project expenditures) in order to be eligible for reimbursement. The management cost documentation does not have to be forwarded to the State but must be kept at the local level for three years after the grant close-out report has been accepted. Request for reimbursement of Administrative Costs may be included on DMA Form 167, Request for Reimbursement of Expenses.

The Grantee may pursue all available remedies for the recoupment of any payments that have been inadequately documented or determined by the Grantee to have been improperly made or expended for any reason.

10. The authorized representative will be required to submit Quarterly Status Reports, to the State Hazard Migration Officer (SHMO) within fifteen days following the end of the quarter (January 15, April 15, July 15 and October 15). Said report will include the status of the project, anticipated completion date, and financial information.

11. The Subgrantee will meet the following timeline for completing this project:

    Start Date No later than (date)

    Completion Date Date

    If the Subgrantee is delayed in their completion of the project by an event beyond their control, a request for an extension must be received in writing 90 days prior to the completion date.

12. The grant performance period for the HMGP Project Grant will be date to date.

13. A final report covering all aspects of the project will be due 30 days after project completion. Project is considered complete after demolition of structures and restoration of all properties to open space uses. The final report will need to include:

    - Copies of permits and forms as identified in the approval letter for the Record of Environmental Considerations and in number 2 of this document.
    - A copy of the recorded warranty deed with the required FEMA deed restrictions.
    - A photo of each property site after project completion.
    - The latitude and longitude coordinates for each property in the project.
    - Identification of repetitive loss properties in the project.
    - Other information as required.

14. Will comply with applicable provisions of the State's Relocation Law, Wisconsin Statutes Chapter 32, Section 32.19-32.27, (per Attorney General opinion dated January 12, 1979) and Wisconsin Administrative Code, ch. Comm 202.

15. The HMGP funds requested for the project shall not duplicate benefits received from any other disaster assistance program.

16. Will comply with requirements of the Privacy Act. Information covered by the Privacy Act (i.e., names, addresses, award amounts, etc., of applicants) may be released to agencies for the sole purpose of preventing duplication of benefits. Information may not be used to conduct outreach, canvassing, referral or other similar programs. Information should not be provided to agencies not directly concerned with the acquisition program.

17. Any profits made from the sale, recycle, reuse, etc., of any properties acquired through the HMGP program will be used towards the mitigation project or deducted from the grant amount.

18. Property acquired through the HMGP program must be maintained in perpetuity for open space per 44 CFR Part 80.19, Land use and Oversight. The property cannot be used to construct flood damage reduction levees, transportation facilities, or other incompatible purposes. No new structure will be erected on the property other than a restroom or public facility that is open on all sides and functionally related to open space use. Any structure must be constructed in compliance with the state and local floodplain management ordinances, meet NFIP minimum requirements, and are compatible with open space uses and floodplain management policy and practices. Allowable open space uses can include, but are not limited to, parks, nature preserves, cultivation, grazing, and unimproved pervious parking areas.

19. The deed conveying the property to the subgrantee must reference and incorporate Exhibit A, Model Deed Restrictions, attached to the State-Local HMGP Statement of Assurances for Property Acquisition Projects signed by the subgrantee on date.

20. The subgrantee must submit to the grantee every three years a report certifying that it has inspected the subject property within the month preceding the report, and that the property continues to be maintained consistent with the provisions of the grant. If the subject property is not maintained according to the terms of the grant, the grantee and FEMA, its representatives, and assignees will take measures to bring the property back into compliance.

21. The subgrantee is responsible for the continued maintenance of acquired property upon completion of the project, and is responsible for ensuring that the property is maintained in accordance with required land use restrictions.

22. Per 44 CFR Part 80.19(b) approval must be obtained from the grantee agency and the FEMA Regional Administrator before conveying ownership of the property to any other party. The subgrantee may convey a property interest only to a public entity or to a qualified conservation organization. Conveyance of any property interest must reference and incorporate the original deed restrictions. If the grant period is still open, any income from sale or lease of the land must be deducted from the overall cost of the project.

23. No future disaster assistance for any purpose from any federal source will be sought or provided with respect to the acquired property.

24. The Subgrantee will use HMGP funds solely for the purpose for which these funds are provided.

25. Subgrantee shall maintain good standing with the National Flood Insurance Program (NFIP) and comply with local regulations pertaining to the NFIP**.**

26. The Subgrantee will update their floodplain ordinance to meet the current WI Department of Natural Resources requirements.

27. The Subgrantee will comply with all other policies and guidelines established by FEMA and WEM in administering the HMGP Program.

28. The Subgrantee will comply with all applicable federal, state and local codes and standards as pertain to this project.

29. The Subgrantee will follow Emergency Management and Assistance Regulations found in Title 44 CFR Code of Federal Regulations (CFR) Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

    - Follow requirements for budget revisions found in 44 CFR 13.30. Transfer of funds between budget cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those cost categories exceed 10% of the total budget.
    - Follow cost-sharing requirements mandated by program statute or regulations in compliance with 44 CFR 13.24.
    - Comply with 44 CFR 13.32 Equipment, 13.33 Supplies and 13.36 Procurement, and be in compliance with state and local laws and procedures.

30. The Subgrantee will follow the following OMB Circulars in administering the subgrant:

    - OMB Circular A-102 Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments.
    - OMB Circular A-87 Cost Principles for State and Local Governments.
    - OMB Circular A-133 Audits of States, Local Governments and Non-Profit Organizations.

31. Any publication resulting from work performed under this agreement shall include an acknowledgement of FEMA financial support and a statement that the publication does not constitute an endorsement of FEMA or reflects FEMA views. The Grantee and FEMA are free to copyright any original work developed under this agreement, and reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use the work for Government purposes.

32. The Subgrantee will not enter into cost-plus-percentage-of-cost contracts for completion of the HMGP project.

33. The Subgrantee will not enter into any contract with any party that is debarred or suspended from participating in Federal Assistance programs.

**SIGNATURE OF SUBGRANTEE'S AUTHORIZED REPRESENTATIVE:**

_____

Date Signed

Name Typed _____Title _____

Subgrantee Jurisdiction _____

**SIGNATURES OF THE GRANTEE (WISCONSIN DIVISION OF EMERGENCY MANAGEMENT:**

_____

State Hazard Mitigation Officer Date Signed

**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**State-Local Hazard Mitigation Grant Program Assistance Agreement**
**(FEMA-DR-____-WI)**
**(Elevation)**

This Grant Agreement between the Wisconsin Division of Emergency Management (the WEM/Grantee) and the _____ (the Subgrantee) shall be effective on the date signed by the WEM and the Subgrantee. It shall apply to all Hazard Mitigation Grant Program (HMGP) assistance provided by or through WEM to the Subgrantee as a result of the Presidentially declared disaster occurring in Wisconsin (FEMA-DR-____-WI).

The purpose of this agreement is to formally recognize the goals of the HMGP and to establish guidelines by which HMGP funds are to be used. This agreement is in addition to the requirements outlined in the DMA Form 1017A, Assurances Construction and Non-Construction Projects was signed by the above mentioned Subgrantee and submitted with the HMGP application.

Be it resolved by the Subgrantee, that the individual named below:

_____
(Name and Title)

has the legal authority and is hereby authorized to execute documents for and on behalf of the Subgrantee. The individual and this designation is to be the authorized representative for obtaining HMGP funds.

The Subgrantee hereby assures and certifies that the project will comply with the applicable State of Wisconsin and FEMA regulations. Also, the Subgrantee gives assurance and certifies with respect to and as a condition for the grant that as a minimum:

1. This Grant Agreement in the amount of $_____ will serve as the contract between WEM and the Subgrantee for the purpose of elevation of _____ properties located in the floodplain of the _____. Seventy-five percent or $_____ represents the Federal share funded through FEMA, and 12.5 percent or $_____ represents the State share funded through WEM. The remaining 12.5 percent or $_____ is a local program match (Can not be match dollars for any other federal grants i.e. EMPG, EPCRA). The Subgrantee will be reimbursed for management costs applied to the total amount of the project up to 1% (one percent) or $_____. If there is a cost under-run for the project, final reimbursement for the federal and state share of the project costs and management costs will be adjusted based on actual costs of the project. If costs exceed the amount approved, the Subgrantee is responsible for the costs in excess of the approved grant.

2. The Subgrantee will adhere to the special conditions as identified in the approval letter for the REC (Record of Environmental Consideration) dated _____, in completing the project.

   - Securing all permits per Wisconsin statutes and comply with regulatory standards.
   - If ground-disturbing activities occur during implementation, the subgrantee will monitor excavation activity, and if any artifacts or human remains are found during excavation process all work is to cease, and the subgrantee will notify WEM, FEMA and the State Historic Preservation Officer (SHPO.)
   - Steel, concrete, and other demolition materials should be recycled to the extent possible. Waste that cannot be recycled must be characterized and managed properly.
   - Best management practices will be applied to the property.
   - If deviations from the proposed scope of work result in the need for additional ground disturbance, additional removal of vegetation, or in any other unanticipated changes to the physical environment, the subgrantee must contact WEM immediately for a re-evaluation by FEMA for NEPA and other applicable environmental laws.

3. Property owners elevating their structures must voluntarily elect to participate in the program.

4. Property owners elevating their structures must sign the Model Acknowledgement of Conditions for Mitigation Property in a Special Flood Hazard Area **before** work begins.

5. Property owners elevating their structures must agree to maintain flood insurance on the structure to an amount at least equal to the project cost or to the maximum limit of coverage available for their particular property, whichever is less.

6. Property owners elevating their structures must agree that the community will legally record with the County Register of Deeds Office a notice of flood insurance requirements per the signed acknowledgement.

7. The community must adhere to the requirements of the local floodplain zoning ordinance to bring the structure into full conformance. This means that the structure will need to be elevated to the base flood elevation plus two feet.

8. An owner's agreement for elevation must be signed between the community and the property owner before work can commence on the property. The owner is responsible for any repairs or improvements to the structure. The grant will only cover eligible costs associated with the actual elevation of the structure.

9. Once this Grant Agreement is signed and returned to WEM, the subgrantee may begin the project and the authorized representative may request reimbursement of

expenses as identified in the budget included in the approved application. The Subgrantee will need to complete and submit to WEM a Request for Reimbursement of Expenses with appropriate documentation in order to receive grant funds. Advancement of funds may be made in some extraordinary situations upon prior approval of the Grantee.

COSTS INCURRED PRIOR TO FEMA APPROVAL OF THE GRANT, UNLESS PRE-AWARD COSTS WERE INCLUDED AND APPROVED IN THE APPLICATION, ARE NOT ALLOWABLE COSTS FOR THE GRANT.

Management costs are calculated on a formula identified in the State of Wisconsin Administrative Plan. The purpose of the management costs is to reimburse the Subgrantee for costs to prepare the applications, quarterly reports, audits, related field inspections, record keeping, and the filing of reimbursement claims to the Grantee. The Subgrantee shall maintain proper documentation of management costs (separate from documentation for Project expenditures) in order to be eligible for reimbursement. The management cost documentation does not have to be forwarded to the State but must be kept at the local level for three years after the grant close-out report has been accepted. Request for reimbursement of Administrative Costs may be included on DMA Form 167, Request for Reimbursement of Expenses.

The Grantee may pursue all available remedies for the recoupment of any payments that have been inadequately documented or determined by the Grantee to have been improperly made or expended for any reason.

10. The authorized representative will be required to submit Quarterly Status Reports, to the State Hazard Migration Officer (SHMO) within fifteen days following the end of the quarter (January 15, April 15, July 15 and October 15). Said report will include the status of the project, anticipated completion date, and financial information.

11. The Subgrantee will meet the following timeline for completing this project:

    Start Date No later than (date)

    Completion Date Date

    If the Subgrantee is delayed in their completion of the project by an event beyond their control, a request for an extension must be received in writing 90 days prior to the completion date.

12. The grant performance period for the HMGP Project Grant will be date to date.

13. A final report covering all aspects of the project will be due 30 days after project completion. Project is considered complete after elevation of structures. The final report will need to include:

- Copies of permits and forms as identified in the approval letter for the Record of Environmental Considerations and in number 2 of this document.
- A copy of the elevation certificate.
- Proof that the property owner has purchased the required flood insurance coverage.
- A copy of the required notice of flood insurance has been filed with the County Register of Deeds Office for each property that was elevated.
- A photo of each property site after project completion.
- The latitude and longitude coordinates for each property in the project.
- Identification of repetitive loss properties in the project.
- Other information as required.

14. Will comply with applicable provisions of the State's Relocation Law, Wisconsin Statutes Chapter 32, Section 32.19-32.27, (per Attorney General Opinion dated January 12, 1979) and Wisconsin Administrative Code, ch. Comm 202.

15. The HMGP funds requested for the project shall not duplicate benefits received from any other disaster assistance program.

16. Will comply with requirements of the Privacy Act. Information covered by the Privacy Act (i.e., names, addresses, award amounts, etc., of applicants) may be released to agencies for the sole purpose of preventing duplication of benefits. Information may not be used to conduct outreach, canvassing, referral or other similar programs. Information should not be provided to agencies not directly concerned with the project.

17. The Subgrantee will use HMGP funds solely for the purpose for which these funds are provided.

18. Subgrantee shall maintain good standing with the National Flood Insurance Program (NFIP) and comply with local regulations pertaining to the NFIP**.**

19. The Subgrantee will update their floodplain ordinance to meet the current WI Department of Natural Resources requirements.

20. The Subgrantee will comply with all other policies and guidelines established by FEMA and WEM in administering the HMGP Program.

21. The Subgrantee will comply with all applicable federal, state and local codes and standards as pertain to this project.

22. The Subgrantee will follow Emergency Management and Assistance Regulations found in Title 44 CFR Code of Federal Regulations (CFR) Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

- Follow requirements for budget revisions found in 44 CFR 13.30. Transfer of funds between budget cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those cost categories exceed 10% of the total budget.
- Follow cost-sharing requirements mandated by program statute or regulations in compliance with 44 CFR 13.24.
- Comply with 44 CFR 13.32 Equipment, 13.33 Supplies and 13.36 Procurement, and be in compliance with state and local laws and procedures.

23. The Subgrantee will follow the following OMB Circulars in administering the subgrant:

    - OMB Circular A-102 Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments.
    - OMB Circular A-87 Cost Principles for State and Local Governments.
    - OMB Circular A-133 Audits of States, Local Governments and Non-Profit Organizations.

24. Any publication resulting from work performed under this agreement shall include an acknowledgement of FEMA financial support and a statement that the publication does not constitute an endorsement of FEMA or reflects FEMA views. The Grantee and FEMA are free to copyright any original work developed under this agreement, and reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use the work for Government purposes.

25. The Subgrantee will not enter into cost-plus-percentage-of-cost contracts for completion of the HMGP project.

26. The Subgrantee will not enter into any contract with any party that is debarred or suspended from participating in Federal Assistance programs.

**SIGNATURE OF SUBGRANTEE'S AUTHORIZED REPRESENTATIVE:**

_____

Date Signed

Name Typed _____Title _____

Subgrantee Jurisdiction _____

**SIGNATURES OF THE GRANTEE (WISCONSIN DIVISION OF EMERGENCY MANAGEMENT:**

_____

State Hazard Mitigation Officer Date Signed

**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**State-Local Hazard Mitigation Grant Program Assistance Agreement**
**(FEMA-DR-____-WI)**
**(Non-Acquisition)**

This Grant Agreement between the Wisconsin Division of Emergency Management (the WEM/Grantee) and the _____ (the Subgrantee) shall be effective on the date signed by the WEM and the Subgrantee. It shall apply to all Hazard Mitigation Grant Program (HMGP) assistance provided by or through WEM to the Subgrantee as a result of the Presidentially declared disaster occurring in Wisconsin (FEMA-DR-____-WI).

The purpose of this agreement is to formally recognize the goals of the HMGP and to establish guidelines by which HMGP funds are to be used. This agreement is in addition to the requirements outlined in the DMA Form 1017A, Assurances Construction and Non-Construction Projects, which was signed by the above mentioned Subgrantee and submitted with the HMGP application.

Be it resolved by the Subgrantee, that the individual named below:

_____
(Name and Title)

has the legal authority and is hereby authorized to execute documents for and on behalf of the Subgrantee. The individual and this designation is to be the authorized representative for obtaining HMGP funds.

The Subgrantee hereby assures and certifies that the project will comply with the applicable State of Wisconsin and FEMA regulations. Also, the Subgrantee gives assurance and certifies with respect to and as a condition for the grant that as a minimum:

1. This Grant Agreement in the amount of $_____ will serve as the contract between WEM and the Subgrantee for the purpose of _____. Seventy-five percent or $_____ represents the Federal share funded through FEMA, and 12.5 percent or $_____ represents the State share funded through WEM. The remaining 12.5 percent or $_____ is a local program match (Can not be match dollars for any other federal grants i.e. EMPG, EPCRA). The Subgrantee will be reimbursed for management costs applied to the total amount of the project up to 1% (one-percent) or $_____. If there is a cost under-run for the project, final reimbursement for the federal and state share of the project costs and management costs will be adjusted based on actual costs of the project. If costs exceed the amount approved, the Subgrantee is responsible for the costs in excess of the approved grant.

2. The Subgrantee will adhere to the special conditions as identified in the approval letter for the Environmental Assessment (EA) dated _____, in completing the project.

   - Securing all permits per Wisconsin statutes and comply with regulatory standards.
   - Follow all applicable local, state and federal laws (Clean Air Act, Clean Water Act, etc.), regulations, and requirements for the abatement and disposal of lead, asbestos, and other routinely encountered hazardous substances. If there is an unusual material encountered or there is an extraordinary amount of lead, asbestos, or other routinely encountered material, the subgrantee must contact the grantee and the relevant agency with authority for regulation of the material.
   - Secure erosion control permit under NR 216 if the property will impact more than one acre.
   - If deviations from the proposed scope of work result in the need for additional ground disturbance, additional removal of vegetation, or in any other unanticipated changes to the physical environment, the subgrantee must contact WEM immediately for a re-evaluation by FEMA for NEPA and other applicable environmental laws.
   - If any archaeological features, artifacts or human remains are encountered during implementation of this project, it will be necessary to stop and contact the grantee and the State Historic Preservation Officer (SHPO's) office to consult regarding the appropriate data recovery plan.

3. Once this Grant Agreement is signed and returned to WEM, the subgrantee may begin the project and the authorized representative may request reimbursement of expenses as identified in the budget included in the approved application. The Subgrantee will need to complete and submit to WEM a Request for Reimbursement of Expenses with appropriate documentation in order to receive grant funds. Advancement of funds may be made in some extraordinary situations upon prior approval of the Grantee.

   COSTS INCURRED PRIOR TO FEMA APPROVAL OF THE GRANT, UNLESS PRE-AWARD COSTS WERE INCLUDED AND APPROVED IN THE APPLICATION, ARE NOT ALLOWABLE COSTS FOR THE GRANT.

   Management costs arecalculated on a formula identified in the State of Wisconsin Administrative Plan. The purpose of the management costs is to reimburse the Subgrantee for costs to prepare the applications, quarterly reports, audits, related field inspections, record keeping, and the filing of reimbursement claims to the Grantee. The Subgrantee shall maintain proper documentation of management costs (separate from documentation for Project expenditures) in order to be eligible for reimbursement. The management costs documentation does not have to be forwarded to the State but must be kept at the local level for three years after the grant close-out report has been accepted. Request for reimbursement of

management costs may be included on DMA Form 167, Request for Reimbursement of Expenses.

The Grantee may pursue all available remedies for the recoupment of any payments that have been inadequately documented or determined by the Grantee to have been improperly made or expended for any reason.

4. The authorized representative will be required to submit Quarterly Status Reports, to the State Hazard Migration Officer (SHMO) within fifteen days following the end of the quarter (January 15, April 15, July 15 and October 15). Said report will include the status of the project, anticipated completion date, and financial information.

5. The Subgrantee will meet the following timeline for completing this project:

   Start Date No later than (date)

   Completion Date Date

   If the Subgrantee is delayed in their completion of the project by an event beyond their control, a request for an extension must be received in writing 90 days prior to the completion date.

6.. The grant performance period for the HMGP Project Grant will be date to date.

7. A final report covering all aspects of the project will be due 30 days after project completion. The final report will need to include copies of all permits and forms as identified in the approval letter for the Environmental Assessment (EA) and pictures of the completed project.

8. The HMGP funds requested for the project shall not duplicate benefits received from any other disaster assistance program.

9. The Subgrantee will use HMGP funds solely for the purpose for which these funds are provided.

10. Subgrantee shall maintain good standing with the National Flood Insurance Program (NFIP) and comply with local regulations pertaining to the NFIP**.**

11. The Subgrantee will update their floodplain ordinance to meet the current WI Department of Natural Resources requirements.

12. The Subgrantee will comply with all other policies and guidelines established by FEMA and WEM in administering the HMGP Program.

13. The Subgrantee will comply with all applicable federal, state and local codes and standards as pertain to this project.

14. The Subgrantee will follow Emergency Management and Assistance Regulations found in Title 44 CFR Code of Federal Regulations (CFR) Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

    - Follow requirements for budget revisions found in 44 CFR 13.30. Transfer of funds between budget cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those cost categories exceed 10% of the total budget.
    - Follow cost-sharing requirements mandated by program statute or regulations in compliance with 44 CFR 13.24.
    - Comply with 44 CFR 13.32 Equipment, 13.33 Supplies and 13.36 Procurement, and be in compliance with state and local laws and procedures.

15. The Subgrantee will follow the following OMB Circulars in administering the subgrant:

    - OMB Circular A-102 Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments.
    - OMB Circular A-87 Cost Principles for State and Local Governments.
    - OMB Circular A-133 Audits of States, Local Governments and Non-Profit Organizations.
    -

16. Any publication resulting from work performed under this agreement shall include an acknowledgement of FEMA financial support and a statement that the publication does not constitute an endorsement of FEMA or reflects FEMA views. The Grantee and FEMA are free to copyright any original work developed under this agreement, and reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use the work for Government purposes.

17. The Subgrantee will not enter into cost-plus-percentage-of-cost contracts for completion of the HMGP project.

18. The Subgrantee will not enter into any contract with any party that is debarred or suspended from participating in Federal Assistance programs.

**SIGNATURE OF SUBGRANTEE'S AUTHORIZED REPRESENTATIVE:**

_____

Date Signed

Name Typed _____Title _____

Subgrantee Jurisdiction _____

**SIGNATURES OF THE GRANTEE (WISCONSIN DIVISION OF EMERGENCY MANAGEMENT:**

_____

State Hazard Mitigation Officer Date Signed

**WISCONSIN DIVISION OF EMERGENCY MANAGEMENT**
**State-Local Hazard Mitigation Grant Program Assistance Agreement**
**(FEMA-DR-____-WI)**
**Planning Grant**

This Grant Agreement between the Wisconsin Division of Emergency Management (the WEM/Grantee) and the _____ (the Subgrantee) shall be effective on the date signed by the WEM and the Subgrantee. It shall apply to all Hazard Mitigation Grant Program (HMGP) assistance provided by or through WEM to the Subgrantee as a result of the Presidentially declared disaster occurring in Wisconsin (FEMA-DR-____-WI).

The purpose of this agreement is to formally recognize the goals of the HMGP and to establish guidelines by which HMGP funds are to be used. This agreement is in addition to the requirements outlined in the DMA Form 1017A, Assurances Construction and Non-Construction Projects, which was signed by the above mentioned Subgrantee and submitted with the HMGP application.

Be it resolved by the Subgrantee, that the individual named below:

_____
(Name and Title)

has the legal authority and is hereby authorized to execute documents for and on behalf of the Subgrantee. The individual and this designation is to be the authorized representative for obtaining HMGP funds.

The Subgrantee hereby assures and certifies that the planning will comply with the applicable State of Wisconsin and FEMA regulations. Also, the Subgrantee gives assurance and certifies with respect to and as a condition for the grant that as a minimum:

1. This Grant Agreement in the amount of $_____ will serve as the contract between WEM and the Subgrantee for the purpose of developing (or update) an All-Hazards Mitigation Plan. Seventy-five percent or $_____ represents the Federal share funded through FEMA, and 12.5 percent or $_____ represents the State share funded through WEM. The remaining 12.5 percent or $_____ is a local program match (Can not be match dollars for any other federal grants i.e. EMPG, EPCRA). The Subgrantee will be reimbursed for management costs applied to the total amount of the project up to 1% (one percent) or $_____. If there is a cost under-run for the project, final reimbursement for the federal and state share of the project costs and management costs will be adjusted based on actual costs of the project. If costs exceed the amount approved, the Subgrantee is responsible for the costs in excess of the approved grant.

2. Once this Grant Agreement is signed and returned to WEM, the subgrantee may begin the planning process and the authorized representative may request reimbursement of expenses. The Subgrantee will need to complete and submit to WEM a Request for Reimbursement of Expenses with appropriate documentation in order to receive grant funds. Advancement of funds may be made in some extraordinary situations upon prior approval of the Grantee.

   The management costs are calculated on a formula identified in the State of Wisconsin Administrative Plan. The purpose of the administrative allowance is to reimburse the Subgrantee for costs to prepare the applications, quarterly reports, audits, related field inspections, record keeping, and the filing of reimbursement claims to the Grantee. The Subgrantee shall maintain proper documentation of management costs (separate from documentation for Project expenditures) in order to be eligible for reimbursement. The management costs documentation does not have to be forwarded to the State but must be kept at the local level for three years after the grant close-out report has been accepted. Request for reimbursement of management costs may be included on DMA Form 167, Request for Reimbursement of Expenses.

   COSTS INCURRED PRIOR TO FEMA APPROVAL OF THE GRANT, UNLESS SPECIFICALLY AUTHORIZED BY THE GRANTEE, ARE NOT ALLOWABLE COSTS FOR THE GRANT.

   The Grantee may pursue all available remedies for the recoupment of any payments that have been inadequately documented or determined by the Grantee to have been improperly made or expended for any reason.

3. The authorized representative will be required to submit Quarterly Status Reports to the State Hazard Migration Officer (SHMO) within fifteen days following the end of the quarter (January 15, April 15, July 15 and October 15). Said report will include the status of the project, anticipated completion date, and financial information.

4. The subgrantee will submit a copy of their draft plan that meets the planning criteria as found in 44CFR Part 201.6 (or 201.7 for tribal plans) along with a completed Local Hazard Mitigation Review Crosswalk to WEM by date, for review. The final plan must be completed and approved by FEMA prior to date.

5. The grant performance period for the HMGP Planning Grant will be date to date. If the Subgrantee is delayed in their completion of the project by an event beyond their control, a request for an extension must be received in writing 90 days prior to the completion date.

6. The subgrantee will complete and submit a final report 30 days prior to expiration of the grant, or within 30 days after completion of the plan whichever is sooner.

7. The Subgrantee will use HMGP funds solely for the purpose for which these funds are provided.

8. Subgrantee shall maintain good standing with the National Flood Insurance Program (NFIP) and comply with local regulations pertaining to the NFIP**.**

9. The Subgrantee will comply with all other policies and guidelines established by FEMA and WEM in administering the HMGP Program.

10. The Subgrantee will comply with all applicable federal, state and local codes and standards as pertain to this project.

11. The Subgrantee will follow Emergency Management and Assistance Regulations found in Title 44 CFR Code of Federal Regulations (CFR) Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

    - Follow requirements for budget revisions found in 44 CFR 13.30. Transfer of funds between budget cost categories in the approved budget shall receive the prior approval of FEMA when such cumulative transfers among those cost categories exceed 10% of the total budget.
    - Follow cost-sharing requirements mandated by program statute or regulations in compliance with 44 CFR 13.24.
    - Comply with 44 CFR 13.32 Equipment, 13.33 Supplies and 13.36 Procurement, and be in compliance with state and local laws and procedures.

12. The Subgrantee will follow the following OMB Circulars in administering the subgrant:

    - OMB Circular A-102 Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments.
    - OMB Circular A-87 Cost Principles for State and Local Governments.
    - OMB Circular A-133 Audits of States, Local Governments and Non-Profit Organizations.

13. Any publication resulting from work performed under this agreement shall include an acknowledgement of FEMA financial support and a statement that the publication does not constitute an endorsement of FEMA or reflects FEMA views. The Grantee and FEMA are free to copyright any original work developed under this agreement, and reserves a royalty-free non exclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use the work for Government purposes.

14, The Subgrantee will not enter into cost-plus-percentage-of-cost contracts for completion of the HMGP All Hazards Plan.

15. The Subgrantee will not enter into any contract with any party that is debarred or suspended from participating in Federal Assistance programs.

**GRANT CERTIFICATION**

The undersigned do hereby certify that the subgrantee will fulfill all the requirements of the Pre-Disaster Mitigation Program contained in Federal and/or State program guidelines including the submission of all appropriate forms. The governing body of the subgrantee has duly authorized this document.

**SIGNATURE OF SUBGRANTEE'S AUTHORIZED REPRESENTATIVE:**

_____

Date Signed

Name Typed _____Title _____

Subgrantee Jurisdiction _____

**SIGNATURES OF THE GRANTEE (WISCONSIN DIVISION OF EMERGENCY MANAGEMENT:**

_____

State Hazard Mitigation Officer Date Signed

**STATE OF WISCONSIN**
**DEPARTMENT OF MILITARY AFFAIRS**
**DIVISION OF EMERGENCY MANAGEMENT**
2400 Wright Street, P.O. Box 7865
Madison, WI 53707
608-242-3232

# Section 404 Hazard Mitigation Grant Program
# REQUEST FOR REIMBURSEMENT OF EXPENSES

DISASTER #FEMA-_____-DR-WI DATE OF REQUEST_____
SUBGRANTEE_____ COUNTY_____

| | |
|---|---|
| Total of Approved Grant (Federal+State+Local)<br>Local match can not be time charged to any other federal grants i.e. EMPG, EPCRA | Project or Plan$_____<br>Admin Allow $_____ |
| Amount Spent to Date (100%) | Project or Plan$_____<br>Man Costs $_____ |
| Total Reimbursement to Date | Project or Plan$_____<br>Man Costs $_____ |
| Amount Spent Since Last Request<br>*(Attach supporting documentation for project/plan costs.)*<br>*(Do not attach documentation for management costs but keep it at your office for three years after close of grant.)* | Project or Plan$_____<br>Man Costs $_____ |
| Advance (Prior Approval Required)<br>**Please see instructions on back of form.** | Project or Plan$_____ |
| Requested Project Reimbursement<br>(87.5% of amount spent since last request) | Project or Plan$_____ |
| Requested Management Costs Reimbursement<br>(Keep documentation for 3 years after close of grant.) | Man Costs $_____ |

_____
**Signature - Subgrantee's Authorized Representative**

**REIMBURSEMENT APPROVED Project $_____ Admin Allow $_____**

_____

**Signature - State Mitigation Representative** **Date**

When receiving funds in advance of spending them, the following must be adhered to:

1. If possible, funds should be expended within three days.

2. Deposit any advance HMGP funds into a separate **non-interest** bearing bank account.

3. If any interest is generated, those interest funds shall be reported to the State and must be spent for project administrative purposes before any additional project funds are drawn down.

4. Subgrantees should reconcile earned interest each calendar quarter. If earned-and-expended interest exceeds $100 at any time during the calendar year, all interest in excess of $100 shall be returned to the U.S. Treasury.

## (NAME OF COMMUNITY) DISBURSEMENTS

**ACQUISITION PROJECT FEMA- -DR-WI**

| DATE OF INVOICE | VENDOR | SERVICE PROVIDED | PROPERTY | PROPERTY | PROPERTY | PROPERTY | MISC. | GRANT AWARD* (Running Balance) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | $ | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | |

**STATE OF WISCONSIN**
**DEPARTMENT OF MILITARY AFFAIRS**
**DIVISION OF EMERGENCY MANAGEMENT**
2400 Wright Street, P.O. Box 7865
Madison, WI 53707
608-242-3232

**Section 404 Hazard Mitigation Grant Program**
**QUARTERLY STATUS REPORT**

DISASTER #FEMA-____-DR-WI

SUBBGRANTEE_____ COUNTY_____

QUARTER REPORTING 1____ 2____ 3____ 4____
Jan April July Oct

ESTIMATED PROJECT COMPLETION DATE_____

## ACQUISITION

1. Number of properties to be acquired: _____
2. Number of appraisals completed to date: _____
3. Cost of appraisals to date: _____
4. Number of offers accepted to date: _____
5. Number of closings to date: _____
6. Estimated closings to be completed in the next quarter: _____
7. Acquisition costs to date: (Include title insurance, legal fees, taxes, etc.) _____
8. Relocation Benefits to date: _____
9. Number of structures demolished to date: _____
10. Estimated structures to be demolished in the next quarter: _____
11. Total Acquisition Costs: (Total 3, 7, and 8) _____

## FLOODPROOFING

1. Number of structures to be floodproofed: _____

2. Number of structures floodproofed to date: _____

3. Cost of floodproofing to date: _____

4. Estimated number of structures to be floodproofed in the next quarter: _____

5. Estimated floodproofing costs for next quarter: _____

## ADDITIONAL QUESTIONS OR COMMENTS

1. Federal, State, or Local Permits required this past quarter Yes___Number____None___
(Attach copies of permits that were obtained this past quarter.)

2. Other costs incurred to date (list item and amount):

_____

_____

_____

3. Other information pertinent to the overall project:

_____

_____

_____

### SIGNATURES

_____

**SUBGRANTEE'S AUTHORIZED REPRESENTATIVE** **DATE**

_____

**STATE HAZARD MITIGATION OFFICER** **DATE**

DMA Form 1117 (08/08)
P.L. 93-288, as amended

**STATE OF WISCONSIN**
**DEPARTMENT OF MILITARY AFFAIRS**
**DIVISION OF EMERGENCY MANAGEMENT**
2400 Wright Street, P.O. Box 7865
Madison, WI 53707
608-242-3232

## Section 404 Hazard Mitigation Grant Program
## QUARTERLY STATUS REPORT

DISASTER #FEMA-____-DR-WI

SUBBGRANTEE_____ COUNTY_____

QUARTER REPORTING 1____ 2____ 3____ 4____
Jan April July Oct

1. Total of Approved Project: _____

2. Amount Spent to Date: _____

3. Anticipated Completion Date: _____

4. Anticipated Overruns/Underruns on the Project: _____

5. Federal, State, or Local Permits required this past quarter Yes___Number____None___
(Attach copies of permits that were obtained this past quarter.)

6. Comments:
_____

_____

7. Other information pertinent to the overall project:

_____

_____

_____
**SIGNATURE - SUBGRANTEE'S AUTHORIZED REPRESENTATIVE** **DATE**

_____
**SIGNATURE - STATE HAZARD MITIGATION OFFICER** **DATE**

**STATE OF WISCONSIN**
**DEPARTMENT OF MILITARY AFFAIRS**
**DIVISION OF EMERGENCY MANAGEMENT**
2400 Wright Street, P.O. 7865
Madison, WI 53707
608-242-3232

# HAZARD MITIGATION GRANT PROGRAM
# QUARTERLY STATUS SUMMARY
# PLANNING GRANT

Disaster FEMA- _____-DR-WI

SUBGRANTEE _____ COUNTY _____

QUARTER REPORTING: 1ST _____ 2ND _____ 3RD _____ 4TH _____
Jan April July Oct

| | |
|---|---|
| 1. Date Grant Approved | |
| 2. Start Date of Plan | |
| 3. Estimated Completion Date | |
| 4. Amount of Approved Grant | $ |
| 5. Amount Spent to Date | $ |
| 6. Anticipated Overrun/Underrun | $ |

| |
|---|
| 7. Narrative summary of progress on Plan development. (Attach additional sheets if necessary.) |

-Over-

8. Is the Plan on schedule? If not, provide an explanation for the delay as well as an updated schedule for completion.

_____

9. Problems encountered.

_____

10. Assistance needed.

_____

11. Other information pertinent to the overall grant.

_____ _____

**Signature -** Subgrantee's Authorized Representative Date

_____ _____

**Signature -** State Hazard Mitigation Officer Date

**WISCONSIN STATE HMGP QUARTERLY REPORT**
**QUARTER END DATE SEPTEMBER 30, 2007**

| GRANT NO. | COMMUNITY | GRANT APPROVE | APPROVED COMP DATE | SUBGRANTEE COMP DATE | STATUS CODE | COST CODE | FEDERAL SHARE | STATE SHARE | LOCAL SHARE | TOTAL GRANT (PROJECT) | AMOUNT DISPERSED 100% | FEDERAL AMOUNT DISPERSED | AMOUNT REMAINING 100% | AVAILABLE MANCOSTS | MANCOSTS DISPERSED | MANCOSTS REMAINING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
| **1332.3-R** | Baraboo, City | 10/23/2001 | **9/30/2006** | | **Completed** | Overrun | $ 102,190.29 | $ 17,031.71 | $ 17,031.71 | $ 136,253.71 | $ 136,253.71 | $ 102,190.28 | $ - | $ 3,725.00 | $ 3,725.00 | $ - |
| **1332.11-R** | Crandon, City | 7/12/2002 | **9/30/2006** | | **Completed** | Overrun | $ 109,313.00 | $ 18,220.00 | $ 18,220.00 | $ 145,753.00 | $ 145,750.86 | $ 109,313.15 | $ 2.14 | $ 3,915.00 | $ 3,915.00 | $ - |
| **1332.5-R** | Cumberland Utility | 8/22/2001 | **9/30/2006** | | **Completed** | Overrun | $ 312,789.86 | $ 52,131.64 | $ 52,131.64 | $ 417,053.14 | $ 417,053.14 | $ 312,789.86 | $ - | $ 9,341.00 | $ 9,341.00 | $ - |
| **1332.7-R** | Dane County | 8/22/2001 | **6/2/2006** | | **Completed** | Underrun | $ 24,502.00 | $ 4,083.71 | $ 4,083.71 | $ 32,669.42 | $ 32,669.71 | $ 24,502.28 | $ (0.29) | $ 980.00 | $ 980.00 | $ - |
| **1332.2-R** | Eau Claire, City | 8/2/2001 | **9/30/2006** | | **Completed** | Overrun | $ 1,153,412.00 | $ 192,235.00 | $ 192,235.00 | $ 1,537,882.00 | $ 1,537,882.00 | $ 1,153,411.50 | $ - | $ 26,379.00 | $ 26,379.00 | $ - |
| **1332.8-R** | Elm Grove, Vil | 12/1/2001 | **9/30/2006** | | **Completed** | Underrun | $ 540,990.00 | $ 90,164.91 | $ 90,164.91 | $ 721,319.82 | $ 721,319.31 | $ 540,989.48 | $ 0.51 | $ 15,426.00 | $ 15,426.00 | $ - |
| **1332.4-R** | Jefferson County | 8/29/2001 | **9/30/2006** | | **Completed** | Underrun | $ 169,784.00 | $ 28,297.00 | $ 28,297.00 | $ 226,378.00 | $ 226,377.85 | $ 169,783.39 | $ 0.15 | $ 5,528.00 | $ 5,527.68 | $ 0.32 |
| **1332.9-R** | Kenosha County | 11/20/2001 | **9/30/2006** | | **Completed** | Overrun | $ 552,221.00 | $ 92,037.00 | $ 92,036.00 | $ 736,294.00 | $ 736,294.48 | $ 552,220.86 | $ (0.48) | $ 15,471.00 | $ 15,470.75 | $ 0.25 |
| **1332.10-R** | Shell Lake, City | 1/22/2002 | **6/2/2006** | | **Completed** | Overrun | $ 39,027.00 | $ 6,504.50 | $ 6,504.50 | $ 52,036.00 | $ 52,036.00 | $ 39,027.00 | $ - | $ 1,561.00 | $ 1,561.00 | $ - |
| **1332.6-R** | Sun Prairie, City | 8/22/2001 | **6/1/2006** | | **Completed** | Underrun | $ 17,379.00 | $ 2,896.43 | $ 2,896.43 | $ 23,171.86 | $ 23,171.43 | $ 17,378.57 | $ 0.43 | $ 695.00 | $ 695.00 | $ - |
| **PLANNING** | | | | | | | | | | | | $ - | | | | |
| **1332.12-P** | Baraboo, City | 2/13/2003 | **9/30/2006** | | **Completed** | Overrun | $ 12,594.00 | $ 2,099.00 | $ 2,099.00 | $ 16,792.00 | $ 16,792.00 | $ 12,594.00 | $ - | $ 336.00 | $ 336.00 | $ - |
| **1332.1-M** | State Management | | | | **Completed** | | $ 28,919.00 | $ 9,639.67 | | $ 38,558.67 | $ 38,558.67 | $ 28,919.00 | $ (0.00) | | | |
| **1332** | **TOTALS** | | | | | | $ 3,063,121.15 | | | **$ 4,084,161.62** | **$ 4,084,159.16** | | **$ 2.46** | **$ 83,357.00** | **$ 83,356.43** | **$ 0.57** |
| | | | | | | | | | | | | | | | | |
| **1369.4-F** | Burnett County | 2/19/2002 | **6/30/2008** | | **Completed** | Underrun | $ 33,199.00 | $ 5,533.00 | $ 5,533.00 | $ 44,265.00 | $ 44,265.00 | $ 33,198.75 | $ - | $ 1,285.00 | $ 1,285.00 | $ - |
| **1369.22-R** | Crawford County | 3/21/2003 | **6/30/2008** | | **Completed** | Overrun | $ 442,127.00 | $ 73,687.88 | $ 73,687.88 | $ 589,502.76 | $ 589,503.00 | $ 442,127.25 | $ (0.24) | $ 12,790.00 | $ 12,790.06 | $ (0.06) |
| **1369.5-F** | Dairyland El Coop | 2/27/2002 | **6/30/2008** | | **Completed** | Underrun | $ 8,204.00 | $ 1,367.00 | $ 1,367.00 | $ 10,938.00 | $ 10,938.00 | $ 8,203.50 | $ - | $ 200.00 | $ 200.00 | $ - |
| 1369.8-R | DNR-WI | 4/5/2002 | **6/30/2008** | | On Schedule | Underrun | $ 63,292.41 | $ 10,548.73 | $ 10,548.73 | $ 84,389.87 | $ 84,389.87 | $ 63,292.40 | $ - | $ 2,531.70 | $ 2,531.70 | $ - |
| **1369.3-R** | Douglas County | 1/14/2002 | **6/30/2008** | | **Completed** | Overrun | $ 75,902.00 | $ 12,650.00 | $ 12,650.00 | $ 101,202.00 | $ 101,202.00 | $ 75,901.50 | $ - | $ 1,198.00 | $ 1,198.00 | $ - |
| 1369.6-R | Grant Co(Acquisition) | 3/6/2002 | **6/30/2008** | | On Schedule | Underrun | $ 315,725.00 | $ 52,620.50 | $ 52,620.50 | $ 420,966.00 | $ 420,966.00 | $ 315,724.50 | $ - | $ 9,419.00 | $ 9,419.00 | $ - |
| 1369.21-R | Grant Co(Floodproof) | 12/4/2002 | **6/30/2008** | | On Schedule | Overrun | $ 24,578.00 | $ 4,096.00 | $ 4,096.00 | $ 32,770.00 | $ 32,770.00 | $ 24,577.50 | $ - | $ 655.00 | $ 655.00 | $ - |
| 1369.9-R | Jefferson County | 4/11/2002 | **6/30/2008** | 6/30/2008 | Delayed | Overrun | $ 484,674.00 | $ 80,779.00 | $ 80,779.00 | $ 646,232.00 | $ 346,230.15 | $ 259,672.61 | $ 300,001.85 | $ 13,925.00 | $ 7,925.00 | $ 6,000.00 |
| 1369.20-F | Juneau County | 4/29/2002 | **6/30/2008** | | On Schedule | Underrun | $ 123,225.00 | $ 20,537.50 | $ 20,537.50 | $ 164,300.00 | $ 164,300.00 | $ 123,225.00 | $ - | $ 4,086.00 | $ 4,086.00 | $ - |
| 1369.10-R | Kenosha County | 5/3/2002 | **6/30/2008** | 6/30/2007 | Completed | Overrun | $ 473,492.08 | $ 78,915.35 | $ 78,915.35 | $ 631,322.78 | $ 631,322.78 | $ 473,492.09 | $ - | $ 13,626.00 | $ 13,608.68 | $ 17.32 |
| **1369-19-R** | Shell Lake, City | 8/29/2002 | **6/30/2008** | | **Completed** | Overrun | $ 187,500.00 | $ 31,250.00 | $ 31,250.00 | $ 250,000.00 | $ 250,000.00 | $ 187,500.00 | $ - | $ 5,810.00 | $ 5,810.00 | $ - |
| **1369.7-R** | Superior, City | 4/1/2002 | **6/30/2008** | | **Completed** | Underrun | $ 54,557.00 | $ 9,092.50 | $ 9,092.50 | $ 72,742.00 | $ 72,741.71 | $ 54,556.28 | $ 0.29 | $ 2,182.00 | $ 2,182.00 | $ - |
| **1369.1-R** | Trempealeau County | 12/17/2001 | **6/30/2008** | | **Completed** | Underrun | $ 490,437.00 | $ 81,739.50 | $ 81,739.50 | $ 653,916.00 | $ 653,916.00 | $ 490,437.00 | $ - | $ 14,078.00 | $ 14,078.00 | $ - |
| **PLANNING** | | | | | | | | | | | | | | | | |
| **1369.12-P** | Burnett County | 8/27/2002 | **6/30/2008** | | **Completed** | Underrun | $ 41,960.00 | $ 6,994.00 | $ 6,993.00 | $ 55,947.00 | $ 55,947.11 | $ 41,960.33 | $ (0.11) | $ 1,678.00 | | $ 1,678.00 |
| **1369.11-P** | Dane County | 8/27/2002 | **6/30/2008** | | **Completed** | Overrun | $ 30,000.00 | $ 5,000.00 | $ 5,000.00 | $ 40,000.00 | $ 40,000.00 | $ 30,000.00 | $ - | $ 1,200.00 | $ 1,200.00 | $ - |
| 1369.13-P | Douglas County | 8/27/2002 | **6/30/2008** | | **Completed** | Overrun | $ 41,486.00 | $ 6,914.33 | $ 6,914.33 | $ 55,314.66 | $ 55,314.66 | $ 41,486.00 | $ - | $ 1,164.00 | $ 1,164.00 | $ - |
| 1369.14-P | Grant County | 8/27/2002 | **6/30/2008** | 6/30/2007 | Delayed | Overrun | $ 37,500.00 | $ 6,250.00 | $ 6,250.00 | $ 50,000.00 | $ 45,000.00 | $ 33,750.00 | $ 5,000.00 | $ 1,000.00 | $ 900.00 | $ 100.00 |
| **1369.18-P** | Juneau County | 8/27/2002 | **6/30/2008** | | **Completed** | Underrun | $ 12,983.00 | $ 2,164.00 | $ 2,164.00 | $ 17,310.86 | $ 17,311.00 | $ 12,983.25 | $ (0.14) | $ 519.00 | $ 519.00 | $ - |
| **1369.15-P** | Shell Lake, City | 8/27/2002 | **6/30/2008** | | **Completed** | Overrun | $ 14,885.00 | $ 2,480.82 | $ 2,480.82 | $ 19,846.64 | $ 19,846.64 | $ 14,884.98 | $ - | $ 587.00 | $ 587.00 | $ - |
| **1369.16-P** | Sun Prairie, City | 8/27/2002 | **6/30/2008** | | **Completed** | Underrun | $ 1,635.00 | $ 273.00 | $ 272.00 | $ 2,180.00 | $ 2,179.69 | $ 1,634.77 | $ 0.31 | $ 65.00 | $ 65.39 | $ (0.39) |
| 1369.17-P | Superior, City | 8/27/2002 | **6/30/2008** | | Completed | Overrun | $ 41,250.00 | $ 6,875.00 | $ 6,875.00 | $ 55,000.00 | $ 55,000.00 | $ 41,250.00 | $ - | $ 1,236.00 | $ 1,236.00 | $ - |
| | State Management | | | | | | $ 250,358.00 | $ 83,452.67 | | $ 333,810.67 | $ 208,477.72 | $ 156,358.29 | $ 125,332.95 | | | |
| **1369** | **TOTALS** | | | | | | | | | **$ 4,331,956.24** | **$ 3,901,621.33** | | **$ 430,334.91** | **$ 89,234.70** | **$ 81,439.83** | **$ 7,794.87** |

**WISCONSIN STATE HMGP QUARTERLY REPORT**
**QUARTER END DATE SEPTEMBER 30, 2007**

| GRANT NO. | COMMUNITY | GRANT APPROVE | APPROVED COMP DATE | SUBGRANTEE COMP DATE | STATUS CODE | COST CODE | FEDERAL SHARE | STATE SHARE | LOCAL SHARE | TOTAL GRANT (PROJECT) | AMOUNT DISPERSED 100% | FEDERAL AMOUNT DISPERSED | AMOUNT REMAINING 100% | AVAILABLE MANCOSTS | MANCOSTS DISPERSED | MANCOSTS REMAINING |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1429.3-R** | Curtiss, Village | 2/12/2003 | **9/30/2007** | | **Completed** | Overrun | $ 33,146.00 | $ 5,524.00 | $ 5,524.00 | $ 44,194.00 | $ 44,194.00 | $ 33,145.50 | $ - | $ 1,325.00 | $ 1,325.00 | $ - |
| **1429.7-R** | Curtiss, Village | 10/17/2003 | **9/30/2007** | | **Completed** | Underrun | $ 14,716.00 | $ 2,452.50 | $ 2,452.50 | $ 19,621.00 | $ 19,621.00 | $ 14,715.75 | $ - | $ 589.00 | $ 588.00 | $ 1.00 |
| 1429.5-R | Elm Grove, Village | 2/13/2003 | **9/30/2007** | | Completed | Overrun | $ 196,587.00 | $ 32,764.50 | $ 32,764.50 | $ 262,116.00 | $ 262,116.00 | $ 196,587.00 | $ - | $ 6,242.00 | $ 6,242.00 | $ - |
| **1429.4-R** | Oliver, Village | 2/12/2003 | **9/30/2007** | | **Completed** | Underrun | $ 148,176.00 | $ 24,695.96 | $ 24,695.96 | $ 197,567.92 | $ 197,567.68 | $ 148,175.76 | $ 0.24 | $ 1,657.00 | $ 1,657.00 | $ - |
| **PLANNING** | | | **9/30/2007** | | | | | | $ - | $ - | | $ - | $ - | | | $ - |
| 1429.2-P | Portage County | 11/14/2002 | **9/30/2007** | 3/30/2007 | Completed | Overrun | $ 30,637.00 | $ 5,106.00 | $ 5,106.00 | $ 40,849.00 | $ 40,849.00 | $ 30,636.75 | $ - | $ 1,225.00 | $ 1,225.00 | $ - |
| **1429.6-F** | Crandon, City | 11/14/2002 | **9/30/2007** | **3/30/2007** | **Completed** | Unchanged | $ 15,750.00 | $ 2,625.00 | $ 2,625.00 | $ 21,000.00 | $ 21,000.00 | $ 15,750.00 | $ - | $ 630.00 | $ 630.00 | $ - |
| | State Management | | | | | | $ 57,940.00 | $ 19,313.33 | | $ 77,253.33 | $ 47,588.47 | $ 35,691.35 | $ 29,664.86 | | | |
| **1429** | **TOTALS** | | | | | | | | | **$ 662,601.25** | **$ 632,936.15** | | **$ 29,665.10** | **$ 11,668.00** | **$ 11,667.00** | **$ 1.00** |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **1432.7-R** | Ferryville, Village | 12/4/2002 | **9/30/2006** | | **Completed** | Underrun | $ 48,771.00 | $ 8,129.00 | $ 8,128.00 | $ 65,028.00 | $ 65,028.00 | $ 48,771.00 | $ - | $ 1,951.00 | $ 1,951.00 | $ - |
| **1432.3-R** | Oliver, Village | 12/4/2002 | **9/30/2006** | | **Completed** | Underrun | $ 90,671.00 | $ 15,112.00 | $ 15,112.00 | $ 120,895.00 | $ 120,895.00 | $ 90,671.25 | $ - | $ 2,610.00 | $ 2,609.50 | $ 0.50 |
| **1432.8-R** | Osceola, Village | 12/4/2002 | **9/30/2006** | | **Completed** | Underrun | $ 306,012.00 | $ 51,002.00 | $ 51,002.00 | $ 408,016.00 | $ 408,015.90 | $ 306,011.93 | $ 0.10 | $ 7,028.00 | $ 7,027.80 | $ 0.20 |
| **1432.01-F** | Portage County | 12/4/2002 | **9/30/2006** | | **Completed** | Unchanged | $ 5,100.00 | $ 850.00 | $ 850.00 | $ 6,800.00 | $ 6,800.00 | $ 5,100.00 | $ - | $ 204.00 | $ 204.00 | $ - |
| **1432.02-F** | Rusk County | 12/4/2002 | **9/30/2006** | | **Completed** | Unchanged | $ 21,933.00 | $ 3,656.00 | $ 3,655.00 | $ 29,244.00 | $ 29,244.57 | $ 21,933.43 | $ (0.57) | $ - | | $ - |
| **1432.9-R** | St. Croix Falls, City | 12/4/2002 | **9/30/2006** | | **Completed** | Overrun | $ 65,577.00 | $ 10,929.53 | $ 10,929.53 | $ 87,436.06 | $87,436.26 | $ 65,577.20 | $ (0.20) | $ 2,623.00 | $ 2,623.00 | $ - |
| **PLANNING** | | | | | | | | | | | | $ - | | | | |
| **1432.5-P** | Polk County | 12/4/2002 | **9/30/2006** | | **Completed** | Underrun | $ 30,233.00 | $ 5,039.00 | $ 5,038.00 | $ 40,310.00 | $ 40,310.37 | $ 30,232.78 | $ (0.37) | $ 72.00 | $ 72.35 | $ (0.35) |
| **1432.10-P** | Rusk County | 12/4/2002 | **9/30/2006** | | **Cancelled** | | | | $ - | $ - | | $ - | $ - | | | $ - |
| **1432.11-F/P** | Rusk County | 12/4/2003 | **9/30/2006** | | **Cancelled** | | | | $ - | $ - | | $ - | $ - | | | $ - |
| | State Management | | | | **Completed** | | $ 70,406.00 | $ 23,469.00 | | $ 93,874.67 | $ 93,874.63 | $ 70,405.97 | $ 0.04 | | | |
| **1432** | **TOTALS** | | | | | | $ 638,703.00 | $ 118,186.53 | $ 94,714.53 | **$ 851,603.73** | **$ 851,604.73** | | **$ (1.00)** | **$ 14,488.00** | **$ 14,487.65** | **$ 0.35** |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| **1526.06F** | Dodge County | 3/25/2005 | **6/30/2008** | | **Completed** | Unchanged | 25,881.00 | 4,314.00 | 4,313.00 | $ 34,508.00 | $ 34,508.02 | $ 25,881.02 | $ (0.02) | 787.00 | 787.34 | $ (0.34) |
| **1526.07R** | Ferryville, Village | 7/6/2005 | **6/30/2008** | | **Completed** | Unchanged | $ 43,500.00 | $ 7,250.00 | $ 7,250.00 | $ 58,000.00 | $ 45,811.27 | $ 34,358.45 | $ 12,188.73 | $ 1,740.00 | $ 1,365.00 | $ 375.00 |
| 1526.08R | Grant County | 6/13/2005 | **6/30/2008** | 10/30/2007 | On Schedule | Unchanged | $ 214,853.00 | $ 35,808.50 | $ 35,808.50 | $ 286,470.00 | $ 179,677.63 | $ 134,758.22 | $ 106,792.37 | $ 6,729.00 | $ 4,450.00 | $ 2,279.00 |
| **1526.04F** | Jackson County | 3/22/2005 | **6/30/2008** | | **Completed** | Unchanged | $ 4,560.00 | $ 760.00 | $ 760.00 | $ 6,080.00 | $ 6,080.00 | $ 4,560.00 | $ - | $ 182.00 | $ 182.00 | $ - |
| 1526.12R | Kenosha County | 8/18/2005 | **6/30/2008** | 6/30/2008 | Delayed | Unchanged | $ 566,763.00 | $ 94,460.50 | $ 94,460.50 | $ 755,684.00 | $ 564,410.96 | $ 423,308.22 | $ 191,273.04 | $ 16,114.00 | $ 8,127.03 | $ 7,986.97 |
| **1526.11F** | Oneida County | 6/27/2005 | **6/30/2008** | | **Completed** | Unchanged | $ 18,750.00 | $ 3,125.00 | $3,125.00 | $ 25,000.00 | $ 25,000.00 | $ 18,750.00 | $ - | $750.00 | | $ 750.00 |
| 1526.09R | Oshkosh, City | 5/26/2005 | **6/30/2008** | 7/30/2007 | Delayed | Unchanged | $308,288.00 | $ 51,381.00 | $ 51,381.00 | $ 411,050.00 | $ 368,357.25 | $ 276,267.94 | $ 42,692.75 | $ 9,221.00 | $ 6,600.00 | $ 2,621.00 |
| **PLANNING** | | | | | | | | | | | | | | | | |
| 1526.02-P | Columbia County | 1/11/2005 | **6/30/2008** | 12/30/2007 | On Schedule | Unchanged | $ 33,750.00 | $ 5,625.00 | $ 5,625.00 | $ 45,000.00 | $ 40,500.00 | $ 30,375.00 | $ 4,500.00 | $ 1,350.00 | $ 1,215.00 | $ 135.00 |
| 1526.01-P | Dodge County | 1/10/2005 | **6/30/2008** | 11/30/2007 | On Schedule | Unchanged | $ 37,500.00 | $ 6,250.00 | $ 6,250.00 | $ 50,000.00 | | $ - | $ 50,000.00 | $ 1,500.00 | | $ 1,500.00 |
| 1526.05-P | Eau Claire County | 3/22/2005 | **6/30/2008** | 12/30/2007 | On Schedule | Unchanged | $ 22,500.00 | $ 3,750.00 | $ 3,750.00 | $ 30,000.00 | | $ - | $ 30,000.00 | $ 900.00 | | $ 900.00 |
| | State Management | 11/10/2004 | **6/30/2008** | | | | $ 86,022.75 | $ 28,674.25 | | $ 114,697.00 | $ 49,049.41 | $ 36,787.06 | $ 65,647.59 | | | $ - |
| **1526** | **TOTALS** | | | | | | | | | **$ 1,816,489.00** | **$ 1,313,394.54** | | **$ 503,094.46** | **$ 39,273.00** | **$ 22,726.37** | **$ 16,546.63** |

# SAMPLE LETTER FOR PROJECT CLOSEOUT

Date

Chief, Hazard Mitigation Assistance Branch
Mitigation Division
Federal Emergency Management Agency
536 S. Clark Street, 6th Floor
Chicago, IL 60605

**ATTENTION:** Federal Hazard Mitigation Officer

Dear_____:

This is to request closeout of the following Hazard Mitigation Grant Program project under federal disaster declaration FEMA- -DR-WI:

Project Number Name of Project

Our records indicate that $ (project funds plus management coss) in federal funds has been disbursed to the subgrantee. In addition, $ was provided by the State (12.5%) with the subgrantee providing the remaining 12.5% match. All grant activities have been completed and documentation has been submitted to this office supporting the costs claimed.

If you have any questions, please feel free to call me at _____.

Sincerely,

State Hazard Mitigation Officer
Wisconsin Division of Emergency Management

# WISCONSIN EMERGENCY MANAGEMENT
# PROJECT CLOSE-OUT WORKSHEET

| | |
|---|---|
| **SUBGRANTEE:** | **COUNTY:** |
| **DECLARATION, PDM, FMA, RFS, SRL FY:** | **PROJECT NO.:** |
| **POINT OF CONTACT:** | **PHONE:** |

| | |
|---|---|
| **TOTAL HMGP/PDM/FMA/RFC/SRL FUNDS APPROVED:** | **$** |
| **FEDERAL:** | **$** |
| **STATE:** | **$** |
| **LOCAL:** | **$** |
| **MANAGEMENT COSTS:** | **$** |
| **OTHER:** | **$** |

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Project Application | |
| **2** | | Benefit-Cost Ratio | |
| **3** | | Environmental Review<br>*(National Environmental Policy Act)*<br>*Signed Environmental Closeout Declaration* | |
| **4** | | FEMA Approval / Obligation | |
| **5** | | State Approval Letter | |
| **6** | | Signed Assurances | |
| **7** | | Signed State / Local HMGP Agreement | |
| **8** | | Quarterly Reports | |
| **9** | | Subgrantee Notified WEM of Project Completion | |
| **10** | | Project Completed Within Approved Scope of Work | |
| **11** | | 12.5% Local Match Verified | |
| **12** | | Overrun Documentation | |
| **13** | | On-Site Project Inspection | |
| **14** | | Environmental Closeout Declaration Signed | |
| **15** | | Mitigation Plan Completed, Approved, and Adopted | |
| **16** | | Final Payment Authorized and Issued<br>*(including Subgrantee Administrative Allowance)* | |

| | | | |
|---|---|---|---|
| **17** | | Bill For Collection *(if applicable)* | |
| **18** | | WEM Notifies FEMA of Close-Out | |
| **19** | | Deobligation (FEMA) (*if applicable)* | |
| **21** | | Subgrantee Audit | |
| **22** | | OPTIONAL Community Assistance Visit or Contact:<br>Pre-Project<br>Post-Project | |
| **23** | | Other Issues | |
| **COMMENTS:** | | | |

## ACQUISITION PROJECTS

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Final List of Properties Acquired | |
| **2** | | Approved Relocation Plan | |
| **3** | | Approved Acquisition Procedures | |
| **4** | | Demolition Contracts Awarded and Underway | |
| **5** | | Demolition Completed | |
| **6** | | Case Files Complete<br>*(WEM Acquisition File Checklist Verified including copies of recorded warranty deeds, photos of mitigated properties, GPS coordinates for each property, repetitive loss properties identified)* | |
| **7** | | Total Parcels Acquired<br>Improved Parcels<br>Residential<br>Commercial<br>Vacant Parcels<br>Development Rights Purchased | |
| **8** | | Total Funds Expended on Acquisition *(incl. Relocation)*<br>Improved Parcels<br>Residential<br>Commercial<br>Vacant Parcels<br>Development Rights Purchased | |
| **9** | | Form AW-501 completed (Required for flood insured structures. Completed in Squanet.) | |
| **COMMENTS:** | | | |

## ELEVATION

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Final List of Properties Elevated | |
| **2** | | Case Files Complete<br>*(WEM Floodproofing File Checklist Verified including permits, photos, elevation certificate, signed Property Owner's Acknowledgement of Conditions, proof of flood insurance, GPS coordinates, notice of flood insurance requirement on warranty )* | |
| **3** | | Total Structures Floodproofed<br>Commercial<br>Residential | |
| **4** | | Verification of Expenditures | |
| **5** | | Total Funds Expended on Floodproofing<br>*(including Relocation for Tenants)*<br>Commercial<br>Residential | |
| **6** | | Form AW-501 completed (Required for flood insured structures. Completed in Squanet.) | |
| **COMMENTS:** | | | |

## CONSTRUCTION / OTHER PROJECTS

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Bid Specifications and Bid Tabulation | |
| **2** | | Contract Award | |
| **3** | | Verification of Expenditures | |
| **4** | | Total Funds Expended | |
| **COMMENTS:** | | | |

# REVIEWERS

**SIGNATURE** _____ **DATE** _____

**State Hazard Mitigation Officer**

**SIGNATURE** _____ **DATE** _____

**FEMA Hazard Mitigation Specialist**

# WISCONSIN EMERGENCY MANAGEMENT
# PLANNING CLOSE-OUT WORKSHEET

| | |
|---|---|
| **SUBGRANTEE:** | **COUNTY:** |
| **DECLARATION or FISCAL YEAR:** | **GRANT NO.:** |
| **POINT OF CONTACT:** | **PHONE:** |

| | |
|---|---|
| **TOTAL HMGP, PDM, OR FMA FUNDS APPROVED:** | **$** |
| **FEDERAL:** | **$** |
| **STATE:** | **$** |
| **LOCAL:** | **$** |
| **MANAGEMENT COSTS:** | **$** |
| **OTHER:** | **$** |

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Project Application | |
| **2** | | Environmental Review | |
| **3** | | FEMA Approval / Obligation | |
| **4** | | State Approval Letter | |
| **5** | | Signed Assurances | |
| **6** | | Signed State / Local HMGP Agreement | |
| **7** | | Quarterly Reports | |
| **8** | | Adopted Plan Approved by FEMA | |
| **9** | | Subgrantee Notified WEM of Project Completion | |
| **10** | | 25% Local Match Verified | |
| **11** | | Overrun Documentation | |
| **12** | | Final Payment Authorized and Issued *(including Subgrantee Administrative Allowance)* | |
| **13** | | Bill For Collection *(if applicable)* | |
| **14** | | WEM Notifies FEMA of Close-Out | |
| **15** | | Deobligation (FEMA) (*if applicable)* | |
| **16** | | Subgrantee Audit *(if applicable*) | |
| **17** | | Other Issues | |

| | |
|---|---|
| **SUBGRANTEE:** | **COUNTY:** |
| **DECLARATION or FISCAL YEAR:** | **GRANT NO.:** |

| |
|---|
| **COMMENTS:** |

## REVIEWERS

**SIGNATURE** _____ **DATE** _____

**State Hazard Mitigation Officer**

**SIGNATURE** _____ **DATE** _____

**FEMA Hazard Mitigation Specialist**

# WISCONSIN EMERGENCY MANAGEMENT
# STATE MANAGEMENT CLOSE-OUT WORKSHEET
# HAZARD MITIGATION GRANT PROGRAM

| | |
|---|---|
| **DECLARATION FEMA- -DR-WI** | **DECLARED:** |
| **COUNTIES: :** | |
| **POINT OF CONTACT:** | **PHONE:** |

**HMGP ADMINISTRATIVE PLAN APPROVED** **YES** ___X_____ **NO**_____

**STANDARD ALL HAZARDS MITIGATION PLAN** **YES** ___X_____ **NO**_____

**ENHANCED ALL HAZARDS MITIGATION PLAN** **YES** ___X____ **NO**_____

| **TOTAL HMGP FUNDS:** | **OBLIGATED** | **EXPENDED** | **DEOBLIGATE** |
|---|---|---|---|
| | **$** | | |
| **FEDERAL FUNDS:** | **$** | | |
| **STATE FUNDS:** | **$** | | |

## STATE MANAGEMENT COSTS

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Time and attendance records held in State Files | |
| **2** | | Salaries & benefits cost sheet verified & held in State Files | |
| **3** | | Supplies and Equipment verified & complete forms | |
| **4** | | Identify any federally owned property and complete form 20-18, Report of Government Property | |
| **5** | | Identify any copyrights or patents awarded as a result of this grant | |
| **6.** | | Closeout Request letter indicates amount of SMC funds were expended and How they were expended | |
| **COMMENTS:** | | | |

## REVIEWERS

**SIGNATURE** _____ **DATE** _____

**State Hazard Mitigation Officer**

**SIGNATURE** _____ **DATE** _____

**FEMA Hazard Mitigation Specialist**

# SAMPLE LETTER FOR DECLARATION CLOSEOUT

Date

Chief, Hazard Mitigation Assistance Branch
Mitigation Division
Federal Emergency Management Agency
536 S. Clark Street, 6th Floor
Chicago, IL 60605

**ATTENTION:** Federal Hazard Mitigation Officer

Dear_____:

This is to request closeout of the Hazard Mitigation Grant Program under federal disaster declaration FEMA- -DR-WI.

(Number of projects) were approved for the (name municipalities), plus State Management Costs. All grant activities have been completed and documentation was submitted supporting the costs claimed.

Our records indicate the following funds were disbursed:

| | |
|---|---|
| 75% Federal Share | $ |
| 12.5% State Share | $ |
| 12.5% Local Share | $ |
| Sub-Total | $ |
| | |
| Grantee Management Costs | $ |
| Subgrantee Management Costs | $ |
| Sub-Total | $ |
| | |
| TOTAL | $ |

Total federal funds disbursed for the declaration is $ .

If you have any questions, please feel free to call me at _____.

Sincerely,

State Hazard Mitigation Officer
Wisconsin Division of Emergency Management

Cc: WEM Financial Specialist

# WISCONSIN EMERGENCY MANAGEMENT
# DECLARATION CLOSE-OUT WORKSHEET
# HAZARD MITIGATION GRANT PROGRAM

| | |
|---|---|
| **DECLARATION FEMA -DR-WI** | **DECLARED:** |
| **COUNTIES:** | |
| **POINT OF CONTACT:** | **PHONE:** |

**HMGP ADMINISTRATIVE PLAN APPROVED** **YES** _____ **NO**_____

**STANDARD ALL HAZARDS MITIGATION PLAN** **YES** _____ **NO**_____

**ENHANCED ALL HAZARDS MITIGATION PLAN** **YES** _____ **NO**_____

| | |
|---|---|
| **TOTAL HMGP FUNDS:** | **$** |
| **FEDERAL:** | **$** |
| **STATE:** | **$** |
| **LOCAL:** | **$** |
| **MANAGEMENT COSTS:** | **$** |

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | Federal / State Agreement | |
| **2** | | State Management Cost Narrative | |
| **3** | | Project Application | |
| **4** | | OMB Standard Form 424 | |
| **5** | | FEMA Obligation of Funds | |
| **6** | | Quarterly Reports | |
| **7** | | Quarterly Financial Status Reports | |
| **8** | | State Notifies FEMA for Close-Out | |
| **9** | | Final Financial Status Report SF 269 | |
| **10** | | Other issues | |
| **COMMENTS:** | | | |

## STATE MANAGEMENT COSTS

| Item # | Completed: (4) | Criteria: | Status / Date Completed: |
|---|---|---|---|
| **1** | | State Management Cost Narrative | |
| **2** | | Approval and Obligations along with Supplements:<br><br>Dates<br><br><br>Amounts | |
| **COMMENTS:** | | | |

**All projects under FEMA - _____ - DR - WI are completed and closed. WEM requests close-out of the Mitigation component of this disaster.**

## REVIEWERS

**SIGNATURE** _____ **DATE** _____

**State Hazard Mitigation Officer**

**SIGNATURE** _____ **DATE** _____

**FEMA Hazard Mitigation Specialist**

Date

Community

Dear :

In the past your community purchased structure(s) with Hazard Mitigation Grant monies from Disaster FEMA- -DR-WI. A requirement of the grant(s) was that the purchased property(ies) remains as open space in perpetuity and that the ownership of the property(ies) has remained with a public entity. These requirements were part of the State-Local Hazard Mitigation Grant Program Assistance Agreement that your community signed at the time they received the grant. The Federal requirement is found in 44 CFR Part 80.19. The specific language that appears on the Warranty Deeds for the purchased property(ies) is attached.

At this time we would like you to confirm that all the listed properties meet the restrictions stated on the Warranty Deeds. Please sign and return the enclosed form to our office within the next three weeks. If you have any questions, please do not hesitate to call me at 608-242-3211.

Sincerely,

State Hazard Mitigation Officer

Enclosure

# NAME OF COMMUNITY

| Disaster Number | Owner | Address | Tax ID |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

All the above listed properties remain in public ownership and are being used for purposes compatible with open space.
Title/Signature/Date

The deed conveying the property to the locality must reference and incorporate Exhibit A (or equivalent name). Exhibit A should be attached to the deed when recorded.

**Exhibit A**

In reference to the property or properties ("Property") conveyed by the Deed between [property owner] participating in the federally-assisted acquisition project ("the Grantor") and the [Village/City/County], its successors and assigns ("the Grantee"):

WHEREAS, The Robert T. Stafford Disaster Relief and Emergency Assistance Act, ("The Stafford Act"), 42 U.S.C. § 5121 et seq., identifies the use of mitigation grants under § 5170, Hazard Mitigation Grant Program Section 404 ("HMGP"), to assist States and local governments in implementing cost-effective hazard mitigation measures to reduce injuries, loss of life, and damage and destruction of property,

WHEREAS, the HMGP program provides a process for a local government, through the State, to apply for federal funds for mitigation assistance to acquire interests in property, including the purchase of structures in the floodplain, to demolish and/or remove the structures, and to maintain the use of the Property as open space in perpetuity;

WHEREAS, [State] has applied for and been awarded such funding from the [Department of Homeland Security] Federal Emergency Management Agency ("FEMA"), and has entered into a FEMA-State Agreement ("Grant Agreement"), dated [date] and herein incorporated by reference;

WHEREAS, the Property is located in [Village/City/County], [Village/City/County] participates in the National Flood Insurance Program ("NFIP") and is in good standing with NFIP as of the date of the Deed;

WHEREAS, the [Village/City/County], acting by and through the [Village/City/County Board], has applied for and been awarded federal funds pursuant to an agreement with [State] dated [date] ("State-Local Agreement") and herein incorporated by reference;

WHEREAS, the terms of the Stafford Act, Federal program requirements consistent with 44 C.F.R. 206.434(e), the Grant Agreement, and the State-local Agreement require that the Grantee agree to conditions that restrict the use of the land to open space in perpetuity in order to protect and preserve natural floodplain values;

NOW, therefore, the grant is made subject to the following terms and conditions:

1. Terms. Pursuant to the terms of the Stafford Act, Federal program requirements consistent with 44 C.F.R. 206.434(e), the Grant Agreement, and the State-local Agreement, the following conditions and restrictions shall apply in perpetuity to the

Property described in the attached deed and acquired by the Grantee pursuant to FEMA program requirements concerning the acquisition of property for open space:

a. Compatible uses. The Property shall be used only for purposes compatible with open space, recreational, or wetlands management practices; in general, such uses include parks for outdoor recreational activities, nature reserves, unimproved permeable parking lots and other uses consistent with Hazard Mitigation Grant Program Guidance for open space acquisition.
b. Structures. No new structures or improvements shall be erected on the Property other than:
    - A public facility that is open on all sides and functionally related to the open space use;
    - A public rest room; or
    - A structure that is compatible with the uses described in Paragraph 1(a), above, and approved by the Director in writing prior to the commencement of the construction of the structure.
    - Any structures built on the Property according to this paragraph shall be floodproofed or elevated to the Base Flood Elevation plus two foot of freeboard.
c. Disaster Assistance. No disaster assistance from any Federal source for any purpose related to the Property may be sought, nor will such assistance be provided;
d. Transfer. The Grantee agrees that it shall convey any interest in the Property only if the Regional Director of FEMA gives prior approval of the transferee in accordance with this paragraph. The Grantee may only convey an interest in the Property to another public entity or to an organization with conservation purposes qualified under Section 170(h) of the Internal Revenue Code of 1954, as amended, and applicable implementing regulations. However, the Grantee may convey an easement or lease to a private individual or entity for purposes compatible with the uses described in Paragraph 1(a), above, including agriculture, with the prior approval of the Regional Director.

    If title to the Property is transferred to a public entity other than a qualified state or federal agency with a conservation mission, it must be conveyed subject to a Conservation Easement that shall be recorded with the deed and shall incorporate all terms and conditions set forth herein, including the easement holder's responsibility to enforce the easement. This shall be accomplished by one of the following means:

    i. The Grantee shall convey, in accordance with section (d), above, a conservation easement to someone other than the title holder, or

    ii. At the time of title transfer, the Grantee shall retain such conservation easement, and record it with the deed.

2. Inspection. FEMA, its representatives, and assigns, including [State], shall have the right to enter upon the Property, at reasonable times and with reasonable notice, for the purpose of inspecting the Property to ensure compliance with the terms of the grant.

3. Monitoring and Reporting. Every three years on [Date], the Grantee, through [State], shall submit to the FEMA Regional Director a report certifying that the Grantee has inspected the subject Property within the month preceding the report, and that the Property continues to be maintained consistent with the provisions of the grant.

4. Enforcement. If the subject Property is not maintained according to the terms of the grant, the Grantee, [State], and FEMA, its representatives, and assigns are responsible for taking measures to bring the Property back into compliance.

    a. The State will notify the Grantee in writing and advise the Grantee that it has 60 days to correct the violation.
    b. If the Grantee fails to demonstrate a good faith effort to come into compliance with the terms of the grant within the 60-day period, the State shall enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to bringing an action at law or in equity in a court of competent jurisdiction.
    c. FEMA, its representatives and assigns may enforce the terms of the grant by taking any measures it deems appropriate, including but not limited to the following:

        i. Requiring transfer of title in accordance with Paragraph 1(d). The Grantee shall bear the costs of bringing the Property back into compliance with the terms of the grant; or

        ii. Bringing an action at law or in equity in a court of competent jurisdiction against the State or the Grantee.

5. Severability. Should any provision of this grant or the application thereof to any person or circumstance be found to be invalid or unenforceable, the rest and remainder of the provisions of this grant and their application shall not be affected and shall remain valid and enforceable.

Standard signature block:

[Signed by Grantor(s) and Grantee, witnesses and notarization in accordance with local law.]

_____ _____

Grantor's Signature Date

_____

Name (printed or typed)

_____ _____

Grantee's Signature Date

_____ _____

Name (printed or typed) Date

Date

Mitigation Division Director
Federal Emergency Management Agency
Region V
536 S. Clark Street, 6th Floor
Chicago, IL 60605

SUBJECT: Hazard Mitigation State Management Costs
FEMA-____-DR-WI

Dear Mr./Ms. _____:

Pursuant to 44 CFR 207.7(d), the State of Wisconsin hereby requests the approval and obligation of State Management Costs for administration and management of the Hazard Mitigation Grant Program (HMGP), under the following conditions:

1. The HMGP will be operated by the State for the above disaster in accordance with the State Administrative Plan dated

2. State Management Costs will be funded 100% federal funds.

3. Actual approved Management Costs are requested for administering the HMGP in the amount of $_____ (100%) in accordance with the enclosed State Management Cost Plan for FEMA-____-DR-WI.

Please advise _____, State Hazard Mitigation Officer at (608) 242-3211 upon approval and obligation of these funds.

Sincerely,

State Coordinating Officer
Wisconsin Emergency Management

Enclosures

cc: SHMO
WEM Administrative Officer
Mitigation Specialist, FEMA Region V

**HAZARD MITIGATION GRANT PROGRAM**
**STATE MANAGEMENT COST NARRATIVE**
**FEMA-____DR-WI**
**WISCONSIN**

The purpose of this narrative is to document the Sate of Wisconsin's request for its State Management Cost Grant allowed under 44 CFR 207 for the Hazard Mitigation Grant Program for the _____ disaster, FEMA-____-DR. This request is designed to meet the documentation requirements of 44 CFR 207.7(d), Request Documentation.

This narrative describes the disaster event; the activities, personnel requirement and other costs for which the State (grantee) will use management cost funding; the pass-through funding the state will make available to subgrantees for their HMGP management costs; and the state's plan for monitoring HMGP management expenditures.

## THE DISASTER

*Description of the disaster is provided here.*

The FEMA 30-day estimate for the federal HMGP award for this disaster is _____. Based on these figures, the current estimate of the HMGP Management Grant for this disaster is $_____.

## HMGP GRANTEE MANAGEMENT ACTIVITIES

The State's Management of the ____-DR Hazard Mitigation Grant Program is fully described in the *State of Wisconsin Administrative Plan for the Hazard Mitigation Grant Program* dated August 2008.

The State's Hazard Mitigation staff consists of the following positions at Wisconsin Emergency Management: State Hazard Mitigation Officer, Assistant State Hazard Mitigation Officer, Response and Recovery Planner, Hazard Mitigation Planner, half-time Hazard Mitigation Specialist. Additional Hazard Mitigation Specialist will be hired as needed to administer the declaration. Position descriptions for the various positions are attached.

The ____-DR HMGP is managed simultaneously with the HMGP for the following open disasters _____. The State anticipates the HMGP for the open disasters will run concurrently through _____.

The narrative that follows provides a synopsis of the grantee activities for the ____-DR HMGP to be funded by the management grant.

Project and Application Development

The State received ___ pre-applications from subgrantees for project activities totaling $_____. Upon completion of review, ranking and scoring of the pre-applications, and based on State priorities and funding availability, formal applications were sent to __ subgrantees for further funding consideration. The application deadline for the formal applications is _____. Planning grant applications were made available with a _____ deadline. The State received __ planning grant applications.

In addition, State Mitigation Staff coordinates with members of the Wisconsin Hazard Mitigation Team to identify potential funding projects as well as package funding where possible.

State staff is available to provide technical assistance on an individual basis upon request of potential applicants; this may include visits to sites of potential mitigation projects. The goal of these activities is to help potential applicants improve the quality of their projects and grant applications, thereby increasing their chance of obtaining funding.

The State will provide training as needed. This could include Project Development, Planning, Buyout, and Benefit-Costs Analysis, or other workshops as required. This training will assist the subgrantees in developing viable project applications that will meet state and federal criteria.

Application Review

State staff reviews applications after submission to determine whether they are complete and the projects are cost-effective and environmentally sound. Application reviews may include site visits and completion of benefit-cost analyses. State staff will forward consultation letters to state and federal agencies to meet the NEPA requirements and prepare the Record of Environmental Consideration. Based on funding availability and State priorities, recommendations for funding are shared with the Wisconsin Hazard Mitigation Team and the Wisconsin Emergency Management Administrator. State mitigation staff assembles the required documentation and submits project and planning grant subapplications to FEMA for environmental and historic preservation reviews and final approval. Throughout this process, state staff communicates with applicants regarding the status of their applications.

Project Implementation and Closeout

Project implementation begins at grant award with the development of the State-Local HMGP Assistance Agreement with subgrantees. Progress on projects is monitored by State staff through reviewing quarterly reports, processing requests for reimbursements for work completed, maintaining regular communications, and conducting site visits. Staff provides technical assistance on an as-needed basis to subgrantees, prepares State quarterly reports to be submitted to FEMA, and provides other documentation as

required by grant award documents and program requirements. For local mitigation planning initiatives, staff participate in planning efforts as requested by subgrantees, review draft plans and provide comments for final review and approval by FEMA regional office.

Staffing Requirements and Costs

As stated above, the following positions will support the administration and management of the HMGP for FEMA-____-DR-WI: State Hazard Mitigation Officer, Assistant State Hazard Mitigation Officer, Response and Recovery Planner, Hazard Mitigation Planner, half-time Hazard Mitigation Specialist. Additional Hazard Mitigation Specialist will be hired as needed to administer the declaration. Time sheets will be completed by each person for each two-week time period indicating the dates and hours worked in administering and managing the disasters as well as the remaining open disasters.

## SUBGRANTEE PASS-THROUGH

As described in the *State of Wisconsin Administrative Plan for the HMGP*, the state will pass-through to subgrantees management costs for costs associated with administration of the approved HMGP subgrant. Costs will include those incurred for requesting, obtaining, and administering the grant. This includes costs for submitting quarterly reports, preparing requests for reimbursements, conducting inspections, completing closeout documents, and any required audits. Subgrantee management costs are based on 1% (one percent) of the final net eligible costs in the FEMA approved HMGP grant. Additional funds may be requested in extraordinary situations with adequate documentation and if management cost funds are available. The Mitigation staff will track funds expended for subgrantee management costs for each subgrantee on its disbursement spreadsheet as well as cumulatively for all subgrantees for the disaster.

Based on the 30-day HMGP estimate, $_____ will be reserved for subgrantee pass-through to reimburse them for grant management costs at project/plan closeout.

## MONITORING MANAGEMETN COST EXPENDITURES

The State will monitor management cost expenditures as outlined in the following sections of the *State of Wisconsin Administrative Plan for the HMGP*: Section IX-Program Administration, G-Project Management. The State will track management cost expenditures of each subgrantee as well as its own. Subgrantee management expenditures will be monitored through quarterly and final reports, as well as final request for reimbursement. Subgrantees will be required to maintain documentation on all subgrantee management costs, but are not required to provide the documentation to the State.

## BASIC MANAGEMENT COST REQURIEMENTS

- Assigned number - ____ - M
- Total Amount available: $_____ (30-day estimate)
- Cost categories requested with amounts – See Attached
- Initial, supplemental, or final –
- Estimated or actual cost –
- Time period
- Expenses for administering the grant will be in accordance with 44 CFR Part 13.22, as required by 44 CFR part 207.6, Use of Funds. The costs for personnel staffing, indirect costs, travel and per diem, equipment and supplies, review appraiser and other items on the attached are considered necessary and reasonable for implementation of the Hazard Mitigation Grant Program for ____-DR.

**HAZARD MITIGATION-STATE MANAGEMENT COSTS**
**FEMA-____-DR-WI Project Cost Through XXXX**

## Hazard Mitigation Officer

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

(Assumes XXX, XXX, XXX hours respectively, and X% and X% increases in XXXX and XXXX)

## Assistant Mitigation Officer

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

(Assumes XXX, XXX, XXX hours respectively, and X% and X% increases in XXXX and XXXX)

## Response and Recovery Planner

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

(Assumes XXX, XXX, XXX hours respectively, and X% and X% increases in XXXX and XXXX)

## Hazard Mitigation Planner

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

(Assumes XXX, XXX, XXX hours respectively, and X% and X% increases in XXXX and XXXX)

## Mitigation Specialist

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

## Mitigation Specialist

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Salary | $ | $ | $ | $ |
| Fringe | $ | $ | $ | $ |
| Indirect | $ | $ | $ | $ |
| Total | $ | $ | $ | $ |

**REVIEW APPRAISER**

| | Year | Year | Year | Year |
|---|---|---|---|---|
| Private Sector | $ | $ | $ | $ |

(Assume XXX appraisals at $XXX per appraisal)

**EQUIPMENT & SUPPLIES**

| | Year | Year | Year | Year |
|---|---|---|---|---|
| | $ | $ | $ | $ |

**TRAVEL AND PER DIEM**

| | Year | Year | Year | Year |
|---|---|---|---|---|
| | $ | $ | $ | $ |

**ESTIMATED SUBGRANTEE MANAGEMENT COSTS**

| | Year | Year | Year | Year |
|---|---|---|---|---|
| | $ | $ | $ | $ |

**TOTAL STATE MANAGEMENT COSTS**

| | Year | Year | Year | Year |
|---|---|---|---|---|
| | $ | $ | $ | $ |

## TOTAL STATE MANAGEMENT COSTS $

**TASKS ASSIGNMENTS AND ACTIVITIES**
**HAZARD MITIGATIN GRANT PROGRAM**
**STATE HAZARD MITIGATION OFFICER**

This position is responsible for the day-to-day management and administration of the Section 404-Hazard Mitigation Grant Program (HMGP) made available as a result of Presidential Disaster Declaration FEMA-____-DR-WI

Duties will include the following:

1. Work with FEMA Mitigation staff in the Disaster Field Office following the disaster declaration.

2. Assist FEMA in the development of the hazard mitigation early implementation strategy report, and update as required.

3. Attend the applicants briefing for the Public Assistance Program and provide information on mitigation and the 404-HMGP.

4. Conduct briefings and meetings with potential applicants on the HMGP.

5. Solicit, accept and review pre-applications from municipalities interested in applying for hazard mitigation assistance.

6. Assist communities in completing formal applications for HMGP and provide technical assistance that may be required.

7. Prepare and submit the State's application for Section 404-HMGP funding for submission to FEMA through NEMIS.

8. Assist communities in implementing approved projects. Monitor subgrantee compliance with Section 404-HMGP requirements.

9. Monitor subgrantee progress in meeting project goals.

10. Coordinate with the Federal and State Public Assistance Officers on hazard mitigation projects that interface with the Public Assistance Program.

11. Answer written and oral inquiries regarding the 404-HMGP, attend and conduct meetings pertaining to HMGP, and coordinate with FEMA Region V staff on 404 issues requiring clarification, etc.

12. Update the 404-HMGP Administrative Plan as required.

13. Develop state guidance in administering the 404-HMGP, and issue to subgrantees.

14. Responsible for providing technical assistance and support to the Wisconsin Hazard Mitigation Team (WHMT).

15. Develop agendas and conduct the WHMT meetings.

16. Coordinate with members of the WHMT to facilitate their processing of applications and providing of assistance to municipalities.

17. Identify and coordinate with other federal and state agencies for funding of mitigation projects.

18. Coordinate with public Information staff on the development of press releases regarding mitigation activities.

19. Other disaster related assignments as directed by the State Coordinating Officer.

**TASK ASSIGNMENTS AND ACTIVITIES**
**HAZARD MITIGATION GRANT PROGRAM**
**ASSISTANT STATE HAZARD MITIGATION OFFICER**

This position will function under the supervision of the State Hazard Mitigation Officer (SHMO), and will assist in implementing the Section 404-Hazard Mitigation Grant Program (HMGP) made available as a result of Presidential Declaration FEMA-____-DR-WI.

Duties will include assisting the SHMO in the following:

1. Attend and participate in briefings and workshops for potential HMGP applicants.

2. Solicit and accept pre-applications from municipalities interested in applying for HMGP assistance.

3. Review pre-applications and at direction of SHMO, send formal applications to municipalities eligible for HMGP funding.

4. Assist communities as required in completing formal applications in funding.

5. Assist in preparing the state's application for HMGP funding for submission to FEMA including the environmental review for CATEX projects.

6. After funding is approved, assist communities as required in implementing approved projects. Monitor subgrantee compliance with Section 404-HMGP requirements, including time extensions and closeouts after projects are completed.

7. Issue payments to subgrantees based on completed work and monitor subgrantees progress in meeting project goals.

8. Coordinate with the Public Assistance Officer on hazard mitigation projects that interface with the Public Assistance Program under section 406.

9. Answer oral and written inquiries relating to the HMGP.

10. Attend meetings as required.

11. Compose correspondence to FEMA Region V, to obtain clarification of issues relating to 404 funding.

12. Assist in the development of state guidance in administering the 404-HMGP.

Assist the SHMO in conducting WHMT meetings by developing agendas, handout materials, and other information.

14. Attend and participate in WHMT meetings.

15. Coordinate with other federal and state agency WHMT members to facilitate their processing of applications and providing assistance to municipalities.

**TASK ASSIGNMENTS AND ACTIVITIES**
**HAZARD MITIGATION GRANT PROGRAM**
**HAZARD MITIGATION PLANNER**

This position will function under the supervision of the State Hazard Mitigation Officer (SHMO), and will assist in implementing the Section 404-Hazard Mitigation Grant Program (HMGP) made available as a result of Presidential Declaration FEMA-____-DR-WI.

Duties will include assisting the SHMO in the following:

1. Attend and participate in briefings and workshops for potential HMGP applicants.

2. Solicit and accept pre-applications from municipalities interested in applying for HMGP assistance.

3. Review pre-applications and at direction of SHMO, send formal applications to municipalities eligible for HMGP funding.

4. Assist communities as required in completing formal applications in funding.

5. Assist in preparing the state's application for HMGP funding for submission to FEMA including the environmental review for CATEX projects.

6. After funding is approved, assist communities as required in implementing approved projects. Monitor subgrantee compliance with Section 404-HMGP requirements, including time extensions and closeouts after projects are completed.

7. Issue payments to subgrantees based on completed work and monitor subgrantees progress in meeting project goals.

8. Coordinate with the Public Assistance Officer on hazard mitigation projects that interface with the Public Assistance Program under section 406.

9. Answer oral and written inquiries relating to the HMGP.

10. Attend meetings as required.

11. Compose correspondence to FEMA Region V, to obtain clarification of issues relating to 404 funding.

12. Assist in the development of state guidance in administering the 404-HMGP.

13. Assist the SHMO in conducting WHMT meetings by developing agendas, handout materials, and other information.

14. Attend and participate in WHMT meetings.

15. Coordinate with other federal and state agency WHMT members to facilitate their processing of applications and providing assistance to municipalities.

**TASK ASSIGNMENTS AND ACTIVITIES**
**HAZARD MITIGATION GRANT PROGRAM**
**RESPONSE AND RECOVERY PLANNER**

This position will function under the supervision of the State Hazard Mitigation Officer (SHMO), and will assist in implementing the Section 404-Hazard Mitigation Grant Program (HMGP) made available as a result of Presidential Declaration FEMA-____-DR-WI.

Duties will include assisting the SHMO in the following:

1. Attend and participate in briefings and workshops for potential HMGP applicants.

2. Solicit and accept pre-applications from municipalities interested in applying for HMGP assistance.

3. Review pre-applications and at direction of SHMO, send formal applications to municipalities eligible for HMGP funding.

4. Assist communities as required in completing formal applications in funding.

5. Assist in preparing the state's application for HMGP funding for submission to FEMA including the environmental review for CATEX projects.

6. After funding is approved, assist communities as required in implementing approved projects. Monitor subgrantee compliance with Section 404-HMGP requirements, including time extensions and closeouts after projects are completed.

7. Issue payments to subgrantees based on completed work and monitor subgrantees progress in meeting project goals.

8. Coordinate with the Public Assistance Officer on hazard mitigation projects that interface with the Public Assistance Program under section 406.

9. Answer oral and written inquiries relating to the HMGP.

10. Attend meetings as required.

11. Compose correspondence to FEMA Region V, to obtain clarification of issues relating to 404 funding.

12. Assist in the development of state guidance in administering the 404-HMGP.

13. Assist the SHMO in conducting WHMT meetings by developing agendas, handout materials, and other information.

14. Attend and participate in WHMT meetings.

15. Coordinate with other federal and state agency WHMT members to facilitate their processing of applications and providing assistance to municipalities.

**TASK ASSIGNMENT AND ACTIVITIES**
**HAZARD MITIGATION GRANT PROGRAM**
**MITIGATION SPECIALIST (Permanent and Temporary Hire)**

This position will provide support to Mitigation staff administering the Hazard Mitigation Grant Program made available as a result of Presidential Disaster Declaration FEMA-____-DR-WI.

Duties will include the following:

1. Solicit and accept pre-applications from municipalities interested in applying for HMGP assistance.

2. Review pre-applications and at direction of SHMO, send formal applications to municipalities eligible for HMGP funding.

3. Assist communities as required in completing formal applications in funding.

4. Perform benefit-cost analysis and environmental reviews on potential projects.

5. Assist in preparing the state's application for HMGP funding for submission to FEMA.

6. Answer oral and written inquiries relating to the HMGP.

7. Attend meetings as required.

8. Compose correspondence to FEMA Region V, to obtain clarification of issues relating to 404 funding.

9. Assist the SHMO in conducting WHMT meetings by developing agendas, handout materials, and other information.

10. Attend and participate in WHMT meetings.

11. Coordinate with other federal and state agency WHMT members to facilitate their processing of applications and providing assistance to municipalities.

# APPENDIX H

# MEMORANDUM OF UNDERSTANDING BETWEEN FEMA-WEM FOR HAZARD MITIGATION GRANT PROGRAM MANAGING STATE

# Federal Emergency Management Agency

Region V
536 South Clark Street, 6th Floor
Chicago, IL 60605-1521

OCT 2 0 2000

RECEIVED
OCT 2 4 2000
WI FEDERAL POINT

Mr. Edward J. Gleason, Director
Wisconsin Emergency Management
Wisconsin Department of Military Affairs
2400 Wright Street
P.O. Box 7865
Madison, Wisconsin 53707-7865

Dear Mr. Gleason:

Thank you for submitting the Memorandum of Understanding (MOU) between the Federal Emergency Management Agency (FEMA) and Wisconsin Emergency Management (WEM) to become a Hazard Mitigation Grant Program (HMGP) Managing State. The MOU has been approved and is currently in effect.

We look forward to working as partners to continue the outstanding mitigation program the WEM manages. As agreed, this office will provide training and technical assistance to your staff as needed.

Congratulations on your achievements, and good luck on your future endeavors as an HMGP Managing State. If you have any questions, please contact Mr. Larry Sanders, of my staff, at (312) 408-5556.

Sincerely,

Stuart A. Rifkind, Director
Mitigation Division

cc: Roxanne Gray, State Hazard Mitigation Officer

# MEMORANDUM OF UNDERSTANDING BETWEEN THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND THE WISCONSIN EMERGENCY MANAGEMENT AGENCY HAZARD MITIGATION GRANT PROGRAM MANAGING STATE

## I. PURPOSE

This Memorandum of Understanding (MOU) between the Federal Emergency Management Agency (FEMA) and the Wisconsin Emergency Management (WEM) is to build a FEMA-State collaborative partnership for the implementation of the Hazard Mitigation Grant Program (HMGP). This document defines the roles and responsibilities, procedures and processes in effect under this MOU.

The Managing State arrangement will be beneficial to both FEMA and WEM. Under this arrangement, WEM will review each project application for eligibility and FEMA will review project summaries for compliance with program requirements and conclude environmental reviews. The changes in roles and responsibilities are intended to result in faster approval of projects and thus make it easier to meet the programmatic goal of obligating funds within 24-months of the date of the disaster declaration.

In designating Wisconsin as a Managing State, both FEMA and Wisconsin agree to adhere to the provisions outlined in this MOU.

## II. APPLICABILITY

A. This MOU applies to the administration of the HMGP under disaster declarations FEMA-1284-DR-WI, FEMA-1332-DR-WI and all future declared presidential disasters in the State of Wisconsin and is effective upon date of signature by both parties.

B. Under this MOU, all applicable Federal and State law, Executive Orders, regulations, OMB Circulars, FEMA-State Agreement, and FEMA guidance remain in effect. The MOU specifies any deviations from current guidance. This MOU will incorporate any changes to applicable law or FEMA regulation published after the MOU's effective date.

C. This MOU applies only to those HMGP project types contained on Attachment 3, Eligible Types of Projects for Streamlined Review. All other applications will be submitted to FEMA for full review under the regular HMGP process.

D. WEM or FEMA may request amendments to the MOU at any time. Both parties will sign amendments to the MOU.

## III. ROLES AND RESPONSIBILITIES

The MOU primarily changes the roles and responsibilities for accomplishing program requirements. Generally, the MOU shifts responsibility for eligibility reviews to WEM. FEMA regional staff will provide technical assistance to WEM, review WEM's eligibility determinations, and monitor program implementation after project approvals. The following sections clarify responsibilities related to eligibility, cost-effectiveness, environmental and grants management procedures.

A. General

1. WEM will:

   a. Administer the HMGP consistent with program law, Executive Orders, regulations, OMB Circulars, policy guidance, and State and local laws.

   b. Update the State Hazard Mitigation Plan ("409 Plan") with a Post-Declaration Mitigation Strategy for each disaster declaration that outlines the State priorities for the program. This MOU will serve as an addendum to the State Hazard Mitigation Plan ("409 Plan").

   c. Ensure the State Administrative Plan is current (including Managing State procedures) and approved by the FEMA Regional Director.

   d. Maintain the technical capability necessary to meet its responsibilities. If, at any time, WEM determines they need additional technical capability, they will notify FEMA to request technical assistance.

   e. Provide FEMA a list of names and addresses of potential acquisition and elevation projects for Duplication of Benefit (DOB) searches.

   f. Ensure that any DOB not documented with eligible receipts or verified by an on-site inspection by the subgrantee are deducted from the HMGP property acquisition purchase offer and applicable HMGP elevation projects.

   g. WEM will invite a FEMA representative to participate on the Wisconsin Interagency Disaster Recovery Group (IDRG).

2. FEMA will:

   a. Assist WEM in development of the Post-Declaration Mitigation Strategy.

   b. Provide training and technical assistance to WEM upon request.

   c. Perform the DOB search of the Individual Assistance (IA) and National Flood Insurance Program (NFIP) databases and provide a listing to WEM identifying all applicable disaster assistance grants including the

Emergency Minimal Repair (EMR) and flood insurance real property settlements provided to homeowners considered for acquisition under the HMGP. This will be completed within 15 business days of receipt of the State's written request. For HMGP elevation projects, FEMA will search the NFIP database for settlement claims that include Increased Cost of Compliance funds approved for mitigation.

d. Approve project applications within 30 days of receipt from WEM unless FEMA and the State will agree to a revised timeframe as required due to extraordinary project circumstances.

e. Identify a representative to participate on the Wisconsin IDRG.

B. ELIGIBILITY REVIEW

1. WEM will:

a. Perform eligibility reviews of full project applications from applicants per the MOU, FEMA guidance, Federal and State law and regulations.

b. Apply the streamlined procedures of this MOU to the activities that are listed on Attachment 3, Eligible Types of Projects for Streamlined Review.

c. Ensure that all proposed projects are consistent with current codes, standards and permitting requirements by having each subgrantee sign the State and Local HMGP Agreement, which requires this.

d. Ensure that all costs included in the project budget (including those to be funded by non-Federal funds) are eligible costs for funding under the HMGP.

2. FEMA will:

a. Review WEM's eligibility determinations based on the Project Application Package (Attachment 1) provided by the State in accordance with the Eligible Types of Projects for Streamlined Review (Attachment 3).

C. COST EFFECTIVENESS

1. WEM will:

a. Determine cost-effectiveness of all proposed projects using standard benefit-cost methodology. FEMA's standard methodology is recommended, but the State may use any standard methodology (including narrative) mutually agreed to by FEMA and WEM. WEM has the option of using any of the three FEMA computer benefit-cost

analysis modules (the Full Data, Limited Data and Very Limited Data; recognizing that there are five different hazard-specific versions of the Full Data module) based on the availability of appropriate and accurate data. See Attachment 4, Benefit-Cost Analysis Module Section for guidance on module selection.

b. Document the benefit-cost analysis fully, including explanations of assumptions, data derivations and analytical techniques.

c. Attach benefit-cost summary sheet to Project Application Package (Attachment 1) for FEMA review.

d. Utilize a technical contractor if the need arises.

2. FEMA will:

a. Provide benefit-cost analysis module software, accompanying technical manuals and training.

b. Review benefit-cost summary sheet before approving project.

c. If the benefit-cost summary is determined to be unacceptable, provide within 15 days, a written explanation of the problems and (where possible) propose solutions to those problems.

D. ENVIRONMENTAL REVIEW

1. WEM will:

a. Coordinate with the FEMA Regional Environmental Officer (REO), Project Officer, and other State and Federal agencies during the project development process to address environmental issues.

b. Complete formal consultation required specifically of Federal agencies under Federal environmental laws other than NEPA including, but not limited to, formal endangered species consultation or historic preservation Memorandums of Agreement and Programmatic Agreements.

c. Undertake environmental review tasks (including tasks related to the National Historic Preservation Act); gather necessary environmental data through the applicant, past studies, and informal consultation with State and other Federal agencies; recommend level of review under the National Environmental Policy ACT (NEPA).

d. Complete and submit the Record of Environmental Review (RER) or EA, and all supporting documentation at the same time, or prior to, the submission of the project application.

e. Ensure that the required public notices are completed.

2. FEMA will:

a. Provide the State with a current version of the Record of Environmental Review (RER) to complete.

b. Review WEM's RER (and supporting documentation), their recommendation for level of review and make a final decision on level of NEPA review.

c. Coordinate with WEM to complete the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) for projects that do not clearly fall under the categorical exclusion (CATEX) category.

d. Prepare and/or review appropriate NEPA and other environmental documents. FEMA will either approve or request additional information within 30 business days of receipt of a project summary from WEM (State submits the environmental review along with the project application.)

e. Coordinate with the State if there is a need to utilize a technical contractor.

E. GRANT ADMINISTRATION

1. WEM will:

a. Budget for and request State Management Costs up to 10% of the available HMGP ceiling. "State Costs" Plan application will be submitted to FEMA within 30 days after the declaration.

b. Comply with the standard disaster grant agreement articles (see Attachment 2, FEMA – Disaster Grant Agreement Articles – HMGP).

c. Complete the SF-424 Application for Federal Assistance, after the disaster declaration and before the DFO closes.

d. Provide FEMA with a spreadsheet of incoming project applications after the State selection process is completed.

e. Provide a project application, benefit-cost analysis and environmental review to FEMA for each project that WEM determines meets eligibility criteria and selects for funding (Attachment 1.) Submit all project applications packages no later than 18 months after the disaster declaration.

f. Ensure the availability of the non-federal cost share by having each applicant sign the State/Local HMGP Agreement, which requires this availability.

g. Develop, if desired, a global match process to meet the non-Federal cost share. That is, WEM may credit eligible costs incurred after the date of the disaster declaration for non-Federally funded mitigation projects towards the non-Federal ~~mach~~ match for HMGP assistance for the disaster.

h. Report to FEMA on a quarterly basis the program and financial progress as required by regulation and agency policy (Attachment 2 – Article IV).

i. Conduct a final site visit for each approved project and provide closeout information to FEMA.

j. Request extensions as necessary and in accordance with the HMGP regulations.

2. FEMA will:

a. Provide WEM with the FIPS code for subgrantees.

b. Confirm receipt of the State approved HMGP project application package within 7 days.

c. Within 30 days of receipt, review the HMGP project application, benefit-cost analysis and environmental review, obligate federal amount indicated on the SF-424, and notify the State of project application approval by facsimile.

d. Initiate a joint press release within 7 days after FEMA approval of an HMGP project application.

e. Obligate funds within 15 business days after approving the project application.

f. Provide written confirmation that funds are available in the State's SMARTLINK account.

g. Obligate State Management Costs within 60 days or sooner upon submittal of application.

## IV. CONCURRENCE

This MOU will be reviewed annually or as needed, and may be amended by written agreement between the State and FEMA.

It is understood by both parties that at any time this MOU may be terminated by 30 days written notification from either party to the other.

Edward J. Gleason 10-4-00
Edward J. Gleason
Administrator
WI Division of Emergency Management

Janet Odeshoo 10/12/00
Janet Odeshoo
Acting Regional Director
FEMA Region V

Attachments
1. Project Application Package
2. Grants Management Standard Articles of Agreement
3. Eligible Types of Projects for Streamlined Review
4. Benefit-Cost Analysis Module Selection

H:GROUPS/HAZMIT/MISC/MEMORANDUM OF UNDERSTANDING

## PROJECT APPLICATION PACKAGE

1. Cover letter certifying that the WEM has reviewed the project and determines that the project is eligible for funding;

2. HMGP Project Application;

3. Record of Environmental Review (RER) or the Environmental Assessment including all coordinating agency consultation letters/memos;

4. Benefit-Cost Anlaysis.

ATTACHMENT 2
MOU HMGP MANAGING STATE

# FEDERAL EMERGENCY MANAGEMENT AGENCY
# DISASTER GRANT AGREEMENT ARTICLES
# HAZARD MITIGATION GRANT PROGRAM

## ARTICLE I.

The United States of America through the Director, Federal Emergency Management Agency (FEMA) (hereinafter referred to as the "the Grantor") or his/her delegate, agrees to grant to the State Government, through its designated agency named above (hereinafter referred to as the "the Grantee") funds in the amount specified on the obligating document, to support the Hazard Mitigation Grant Program (HMGP) authorized under the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 et seq. By signing the Memorandum of Understanding, the Grantee agrees to abide by the grant terms and conditions as set forth in this document as well as all conditions contained in the FEMA-State Agreement.

## ARTICLE II.

This agreement takes effect at the time it is executed and the obligating document is signed and remains in effect until the grant program is completed. Refer to obligating documents for funding information.

## ARTICLE III.

The following laws and regulations govern standard grant management practices and are incorporated into this Agreement by reference. Due to the nature of grant administration following Presidential declaration of a disaster or emergency, some variance from standard practice may be warranted upon determination by FEMA.

**Public Law 93-288,** as amended. Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 et seq.

**Title 44 of the Code of Federal Regulations (CFR)**

| | | |
|---|---|---|
| 44 CFR | Part 13 | Uniform administrative requirements for grants and cooperative agreements to state and local governments |
| 44CFR | Part 14 | Administration of grants: Audits of State and local governments |
| 44CFR | Part 17 | Government-wide debarment and suspension (nonprocurement) and government wide requirements for drug-free workplace (grants) |
| 44CFR | Part 18 | New restrictions on lobbying |
| 44CFR | | SUBCHAPTER B – Insurance and Hazard Mitigation |

| | |
|---|---|
| 44CFR | SUBCHAPTER C – Fire Prevention and Control |
| 44CFR | SUBCHAPTER D – Disaster Assistance |
| 44CFR | Part 7 Nondiscrimination in Federally Assisted Programs |
| OMB Circular A-110 | Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations |
| OMB Circular A-102 | Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments |
| OMB Circular A-87 | Cost Principles for State and Local Governments |
| OMB Circular A-21 | Cost Principles for Educational Institutions |
| OMB Circular A-122 | Cost Principles for Nonprofit Organizations |
| OMB Circular A-133 | Audits of States, Local Governments, and Non-Profit Organizations |

Assurances submitted with the SF 424, Application for Federal Assistance

| | |
|---|---|
| 31 CFR 205.6 | Funding techniques |

**ARTICLE IV.**

The specific terms and conditions of this agreement are as follows:

1. No transfer of funds to agencies other than those identified in the approved grant agreement shall be made without prior approval of FEMA. Grantee shall be paid using the HHS SMARTLINK System, provided Grantee maintains and complies with procedures for minimizing the time between transfer of funds from the US Treasury and disbursement by the State and subgrantees. The State should make drawdowns as close as possible to the time of making disbursements.

2. The Grantee shall submit financial and programmatic reports 30 days after the end of each Federal quarter following the initial grant award. Reporting dates are: January 30, April 30, July 30, October 30. Final reports are due 90 days after the end of the grant. The FEMA Disaster Recovery Manager (DRM) may waive the initial report if the disaster occurs too close to the end of the Federal quarter. The DRM may suspend state drawdowns if quarterly reports are not submitted on a timely basis.

3. The Grantee shall transfer to FEMA the appropriate share, based on the Federal support percentage, of any refund, rebate, credit or other amounts arising from the performance of this agreement, along with accrued interest, if any. The Grantee shall take necessary action to effect prompt collection of all monies due or which may become due and to cooperate with FEMA in any claim or suit in connection with amounts due.

4. Prior to the start of any construction activity, the Grantee shall ensure that all applicable Federal, State, and local permits and clearances are obtained including FEMA compliance with NEPA.

5. The Grantee is free to copyright any original work developed in the course of or under the agreement. FEMA reserves a royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, the work for Government purposes. Any publication resulting from work performed under this agreement shall include an acknowledgement of FEMA financial support and a statement that the publication does not necessarily reflect FEMA's views.

6. Per 44 CFR Part 13.50, when FEMA and the State have completed the agreed upon grant activities, the State shall submit a final financial status report, any required performance reports, a request to close the program, and any other required forms and certifications within 90 days of completion of grant activities. FEMA will evaluate grantee reports, perform the necessary financial reconciliation, make any necessary adjustments, and closeout the grant.

7. The grant shall be completed within four years of the disaster declaration. Written request for an extension will include information and documentation to support the amendment and a schedule for completion. No subsequent grant agreements, monetary increase amendments, or time extension amendments will be approved unless all overdue final financial or performance reports have been submitted by the Grantee to the appropriate Regional Office. Exceptions to this policy can be approved only by the FEMA Regional Director or DRM.

8. Within his/her authorities, the Governor shall ensure, through the State agency responsible for regulation of the insurance industry, that insurance companies make full payment of eligible insurance benefits for damage resulting from a disaster. The State also shall take all responsible steps to ensure that disaster victims are aware of procedures for filing insurance claims, are informed of any State procedures instituted for assisting insured disaster victims, and are aware of their responsibility to repay government assistance which is duplicated by insurance proceeds.

9. The State agrees, on its behalf and on behalf of its political subdivisions and other recipients of federal disaster assistance, to cooperate with the federal government

in seeking recovery of any funds expended as a result of fraudulent actions that contributed to those damage which resulted in a disaster declaration.

8. The certifications signed by the State on the FEMA-State Agreement relating to maintenance of a Drug-Free workplace (per 44 CFR Part 17, Subpart F) and New Restrictions on Lobbying (44 CFR Part 18) apply to this grant agreement and are incorporated by reference.

## ELIGIBLE TYPE OF PROJECTS FOR STREAMLINED REVIEW

The following list of project types is eligible for HMGP funding under this MOU. This list includes those projects and project types identified as priorities in WEM's State Hazard Mitigation Plan ("409 Plan"). The examples listed under each project type are not all inclusive.

1. **Acquisition of real property in a hazard area/physical relocation of structures from a hazard area** [subject to deed restrictions and open space requirements of the HMGP found at 206.434(d)].

2. **Elevation of structures two feet above the base flood elevation**

3. **Retrofit structures**

   Wet or dry floodproofing (according to local code/building standards, compliant with NFIP standards); high wind strengthening; application of wildfire resistant materials.

4. **Minor structural flood control measures**

   Debris basins; storm water detention basins or infiltration wells; sewer and stormwater improvement; utility mitigation; culvert upgrades; diversions; flapgates or floodgates; localized flood control system to protect critical facilities.

5. **Vegetation management**

   Natural windbreaks; living snow fences; shoreline stabilization; natural dune restoration using native vegetation and sand fencing; urban-forest practices; landslide stabilization, wildfire defensible space.

6. **Engineering, or feasibility study for complex mitigation projects that are expected to be funded and implemented**

7. **Five- percent initiative projects**

   Research and development; hazard warning systems; generators for critical facilities; hazard mitigation planning; development of codes and standards; education/public awareness programs with mitigation as central feature.

ATTACHMENT 4
MOU HMGP MANAGING STATE

## BENEFIT-COST ANALYSIS MODULE SELECTION

In doing benefit-cost analysis of proposed mitigation projects, the State may use any of the three FEMA computer modules (the Full Data, Limited Data and Very Limited Data, recognizing that there are five different hazard-specific versions of the Full Data module) or other standard, generally accepted cost-benefit methodology. The choice of the module should be based on the availability of accurate and verifiable damage/benefit data. Accurate project cost information is also required. This statement is intended only to describe the essential data needed for analysis and does not provide a complete explanation of benefit-cost methodology or tools. Additional accurate information will always increase the veracity of analysis. Consult FEMA technical manuals and guidance for further information about the modules and benefit-cost methodology.

### 1. Very Limited and Limited Data Modules

The Limited Data and Very Limited Data modules may be used when there is at least one accurate, documented relationship established between the return frequency of a given event and the damage resulting from it. For example, if it is known that a 30-year flood caused $500,000 in damage, the frequency-damage relationship is established and the LD or VLD modules may be used. Using more than one point at which this relationship is known greatly increases the accuracy of the analysis, so users are encouraged to get more than this basic information when using the LD module (the VLD module allows only one such point, and may be used only under very limited circumstances; see FEMA technical manuals and guidance). In all cases, the source of the information used to establish the frequency-damage relationship must be credible and damage information must be documented.

### 2. Full Data Module

The Full Data modules may be used when accurate information regarding hazard (probability and magnitude), vulnerability [the susceptibility of a structure to damage at various hazard intensities (flood depth, wind velocity, ground shaking, etc.)], characteristics of a structure and its contents (floor area, elevation, structure type, presence of a basement, etc.) and costs of displacement and relocation in a particular community (renting an apartment, moving contents to storage, etc.) are known. When such information is available, the Full Data module yields the most accurate result of the three modules. For this reason, this module should generally be used when relatively costly projects are being evaluated. In this case, even when accurate data is not available, users should consider making an effort to obtain it, since results are more accurate and defensible.

### 3. Standard Format

The Standard Format for determining the benefit-cost analysis is a one page spreadsheet format that calculates, based on a yearly discounted value (currently 7% per year), the present day value of the projected economic benefits over the life of the project. This format may be used for projects when the greatest mitigation benefit is life safety or when information is known about the damages the project will mitigate but those damages are not directly or indirectly flood related.

### 4. Narrative Analysis

The Narrative Analysis for determining the benefit-cost analysis is a narrative description of the benefits weighed against the costs of the project. The Narrative Analysis is used when the benefits of a project cannot be easily quantified into specific categories and thus do not conform to any of the previous formats. This allows a subjective, broad-based approach to quantifying the benefits of a project so that all benefits of the project can be recorded and the project objectively assessed.

# APPENDIX I

# HOUSEHOLD NATURAL HAZARDS PREPAREDNESS SURVEY

# Household Natural Hazards Preparedness Questionnaire

This questionnaire is designed to help gauge household preparedness for disasters and knowledge of tools and techniques that assist in reducing risk and loss from natural hazards. The questionnaire should be completed by an adult, preferably the homeowner or head of household. The information you provide will help improve public/private coordination of preparedness and risk reduction activities within your community and the state. Please take a few minutes to complete this questionnaire.

Your participation in this study is voluntary. All survey responses are strictly confidential and are for the update of the State Hazard Mitigation Plan.

## NATURAL HAZARD INFORMATION

1. In the past five years, or since you have lived in your community, have you or someone in your household experienced a natural disaster such as a severe windstorm, flood, wildfire, or other type of natural disaster?

   ☐ Yes
   ☐ No (***IF NO, skip to Question 2***)

   1.1 If ("YES") which of these natural disasters have you or someone in your household experienced? (***Please check all that apply***)

   ☐ Drought
   ☐ Tornado
   ☐ Flood
   ☐ Landslide / Erosion
   ☐ Wildfire
   ☐ Severe Windstorm
   ☐ Severe Thunderstorm (hail, lightning, wind)
   ☐ Severe Winter Storm (ice, snow, cold)
   ☐ Coastal Erosion
   ☐ Other (specify): _____

2. How concerned are you personally about the following natural disasters affecting your community? **(*Check the corresponding box for each hazard)***

| Natural Disaster | Extremely Concerned | Very Concerned | Concerned | Somewhat Concerned | Not Concerned |
|---|---|---|---|---|---|
| Drought | ☐ | ☐ | ☐ | ☐ | ☐ |
| Tornado | ☐ | ☐ | ☐ | ☐ | ☐ |
| Flood | ☐ | ☐ | ☐ | ☐ | ☐ |
| Landslide / Erosion | ☐ | ☐ | ☐ | ☐ | ☐ |
| Wildfire | ☐ | ☐ | ☐ | ☐ | ☐ |
| Severe Windstorm | ☐ | ☐ | ☐ | ☐ | ☐ |
| Severe Thunderstorm (hail, lightning, wind) | ☐ | ☐ | ☐ | ☐ | ☐ |
| Severe Winter Storm (ice, snow, cold) | ☐ | ☐ | ☐ | ☐ | ☐ |
| Coastal Erosion | ☐ | ☐ | ☐ | ☐ | ☐ |
| Other (specify:_____) | ☐ | ☐ | ☐ | ☐ | ☐ |

3. Have you ever received information about how to make your household and home safer from natural disasters?
   - ☐ Yes
   - ☐ No (***IF NO, skip to Question 4***)

   3.1. If "YES", how recently?
   - ☐ Within the last 6 months
   - ☐ Between 6 and 12 months
   - ☐ Between 1 and 2 years
   - ☐ Between 2 and 5 years
   - ☐ 5 years or more

   3.2. Who supplied the information on how to make your household and home safer from natural disasters? (***Please check only one***)
   - ☐ News media
   - ☐ Government agency
   - ☐ Insurance agent or company
   - ☐ Utility company
   - ☐ University or research institution
   - ☐ American Red Cross
   - ☐ Other non-profit organization
   - ☐ Not sure
   - ☐ Other (please specify): _____

4. Who would you most trust to provide you with information about how to make your household and home safer from natural disasters? **(*Please check all that apply*)**
   - ☐ News media
   - ☐ Government agency
   - ☐ Insurance agent or company
   - ☐ Utility company
   - ☐ University or research institution
   - ☐ American Red Cross
   - ☐ Other non-profit organization
   - ☐ Not sure
   - ☐ Other (please specify): _____

5. What is the most effective way for you to receive information about how to make your household and home safer from natural disasters? **(*Please check all that apply*)**

   *Newspapers:*
   - ☐ Newspaper stories
   - ☐ Newspaper ads

   *Television:*
   - ☐ Television news
   - ☐ Television ads

   *Radio:*
   - ☐ Radio news
   - ☐ Radio ads

   *Other methods:*
   - ☐ Schools
   - ☐ Outdoor advertisements (billboards, etc.)
   - ☐ Books
   - ☐ Mail
   - ☐ Fire Department/Rescue
   - ☐ Internet
   - ☐ Fact sheet / brochure
   - ☐ Chamber of Commerce
   - ☐ Public workshop/meetings
   - ☐ Magazine
   - ☐ University or research institution
   - ☐ Other:_____

6. Does your household have insurance coverage for flood events?
   - ☐ Yes (***If you answered YES, skip to Question 7***)
   - ☐ No

   6.1. If “NO”, what is the main reason your household does not have insurance for flood events? **(*Please check only one*)**
   - ☐ Not located in the floodplain
   - ☐ Too expensive
   - ☐ Not necessary
   - ☐ Never considered it
   - ☐ Deductibles too high/not worth it
   - ☐ Not familiar with it/ don’t know about it
   - ☐ Other, please explain _____

## NATURAL HAZARD RISK REDUCTION

Risk reduction activities are those actions you can take to protect your home from natural hazard events, such as floods or wildfires. You can do nonstructural modifications or retrofits to protect your home's contents against damage, often at minimal cost. You can also conduct structural retrofits to strengthen your home's structure or skeleton, although modifications to a structure tend to be quite involved and generally require the expertise of a registered design professional (engineer, architect or building contractor).

7. Did you consider the possible occurrence of a natural hazard when you bought/moved into your current home?
   - ☐ Yes
   - ☐ No

8. Would you be willing to spend more money on a home that had features that made it more disaster resistant?
   - ☐ Yes
   - ☐ No

9. Would you be willing to make your home more resistant to natural disasters?
   - ☐ Yes
   - ☐ No (***If you answered No, skip to Question 10***)

   9.1. How much <u>are you willing to spend</u> to better protect your home from natural disasters? ***(Check only one)***

   - ☐ Less than $100
   - ☐ $100 - $499
   - ☐ $500 - $999
   - ☐ $1000 - $2499
   - ☐ $2500 - $4999
   - ☐ $5000 and above
   - ☐ Nothing
   - ☐ Don't know
   - ☐ What ever it takes
   - ☐ Other, please explain _____

10. Which of the following incentives, if any, would motivate you to take additional steps to better protect your home from a natural disaster? (***Check all that apply***.)
    - ☐ Insurance discount
    - ☐ Low interest rate loan
    - ☐ Lower new home construction costs
    - ☐ Cost-share grant sponsored by the community or other grant source
    - ☐ Mortgage discount
    - ☐ Tax break or incentive
    - ☐ None
    - ☐ Other (please explain): _____

## COMMUNITY NATURAL HAZARD PREPAREDNESS

11. Natural hazards can have a significant impact on a community, but planning for these events can help lessen the impacts. The following statements will help determine citizen priorities for planning for natural hazards. Please tell us how important each one is to you.

| Statements | Very Important | Somewhat Important | Neutral | Not Very Important | Not Important |
|---|---|---|---|---|---|
| A. Protecting private property | ☐ | ☐ | ☐ | ☐ | ☐ |
| B. Protecting critical facilities (e.g. - transportation networks, hospitals, fire stations) | ☐ | ☐ | ☐ | ☐ | ☐ |
| C. Preventing development in hazard areas (e.g. floodplains) | ☐ | ☐ | ☐ | ☐ | ☐ |
| D. Enhancing the function of natural features (e.g. streams, wetlands) | ☐ | ☐ | ☐ | ☐ | ☐ |
| E. Protecting historical and cultural landmarks | ☐ | ☐ | ☐ | ☐ | ☐ |
| F. Promoting cooperation among public agencies, citizens, non-profit organizations, and businesses | ☐ | ☐ | ☐ | ☐ | ☐ |
| G. Protecting and reducing damage to utilities | ☐ | ☐ | ☐ | ☐ | ☐ |
| H. Strengthening emergency services (e.g.- police, fire, ambulance) | ☐ | ☐ | ☐ | ☐ | ☐ |

12. Are there any other issues regarding the reduction of risk and loss associated with natural disasters that you feel are important?

13. A number of activities can reduce your community's and state's risk from natural hazards. These activities can be regulatory or non-regulatory. An example of a regulatory activity would be a policy that limits or prohibits development in a known hazard area such as a floodplain. An example of a non-regulatory activity would be to develop a public education program to demonstrate steps citizens can take to make their homes safer from natural hazards. **Please check the box that best represents your opinion of the following strategies to reduce the risk and losses associated with natural disasters.**

| Communitywide and Statewide Strategies | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Not Sure |
|---|---|---|---|---|---|---|
| A. I support a regulatory approach to reducing risk | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| B. I support a non-regulatory approach to reducing risk | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| C. I support a mix of both regulatory and non-regulatory approaches to reducing risk | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| D. I support policies to prohibit development in areas subject to natural hazards | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| E. I support the use of local tax dollars to reduce risks and losses from natural disasters | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| F. I support protecting historical and cultural structures | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| G. I would be willing to make my home more resistant | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| H. I support steps to safeguard the local economy following a disaster event | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| I. I support improving the disaster preparedness of local schools | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |
| J. I support a local inventory of at-risk buildings and infrastructure. | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

## HAZARD MITIGATION GOALS AND OBJECTIVES

14. The Disaster Mitigation Act of 2000 (DMA 2K) required that states, local and tribal governments prepare and adopt hazard mitigation plans to be eligible for disaster funding. It mandates that the State of Wisconsin Hazard Mitigation Plan include a description of State goals to guide the selection of activities to mitigate and reduce potential losses. **Please check the box that best represents your opinion of the following to reduce the risk and losses associated with natural disasters.**

| Statements | Very Important | Somewhat Important | Neutral | Not Very Important | Not Important |
|---|---|---|---|---|---|
| A. Minimize human, economic and environmental disruption from natural hazards by encouraging agencies and citizens to use programs that strengthen disaster resistance. | ☐ | ☐ | ☐ | ☐ | ☐ |
| B. Expand public awareness of natural hazards and conduct public education about disaster resistance by offering a variety of hazard mitigation experiences. | ☐ | ☐ | ☐ | ☐ | ☐ |
| C. Encourage hazard mitigation planning by funding the development of local hazard mitigation plans. | ☐ | ☐ | ☐ | ☐ | ☐ |
| D. Support intergovernmental coordination and cooperation among federal, state and local authorities by working closely with them on hazard mitigation activities. | ☐ | ☐ | ☐ | ☐ | ☐ |
| E. Improve disaster resistance by promoting mitigation techniques for new, expanded or renovated buildings and structures. | ☐ | ☐ | ☐ | ☐ | ☐ |

## GENERAL HOUSEHOLD INFORMATION

15. Please indicate your age: _____

16. Gender:
    - ☐ Male
    - ☐ Female

17. Please indicate your level of education:
    - ☐ Grade school/no schooling
    - ☐ Some high school
    - ☐ High school graduate/GED
    - ☐ Some college/trade school
    - ☐ College degree
    - ☐ Postgraduate degree
    - ☐ Other, please specify: _____

18. Zip code: _____

19. County: _____

20. How long have you lived in Wisconsin?
    - ☐ Less than one year
    - ☐ 1-5 years
    - ☐ 5-9 years
    - ☐ 10-19 years
    - ☐ 20 years or more

21. How many people are in your household?
    - ☐ 1
    - ☐ 2
    - ☐ 3-5
    - ☐ 6-10

22. Do you have access to the Internet or World Wide Web?
    - ☐ Yes
    - ☐ No

23. Do you own or rent your home?
    - ☐ Own
    - ☐ Rent

24. Do you rent/own a:
    - ☐ Single-family home
    - ☐ Duplex
    - ☐ Apartment (3-4 units in structure)
    - ☐ Apartment (5 or more units in structure)
    - ☐ Condominium / townhouse
    - ☐ Manufactured home
    - ☐ Other _____

Please feel free to provide any additional comments in the space provided:

**THANK YOU VERY MUCH FOR PROVIDING THIS INFORMATION**

*For more information, please contact the Wisconsin Hazard Mitigation Team at (608)242-3211 or (608)242-3214*

*Mail completed form to:* *Wisconsin Emergency Management*
*P.O. Box 7865*
*Madison, WI 53707-7865*
*Fax completed form to:* *(608)242-3248*

*The original survey that served as the foundation of this survey tool was developed by the Oregon Natural Hazards Workgroup at the University of Oregon's Community Service Center. Funding was provided from the Public Entity Risk Institute www.riskinstitute.org . Reference and/or reproduction is permitted, with full credit to Oregon Natural Hazards Workgroup, Community Service Center at the University of Oregon.*

# APPENDIX J

# AUTHORITIES

# APPENDIX J

# AUTHORITIES

The Stafford Act, the federal disaster assistance law as passed by Congress in 1973 and amended in 1988, 1994 and 2000, allows for discretionary disaster assistance to states. The President of the United States has the discretion to declare a disaster and direct the Federal Emergency Management Agency (FEMA) to assist states when a disaster overwhelms a state's capability to respond and recover. The Stafford Act also allows for partial funding for state emergency management programs for disaster preparedness, response, recovery and mitigation if the state agrees to a performance contract. Title 44 of the Code of Federal Regulations, Emergency Management and Assistance, describes the administrative policies, rules and regulations governing the application of the Stafford Act and FEMA's role as a federal agency.

The federal and state legislation that addresses hazard mitigation is listed below. These are the authorities that empower Wisconsin's mitigation activities.

## FEDERAL AUTHORITIES

**Part 201 of Title 44 of the Code of Federal Regulations, Mitigation Planning:** Sections 201.1 through 201.7 describe the policies and procedures for state, local, and tribal all hazards mitigation planning as required by the provisions of section 322 of the Stafford Act. These sections require that state and local governments and tribal organizations to develop hazard mitigation plans to qualify for continued receipt of federal disaster assistance.

**Section 203 of Title 44 of the Code of Federal Regulations, Pre-Disaster Mitigation:** Established a pre-disaster mitigation program to provide funding for cost-effective hazard mitigation measures to states and local governments.

**Subpart N of Section 206 of Title 44 of the Code of Federal Regulations, Hazard Mitigation Grant Program:** Sections 206.430 through 206.440 describe the requirements for implementing the Hazard Mitigation Grant Program at the state level.

**Subpart H of Section 206 of Title 44 of the Code of Federal Regulations, Public Assistance Eligibility:** Section 206,226(e) allows cost effective hazard mitigation measures as in allowable cost in restoration projects.

**Part 79 of Title 44 of the Code of Federal Regulations, Flood Mitigation Grants:** The purpose of this part is to prescribe actions, procedures, and requirements for administration of the hazard mitigation grant programs made available under the National Flood Insurance Act of 1968, as amended, and the Flood Disaster Protection Act of 1973, as amended, 42 U.S.C. 4001 *et seq.* The Severe Repetitive Loss (SRL)

and Flood Mitigation Assistance (FMA) grant programs mitigate losses from floods, minimizing impacts to the National Flood Insurance Fund (NFIF).

**Part 80 of Title 44 of the Code of Federal Regulations, Property Acquisition and Relocation for Open Space:** This part provides guidance on the administration of FEMA mitigation assistance for projects to acquire property for open space purposes under all FEMA hazard mitigation assistance programs. It provides information on the eligibility and procedures for implementing projects for acquisition and relocation of at-risk properties from the hazard area to maintain the property for open space purposes.

## STATE AUTHORITIES

**Wisconsin State Statute, Chapter 166** (Emergency Management): Authorizes and establishes the organization for state and local emergency management programs, which are charged with the responsibility to the state and its subdivisions to cope with natural and technological disasters. Includes authorization for Wisconsin Emergency Management to require satisfactory completion of an annual plan of work from local county emergency management directors in return for receiving partial funding from the state for local emergency management positions.

**Wisconsin Statutes, Chapter 87:** Authorizes the Wisconsin Department of Natural Resources to construct, maintain and alter flood control structures.

**Wisconsin Administrative Rules, NR 115:** Establishes minimum shoreland protection rules.

**Wisconsin Administrative Rules, NR 116:** Describes the Wisconsin Department of Natural Resources Floodplain Management Program. Section 87.30 Wisconsin Statutes requires communities to zone their flood hazard areas in accordance with minimum statewide standards that are established in NR 116.

**Wisconsin Administrative Rules, NR 117:** Describes the Wisconsin Department of Natural Resources minimum statewide standards for how local communities zone their shorelands and wetlands.

**Wisconsin Administrative Rules, NR 199:** The Municipal Flood Control and Riparian Restoration Program provides grants to local governments to minimize flooding and flood-related damages by acquiring property, floodproofing structures, creating open-space flood storage areas, constructing flood control structures and restoring the flood-carrying capacity and natural and beneficial functions of watercourses.

**Governor's Executive Order 67:** Requires all state actions affecting construction of any structure or facility to be consistent with and obey state statutes regulating floodplains, wetlands, erosion and shoreland management.

**Governor's Executive Order 73:** Requires flood mitigation for state owned or leased property and otherwise prohibits state government buildings from being built in a 100-year floodplain for most facilities or the 500-year floodplain for critical facilities.

**Wisconsin Building Codes:** Wisconsin Administrative Code Comm. 61 to 65 includes the Wisconsin Enrolled Commercial Building Code and the adopted provisions of the International Code Council codes: International Building Code, International Energy Conservation Code, International Mechanical Code, and the International Fuel Gas Code. Wisconsin Administrative Code Comm. 20 and 21 includes the State's Uniform Dwelling Code (UDC) for one and two-family dwellings.

**Home Safety Act of 2003:** Requires the UDC be enforced in all municipalities and requires that new construction be inspected for code compliance.

**Wisconsin State Statute 66.1001, Comprehensive Planning Law:** After January 1, 2010, communities are required to have a comprehensive plan if they want to make land use decisions. All community programs and actions that affect land use must be guided by, and consistent with, the community's comprehensive plan.

**State of Wisconsin Administrative Plan for the Hazard Mitigation Grant Program:** Describes Wisconsin Emergency Management's policies and guidelines for administering the HMGP portion of disaster assistance funds in accordance with Subpart N of Section 206 of Title 44 CFR.

**Wisconsin State Statute, Chapter 31:** Ensures that dams are safely built, operated and maintained. NR 333 provides design and construction standards for large dams and requires all large dams to have Emergency Action Plans (EAP). EAPs identify potential emergency conditions at a high hazard dam and prescribe procedures to be followed to eliminate the loss of life and minimize property damage. NR 335 covers the administration of the Municipal Dam Repair and Removal Grant Program. DNR is responsible for administration of these regulations.

**Wisconsin State Statutes 917 and 1997 Wisconsin Act 27:** Provides Forest Fire Protection Grants to increase forest fire protection and suppression capabilities through cooperative efforts with local fire departments. Priority factors include 1) whether the fire departments serve areas that are part of a forest fire control area; 2) fire departments respond to wild fires within their jurisdiction at no cost to the DNR; and 3) fire departments with a majority of members meeting NFPA 1051 standards for wildland fire fighting training. Municipal fire departments that have executed a forest fire suppression agreement acceptable to the DNR are eligible to apply. There is a 50% local match required. Eligible fire departments can receive a maximum grant award of $10,000. Eligible county fire associations can receive a maximum grant award of $25,000.

**2007 Wisconsin Act 347**: 2005 Wisconsin Act 347 directs the department to implement a maintenance reporting program for private onsite wastewater treatment systems,

POWTS. This program includes activities undertaken by governmental units (counties) to insure compliance with POWTS maintenance requirements.

**2007 Wisconsin Act 205**: Under the nonstatutory provisions of 2007 Wisconsin Act 205, the Department of Commerce was directed to issue emergency rules that implement provisions of the Act. The Act specifically states: “Notwithstanding section 227.24 (1) (a) and (3) of the statutes, neither the department of commerce or the department of health services is required to provide evidence that promulgating rules under this subsection as emergency rules is necessary for the preservation of the public peace, health, safety, or welfare and is not required to provide a finding of emergency for the rules promulgated under this subsection.” The Act mandates the installation and maintenance of carbon monoxide alarms in buildings accommodating certain types of residential occupancies and within which fuel burning appliances are located.

**2007 Wisconsin Act 63**: Requires the Department of Commerce to establish a state electrical wiring code, generally requires electricians to be licensed and registered, and provides for electrical construction inspections of all buildings, including private homes.

# APPENDIX K

# ACRONYMS

# APPENDIX K

## ACRONYMS

| | |
|---|---|
| ADA | American Disabilities Act |
| ASFPM | Association of State Floodplain Managers |
| BCA | Benefit Cost Analysis |
| BCR | Benefit Cost Ratio |
| CATEX | Categorical Exclusion |
| CDBG | Community Development Block Grant |
| CFR | Code of Federal Regulations |
| COMM | Department of Commerce |
| CRS | Community Rating System |
| DAE | Disaster Assistance Employee |
| DATCP | Department of Agriculture, Trade and Consumer Protection |
| DFO | Disaster Field Office |
| DHFS | Department of Health and Family Services |
| DMA2K | Disaster Mitigation Act of 2000 |
| DNR | Department of Natural Resources |
| DOA | Department of Administration |
| DOB | Department of Benefits |
| DOT | Department of Transportation |
| DRM | Disaster Recovery Manager |
| DSR | Damage Survey Report |
| EA | Environmental Assessment |
| EDA | Economic Development Administration |
| EIS | Environmental Impact Statement |
| EMR | Emergency Minimal Repair |
| EOC | Emergency Operations Center |
| FCO | Federal Coordinating Officer |
| FEMA | Federal Emergency Management Agency |
| FIA | Flood Insurance Administration |
| FIRM | Flood Insurance Rate Map |
| FIS | Flood Insurance Study |
| FMA | Flood Mitigation Assistance |
| FMO | Financial Management Officer |
| GIS | Geographic Information System |
| HAZUS | |
| HMPG | Hazard Mitigation Grant Program |
| HMTAP | Hazard Mitigation Technical Assistance Program |
| HUD | Housing and Urban Development |
| IA | Individual Assistance |
| IAO | Individual Assistance Officer |
| IAP | Incident Action Plan |
| IBC | International Building Code |
| ICC | Increased Cost of Compliance |

| | |
|---|---|
| ICS | Incident Command System |
| IDRG | Interagency Disaster Recovery Group |
| LCA | Local Capability Assessment |
| MMSD | Milwaukee Metropolitan Sewage District |
| MOU | Memorandum of Understanding |
| MRRPC | Mississippi River Regional Planning Commission |
| NEMIS | National Emergency Management Information System |
| NEPA | National Environmental Policy Act |
| NFIP | National Flood Insurance Program |
| NFIRA | National Flood Insurance Reform Act |
| NRCS | Natural Resources Conservation Service |
| OCI | Office of Commissioner of Insurance |
| OMB | Office of Management and Budget |
| PA | Public Assistance |
| PAO | Public Assistance Officer |
| PDA | Preliminary Damage Assessment |
| PDM | Pre-Disaster Mitigation |
| PDM-C | Pre-Disaster Mitigation Competitive |
| PSC | Public Service Commission |
| REO | Regional Environmental Officer |
| RER | Record for Environmental Review |
| RFC | Repetitive Flood Claims |
| RLP | Repetitive Loss Property |
| RLR | Repetitive Loss Report |
| RPC | Regional Planning Commission |
| SARWG | State Agency Resource Working Group |
| SCA | State Capability Assessment |
| SFHA | Special Flood Hazard Area |
| SHMO | State Hazard Mitigation Officer |
| SHMP | State Hazard Mitigation Plan |
| SHMT | State Hazard Mitigation Team |
| SHS | State Historical Society |
| SRL | Severe Repetitive Loss |
| UDC | Uniform Dwelling Code |
| USDA | U. S. Department of Agriculture |
| UW-EXT | University of Wisconsin – Extension |
| WAFSCM | Wisconsin Association for Floodplain, Stormwater and Coastal Managers |
| WEM | Wisconsin Emergency Management |
| WHMT | Wisconsin Hazard Mitigation Team |
| WIHRO | Wisconsin Interagency Hazard Mitigation Recovery Office |
| WIVOAD | Wisconsin Volunteer Organizations Active in Disasters |

# APPENDIX L

# AGENCY CONCURRENCES

## STATEMENT OF ADOPTION

State of Wisconsin Hazard Mitigation Plan

In order for Wisconsin to continue to be eligible for federal disaster assistance funding, Wisconsin Emergency Management (WEM) is required to update the State of Wisconsin Hazard Mitigation Plan every three years. The Plan was initially approved by FEMA and published by WEM as a Standard State Hazard Mitigation Plan on March 9, 2005, upgraded to an Enhanced Plan on December 14, 2005. The Plan has now been updated in 2008 to be submitted as a Standard State Hazard Mitigation Plan with SRL amendments that will qualify Wisconsin for federal hazard mitigation grant funds, public assistance funds, and a more favorable cost share under the SRL and Flood Mitigation Assistance programs.

The Plan is a comprehensive description of the State's commitment to reduce or eliminate the impacts of disasters cause by natural hazards, and is a federal requirement under the Disaster Mitigation Act of 2000 for the State of Wisconsin to receive federal funds for disaster recovery and mitigation. The Plan is coordinated and maintained by Wisconsin Emergency Management, but is the culmination of input and recommendations from numerous stakeholders from local, state and federal government agencies, private sector organizations, and residents of Wisconsin.

In adopting the Plan, the State of Wisconsin agrees to comply with all applicable state and federal statutes and regulations, as stipulated in previously documented assurances, and will update the plan at least every three years. The Plan has been amended to reflect emerging hazard conditions and risks as well as new or revised state and federal statutes and regulations. Future amendments will also reflect changes to State organization or policy as appropriate.

As the Administrator for Wisconsin Emergency Management and the Governor's Authorized Representative, I the undersigned do hereby formally adopt the State of Wisconsin Hazard Mitigation Plan 2008 Update for the State of Wisconsin.

Signature:

Johnnie L. Smith

Date: December 4, 2008

JOHNNIE L. SMITH, Administrator
Governor's Authorized Representative
Wisconsin Emergency Management

## State Agency Concurrence
## Of the State of Wisconsin Hazard Mitigation Plan

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin Department of Agriculture, Trade and Consumer Protection will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.2
1.9
2.7
4.13

Mr. Rod Nilsestuen, Secretary
Wisconsin Department of Agriculture, Trade and Consumer Protection

12-15-08
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Department of Administration will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.2
2.11
3.1
3.2
3.12
3.16
3.19
4.1
4.9
4.10
4.11
4.12
4.13

Michael D. Morgan FOR

Mr. Michael Morgan, Secretary
Department of Administration

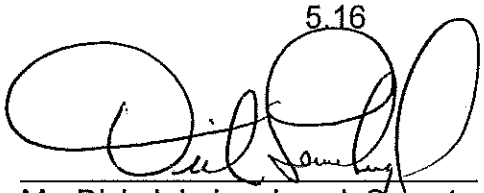
12/15/08
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Department of Commerce will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.1
2.11
2.13
4.24
4.27
4.28
4.29
5.1
5.2
5.3
5.4
5.8
5.9
5.10
5.11
5.12
5.13
5.14
5.15
5.16



Mr. Dick J. Leinenkugel, Secretary
Department of Commerce

Nov 26, 2008
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin Department of Health Services will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
1.11
2.3
2.4
2.11
3.3

Karen E. Timberlake

Ms. Karen E. Timberlake, Secretary
Wisconsin Department of Health Services

12/19/2008

Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Department of Natural Resources will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.6
1.9
1.10
2.5
2.10
2.11
4.2
4.3
4.15
4.16
4.17
4.19
4.20

Clara Ellen Vallbrecht

fo Mr. Matthew Frank, Secretary
Department of Natural Resources

12-01-2008
Date

RECEIVED
DEC 08 2008

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin Office of Commissioner of Insurance will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.11
4.5

Mr. Sean Dilweg, Commissioner
Office of Commissioner of Insurance

11/26/08
Date

Johnnie S



**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Public Service Commission of Wisconsin will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.6
2.11
5.5
5.6

Mr. Eric Callisto, Chair
Public Service Commission of Wisconsin

11/26/08
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin Department of Transportation will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.11
4.4

Frank J. Busalacchi
Mr. Frank Busalacchi, Secretary
Wisconsin Department Transportation

11/25/08
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The University of Wisconsin-Extension will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.8
1.9
2.11
3.6

Mr. David Wilson, Chancellor
University of Wisconsin-Extension

11/21/08
Date

**State Agency Concurrence**
**Of the State of Wisconsin Hazard Mitigation Plan**

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin State Historical Society will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.9
2.11
3.4
4.6

Ellsworth H. Brown

Mr. Ellsworth H. Brown, Director
Wisconsin State Historical Society

11/25/09
Date

## State Agency Concurrence
## Of the State of Wisconsin Hazard Mitigation Plan

The undersigned has reviewed and concurs that the State of Wisconsin Hazard Mitigation Plan is a working document that will improve Wisconsin's ability to minimize the effects of natural hazards and resist disaster, thereby protecting the health, safety, and economy of its citizens. As a member of the Wisconsin Hazard Mitigation Team, we have contributed in the development of the plan and will continue to implement the actions outlined therein. The agency will provide support and participate in plan updates as well as after each federal disaster declaration.

The Wisconsin Emergency Management will implement the following hazard mitigation recommendations detailed in Section 5:

Recommendation: 1.1
1.3
1.4
1.5
1.8
1.9
2.7
2.8
2.9
2.11
2.12
2.14
2.15
3.5
3.7
3.8
3.9
3.10
3.11
3.13
3.14
3.15
3.16
3.17
3.18

4.7
4.8
4.14
4.17
4.18
4.19
4.20
4.21
4.22
4.23
4.25
4.26
5.7
5.17

Johnnie L. Smith, Administrator
Wisconsin Emergency Management

11-20-08
Date

# APPENDIX M

# STANDARD
# STATE HAZARD MITIGATION PLAN
# REVIEW CROSSWALK

## Standard State Hazard Mitigation Plan Review and Approval Status

| | |
|---|---|
| **State Point of Contact:**<br>**Ms. Roxanne Gray** | **Address:**<br>**WEM**<br>**2400 Wright St – P.O. Box 7865**<br>**Madison, WI 53707** |
| **Title:**<br>**State Hazard Mit Officer** | |
| **Agency:**<br>**Wisconsin Emergency Management** | |
| **Phone Number:**<br>**608-242-3211** | **E-Mail: roxanne.gray@wisconsin.gov** |

| | | |
|---|---|---|
| **FEMA Reviewer:** Catrina Covino / Jonathan (J.P.) Marsch | **Title:** Mitigation Planning Specialists | **Date:** December 3, 2008 (Review Complete) |
| **Date Received in FEMA Region [Insert #]** | 11/19/2008 | |
| **Plan Not Approved** | | |
| **Plan Approved** | ***Awaiting Official Approval Date*** | |
| **Date Approved** | | |

## STANDARD STATE HAZARD MITIGATION PLAN SUMMARY CROSSWALK

The plan cannot be approved if the plan has not been formally adopted.

Each requirement includes separate elements. All elements of the requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a score of "Satisfactory." Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. A "Needs Improvement" score on elements shaded in gray (recommended but not required) will not preclude the plan from passing. Reviewer's comments must be provided for requirements receiving a **"Needs Improvement"** score.

**SCORING SYSTEM**

Please check one of the following for each requirement.

**N – Needs Improvement:** The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

**S – Satisfactory:** The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

| Prerequisite | NOT MET | MET |
|---|---|---|
| Adoption by the State: §201.4(c)(6) and §201.4(c)(7) | X | |

| Planning Process | N | S |
|---|---|---|
| Documentation of the Planning Process: §201.4(c)(1) | | X |
| Coordination Among Agencies: §201.4(b) | | X |
| Program Integration: §201.4(b) | | X |

| Risk Assessment | N | S |
|---|---|---|
| Identifying Hazards: §201.4(c)(2)(i) | | X |
| Profiling Hazards: §201.4(c)(2)(i) | | X |
| Assessing Vulnerability by Jurisdiction: §201.4(c)(2)(ii) | | X |
| Assessing Vulnerability of State Facilities: §201.4(c)(2)(ii) | | X |
| Estimating Potential Losses by Jurisdiction: §201.4(c)(2)(iii) | | X |
| Estimating Potential Losses of State Facilities: §201.4(c)(2)(iii) | | X |

| Mitigation Strategy | N | S |
|---|---|---|
| Hazard Mitigation Goals: §201.4(c)(3)(i) | | X |
| State Capability Assessment: §201.4(c)(3)(ii) | | X |
| Local Capability Assessment: §201.4(c)(3)(ii) | | X |
| Mitigation Actions: §201.4(c)(3)(iii) | | X |
| Funding Sources: §201.4(c)(3)(iv) | | X |

| Coordination of Local Mitigation Planning | N | S |
|---|---|---|
| Local Funding and Technical Assistance: §201.4(c)(4)(i) | | X |
| Local Plan Integration: §201.4(c)(4)(ii) | | X |
| Prioritizing Local Assistance: §201.4(c)(4)(iii) | | X |

**Severe Repetitive Loss Mitigation Strategy**
*(only required for 90/10 under FMA & SRL)*

| | N | S |
|---|---|---|
| Repetitive Loss Mitigation Strategy: §201.4(c)(3)(v) | | X |
| Coordination with Repetitive Loss Jurisdictions §201.4(c)(3)(v) | | X |

| Plan Maintenance Process | N | S |
|---|---|---|
| Monitoring, Evaluating, and Updating the Plan: §201.4(c)(5)(i) | | X |
| Monitoring Progress of Mitigation Activities: §201.4(c)(5)(ii) and (iii) | | X |

**STANDARD STATE HAZARD MITIGATION PLAN APPROVAL STATUS**

| | |
|---|---|
| **PLAN NOT APPROVED** | |
| **PLAN APPROVED *Awaiting Official Approval Date*** | X |

**See Reviewer's Comments**

## PREREQUISITE

### Adoption by the State

***Requirement §201.4(c)(6):*** *The plan **must** be formally adopted by the State prior to submittal to [FEMA] for final review and approval.*

***Requirement §201.4(c)(7):*** *The plan **must** include assurances that the State will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c). The State will amend its plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d).*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE NOT MET | SCORE MET |
|---|---|---|---|---|
| A. Has the State formally adopted the **new or updated** plan? | Fax rec'vd on 12/4/08 | Plan adopted by Governor's Authorized Representative | | X |
| B. Does the plan provide assurances that the State will **continue to** comply with all applicable Federal statutes and regulations during the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c), and will amend its plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d)? | P. 1-4 | | | X |
| | | SUMMARY SCORE | | X |

## PLANNING PROCESS: *§201.4(b): An effective planning process is essential in developing and maintaining a good plan.*

### Documentation of the Planning Process

***Requirement §201.4(c)(1):*** *[The State plan **must** include a] description of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how other agencies participated.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the plan provide a narrative description of how the **new or updated** plan was prepared? | P. 2-4 to 2-5 | The plan update narrative incorporates the original plan preparation. While the overall picture of the history of the plan from 1993 to now is clear, the specific plan update information for the current 2005-2008 plan could be expanded on.<br>*Recommended Revision:*<br>Remove the past planning narrative to make the plan less complicated. Expand on the description of how the plan update was prepared. | | X |
| B. Does the **new or updated** plan indicate who was involved in the **current** planning process? | P. 2-6 to 2-7, 2-9 to 2-10 | | | X |
| C. Does the **new or updated** plan indicate how other agencies participated in the **current** planning process? | P. 2-9 to 2-15 | | | X |

| | | | | |
|---|---|---|---|---|
| **D. Does the updated plan document how the planning team reviewed and analyzed each section of the plan?** | P. 2-5, 2-9 to 2-12; Exec. Summary p. iv-v | The plan states that the review of each section occurred, but does not discuss the criteria that were used to determine whether or not a section of the plan required an update. *Recommended Revision:* Discuss how the team reviewed and analyzed each section of the plan. | | X |
| **E. Does the updated plan indicate for each section whether or not it was revised as part of the update process?** | Executive Summary p. iv | Well-described | | X |
| | | SUMMARY SCORE | | X |

Coordination Among Agencies

***Requirement §201.4(b):*** *The [State] mitigation planning process* ***should*** *include coordination with other State agencies, appropriate Federal agencies, interested groups, and … .*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe how Federal and State agencies were involved in the **current** planning process? | P. 2-9 to 2-15 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| B. Does the **new or updated** plan describe how interested groups (e.g., businesses, non-profit organizations, and other interested parties) were involved in the **current** planning process? | P. 2-13 to 2-15 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| **C. Does the updated plan discuss how coordination among Federal and State agencies changed since approval of the previous plan?** | P. 2-5 to 2-7; 2-8 to 2-9 | Wisconsin Recovery Task Force formed in 2008. The plan does not indicate if any agencies dropped out of the plan process, it is assumed they remained from 2005 to 2008, in addition to new participation. | | X |
| | | SUMMARY SCORE | | X |

Program Integration

***Requirement §201.4(b):*** *[The State mitigation planning process* ***should****] be integrated to the extent possible with other ongoing State planning efforts as well as other FEMA mitigation programs and initiatives.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe how the State mitigation planning process is integrated with other ongoing State planning efforts? | P. 2-15 to 2-18 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| B. Does the **new or updated** plan describe how the State mitigation planning process is integrated with FEMA mitigation programs and initiatives? | Section 3, p. 2-15 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* Covers planning and other grants, ESF-14 | | X |
| | | SUMMARY SCORE | | X |

RISK ASSESSMENT: *§201.4(c)(2): [The State plan must include a risk assessment] that provides the factual basis for activities proposed in the strategy portion of the mitigation plan. Statewide risk assessments must characterize and analyze natural hazards and risks to provide a statewide overview. This overview will allow the State to compare potential losses throughout the State and to determine their priorities for implementing mitigation measures under the strategy, and to prioritize jurisdictions for receiving technical and financial support in developing more detailed local risk and vulnerability assessments.*

## Identifying Hazards

***Requirement §201.4(c)(2)(i):*** *[The State risk assessment **shall** include an] overview of the type … of all natural hazards that can affect the State … .*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan provide a description of the type of **all natural hazards** that can affect the State? If the hazard identification omits (without explanation) any hazards commonly recognized as threats to the State, this part of the plan cannot receive a Satisfactory score. | P. 4-1; p. 4-4 to 4-7 | Plan includes: Floods, tornadoes and high winds, wildfire, coastal erosion, dam failure, drought, earthquake, extreme heat, hail, landslide, land subsidence, lightning, severe thunderstorm and severe winter storms.<br><br>The explanation and tables to rank the hazards on p.4-4 to 4-7, and to explain the level of detail is very well done. | | X |
| | | SUMMARY SCORE | | X |

## Profiling Hazards

***Requirement §201.4(c)(2)(i):*** *[The State risk assessment **shall** include an overview of the] location of all natural hazards that can affect the State, including information on previous occurrences of hazard events, as well as the probability of future hazard events, using maps where appropriate … .*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the risk assessment identify the **location** (i.e., geographic area affected) of each natural hazards addressed in the **new or updated** plan? | P. 4-14 to 4-168 | Covered in text, tables and maps. Great use of maps in this section. | | X |
| B. Does the **new or updated** plan provide information on **previous occurrences** of each hazard addressed in the plan? | P. 4-14 to 4-168 | Excellent job in updating previous occurrences since 2005!! Very thorough event descriptions and details. | | X |
| C. Does the **new or updated** plan include the **probability of future events** (i.e., chance of occurrence) for each hazard addressed in the plan? | P. 4-14 to 4-168 | | | X |
| | | SUMMARY SCORE | | X |

## Assessing Vulnerability

***Requirement §201.4(c)(2)(ii):*** *[The State risk assessment **shall** include an] overview and analysis of the State's vulnerability to the hazards described in this paragraph (c)(2), based on estimates provided in local risk assessments as well as the State risk assessment. The State **shall** describe vulnerability in terms of the jurisdictions most threatened by the identified hazards, and most vulnerable to damage and loss associated with hazard events. State owned critical or operated facilities located in the identified hazard areas shall also be addressed … .*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development…***

### Assessing Vulnerability by Jurisdiction

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe the State's vulnerability based on estimates provided in local risk assessments as well as the State risk assessment? | Section 4.2; Section 4.5 | County by county information is comprehensive. | | X |
| B. Does the **new or updated** plan describe the State's vulnerability in terms of the jurisdictions most threatened and most vulnerable to damage and loss associated with hazard event(s)? | Section 4.2; Section 4.5 | Ranking of Top 12 Counties' Losses for each of the hazards in table format is effective. | | X |
| **C. Does the updated plan explain the process used to analyze the information from the local risk assessments, as necessary?** | Section 4.5: P. 4-226 to 4-332 | 15 focus counties assessed | | X |
| **D. Does the updated plan reflect changes in development for jurisdictions in hazard prone areas?** | P. 3-25, Table 5.3; p.4-8 | | | X |
| | | SUMMARY SCORE | | X |

### Assessing Vulnerability of State Facilities

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe the types of State owned or operated critical facilities located in the identified hazard areas? | Section 4.3; Sec. 5-6 | The Statewide critical facility project is ongoing. Data remains the same from 2005 plan. The new section will be added to the plan once completed. | | X |
| | | SUMMARY SCORE | | X |

### Estimating Potential Losses

***Requirement §201.4(c)(2)(iii):*** *[The State risk assessment **shall** include an] overview and analysis of potential losses to the identified vulnerable structures, based on estimates provided in local risk assessments as well as the State risk assessment. The State **shall** estimate the potential dollar losses to State owned or operated buildings, infrastructure, and critical facilities located in the identified hazard areas.*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development…***

### Estimating Potential Losses by Jurisdiction

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan present an overview and analysis of the potential losses to the identified vulnerable structures? | Sections 4.2, 4.3, 4.5 | Well done for tornado, flood, wildfire. Shoreline flood loss estimates seem a bit high. Not sure whether it was necessary to assess the ¼ to ½ mile shoreline zone for hazards.<br>*Recommended Revision:*<br>May want to re-address methodology for shoreline flood. | | X |

| | | | | |
|---|---|---|---|---|
| B. Are the potential losses based on estimates provided in local risk assessments as well as the State risk assessment? | Section 4.5 | The plan only uses a sample of local risk assessments, which works. Consider using more local plans in future plans. | | X |
| **C. Does the updated plan reflect the effects of changes in development on loss estimates?** | P. 4-8, Section 4.2 for each hazard | Addressed primarily under 4.2 and each hazard's "Future Growth and Development Considerations" | | X |
| | | SUMMARY SCORE | | X |

Estimating Potential Losses of State Facilities

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan present an estimate of the potential dollar losses to State owned or operated buildings, infrastructure, and critical facilities in the identified hazard areas? | Section 4.3 | Losses given from 2005. Future update will included updated losses. | | X |
| | | SUMMARY SCORE | | X |

MITIGATION STRATEGY: *§201.4(c)(3) [To be effective the plan must include a] Mitigation Strategy that provides the State's blueprint for reducing the losses identified in the risk assessment.*

Hazard Mitigation Goals

***Requirement §201.4(c)(3)(i):*** *[The State mitigation strategy **shall** include a] description of State goals to guide the selection of activities to mitigate and reduce potential losses.*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities…***

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan provide a description of State mitigation **goals** that guide the selection of mitigation activities? | P. 5-1 | | | X |
| **B. Does the updated plan demonstrate that the goals were assessed and either remain valid or have been revised?** | P. 5-1, Section 5-6 | The plan states that 2 of the goals have been revised. | | X |
| | | SUMMARY SCORE | | X |

State Capability Assessment ***Requirement §201.4(c)(3)(ii):*** *[The State mitigation strategy **shall** include a] discussion of the State's pre-and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: an evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas [and] a discussion of State funding capabilities for hazard mitigation projects … .*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan include an evaluation of the State's **pre-disaster** hazard management policies, programs, and capabilities? | Table 5.1, 5.2, Section 5.4, P. 5-13 to 5-15 | Tables have wealth of info on state agency responsibilities. | | X |
| B. Does the **new or updated** plan include an evaluation of the State's **post-disaster** hazard management policies, programs, and capabilities? | Section 2.3; 5.4, P. 5-13 to 5-15; Table 5.1, 5.2 | Post disaster work through the Wisconsin Hazard Mitigation Team (WHMT) and Wisconsin Recovers Task Force (WTRF). Information on post-disaster activities is scattered throughout Section V, but not as clearly as the pre-disaster mgmt. policies, programs, etc.<br>*Recommended Revision:*<br>Include a separate section labeled as post-disaster mgmt policies, programs, etc. | | X |
| C. Does the **new or updated** plan include an evaluation of the State's policies related to **development in hazard prone areas**? | Table 5.3 | Policies shown and discussed in Table 5.3 "Local capability assessment". Good evaluation of current policies.<br><br>**NOTE:** *It is not certain that all the info in Table 5.3 refers to a "Local Capability Assessment" There is very good info on state land use policy and regulations and their effects on mitigation, but doesn't exactly fit to illustrate how local communities can mitigate their hazards.* | | X |
| D. Does the **new or updated** plan include a discussion of State **funding capabilities** for hazard mitigation projects? | Throughout Section 5: 5-55 to 5-56, Tables 5.1, 5.2 | Very thorough. | | X |
| **E. Does the updated plan address any hazard management capabilities of the State that have changed since approval of the previous plan?** | Table 5.1; p.5-55 to 5-56 | It is not fully clear which capabilities did change in Table 5.1 from 2005.<br>*Recommended Revision:*<br>Table 1 should include a column or asterisk noting a change in capabilities from 2005 to 2008" | | X |
| | | SUMMARY SCORE | | X |

Local Capability Assessment

***Requirement §201.4(c)(3)(ii):*** *[The State mitigation strategy **shall** include] a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan present a general description of | p.4-228; p.5-2 to | Plan provides a sample of 15 counties and general capability | | X |

| | | | | |
|---|---|---|---|---|
| the local mitigation policies, programs, and capabilities? | 5-12. P. 5-16 to 5-17; Section 3 | assessment of local communities. | | |
| B. Does the **new or updated** plan provide a general analysis of the effectiveness of local mitigation policies, programs, and capabilities? | p.5-2 to 5-12. P. 5-16 to 5-17; Table 5.3; 5-55 and 5-56. | Analysis on effectiveness of local policies, programs, and capabilities is included, though scattered throughout Section 5 | | X |
| | | SUMMARY SCORE | | X |

## Mitigation Actions

***Requirement §201.4(c)(3)(iii):*** *[State plans **shall** include an] identification, evaluation, and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering and an explanation of how each activity contributes to the overall mitigation strategy. This section **should** be linked to local plans, where specific local actions and projects are identified.*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities…***

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan identify cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering? | Section 5-6: 5-17 to 5-48 | Well-organized, and documented with "2008 update" for each action. | | X |
| B. Does the **new or updated** plan evaluate these actions and activities? | P. 5-49 to 5-51 | | | X |
| C. Does the **new or updated** plan prioritize these actions and activities? | P. 5-49 to 5-51 | | | X |
| D. Does the **new or updated** plan explain how each activity contributes to the overall State mitigation strategy? | P. 5-17 to 5-48 | | | X |
| E. Does the mitigation strategy **in the new or updated** section reflect actions and projects identified in local plans? | P. 5-2 to 5-3; 5-5 through 5-12 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| | | SUMMARY SCORE | | X |

## Funding Sources

***Requirement §201.4(c)(3)(iv):*** *[The State mitigation strategy **shall** include an] identification of current and potential sources of Federal, State, local, or private funding to implement mitigation activities.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan identify **current** sources of Federal, State, local, or private funding to implement mitigation | Section 3; Section 5; Table | | | X |

| | | | | |
|---|---|---|---|---|
| activities? | 5.1; P. 5-13 to 5-15 | | | |
| B. Does the **new or updated** plan identify **potential** sources of Federal, State, local, or private funding to implement mitigation activities? | Section 3; Sect 5; Table 5.2; P. 5-13 to 5-15 | | | X |
| **C. Does the updated plan identify the sources of mitigation funding used to implement activities in the mitigation strategy since approval of the previous plan?** | Section 3; Sect. 5: p.5-17 to 5-48 | | | X |
| | | SUMMARY SCORE | | X |

## COORDINATION OF LOCAL MITIGATION PLANNING

### Local Funding and Technical Assistance

***Requirement §201.4(c)(4)(i):*** *[The section on the Coordination of Local Mitigation Planning* ***must*** *include a] description of the State process to support, through funding and technical assistance, the development of local mitigation plans.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan provide a description of the State process to support, through funding and technical assistance, the development of local mitigation plans? | Section 6; Section 3 | Very detailed | | X |
| **B. Does the updated plan describe the funding and technical assistance the State has provided in the past three years to assist local jurisdictions in completing approvable mitigation plans?** | Section 6, P. 6-9 to 6-11; Section 3 | | | X |
| | | SUMMARY SCORE | | X |

### Local Plan Integration

***Requirement §201.4(c)(4)(ii):*** *[The section on the Coordination of Local Mitigation Planning* ***must*** *include a] description of the State process and timeframe by which the local plans will be reviewed, coordinated, and linked to the State Mitigation Plan.*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities…***

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan provide a description of the **process and timeframe** the State established to **review** local plans? | P. 6-8 | Goal is 45 days to review a plan and submit to FEMA. | | X |
| B. Does the **new or updated** plan provide a description of the **process and timeframe** the State established to **coordinate and** | Section 4.5.1, Section 5.5 | The plan focuses on 15 out of 49 approved local hazard mitigation plans. The plan discusses the process, but not the | | X |

| | | | | |
|---|---|---|---|---|
| **link** local plans to the State Mitigation Plan? | | timeframe for incorporating all approved local plans into the state plan.<br>*Recommended Revision:*<br>Describe the timeframe needed for the State to coordinate and link more of the local plans to the State Mitigation Plan. | | |
| | | SUMMARY SCORE | | X |

Prioritizing Local Assistance

***Requirement §201.4(c)(4)(iii):*** *[The section on the Coordination of Local Mitigation Planning **must** include] criteria for prioritizing communities and local jurisdictions that would receive planning and project grants under available funding programs, which **should** include consideration for communities with the highest risks, repetitive loss properties, and most intense development pressures.*

*Further, that for non-planning grants, a principal criterion for prioritizing grants **shall** be the extent to which benefits are maximized according to a cost benefit review of proposed projects and their associated costs.*

***Requirement §201.4(d): Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities…***

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan provide a description of the criteria for prioritizing those communities and local jurisdictions that would receive planning and project grants under available mitigation funding programs? | P. Section 6; Section 3 | Good descriptions and maps of what has taken place with mitigation planning funds. | | X |
| B. **For the new or updated plan, do** the prioritization criteria include, for non-planning grants, the consideration of the extent to which benefits are maximized according to a cost benefit review of proposed projects and their associated cost? | P. 5-49 to 5-54 | | | X |
| C. **For the new or updated plan, do** the criteria include considerations for communities with the highest risk? | P. 5-49 to 5-51 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| D. **For the new or updated plan, do** the criteria include considerations for repetitive loss properties? | P. 5-49 | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | | X |
| E. **For the new or updated plan, do** the criteria include considerations for communities with the most intense development pressures? | Not in plan | *Note: A "Needs Improvement" score on this requirement will not preclude the plan from passing.* | X | |
| | | SUMMARY SCORE | | X |

PLAN MAINTENANCE PROCESS

Monitoring, Evaluating, and Updating the Plan ***Requirement §201.4(c)(5)(i):*** *[The Standard State Plan Maintenance Process **must** include an] established method and schedule for monitoring, evaluating, and updating the plan.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe the method and schedule for monitoring the plan? (e.g., identifies the party responsible for **monitoring**, includes schedule for reports, site visits, phone calls, and/or meetings) | Section 7 | | | X |
| B. Does the **new or updated** plan describe the method and schedule for **evaluating** the plan? (e.g., identifies the party responsible for evaluating the plan, includes the criteria used to evaluate the plan) | Section 7 | | | X |
| C. Does the **new or updated** plan describe the method and schedule for **updating** the plan? | Section 7 | | | X |
| **D. Does the updated plan include an analysis of whether the previously approved plan's method and schedule worked, and what elements or processes, if any, were changed?** | P. 7-2 | | | X |
| | | SUMMARY SCORE | | X |

Monitoring Progress of Mitigation Activities ***Requirement §201.4(c)(5)(ii):*** *[The Standard State Plan Maintenance Process **must** include a] system for monitoring implementation of mitigation measures and project closeouts. Requirement **§201.4(c)(5)(iii):** [The Standard State Plan Maintenance Process **must** include a] system for reviewing progress on achieving goals as well as activities and projects in the Mitigation Strategy.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** plan describe how mitigation measures and project closeouts will be monitored? | P. 7-3 to 7-4 | | | X |
| B. Does the **new or updated** plan identify a system for reviewing progress on achieving goals in the Mitigation Strategy? | Table 5.4, P 5-18 to 5-47; Section 7.1 | Table 5.4 and p. 5-18 to 5-47 gives update status, Section 7.1 describes the process. | | X |
| **C. Does the updated plan describe any modifications, if any, to the system identified in the previously approved plan to track the initiation, status, and completion of mitigation activities?** | P. 7-4 | | | X |
| D. Does the **new or updated** plan identify a system for reviewing progress on implementing activities and projects of the Mitigation Strategy? | P. 7-3, 7-4 | The plan identifies a system for reviewing progress on implemented projects, but refers to the 2005 plan. This system did not work the first time, according to the plan on p.7-3. How is implemented differently this time in order to succeed?<br><br>*Recommended Revision:*<br>Include more detail, or consider reasons the review did not work, and how it can be improved for the next update. | | X |
| **E. Does the updated plan discuss if mitigation actions were implemented as planned?** | Table 5.4; P 5-18 to 5-47; | *Note: Related to §201.4 (c)(3)(iii)* | | X |
| | | SUMMARY SCORE | | X |

SEVERE REPETITIVE LOSS STRATEGY *(only required for 90/10 under FMA & SRL)*

Repetitive Loss Mitigation Strategy

***Requirement §201.4(c)(3)(v):*** *A State may request the reduced cost share authorized under §79.4(c)(2) of this chapter for the FMA and SRL programs, if it has an approved State Mitigation Plan … that also identifies specific actions the State has taken to reduce the number of repetitive loss properties (which **must** include severe repetitive loss properties), and specifies how the State intends to reduce the number of such repetitive loss properties.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE NOT MET | SCORE MET |
|---|---|---|---|---|
| **A. Does the new or updated plan describe State mitigation goals that support the selection of mitigation activities for repetitive loss properties (see also Part 201.4(c)(3)(i))?** | Section 5.6.1<br>Section 5.6.2 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| **B. Does the new or updated plan consider repetitive loss properties in its evaluation of the State's hazard management policies, programs, and capabilities and its general description of the local mitigation capabilities (see also Part 201.4(c)(3)(ii))?** | Section 3.7<br>Section 5.4<br>Section 5.6.1<br>Section 5.6.2 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| **C. Does the new or updated plan address repetitive loss properties in its risk assessment (see also Part 201.4(c)(2))?** | Section 5.6.2<br>p. 3-6 through p. 3-7; Appdx E | ***[Note: Only required for SRL 90/10 under FMA & SRL]***<br>2008 data was difficult to acquire, so the info in Appdx E is a bit outdated.<br>*Recommended Revision:*<br>Include more current Rep Loss info when available. | | X |
| **D. Does the new or updated plan identify, evaluate and prioritize cost-effective, environmentally sound, and technically feasible mitigation actions for repetitive loss properties (see also Part 201.4(c)(3)(iii))?** | Section 5.6.2<br>Section 5.6.3 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| **E. Does the new or updated plan describe specific actions that have been implemented to mitigate repetitive loss properties, including actions taken to reduce the number of severe repetitive loss properties?** | Section 3.7<br>Section 5.6.1<br>Section 5.6.2<br>p. 3-6 through p. 3-7 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| **F. Does the new or updated plan identify current and potential sources of Federal, State, local, or private funding to implement mitigation activities for repetitive loss properties (see also Part 201.4(c)(3)(iv))?** | Section 3.5-3.9<br>p. 3-33<br>Table 5.1<br>Section 5.6 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| | | SUMMARY SCORE | | X |

Coordination with Repetitive Loss Jurisdictions

***Requirement §201.4(c)(3)(v):*** *In addition, the plan **must** describe the strategy the State has to ensure that local jurisdictions with severe repetitive loss properties take actions to reduce the number of these properties, including the development of local mitigation plans.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| **A. Does the new or updated plan provide a description of the State process to support, through funding and technical assistance, the development of local mitigation plans in communities with severe repetitive loss properties (see also Part 201.4(c)(4)(i))?** | P. 3-8, 3-12 Section 3.7 (p. 3-8) | ***[Note: Only required for SRL 90/10 under FMA & SRL]***<br><br>Only 4 properties in the state. Narrative explains efforts to work towards acquiring them. | | X |
| **B. Does the new or updated plan include considerations for repetitive loss properties in its criteria for prioritizing communities and local jurisdictions that would receive planning and project grants under available mitigation funding programs (see also Part 201.4(c)(3)(iii))?** | P. 3-12 Section 5.6.2 | ***[Note: Only required for SRL 90/10 under FMA & SRL]*** | | X |
| | | SUMMARY SCORE | | X |

# APPENDIX N

# ENHANCED
# STATE HAZARD MITIGATION PLAN
# REVIEW CROSSWALK

State: Wisconsin Date of Plan:

## Instructions for Using the Attached Plan Review Crosswalk for Review of Enhanced State Hazard Mitigation Plans

Attached is a Plan Review Crosswalk based on the ***Multi-Hazard Mitigation Planning Guidance Under the Disaster Mitigation Act of 2000***, published by FEMA, dated March 2004, and revised June 2007. This Plan Review Crosswalk is consistent with the *Disaster Mitigation Act of 2000* (P.L. 106-390), enacted October 30, 2000 and *44 CFR Part 201 – Mitigation Planning* (the Rule).

**SCORING SYSTEM**

**N – Needs Improvement:** The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

**S – Satisfactory:** The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

Each requirement includes separate elements. All elements of a requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a summary score of "Satisfactory."

**The example below illustrates how to fill in the Plan Review Crosswalk.**

**Example**

6. Effective Use of Available Mitigation Funding

***Requirement §201.5(b)(3):*** *[The Enhanced Plan **must** demonstrate] that the State effectively uses existing mitigation programs to achieve its mitigation goals.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| **A. Does the new or updated Enhanced Plan document how the State has made full use of funding available from FEMA mitigation grant programs, and if the State has not made full use of this funding, does the plan explain the reasons why?** | Section VI, pp. 2-3 | The plan contains information that the State has not made full use of funding from FEMA grant programs, without explaining why this is the case.<br><br>**Required Revision:**<br>• Discuss why all available funding from FEMA grant programs was not used. | ✓ | |
| | | SUMMARY SCORE | ✓ | |

**Enhanced State Hazard Mitigation Plan Review and Approval Status**

| | |
|---|---|
| **State Point of Contact:**<br>**Roxanne Gray** | **Address:**<br>**2400 Wright St.**<br>**Madison, WI 53704** |
| **Title:**<br>**State Hazard Mitigation Officer** | |
| **Agency:**<br>**Wisconsin Emergency Management** | |
| **Phone Number:**<br>**608-242-3211** | **E-Mail:**<br>**Roxanne.gray@wisconsin.gov** |

| **FEMA Reviewer:** | **Title:** | **Date:** |
|---|---|---|
| **Date Received in FEMA Region [insert #]** | | |
| **Plan Not Approved** | | |
| **Plan Approved** | | |
| **Date Approved** | | |

## ENHANCED STATE HAZARD MITIGATION PLAN SUMMARY CROSSWALK

The plan cannot be approved if the plan has not been formally adopted.

Each requirement includes separate elements. All elements of the requirement must be rated "Satisfactory" in order for the requirement to be fulfilled and receive a score of "Satisfactory." Elements of each requirement are listed on the following pages of the Plan Review Crosswalk. Reviewer's comments must be provided for requirements receiving a **"Needs Improvement"** score.

**SCORING SYSTEM**
Please check one of the following for each requirement:
**N – Needs Improvement:** The plan does not meet the minimum for the requirement. Reviewer's comments must be provided.

**S – Satisfactory:** The plan meets the minimum for the requirement. Reviewer's comments are encouraged, but not required.

| **Prerequisite** | **NOT MET** | **MET** |
|---|---|---|
| 1. Compliance with Standard State Plan Requirements: §201.5(b) | | X |

| **Comprehensive State Hazard Mitigation Planning Program** | **N** | **S** |
|---|---|---|
| 2. Integration with Other Planning Initiatives: §201.5(b)(1) | | X |
| 3. Project Implementation Capability: §201.5(b)(2)(i) and (ii) | | X |
| 4. Program Management Capability: §201.5(b)(2)(iii A-D) | | X |
| 5. Assessment of Mitigation Actions: §201.5(b)(2)(iv) | | X |
| 6. Effective Use of Available Mitigation Funding: §201.5(b)(3) | | X |
| 7. Commitment to a Comprehensive Mitigation Program: §201.5(b)(4)(i-vi) | | X |

**ENHANCED STATE HAZARD MITIGATION PLAN APPROVAL STATUS**

| | |
|---|---|
| **PLAN NOT APPROVED** | |
| **PLAN APPROVED** | X |

**See Reviewer's Comments**

PREREQUISITE

1. Compliance with Standard State Plan Requirements

***Requirement §201.5(b):*** *Enhanced State Mitigation Plans **must** include all elements of the Standard State Mitigation Plan identified in §201.4 … .*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE NOT MET | SCORE MET |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan meet all the Standard State Mitigation Plan requirements? | p. 8-1 | The State of Wisconsin Hazard Mitigation Plan was approved as an updated Standard State Plan by FEMA on December 9, 2008. | | X |
| | | SUMMARY SCORE | | X |

COMPREHENSIVE STATE HAZARD MITIGATION PLANNING PROGRAM

2. Integration with Other Planning Initiatives

***Requirement §201.5(b)(1):*** *[An Enhanced Plan **must** demonstrate] that the plan is integrated to the extent practicable with other State and/or regional planning initiatives (comprehensive, growth management, economic development, capital improvement, land development, and/or emergency management plans) and FEMA mitigation programs and initiatives that provide guidance to State and regional agencies.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan demonstrate how it is integrated to the extent practicable with other State and regional planning initiatives (comprehensive, growth management, economic development, capital improvement, land development, and/or emergency management plans)? | Section 8.1 p. 8-1—8-8 Section 8.2 p. 8-8—8-12 | Section 2 and 5 | | X |
| B. Does the **new or updated** Enhanced Plan demonstrate how it has been integrated to the extent practicable with FEMA mitigation programs and initiatives that provide guidance to State and regional agencies? | Section 8.3 p. 8-12—8-25 | Section 3, Section 5, Table 5.2 | | X |
| | | SUMMARY SCORE | | X |

3. Project Implementation Capability

***Requirement §201.5(b)(2)(i) and (ii):*** *[The Enhanced Plan **must** document] the State's project implementation capability, identifying and demonstrating the ability to implement the plan, including:*

- *Established eligibility criteria for multi-hazard mitigation measures.*
- *A system to determine the cost effectiveness of mitigation measures, consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, and*
- *[A system] to rank the measures according to the State's eligibility criteria.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan demonstrate that the State has established eligibility criteria for multi-hazard mitigation measures? **Does the updated Plan describe changes, if any, to those criteria?** | Section 8.4<br>p. 8-25—8-28 | Appendix G: Admin Plan | | **X** |
| B. Does the **new or updated** Enhanced Plan describe the State's system for determining the cost effectiveness of mitigation measures, consistent with OMB Circular A-94? **Does the updated Plan describe changes, if any, to this system?** | Section 8.4<br>p. 8-29—8-30 | Appendix G: Attachment D | | **X** |
| C. Does the **new or updated** Enhanced Plan describe the State's system to rank the measures according to the State's eligibility criteria, **including a process to prioritize projects between jurisdictions and between proposals that address different or multiple hazards**? | Section 8.4<br>p. 8-26—8-30<br>p. 8-29 | Appendix G: Attachment C<br>Pre-ranking form that uses point system. | | **X** |
| | | SUMMARY SCORE | | **X** |

4. Program Management Capability

***Requirement §201.5(b)(2)(iii A-D):*** *[The Enhanced Plan **must** demonstrate] that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs, [and provide] a record of the following:*

- *Meeting HMGP and other mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation;*
- *Preparing and submitting accurate environmental reviews and benefit-cost analyses;*
- *Submitting complete and accurate quarterly progress and financial reports on time; and*
- *Completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan describe the State's capability to effectively manage the HMGP as well as other mitigation grant programs? | Section 8.5 p. 8-30—8-42 | ***[See Regional Certification to Determine Score]*** | | **X** |
| B. Does the **new or updated** Enhanced Plan provide a record for meeting HMGP and other mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation? | Section 8.5 | ***[See Regional Certification to Determine Score]*** | | **X** |
| C. Does the **new or updated** Enhanced Plan provide a record for preparing and submitting accurate environmental reviews and benefit-cost analyses? | Section 8.5 p. 8-34—8-39 | ***[See Regional Certification to Determine Score]*** | | **X** |
| D. Does the **new or updated** Enhanced Plan provide a record for submitting complete and accurate quarterly progress and financial reports on time? | Section 8.5 p. 8-39—8-40 | ***[See Regional Certification to Determine Score]*** | | **X** |
| E. Does the **new or updated** Enhanced Plan provide a record for completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation? | Section 8.5 p. 8-40—8-42 | ***[See Regional Certification to Determine Score]*** | | **X** |
| SUMMARY SCORE | | | | **X** |
| | | | | **X** |

5. Assessment of Mitigation Actions

***Requirement §201.5(b)(2)(iv):*** *[The Enhanced Plan **must** document the] system and strategy by which the State will conduct an assessment of the completed mitigation actions and include a record of the effectiveness (actual cost avoidance) of each mitigation action.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan describe the system and strategy by which the State will conduct an assessment of the completed mitigation actions? | Section 8.6<br>p. 8-42—8-46 | Section 5.5 | | **X** |
| B. Does the **new or updated** Enhanced Plan include the record of the effectiveness (i.e., actual cost avoidance) of each mitigation actions, **including how the assessment was completed?** | Section 8.6<br>p. 8-42—8-46 | Cost avoidance one of WEM's priorities. Success stories included in Appendix P. Losses avoided studies commissioned for three major project areas. | | **X** |
| | | SUMMARY SCORE | | **X** |

6. Effective Use of Available Mitigation Funding

***Requirement §201.5(b)(3):*** *[The Enhanced Plan **must** demonstrate] that the State effectively uses existing mitigation programs to achieve its mitigation goals.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| **A. Does the new or updated Enhanced Plan document how the State has made full use of funding available from FEMA mitigation grant programs, and if the State has not made full use of this funding, does the plan explain the reasons why?** | Section 8.7<br>p. 8-47—8-49<br>p. 8-41<br>p. 8-15—8-23 | | | **X** |
| **B.** Does the **new or updated** Enhanced Plan document how the State is effectively using existing programs to achieve its mitigation goals? | Section 8.7<br>p. 8-47—8-49 | Section 3, Appendix B and D<br>Section 8.3 and 8.4 | | **X** |
| | | SUMMARY SCORE | | **X** |

7. Commitment to a Comprehensive Mitigation Program

***Requirement §201.5(b)(4)(i-vi):*** *[The Enhanced Plan **must** demonstrate] that the State is committed to a comprehensive state mitigation program, which might include any of the following:*

- *A commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability development of local officials, including Emergency Management and Floodplain Management certifications.*
- *A Statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, formation of public/private partnerships, and/or other executive actions that promote hazard mitigation.*
- *The State provides a portion of the non-Federal match for HMGP and/or other mitigation projects.*
- *To the extent allowed by State Law, the State requires or encourages local governments to use a current version of a nationally applicable model building code or standard that addresses natural hazards as a basis for design and construction of State sponsored mitigation projects.*
- *A comprehensive, multi-year plan to mitigate the risks posed to the existing buildings that have been identified as necessary for post-disaster response and recovery operations.*
- *A comprehensive description of how the State integrates mitigation into its post-disaster recovery operations.*

| Element | Location in the Plan (section or annex and page #) | Reviewer's Comments | SCORE N | SCORE S |
|---|---|---|---|---|
| A. Does the **new or updated** Enhanced Plan demonstrate that the State is committed to a comprehensive State mitigation program? | Section 8.8<br>p. 8-49--8-66 | Section 6 (Mitigation Planning)<br>Section 5 (Capability Assessment and Mitigation Action Plan)<br>Appendix F<br>Appendix I<br>Risk Assessment for State Structure Inventory | | **X** |
| **B. Does the updated Enhanced Plan demonstrate progress in implementing a comprehensive State mitigation program, including new mitigation initiatives developed or implemented by the State?** | Section 8.8<br>p. 8-49—8-66 | Wisconsin Recovery Task Force and Gays Mills | | **X** |
| | | SUMMARY SCORE | | **X** |

# APPENDIX O

# 44 CFR PARTS 201 AND 206
# HAZARD MITIGATION PLANNING AND
# HAZARD MITIGATION GRANT PROGRAM;
# INTERIM FINAL RULES

# 44 CFR PARTS 201, 204, AND 206 FINAL RULE

Federal Register

Tuesday,
February 26, 2002

## Part III

# Federal Emergency Management Agency

**44 CFR Parts 201 and 206**

**Hazard Mitigation Planning and Hazard Mitigation Grant Program; Interim Final Rule**

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

**44 CFR Parts 201 and 206**

**RIN 3067–AD22**

## Hazard Mitigation Planning and Hazard Mitigation Grant Program

**AGENCY:** Federal Emergency Management Agency.

**ACTION:** Interim final rule.

**SUMMARY:** This rule addresses State mitigation planning, identifies new local mitigation planning requirements, authorizes Hazard Mitigation Grant Program (HMGP) funds for planning activities, and increases the amount of HMGP funds available to States that develop a comprehensive, enhanced mitigation plan. This rule also requires that repairs or construction funded by a disaster loan or grant must be carried out in accordance with applicable standards and says that FEMA may require safe land use and construction practices as a condition of grantees receiving disaster assistance under the Stafford Act.

**DATES:** *Effective Date:* February 26, 2002.

*Comment Date:* We will accept written comments through April 29, 2002.

**ADDRESSES:** Please send written comments to the Rules Docket Clerk, Office of the General Counsel, Federal Emergency Management Agency, 500 C Street, SW., room 840, Washington, DC 20472, (facsimile) 202–646–4536, or (email) *rules@fema.gov.*

**FOR FURTHER INFORMATION CONTACT:** Margaret E. Lawless, Federal Insurance and Mitigation Administration, Federal Emergency Management Agency, 500 C Street, SW., Washington, DC, 20472, 202–646–3027, (facsimile) 202–646–3104, or (email) *margaret.lawless@fema.gov.*

**SUPPLEMENTARY INFORMATION:**

### Introduction

Throughout the preamble and the rule the terms ''we'', ''our'' and ''us'' refer to FEMA.

Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act or the Act), 42 U.S.C. 5165, enacted under § 104 the Disaster Mitigation Act of 2000, (DMA 2000) P.L. 106–390, provides new and revitalized approaches to mitigation planning. This section: (1) Continues the requirement for a Standard State Mitigation plan as a condition of disaster assistance; (2) provides for States to receive an increased percentage of HMGP funds (from 15 to 20 percent of the total estimated eligible Federal assistance) if, at the time of the declaration of a major disaster, they have in effect a FEMA-approved Enhanced State Mitigation Plan that meets the factors listed in this rule; (3) establishes a new requirement for local mitigation plans; and (4) authorizes up to 7 percent of the HMGP funds available to a State to be used for development of State, tribal, and local mitigation plans. We will give Indian tribal governments the opportunity to fulfill the requirements of § 322 either as a grantee or a subgrantee. An Indian tribal government may choose to apply for HMGP funding directly to us and would then serve as a grantee, meeting the State level responsibilities, or it may apply through the State, meeting the local government or subgrantee responsibilities.

Section 322, in concert with other sections of the Act, provides a significant opportunity to reduce the Nation's disaster losses through mitigation planning. In addition, implementation of planned, pre-identified, cost-effective mitigation measures will streamline the disaster recovery process. The Act provides a framework for linking pre- and post-disaster mitigation planning and initiatives with public and private interests to ensure an integrated, comprehensive approach to disaster loss reduction. The language in the Act, taken as a whole, emphasizes the importance of strong State and local planning processes and comprehensive program management at the State level. The new planning criteria also support State administration of the HMGP, and contemplate a significant State commitment to mitigation activities, comprehensive State mitigation planning, and strong program management.

The planning process also provides a link between State and local mitigation programs. Both State level and local plans should address strategies for incorporating post-disaster early mitigation implementation strategies and sustainable recovery actions. We also recognize that governments are involved in a range of planning activities and that mitigation plans may be linked to or reference hazardous materials and other non-natural hazard plans. Improved mitigation planning will result in a better understanding of risks and vulnerabilities, as well as to expedite implementation of measures and activities to reduce those risks, both pre- and post-disaster.

Section 409 of the Stafford Act, 42 U.S.C. 5176, which required mitigation plans and the use of minimum codes and standards, was repealed by the DMA 2000. These issues are now addressed in two separate sections of the law: mitigation planning is in section 322 of the Act, and minimum codes and standards are in section 323 of the Act. We previously implemented section 409 through 44 CFR Part 206, Subpart M. Since current law now distinguishes the planning from the codes and standards in separate sections, we will address them in different sections of the CFR. We address the new planning regulations in Part 201 to reflect the broader relevance of planning to all FEMA mitigation programs, while the minimum standards remain in Part 206, Federal Disaster Assistance, Subpart M. The regulations implementing the Hazard Mitigation Grant Program are in Part 206, Subpart N. This rule also contains changes to Subpart N, to reflect the new planning criteria identified in section 322 of the Act.

The administration is considering changes to FEMA's mitigation programs in the President's Budget for FY 2003. However, States and localities still would be required to have plans in effect, which meet the minimum requirements under this rule, as a condition of receiving mitigation assistance after November 1, 2003.

*Implementation Strategy.* States must have an approved hazard mitigation plan in order to receive Stafford Act assistance, excluding assistance provided pursuant to emergency provisions. These regulations provide criteria for the new two-tiered State mitigation plan process: Standard State Mitigation Plans, which allow a State to receive HMGP funding based on 15 percent of the total estimated eligible Stafford Act disaster assistance, and Enhanced State Mitigation Plans, which allow a State to receive HMGP funds based on 20 percent of the total estimated eligible Stafford Act disaster assistance. Enhanced State Mitigation Plans must demonstrate that the State has developed a comprehensive mitigation program, that it effectively uses available mitigation funding, and that it is capable of managing the increased funding. All State Mitigations Plans must be reviewed, revised, and re-approved by FEMA every three years. An important requirement of the legislation is that we must approve a completed enhanced plan *before* a disaster declaration, in order for the State to be eligible for the increased funding.

We will no longer require States to revise their mitigation plan after every disaster declaration, as under former

section 409 of the Act, 42 U.S.C. 5176. We recommend, however, that States consider revising their plan if a disaster or other circumstances significantly affect its mitigation priorities. States with existing mitigation plans, approved under former section 409, will continue to be eligible for the 15 percent HMGP funding until November 1, 2003, when all State mitigation plans must meet the requirements of these regulations. If State plans are not revised and approved to meet the Standard State Mitigation Plan requirements by that time, they will be ineligible for Stafford Act assistance, excluding emergency assistance.

Indian tribal governments may choose to apply directly to us for HMGP funding, and would therefore be responsible for having an approved State level mitigation plan, and would act as the grantee. If an Indian tribal government chooses to apply for HMGP grants through the State, they would be responsible for having an approved local level mitigation plan, and would serve as a subgrantee accountable to the State as grantee.

This rule also establishes local planning criteria so that these jurisdictions can actively begin the hazard mitigation planning process. This requirement is to encourage the development of comprehensive mitigation plans before disaster events. Section 322 requires local governments to have an approved local mitigation plan to be eligible to receive an HMGP project grant; however, this requirement will not fully take effect until November 1, 2003. FEMA Regional Directors may grant an exception to this requirement in extenuating circumstances. Until November 1, 2003, local governments will be able to receive HMGP project grant funds and may prepare a mitigation plan concurrently with implementation of their project grant. We anticipate that the Predisaster Mitigation program authorized by section 203 of the Act, 42 U.S.C. 5133, will also support this local mitigation planning by making funds available for the development of comprehensive local mitigation plans. Managing States that we approve under new criteria established under section 404 of the Act, 42 U.S.C. 5170c(c), as amended by section 204 of DMA 2000 will have approval authority for local mitigation plans. This provision does not apply to States that we approved under the Managing State program in effect before enactment of DMA 2000.

Our goal is for State and local governments to develop comprehensive and integrated plans that are coordinated through appropriate State, local, and regional agencies, as well as non-governmental interest groups. To the extent feasible and practicable, we would also like to consolidate the planning requirements for different FEMA mitigation programs. This will ensure that one local plan will meet the minimum requirements for all of the different FEMA mitigation programs, such as the Flood Mitigation Assistance Program (authorized by sections 553 and 554 of the National Flood Insurance Reform Act of 1994, 42 U.S.C. 4104c and 42 U.S.C. 4104d), the Community Rating System (authorized by section 541 of the National Flood Insurance Reform Act of 1994, 42 U.S.C. 4022), the Pre-Disaster Mitigation Program (authorized by section 203 of the Stafford Act), the Hazard Mitigation Grant Program (authorized by section 404 of the Stafford Act), and the mitigation activities that are based upon the provisions of section 323 and subsections 406(b) and (e) of the Stafford Act. The mitigation plans may also serve to integrate documents and plans produced under other emergency management programs. State level plans should identify overall goals and priorities, incorporating the more specific local risk assessments, when available, and including projects identified through the local planning process.

Under section 322(d), up to 7 percent of the available HMGP funds may now be used for planning, and we encourage States to use these funds for local plan development. In a memorandum to FEMA Regional Directors dated December 21, 2000, we announced that this provision of section 322 was effective for disasters declared on or after October 30, 2000, the date on which the Disaster Mitigation Act of 2000 became law. Regional Directors are encouraging States to make these funds immediately available to local and Indian tribal governments, although the funds can be used for plan development and review at the State level as well.

As discussed earlier in this Supplementary Information, subsection 323(a) of the Stafford Act, 42 U.S.C. 5166(a), requires as a precondition to receiving disaster assistance under the Act that State and local governments, as well as eligible private nonprofit entities, must agree to carry out repair and reconstruction activities ''in accordance with applicable standards of safety, decency, and sanitation and in conformity with applicable codes, specifications, and standards.'' In addition, that subsection authorizes the President (FEMA, by virtue of Executive Order 12148, as amended) to ''require safe land use and construction practices, after adequate consultation with appropriate State and local officials'' in the course of the use of Federal disaster assistance by eligible applicants to repair and restore disaster-damaged facilities.

At the same time that we implement the planning mandates of section 322 of the Stafford Act, we are also implementing the Minimum Standards for Public and Private Structures provision of section 323 of the Act. This rule appears at Subpart M of Part 206 of Title 44 of the Code of Federal Regulations. As mentioned earlier, the section 322 planning regulations are in Part 201, while Part 206, Subpart M includes only the minimum codes and standards regulations mandated in § 323. The rule to implement § 323 of the Act reinforces the link between pre-disaster planning, building and construction standards, and post-disaster reconstruction efforts.

We encourage comments on this interim final rule, and we will make every effort to involve all interested parties prior to the development of the Final Rule.

**Justification for Interim Final Rule**

In general, FEMA publishes a rule for public comment before issuing a final rule, under the Administrative Procedure Act, 5 U.S.C. 533 and 44 CFR 1.12. The Administrative Procedure Act, however, provides an exception from that general rule where the agency for good cause finds the procedures for comment and response contrary to public interest. Section 322 of the Stafford Act allows States to receive increased post-disaster grant funding for projects designed to reduce future disaster losses. States will only be eligible for these increased funds if they have a FEMA-approved Enhanced State Mitigation Plan.

This interim final rule provides the criteria for development and approval of these plans, as well as criteria for local mitigation plans required by this legislation. In order for State and local governments to be positioned to receive these mitigation funds as soon as possible, these regulations must be in effect. The public benefit of this rule will be to assist States and communities assess their risks and identify activities to strengthen the larger community and the built environment in order to become less susceptible to disasters. Planning serves as the vital foundation to saving lives and protecting properties, having integrated plans in place can serve to both streamline recovery efforts and lessen potential future damages. Therefore, we believe it is contrary to the public interest to delay

the benefits of this rule. In accordance with the Administrative Procedure Act, 5 U.S.C. 553(d)(3), we find that there is good cause for the interim final rule to take effect immediately upon publication in the **Federal Register** in order to meet the needs of States and communities by identifying criteria for mitigation plans in order to reduce risks nationwide, establish criteria for minimum codes and standards in post-disaster reconstruction, and to allow States to adjust their mitigation plans to receive the increase in mitigation funding.

In addition, we believe that, under the circumstances, delaying the effective date of this rule until after the comment period would not further the public interest. Prior to this rulemaking, FEMA hosted a meeting where interested parties provided comments and suggestions on how we could implement these planning requirements. Participants in this meeting included representatives from the National Emergency Management Association, the Association of State Floodplain Managers, the National Governors' Association, the International Association of Emergency Managers, the National Association of Development Organizations, the American Public Works Association, the National League of Cities, the National Association of Counties, the National Conference of State Legislatures, the International City/County Management Association, and the Bureau of Indian Affairs. We took comments and suggestions provided at this meeting into account in developing this interim final rule. Therefore, we find that prior notice and comment on this rule would not further the public interest. We actively encourage and solicit comments on this interim final rule from interested parties, and we will consider them in preparing the final rule. For these reasons, we believe we have good cause to publish an interim final rule.

**National Environmental Policy Act**

44 CFR 10.8(d)(2)(ii) excludes this rule from the preparation of an environmental assessment or environmental impact statement, where the rule relates to actions that qualify for categorical exclusion under 44 CFR 10.8(d)(2)(iii), such as the development of plans under this section.

**Executive Order 12866, Regulatory Planning and Review**

We have prepared and reviewed this rule under the provisions of E.O. 12866, Regulatory Planning and Review. Under Executive Order 12866, 58 FR 51735, October 4, 1993, a significant regulatory action is subject to OMB review and the requirements of the Executive Order. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The purpose of this rule is to implement section 322 of the Stafford Act which addresses mitigation planning at the State, tribal, and local levels, identifies new local planning requirements, allows Hazard Mitigation Grant Program (HMGP) funds for planning activities, and increases the amount of HMGP funds available to States that develop a comprehensive, enhanced mitigation plan. The rule identifies local mitigation planning requirements before approval of project grants, and requires our approval of an Enhanced State Mitigation plan as a condition for increased mitigation funding. The rule also implements section 323 of the Stafford Act, which requires that repairs or construction funded by disaster loans or grants must comply with applicable standards and safe land use and construction practices. As such the rule itself will not have an effect on the economy of more than $100,000,000.

Therefore, this rule is a significant regulatory action and is not an economically significant rule under Executive Order 12866. The Office of Management and Budget (OMB) has reviewed this rule under Executive Order 12866.

**Executive Order 12898, Environmental Justice**

Under Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994, we incorporate environmental justice into our policies and programs. The Executive Order requires each Federal agency to conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures that those programs, policies, and activities do not have the effect of excluding persons from participation in our programs, denying persons the benefits of our programs, or subjecting persons to discrimination because of their race, color, or national origin.

No action that we can anticipate under the final rule will have a disproportionately high or adverse human health and environmental effect on any segment of the population. Section 322 focuses specifically on mitigation planning to: Identify the natural hazards, risks, and vulnerabilities of areas in States, localities, and tribal areas; support development of local mitigation plans; provide for technical assistance to local and tribal governments for mitigation planning; and identify and prioritize mitigation actions that the State will support, as resources become available. Section 323 requires compliance with applicable codes and standards in repair and construction, and use of safe land use and construction standards. Accordingly, the requirements of Executive Order 12898 do not apply to this interim final rule.

**Paperwork Reduction Act of 1995**

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) and concurrent with the publication of this interim final rule, we have submitted a request for review and approval of a new collection of information, which is contained in this interim final rule. Under the Paperwork Reduction Act of 1995, a person may not be penalized for failing to comply with an information collection that does not display a currently valid Office of Management and Budget (OMB) control number. The request was submitted to OMB for approval under the emergency processing procedures in OMB regulation 5 CFR 1320.1. OMB has approved this collection of information for use through August 31, 2002, under OMB Number 3067–0297.

We expect to follow this emergency request with a request for OMB approval to continue the use of the collection of information for a term of three years. The request will be processed under OMB's normal clearance procedures in accordance with provisions of OMB regulation 5 CFR 1320.10. To help us with the timely processing of the emergency and normal clearance submissions to OMB, we invite the general public to comment on the collection of information. This notice and request for comments complies with the provisions of the Paperwork

Reduction Act of 1995 (44 U.S.C. 3506(c)(2)(A)).

**Collection of Information**

*Title:* State/Local/Tribal Hazard Mitigation Plans under Section 322 of the Disaster Mitigation Act of 2000.

*Abstract:* Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistant Act, as amended by Section 104 of the Disaster Mitigation Act of 2000, provides new and revitalized approaches to mitigation planning. To obtain Federal assistance, new planning provisions require that each state, local, and tribal government prepare a hazard mitigation plan to include sections that describe the planning process, an assessment of the risks, a mitigation strategy, and identification of the plan maintenance and updating process. The Act provides a framework for linking pre- and post-disaster mitigation planning and initiatives with public and private interests to ensure an integrated, comprehensive approach to disaster loss reduction. Under Section 322 there is a two-tiered State mitigation plan process. State mitigation plans must be reviewed, revised, and submitted to us every 3 years.

(1) A *Standard State Mitigation Plan* must be approved by us in order for States to be eligible to receive Hazard Mitigation Grant Program (HGMP) funding based on 15 percent of the total estimated eligible Federal disaster assistance. This plan demonstrates the State's goals, priorities, and commitment to reduce risks from natural hazards and serves as a guide for State and local decision makers as they commit resources to reducing the effects of natural hazards.

(2) An *Enhanced State Mitigation Plan* must be approved by us for a State to be eligible to receive HMGP funds based on 20 percent of the total estimated eligible Federal disaster assistance. This plan must be approved by us within the 3 years prior to the current major disaster declaration. It must demonstrate that a State has developed a comprehensive mitigation program, is effectively using available mitigation funding, and is capable of managing the increased funding.

To be eligible to receive HMGP project grants, *local governments* must develop Local Mitigation Plans that include a risk assessment and mitigation strategy to reduce potential losses and target resources. Plans must be reviewed, revised, and submitted to us for approval every 5 years.

To receive HMGP project grants, *tribal governments* may apply as a grantee or subgrantee, and will be required to meet the planning requirements of a State or local government.

*Estimated Total Annual Burden:*

| Type of collection/forms | No. of respondents | Hours per response | Annual burden hours |
|---|---|---|---|
| Update state or tribal mitigation plans (standard state mitigation plans) | 18 | 320 | 5,760 |
| State review of local plans | 500 local plans | 8 | 4,000 |
| States develop Enhanced State Mitigation Plans | 7 | 100 | 700 |
| Local or tribal governments develop mitigation plans | 500 local plans | 300 | 150,000 |
| Total burden | | | 160,460 |

*Comments:* We are soliciting written comments to: (a) Evaluate whether the proposed data collection is necessary for the proper performance of the agency, including whether the information shall have practical utility; (b) evaluate the accuracy of the agency's estimate of the burden of the proposed collection of information; (c) obtain recommendations to enhance the quality, utility, and clarity of the information to be collected; and (d) evaluate the extent to which automated, electronic, mechanical, or other technological collection techniques may further reduce the respondents' burden. FEMA will accept comments through April 29, 2002.

Addressee: Interested persons should submit written comments to Muriel B. Anderson, Chief, Records Management Section, Program Services and Systems Branch, Facilities Management and Services Division, Administration and Resource Planning Directorate, Federal Emergency Management Agency, 500 C Street, Street, SW., Washington, DC 20472.

**FOR FURTHER INFORMATION CONTACT:** You may obtain copies of the OMB paperwork clearance package by contacting Ms. Anderson at (202) 646–2625 (voice), (202) 646–3347 (facsimile), or by e-mail at *muriel.anderson@fema.gov.*

**Executive Order 13132, Federalism**

Executive Order 13132, Federalism, dated August 4, 1999, sets forth principles and criteria that agencies must adhere to in formulating and implementing policies that have federalism implications, that is, regulations that have substantial direct effects on the States, or on the distribution of power and responsibilities among the various levels of government. Federal agencies must closely examine the statutory authority supporting any action that would limit the policymaking discretion of the States, and to the extent practicable, must consult with State and local officials before implementing any such action.

We have reviewed this rule under E.O.13132 and have concluded that the rule does not have federalism implications as defined by the Executive Order. We have determined that the rule does not significantly affect the rights, roles, and responsibilities of States, and involves no preemption of State law nor does it limit State policymaking discretion.

However, we have consulted with State and local officials. In order to assist us in the development of this rule, we hosted a meeting to allow interested parties an opportunity to provide their perspectives on the legislation and options for implementation of § 322. Stakeholders who attended the meeting included representatives from the National Emergency Management Association, the Association of State Floodplain Managers, the National Governors' Association, the International Association of Emergency Managers, the National Association of Development Organizations, the American Public Works Association, the National League of Cities, the National Association of Counties, the National Conference of State Legislatures, the International City/County Management Association, and the Bureau of Indian Affairs. We received valuable input from all parties at the meeting, which we took into account in the development of this rule. Additionally, we actively encourage and solicit comments on this interim final rule from interested parties, and we will

consider them in preparing the final rule.

**Executive Order 13175, Consultation and Coordination With Indian Tribal Governments**

We have reviewed this interim final rule under Executive Order 13175, which became effective on February 6, 2001. Under the Hazard Mitigation Grant Program (HMGP), Indian tribal governments will have the option to apply for grants directly to us and to serve as ''grantee'', carrying out ''State'' roles. If they choose this option, tribal governments may submit either a State-level Standard Mitigation Plan for the 15 percent HMGP funding or a State-level Enhanced Mitigation Plan for 20 percent HMGP funding. In either case, Indian tribal governments would be able to spend up to 7 percent of those funds on planning. Before developing this rule, we met with representatives from State and local governments and the Bureau of Indian Affairs, to discuss the new planning opportunities and requirements of § 322 of the Stafford Act. We received valuable input from all parties, which helped us to develop this interim final rule.

In reviewing the interim final rule, we find that it does not have ''tribal implications'' as defined in Executive Order 13175 because it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes. Moreover, the interim final rule does not impose substantial direct compliance costs on tribal governments, nor does it preempt tribal law, impair treaty rights or limit the self-governing powers of tribal governments.

**Congressional Review of Agency Rulemaking**

We have sent this interim final rule to the Congress and to the General Accounting Office under the Congressional Review of Agency Rulemaking Act, Public Law 104–121. The rule is a not ''major rule'' within the meaning of that Act. It is an administrative action in support of normal day-to-day mitigation planning activities required by section 322 and compliance under section 323 of the Stafford Act, as enacted in DMA 2000.

The rule will not result in a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions. It will not have ''significant adverse effects'' on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises. This final rule is subject to the information collection requirements of the Paperwork Reduction Act, and OMB has assigned Control No. 3067–0297. The rule is not an unfunded Federal mandate within the meaning of the Unfunded Mandates Reform Act of 1995, Public Law 104–4, and any enforceable duties that we impose are a condition of Federal assistance or a duty arising from participation in a voluntary Federal program.

**List of Subjects in 44 CFR Part 201 and Part 206**

Administrative practice and procedure, Disaster assistance, Grant programs, Mitigation planning, Reporting and recordkeeping requirements.

Accordingly, Amend 44 CFR, Subchapter D—Disaster Assistance, as follows:

1. Add Part 201 to read as follows:

## PART 201—MITIGATION PLANNING

Sec.



**Authority:** Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121–5206; Reorganization Plan No. 3 of 1978, 43 FR 41943, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376; E.O. 12148, 44 FR 43239, 3 CFR, 1979 Comp., p. 412; and E.O. 12673, 54 FR 12571, 3 CFR, 1989 Comp., p. 214.

### § 201.1 Purpose.

(a) The purpose of this part is to provide information on the polices and procedures for mitigation planning as required by the provisions of section 322 of the Stafford Act, 42 U.S.C. 5165.

(b) The purpose of mitigation planning is for State, local, and Indian tribal governments to identify the natural hazards that impact them, to identify actions and activities to reduce any losses from those hazards, and to establish a coordinated process to implement the plan, taking advantage of a wide range of resources.

### § 201.2 Definitions.

*Grantee* means the government to which a grant is awarded, which is accountable for the use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document. Generally, the State is the grantee. However, after a declaration, an Indian tribal government may choose to be a grantee, or may act as a subgrantee under the State. An Indian tribal government acting as grantee will assume the responsibilities of a ''state'', as described in this part, for the purposes of administering the grant.

*Hazard mitigation* means any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

*Hazard Mitigation Grant Program* means the program authorized under section 404 of the Stafford Act, 42 U.S.C 5170c and implemented at 44 CFR Part 206, Subpart N, which authorizes funding for certain mitigation measures identified through the evaluation of natural hazards conducted under section 322 of the Stafford Act 42 U.S.C 5165.

*Indian tribal government* means any Federally recognized governing body of an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of Interior acknowledges to exist as an Indian tribe under the Federally Recognized Tribe List Act of 1994, 25 U.S.C. 479a. This does not include Alaska Native corporations, the ownership of which is vested in private individuals.

*Local government* is any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity.

*Managing State* means a State to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA pursuant to 42 U.S.C. 5170c(c). FEMA may also delegate authority to tribal governments to administer and manage the HMGP as a Managing State.

*Regional Director* is a director of a regional office of FEMA, or his/her designated representative.

*Small and impoverished communities* means a community of 3,000 or fewer individuals that is identified by the State as a rural community, and is not a remote area within the corporate boundaries of a larger city; is economically disadvantaged, by having an average per capita annual income of residents not exceeding 80 percent of national, per capita income, based on

best available data; the local unemployment rate exceeds by one percentage point or more, the most recently reported, average yearly national unemployment rate; and any other factors identified in the State Plan in which the community is located.

*The Stafford Act* refers to the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93–288, as amended (42 U.S.C. 5121–5206).

*State* is any State of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

*State Hazard Mitigation Officer* is the official representative of State government who is the primary point of contact with FEMA, other Federal agencies, and local governments in mitigation planning and implementation of mitigation programs and activities required under the Stafford Act.

*Subgrantee* means the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided. Subgrantees can be a State agency, local government, private non-profit organizations, or Indian tribal government. Indian tribal governments acting as a subgrantee are accountable to the State grantee.

**§ 201.3 Responsibilities.**

(a) *General.* This section identifies the key responsibilities of FEMA, States, and local/tribal governments in carrying out section 322 of the Stafford Act, 42 U.S.C. 5165.

(b) *FEMA.* The key responsibilities of the Regional Director are to:

(1) Oversee all FEMA related pre- and post-disaster hazard mitigation programs and activities;

(2) Provide technical assistance and training to State, local, and Indian tribal governments regarding the mitigation planning process;

(3) Review and approve all Standard and Enhanced State Mitigation Plans;

(4) Review and approve all local mitigation plans, unless that authority has been delegated to the State in accordance with § 201.6(d);

(5) Conduct reviews, at least once every three years, of State mitigation activities, plans, and programs to ensure that mitigation commitments are fulfilled, and when necessary, take action, including recovery of funds or denial of future funds, if mitigation commitments are not fulfilled.

(c) *State.* The key responsibilities of the State are to coordinate all State and local activities relating to hazard evaluation and mitigation and to:

(1) Prepare and submit to FEMA a Standard State Mitigation Plan following the criteria established in § 201.4 as a condition of receiving Stafford Act assistance (except emergency assistance).

(2) In order to be considered for the 20 percent HMGP funding, prepare and submit an Enhanced State Mitigation Plan in accordance with § 201.5, which must be reviewed and updated, if necessary, every three years from the date of the approval of the previous plan.

(3) At a minimum, review and, if necessary, update the Standard State Mitigation Plan by November 1, 2003 and every three years from the date of the approval of the previous plan in order to continue program eligibility.

(4) Make available the use of up to the 7 percent of HMGP funding for planning in accordance with § 206.434.

(5) Provide technical assistance and training to local governments to assist them in applying for HMGP planning grants, and in developing local mitigation plans.

(6) For Managing States that have been approved under the criteria established by FEMA pursuant to 42 U.S.C. 5170c(c), review and approve local mitigation plans in accordance with § 201.6(d).

(d) *Local governments.* The key responsibilities of local governments are to:

(1) Prepare and adopt a jurisdiction-wide natural hazard mitigation plan as a condition of receiving project grant funds under the HMGP, in accordance with § 201.6.

(2) At a minimum, review and, if necessary, update the local mitigation plan every five years from date of plan approval to continue program eligibility.

(e) *Indian tribal governments.* Indian tribal governments will be given the option of applying directly to us for Hazard Mitigation Grant Program funding, or they may choose to apply through the State. If they apply directly to us, they will assume the responsibilities of the State, or grantee, and if they apply through the State, they will assume the responsibilities of the local government, or subgrantee.

**§ 201.4 Standard State Mitigation Plans.**

(a) *Plan requirement.* By November 1, 2003, States must have an approved Standard State Mitigation plan meeting the requirements of this section, in order to receive assistance under the Stafford Act, although assistance authorized under disasters declared prior to November 1, 2003 will continue to be made available. In any case, emergency assistance provided under 42 U.S.C. 5170a, 5170b, 5173, 5174, 5177, 5179, 5180, 5182, 5183, 5184, 5192 will not be affected. The mitigation plan is the demonstration of the State's commitment to reduce risks from natural hazards and serves as a guide for State decision makers as they commit resources to reducing the effects of natural hazards. States may choose to include the requirements of the HMGP Administrative Plan in their mitigation plan.

(b) *Planning process.* An effective planning process is essential in developing and maintaining a good plan. The mitigation planning process should include coordination with other State agencies, appropriate Federal agencies, interested groups, and be integrated to the extent possible with other ongoing State planning efforts as well as other FEMA mitigation programs and initiatives.

(c) *Plan content.* To be effective the plan must include the following elements:

(1) Description of the *planning process* used to develop the plan, including how it was prepared, who was involved in the process, and how other agencies participated.

(2) *Risk assessments* that provide the factual basis for activities proposed in the strategy portion of the mitigation plan. Statewide risk assessments must characterize and analyze natural hazards and risks to provide a statewide overview. This overview will allow the State to compare potential losses throughout the State and to determine their priorities for implementing mitigation measures under the strategy, and to prioritize jurisdictions for receiving technical and financial support in developing more detailed local risk and vulnerability assessments. The risk assessment shall include the following:

(i) An overview of the type and location of all natural hazards that can affect the State, including information on previous occurrences of hazard events, as well as the probability of future hazard events, using maps where appropriate;

(ii) An overview and analysis of the State's vulnerability to the hazards described in this paragraph (c)(2), based on estimates provided in local risk assessments as well as the State risk assessment. The State shall describe vulnerability in terms of the jurisdictions most threatened by the identified hazards, and most vulnerable to damage and loss associated with hazard events. State owned critical or operated facilities located in the

identified hazard areas shall also be addressed;

(iii) An overview and analysis of potential losses to the identified vulnerable structures, based on estimates provided in local risk assessments as well as the State risk assessment. The State shall estimate the potential dollar losses to State owned or operated buildings, infrastructure, and critical facilities located in the identified hazard areas.

(3) A *Mitigation Strategy* that provides the State's blueprint for reducing the losses identified in the risk assessment. This section shall include:

(i) A description of State goals to guide the selection of activities to mitigate and reduce potential losses.

(ii) A discussion of the State's pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the area, including: an evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas; a discussion of State funding capabilities for hazard mitigation projects; and a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.

(iii) An identification, evaluation, and prioritization of cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering and an explanation of how each activity contributes to the overall mitigation strategy. This section should be linked to local plans, where specific local actions and projects are identified.

(iv) Identification of current and potential sources of Federal, State, local, or private funding to implement mitigation activities.

(4) A section on the *Coordination of Local Mitigation Planning* that includes the following:

(i) A description of the State process to support, through funding and technical assistance, the development of local mitigation plans.

(ii) A description of the State process and timeframe by which the local plans will be reviewed, coordinated, and linked to the State Mitigation Plan.

(iii) Criteria for prioritizing communities and local jurisdictions that would receive planning and project grants under available funding programs, which should include consideration for communities with the highest risks, repetitive loss properties, and most intense development pressures. Further, that for non-planning grants, a principal criterion for prioritizing grants shall be the extent to which benefits are maximized according to a cost benefit review of proposed projects and their associated costs.

(5) A *Plan Maintenance Process* that includes:

(i) An established method and schedule for monitoring, evaluating, and updating the plan.

(ii) A system for monitoring implementation of mitigation measures and project closeouts.

(iii) A system for reviewing progress on achieving goals as well as activities and projects identified in the Mitigation Strategy.

(6) A *Plan Adoption Process.* The plan must be formally adopted by the State prior to submittal to us for final review and approval.

(7) *Assurances.* The plan must include assurances that the State will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 44 CFR 13.11(c). The State will amend its plan whenever necessary to reflect changes in State or Federal laws and statutes as required in 44 CFR 13.11(d).

(d) *Review and updates.* Plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities and resubmitted for approval to the appropriate Regional Director every three years. The Regional review will be completed within 45 days after receipt from the State, whenever possible. We also encourage a State to review its plan in the post-disaster timeframe to reflect changing priorities, but it is not required.

**§ 201.5 Enhanced State Mitigation Plans.**

(a) A State with a FEMA approved Enhanced State Mitigation Plan at the time of a disaster declaration is eligible to receive increased funds under the HMGP, based on twenty percent of the total estimated eligible Stafford Act disaster assistance. The Enhanced State Mitigation Plan must demonstrate that a State has developed a comprehensive mitigation program, that the State effectively uses available mitigation funding, and that it is capable of managing the increased funding. In order for the State to be eligible for the 20 percent HMGP funding, FEMA must have approved the plan within three years prior to the disaster declaration.

(b) Enhanced State Mitigation Plans must include all elements of the Standard State Mitigation Plan identified in § 201.4, as well as document the following:

(1) Demonstration that the plan is integrated to the extent practicable with other State and/or regional planning initiatives (comprehensive, growth management, economic development, capital improvement, land development, and/or emergency management plans) and FEMA mitigation programs and initiatives that provide guidance to State and regional agencies.

(2) Documentation of the State's project implementation capability, identifying and demonstrating the ability to implement the plan, including:

(i) Established eligibility criteria for multi-hazard mitigation measures.

(ii) A system to determine the cost effectiveness of mitigation measures, consistent with OMB Circular A–94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, and to rank the measures according to the State's eligibility criteria.

(iii) Demonstration that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs, including a record of the following:

(A) Meeting HMGP and other mitigation grant application timeframes and submitting complete, technically feasible, and eligible project applications with appropriate supporting documentation;

(B) Preparing and submitting accurate environmental reviews and benefit-cost analyses;

(C) Submitting complete and accurate quarterly progress and financial reports on time; and

(D) Completing HMGP and other mitigation grant projects within established performance periods, including financial reconciliation.

(iv) A system and strategy by which the State will conduct an assessment of the completed mitigation actions and include a record of the effectiveness (actual cost avoidance) of each mitigation action.

(3) Demonstration that the State effectively uses existing mitigation programs to achieve its mitigation goals.

(4) Demonstration that the State is committed to a comprehensive state mitigation program, which might include any of the following:

(i) A commitment to support local mitigation planning by providing workshops and training, State planning grants, or coordinated capability development of local officials, including Emergency Management and Floodplain Management certifications.

(ii) A statewide program of hazard mitigation through the development of legislative initiatives, mitigation councils, formation of public/private

partnerships, and/or other executive actions that promote hazard mitigation.

(iii) The State provides a portion of the non-Federal match for HMGP and/or other mitigation projects.

(iv) To the extent allowed by State law, the State requires or encourages local governments to use a current version of a nationally applicable model building code or standard that addresses natural hazards as a basis for design and construction of State sponsored mitigation projects.

(v) A comprehensive, multi-year plan to mitigate the risks posed to existing buildings that have been identified as necessary for post-disaster response and recovery operations.

(vi) A comprehensive description of how the State integrates mitigation into its post-disaster recovery operations.

(c) *Review and updates.* (1) A State must review and revise its plan to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities, and resubmit it for approval to the appropriate Regional Director every three years. The Regional review will be completed within 45 days after receipt from the State, whenever possible.

(2) In order for a State to be eligible for the 20 percent HMGP funding, the Enhanced State Mitigation plan must be approved by FEMA within the three years prior to the current major disaster declaration.

### § 201.6 Local Mitigation Plans.

The local mitigation plan is the representation of the jurisdiction's commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding.

(a) *Plan requirement.* (1) For disasters declared after November 1, 2003, a local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants. Until November 1, 2003, local mitigation plans may be developed concurrent with the implementation of the project grant.

(2) Regional Directors may grant an exception to the plan requirement in extraordinary circumstances, such as in a small and impoverished community, when justification is provided. In these cases, a plan will be completed within 12 months of the award of the project grant. If a plan is not provided within this timeframe, the project grant will be terminated, and any costs incurred after notice of grant's termination will not be reimbursed by FEMA.

(3) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. State-wide plans will not be accepted as multi-jurisdictional plans.

(b) *Planning process.* An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

(c) *Plan content.* The plan shall include the following:

(1) Documentation of the *planning process* used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

(2) A *risk assessment* that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate;

(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

(3) *A mitigation strategy* that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

(iii) An action plan describing how the actions identified in paragraph (c)(2)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

(4) A *plan maintenance process* that includes:

(i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

(ii) A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

(iii) Discussion on how the community will continue public participation in the plan maintenance process.

(5) *Documentation* that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

(d) *Plan review.* (1) Plans must be submitted to the State Hazard Mitigation Officer for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval.

(2) The Regional review will be completed within 45 days after receipt from the State, whenever possible.

(3) Plans must be reviewed, revised if appropriate, and resubmitted for approval within five years in order to continue to be eligible for HMGP project grant funding.

(4) Managing States that have been approved under the criteria established by FEMA pursuant to 42 U.S.C. 5170c(c) will be delegated approval authority for local mitigation plans, and the review will be based on the criteria in this part. Managing States will review the plans within 45 days of receipt of the plans, whenever possible, and provide a copy of the approved plans to the Regional Office.

## PART 206—FEDERAL DISASTER ASSISTANCE FOR DISASTERS DECLARED ON OR AFTER NOVEMBER 23, 1988

2. The authority citation for part 206 is revised to read as follows:

**Authority:** Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121–5206; Reorganization Plan No. 3 of 1978, 43 FR 41943, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376; E.O. 12148, 44 FR 43239, 3 CFR, 1979 Comp., p. 412; and E.O. 12673, 54 FR 12571, 3 CFR, 1989 Comp., p. 214.

2a. Revise Part 206, Subpart M to read as follows:

### Subpart M—Minimum Standards

Sec.
206.400 General.
206.401 Local standards.
206.402 Compliance.

#### § 206.400 General.

(a) As a condition of the receipt of any disaster assistance under the Stafford Act, the applicant shall carry out any repair or construction to be financed with the disaster assistance in accordance with applicable standards of safety, decency, and sanitation and in conformity with applicable codes, specifications and standards.

(b) Applicable codes, specifications, and standards shall include any disaster resistant building code that meets the minimum requirements of the National Flood Insurance Program (NFIP) as well as being substantially equivalent to the recommended provisions of the National Earthquake Hazards Reduction Program (NEHRP). In addition, the applicant shall comply with any requirements necessary in regards to Executive Order 11988, Floodplain Management, Executive Order 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, and any other applicable Executive orders.

(c) In situations where there are no locally applicable standards of safety, decency and sanitation, or where there are no applicable local codes, specifications and standards governing repair or construction activities, or where the Regional Director determines that otherwise applicable codes, specifications, and standards are inadequate, then the Regional Director may, after consultation with appropriate State and local officials, require the use of nationally applicable codes, specifications, and standards, as well as safe land use and construction practices in the course of repair or construction activities.

(d) The mitigation planning process that is mandated by section 322 of the Stafford Act and 44 CFR part 201 can assist State and local governments in determining where codes, specifications, and standards are inadequate, and may need to be upgraded.

#### § 206.401 Local standards.

The cost of repairing or constructing a facility in conformity with minimum codes, specifications and standards may be eligible for reimbursement under section 406 of the Stafford Act, as long as such codes, specifications and standards meet the criteria that are listed at 44 CFR 206.226(b).

#### § 206.402 Compliance.

A recipient of disaster assistance under the Stafford Act must document for the Regional Director its compliance with this subpart following the completion of any repair or construction activities.

### Subpart N—Hazard Mitigation Grant Program

3. Revise § 206.431 to read as follows:

#### § 206.431 Definitions.

*Activity* means any mitigation measure, project, or action proposed to reduce risk of future damage, hardship, loss or suffering from disasters.

*Applicant* means a State agency, local government, Indian tribal government, or eligible private nonprofit organization, submitting an application to the grantee for assistance under the HMGP.

*Enhanced State Mitigation Plan* is the hazard mitigation plan approved under 44 CFR part 201 as a condition of receiving increased funding under the HMGP.

*Grant application* means the request to FEMA for HMGP funding, as outlined in § 206.436, by a State or tribal government that will act as grantee.

*Grant award* means total of Federal and non-Federal contributions to complete the approved scope of work.

*Grantee* means the government to which a grant is awarded and which is accountable for the use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award document. Generally, the State is the grantee. However, an Indian tribal government may choose to be a grantee, or it may act as a subgrantee under the State. An Indian tribal government acting as a grantee will assume the responsibilities of a ''state'', under this subpart, for the purposes of administering the grant.

*Indian tribal government* means any Federally recognized governing body of an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of Interior acknowledges to exist as an Indian tribe under the Federally Recognized Tribe List Act of 1994, 25 U.S.C. 479a. This does not include Alaska Native corporations, the ownership of which is vested in private individuals.

*Local Mitigation Plan* is the hazard mitigation plan required of a local or Indian tribal government acting as a subgrantee as a condition of receiving a project subgrant under the HMGP as outlined in 44 CFR 201.6.

*Standard State Mitigation Plan* is the hazard mitigation plan approved under 44 CFR part 201, as a condition of receiving Stafford Act assistance as outlined in § 201.4.

*State Administrative Plan for the Hazard Mitigation Grant Program* means the plan developed by the State to describe the procedures for administration of the HMGP.

*Subgrant* means an award of financial assistance under a grant by a grantee to an eligible subgrantee.

*Subgrant application* means the request to the grantee for HMGP funding by the eligible subgrantee, as outlined in § 206.436.

*Subgrantee* means the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided. Subgrantees can be a State agency, local government, private non-profit organizations, or Indian tribal government as outlined in § 206.433.

Indian tribal governments acting as a subgrantee are accountable to the State grantee.

4. Revise § 206.432(b) to read as follows:

**§ 206.432 Federal grant assistance.**

* * * * *

(b) *Amounts of assistance.* The total of Federal assistance under this subpart shall not exceed either 15 or 20 percent of the total estimated Federal assistance (excluding administrative costs) provided for a major disaster under 42 U.S.C. 5170b, 5172, 5173, 5174, 5177, 5178, 5183, and 5201 as follows:

(1) *Fifteen (15) percent.* Effective November 1, 2003, a State with an approved Standard State Mitigation Plan, which meets the requirements outlined in 44 CFR 201.4, shall be eligible for assistance under the HMGP not to exceed 15 percent of the total estimated Federal assistance described in this paragraph. Until that date, existing, approved State Mitigation Plans will be accepted.

(2) *Twenty (20) percent.* A State with an approved Enhanced State Mitigation Plan, in effect prior to the disaster declaration, which meets the requirements outlined in 44 CFR 201.5 shall be eligible for assistance under the HMGP not to exceed 20 percent of the total estimated Federal assistance described in this paragraph.

(3) The estimates of Federal assistance under this paragraph (b) shall be based on the Regional Director's estimate of all eligible costs, actual grants, and appropriate mission assignments.

* * * * *

5. Section 206.434 is amended by redesignating paragraphs (b) through (g) as paragraphs (c) through (h), respectively; adding a new paragraph (b); revising redesignated paragraphs (c) introductory text and (c)(1); and revising redesignated paragraph (d) to read as follows:

**§ 206.434 Eligibility.**

* * * * *

(b) *Plan requirement.* (1) For all disasters declared on or after November 1, 2003, local and tribal government applicants for subgrants, must have an approved local mitigation plan in accordance with 44 CFR 201.6 prior to receipt of HMGP subgrant funding. Until November 1, 2003, local mitigation plans may be developed concurrent with the implementation of subgrants.

(2) Regional Directors may grant an exception to this requirement in extraordinary circumstances, such as in a small and impoverished community when justification is provided. In these cases, a plan will be completed within 12 months of the award of the project grant. If a plan is not provided within this timeframe, the project grant will be terminated, and any costs incurred after notice of grant's termination will not be reimbursed by FEMA.

(c) *Minimum project criteria.* To be eligible for the Hazard Mitigation Grant Program, a project must:

(1) Be in conformance with the State Mitigation Plan and Local Mitigation Plan approved under 44 CFR part 201;

* * * * *

(d) *Eligible activities.* (1) *Planning.* Up to 7% of the State's HMGP grant may be used to develop State, tribal and/or local mitigation plans to meet the planning criteria outlined in 44 CFR part 201.

(2) *Types of projects.* Projects may be of any nature that will result in protection to public or private property. Eligible projects include, but are not limited to:

(i) Structural hazard control or protection projects;

(ii) Construction activities that will result in protection from hazards;

(iii) Retrofitting of facilities;

(iv) Property acquisition or relocation, as defined in paragraph (e) of this section;

(v) Development of State or local mitigation standards;

(vi) Development of comprehensive mitigation programs with implementation as an essential component;

(vii) Development or improvement of warning systems.

* * * * *

6. Revise § 206.435(a) to read as follows:

**§ 206.435 Project identificaiton and selection criteria.**

(a) *Identification.* It is the State's responsibility to identify and select eligible hazard mitigation projects. All funded projects must be consistent with the State Mitigation Plan. Hazard Mitigation projects shall be identified and prioritized through the State, Indian tribal, and local planning process.

* * * * *

7. Revise § 206.436 to read as follows:

**§ 206.436 Application procedures.**

(a) *General.* This section describes the procedures to be used by the grantee in submitting an application for HMGP funding. Under the HMGP, the State or Indian tribal government is the grantee and is responsible for processing subgrants to applicants in accordance with 44 CFR part 13 and this part 206. Subgrantees are accountable to the grantee.

(b) *Governor's Authorized Representative.* The Governor's Authorized Representative serves as the grant administrator for all funds provided under the Hazard Mitigation Grant Program. The Governor's Authorized Representative's responsibilities as they pertain to procedures outlined in this section include providing technical advice and assistance to eligible subgrantees, and ensuring that all potential applicants are aware of assistance available and submission of those documents necessary for grant award.

(c) *Hazard mitigation application.* Upon identification of mitigation measures, the State (Governor's Authorized Representative) will submit its Hazard Mitigation Grant Program application to the FEMA Regional Director. The application will identify one or more mitigation measures for which funding is requested. The application must include a Standard Form (SF) 424, Application for Federal Assistance, SF 424D, Assurances for Construction Programs, if appropriate, and an narrative statement. The narrative statement will contain any pertinent project management information not included in the State's administrative plan for Hazard Mitigation. The narrative statement will also serve to identify the specific mitigation measures for which funding is requested. Information required for each mitigation measure shall include the following:

(1) Name of the subgrantee, if any;

(2) State or local contact for the measure;

(3) Location of the project;

(4) Description of the measure;

(5) Cost estimate for the measure;

(6) Analysis of the measure's cost-effectiveness and substantial risk reduction, consistent with § 206.434(c);

(7) Work schedule;

(8) Justification for selection;

(9) Alternatives considered;

(10) Environmental information consistent with 44 CFR part 9, Floodplain Management and Protection of Wetlands, and 44 CFR part 10, Environmental Considerations.

(d) *Application submission time limit.* The State's application may be amended as the State identifies and selects local project applications to be funded. The State must submit all local HMGP applications and funding requests for the purpose of identifying new projects to the Regional Director within 12 months of the date of disaster declaration.

(e) *Extensions.* The State may request the Regional Director to extend the application time limit by 30 to 90 day

increments, not to exceed a total of 180 days. The grantee must include a justification in its request.

(f) *FEMA approval.* The application and supplement(s) will be submitted to the FEMA Regional Director for approval. FEMA has final approval authority for funding of all projects.

(g) *Indian tribal grantees.* Indian tribal governments may submit a SF 424 directly to the Regional Director.

## Subpart H—Public Assistance Eligibility

* * * * *

8. Revise § 206.220 to read as follows:

### § 206.220 General.

This subpart provides policies and procedures for determinations of eligibility of applicants for public assistance, eligibility of work, and eligibility of costs for assistance under sections 402, 403, 406, 407, 418, 419, 421(d), 502, and 503 of the Stafford Act. Assistance under this subpart must also conform to requirements of 44 CFR part 201, Mitigation Planning, and 44 CFR part 206, subparts G—Public Assistance Project Administration, I—Public Assistance Insurance Requirements, J—Coastal Barrier Resources Act, and M—Minimum Standards. Regulations under 44 CFR part 9—Floodplain Management and 44 CFR part 10—Environmental Considerations, also apply to this assistance.

9. Section 206.226 is amended by redesignating paragraphs

(b) through (j) as paragraphs (c) through (k), respectively; adding a new paragraph (b); and revising redesignated paragraph (g)(5) to read as follows:

### § 206.226 Restoration of damaged facilities.

* * * * *

(b) *Mitigation planning.* In order to receive assistance under this section, as of November 1, 2003, the State must have in place a FEMA approved State Mitigation Plan in accordance with 44 CFR part 201.

* * * * *

(g) * * *

(5) If relocation of a facility is not feasible or cost effective, the Regional Director shall disapprove Federal funding for the original location when he/she determines in accordance with 44 CFR parts 9, 10, 201, or subpart M of this part 206, that restoration in the original location is not allowed. In such cases, an alternative project may be applied for.

* * * * *

Dated: February 19, 2002.

**Michael D. Brown,**

*General Counsel.*

[FR Doc. 02–4321 Filed 2–25–02; 8:45 am]

BILLING CODE 6718–05–P

Plan,'' OMB approval number 1660–0075.

*I. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments*

FEMA has reviewed this rule under Executive Order 13175, ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, published November 9, 2000). In reviewing the portion of the rule which streamlines the mitigation planning requirements affecting Indian tribal governments, FEMA finds that, while it does have ''tribal implications'' as defined in Executive Order 13175, it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

*J. Executive Order 12630, Governmental Actions and Interference With Constitutionally Protected Property Rights*

FEMA has reviewed this rule under Executive Order 12630, ''Governmental Actions and Interference with Constitutionally Protected Property Rights'' (53 FR 8859, published March 18, 1988) as supplemented by Executive Order 13406, ''Protecting the Property Rights of the American People'' (71 FR 36973, published June 28, 2006). This rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630.

*K. Executive Order 12988, Civil Justice Reform*

FEMA has reviewed this rule under Executive Order 12988, ''Civil Justice Reform'' (61 FR 4729, published February 7, 1996). This rule meets applicable standards to minimize litigation, eliminate ambiguity, and reduce burden.

**List of Subjects in 44 CFR Part 78**

Flood insurance, Grant programs.

■ Accordingly, for the reasons stated in the preamble, the interim rule amending 44 CFR part 78 which was published at 62 FR 13346 on March 20, 1997, is adopted as final, with the following changes:

## PART 78—FLOOD MITIGATION ASSISTANCE

■ 1. The authority citation for part 78 is revised to read as follows:

**Authority:** 6 U.S.C. 101; 42 U.S.C. 4001 *et seq.*; 42 U.S.C. 4104c, 4104d; Reorganization Plan No. 3 of 1978, 43 FR 41943, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376; E.O. 12148, 44 FR 43239, 3 CFR, 1979 Comp., p. 412; E.O. 13286, 68 FR 10619, 3 CFR, 2003 Comp., p. 166.

**§ 78.1 [Amended]**

■ 2. In § 78.1, paragraph (b), remove the word ''insurable'' and add, in its place, the word ''insured''.

Dated: October 24, 2007.

**Harvey E. Johnson, Jr.,**

*Deputy Administrator/Chief Operating Officer, Federal Emergency Management Agency.*

[FR Doc. E7–21263 Filed 10–30–07; 8:45 am]

**BILLING CODE 9110–41–P**

---

## DEPARTMENT OF HOMELAND SECURITY

### Federal Emergency Management Agency

### 44 CFR Parts 201, 204, and 206

**[Docket ID FEMA–2007–0004]**

**RIN 1660–AA17**

### Hazard Mitigation Planning and Hazard Mitigation Grant Program

**AGENCY:** Federal Emergency Management Agency, DHS.

**ACTION:** Final rule.

**SUMMARY:** The Federal Emergency Management Agency (FEMA) is adopting as final, without substantive changes, interim rules that establish requirements for hazard mitigation planning and the Hazard Mitigation Grant Program (HMGP) pursuant to sections 322 and 323 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act.

**DATES:** This final rule is effective November 30, 2007.

**FOR FURTHER INFORMATION CONTACT:** Karen Helbrecht, Risk Analysis Division, Mitigation Directorate, Federal Emergency Management Agency, 500 C Street, SW., Washington DC, 20472, (phone) 202–646–3358, (facsimile) 202–646–3104, or (e-mail) *Karen.helbrecht@dhs.gov.*

**SUPPLEMENTARY INFORMATION:**

### I. Background

This rulemaking finalizes, without substantive changes, interim rules implementing sections 322 and 323 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) (42 U.S.C. 5165), enacted by section 104 of the Disaster Mitigation Act of 2000 (DMA 2000), (42 U.S.C. 5121 note). Section 322 requires, as a condition of receipt of federal hazard mitigation grant assistance, hazard mitigation planning and is implemented in the Emergency Management and Assistance regulations at 44 CFR part 201 (Mitigation Planning). Section 323 requires, as a condition of receipt of disaster loans or grants distributed under the Hazard Mitigation Grant Program (HMGP) that minimum repair and construction codes, specifications, and standards are followed. Section 323 is implemented at 44 CFR part 206 (Federal Disaster Assistance for Disasters Declared On Or After November 23, 1988), Subpart N (Hazard Mitigation Grant Program).

Parts 201 and 206 outline mitigation planning and hazard mitigation grant requirements, respectively, for State, Indian tribal, and local entities. To be eligible for FEMA mitigation and public assistance grant funds (except for emergency assistance), State, local, or Indian tribal governments must have a FEMA-approved hazard mitigation plan. All hazard mitigation plans must be submitted to FEMA for final review and approval. FEMA will review and comment on the plan within 45 days, whenever possible. Once approved, local plans are to be revised and resubmitted to FEMA every 5 years, State plans are to be revised and resubmitted to FEMA every 3 years, and Indian tribal governments may either apply directly to FEMA, thereby assuming the responsibilities of a State, or may apply through a State, thereby assuming the responsibilities of a local government.

Additionally, for States that complete FEMA requirements for enhanced mitigation planning, the amount of HMGP funds available increases from 15 percent of the Federal share of disaster assistance for that event to 20 percent of the Federal share of disaster assistance for that event. Up to 7 percent of hazard mitigation grants may be used to develop State, tribal, and/or local mitigation planning activities outlined in 44 CFR part 201.

There have been four interim rules (IRs) and one correction published in this rulemaking action. On February 26, 2002, FEMA published an IR at 67 FR 8844 implementing section 322 of the Stafford Act. This first IR addressed State mitigation planning, identified new local mitigation planning grant requirements, authorized HMGP funds for planning activities, and increased the amount of HMGP funds available to States that develop a comprehensive, enhanced mitigation plan.

On October 1, 2002, FEMA published a second IR at 67 FR 61512. This IR amended the February 26, 2002, IR to

extend the date by which State and local governments must develop mitigation plans as a condition of grant assistance in compliance with 44 CFR part 201 from November 1, 2003 to November 1, 2004.

On October 28, 2003, FEMA published a third IR at 68 FR 61368. This IR clarified that the November 1, 2003 effective date for the planning requirement applied only to Pre-Disaster Mitigation (PDM) grant funds awarded under any Notice of Availability of Funding Opportunity issued after that date. It also updated the mitigation planning requirements identified in 44 CFR part 204 (Fire Management Assistance Grant Program), as well as 44 CFR part 206, subpart H (Public Assistance Eligibility) to bring those sections into conformity with the existing planning requirements in 44 CFR part 201.

On November 10, 2003, FEMA published a correcting amendment to the third IR at 68 FR 63738, correcting a paragraph reference.

On September 13, 2004, FEMA published a fourth IR at 69 FR 55094. This IR provided a mechanism for Governors or Indian tribal leaders to request a 6 month extension of the plan approval deadline for State-level mitigation plans, up to May 1, 2005. The IR also allowed mitigation planning grants provided through the PDM program to continue to be available to State, Indian tribal, and local governments after November 1, 2004. The IR also made technical amendments and adjusted the general major disaster allocation for HMGP from 15 percent to 7.5 percent to be consistent with statutory mandates.

With respect to docket management, the Regulatory Identifier Number (RIN) listed in the first two IRs was 3067–AD22. Since FEMA became a component of the Department of Homeland Security (DHS), FEMA's RINs were renumbered and 3067–AD22 became 1660–AA17.

**II. Discussion of Public Comments**

FEMA received 17 public comments on the February 26, 2002 IR, and 3 comments on the October 1, 2002 IR. FEMA received no comments on the October 28, 2003 or September 13, 2004 IRs. Fourteen State emergency management agencies, three organizations, two local governments, and one independent group submitted comments. The comments received, together with FEMA's response, are set forth below. The ''Multi-Hazard Mitigation Planning Guidance under DMA2000'' (also known as the Mitigation Planning ''Blue Book'') and the FEMA ''How-To'' series for Mitigation Planning (FEMA 386) are posted on the FEMA Web site (*http://www.FEMA.gov/library*). Unless otherwise stated, these are the documents referred to in FEMA's response when references to program policy or guidance are made.

*Comments on the First Interim Rule*

*Mitigation Planning Requirement Support; Timeline:* Six commenters indicated support for the hazard mitigation planning process, agreeing that the process is necessary for effective, sustained mitigation programs. Thirteen commenters wrote that there was not enough time for State and local governments to comply with the planning requirements, and that the timeframe should either be extended or the requirements eased in over time.

*FEMA's response:* FEMA recognized that not enough time was originally allowed to prepare the plans and issued another interim rule on October 1, 2002 that extended the planning requirement for State Mitigation Plans from November 1, 2003 to November 1, 2004. FEMA also extended the local planning requirement under the HMGP to November 1, 2004. In addition, FEMA published an interim rule on September 13, 2004 which provided a mechanism for Governors or Indian tribal leaders to request a 6 month extension of the effective date for State level mitigation plans (to May 1, 2005). All 50 States, the District of Columbia, and 6 Territories had approved hazard mitigation plans by May 1, 2005. Currently, all 50 States, the District of Columbia, 7 territories, and 33 Indian tribal governments have approved State level mitigation plans. In addition, over 11,000 jurisdictions now have approved local level mitigation plans. FEMA believes the timeframes to implement hazard mitigation plans have been sufficient.

*Technological Hazards:* Five commenters wrote that plans should be required to address manmade or technological hazards.

*FEMA's response:* Section 322 of the Stafford Act specifically requires mitigation planning for natural hazards, and FEMA decided that it was not appropriate to require planning for manmade or technological hazards. However, FEMA does support plans that address both natural and technological or manmade hazards. A State, Indian tribal, or local mitigation plan can be approved under the Stafford Act without consideration of technological hazards. However, FEMA's planning guidance can be used to assist in developing and evaluating plans that include manmade and technological hazards as part of a comprehensive mitigation strategy. More specifically, FEMA has developed a guidebook titled: ''Integrating Manmade Hazards into Mitigation Planning'' as part of the Planning ''How-To'' guidance series. This document is number seven in that series (FEMA 386–7).

*Number of hours necessary to prepare a plan:* Two commenters wrote that FEMA underestimated the average number of hours necessary to prepare a local mitigation plan.

*FEMA's response:* When FEMA published the February 26, 2002, interim rule, FEMA's original estimate of the number of hours necessary to prepare a local mitigation plan was based on planning done under the Flood Mitigation Assistance (FMA) program. FEMA published an estimate of 300 hours per plan to develop State or local mitigation plans under part 201. After several years of implementing the planning regulations, this estimate was adjusted to 2,080 hours to develop new State, local, or Indian tribal plans and 320 hours for plan updates to more accurately reflect the amount of time States and local communities actually spent in developing new plans or updating plans to meet the 3- or 5-year update requirements.

*Level of information required to develop plans:* Six commenters wrote that the level of detail required to develop local mitigation plans may be unreasonable, that the costs necessary to develop the plans result in an unfunded mandate, and that communities will be reluctant to develop plans because of a fear of liability in the event that problems are identified and mitigation measures are not implemented.

*FEMA's response:* The February 26, 2002 interim rule established new requirements for hazard mitigation planning. FEMA worked to ensure that appropriate guidance was developed for those responsible for developing, evaluating, and reviewing the plans. FEMA believes that the level of detail is reasonable and necessary to ensure that the statutory purposes of the mitigation planning provision are met and result in meaningful and effective mitigation planning. FEMA hosted a series of workshops in both 2002 and 2003 at each FEMA Region at which every State was represented. These workshops provided an opportunity to clarify the planning requirements identified in the regulation and to answer questions regarding these requirements. During the workshops, FEMA clarified the level of information required by the regulations in developing risk assessments for local mitigation plans. FEMA also issued policy related to the

possible lack of hazard specific risk information, which allows planners to use the ''best available information'' that is currently available in doing the risk assessment, and document how that information would be improved over time.

FEMA recognized that many jurisdictions did not budget for the costs associated with the development of mitigation planning. FEMA made an effort to ensure that the existing mitigation grant programs (HMGP, PDM, and FMA) were available to assist as many jurisdictions as possible. Through these programs, FEMA has approved over 1,400 planning grants between February 2002 and March 2007 with an obligated Federal share of over $157,000,000. As stated above, all 50 States, the District of Columbia, 7 territories, and 33 Indian tribal governments have approved State level mitigation plans. In addition, over 11,000 jurisdictions have approved local level mitigation plans. In fact, over 50 percent of the population of the United States is covered by an approved local level mitigation plan. Since these regulations were originally published in 2002, over 1,400 planning grants have been awarded and over 14,000 jurisdictions are covered by an approved mitigation plan. Due to the volume of plans being developed and approved, it appears that the issue of liability has not been a significant reason for communities to not undertake development of a mitigation plan.

*Significant regulatory action:* Two commenters disagreed with FEMA's conclusion that the rule is not an economically significant regulatory action because the nationwide cost projection of less than $100 million annually to implement the rule is not realistic.

*FEMA's response:* FEMA disagrees. For the reasons cited in the Executive Order 12866 section below, FEMA asserts that this is not an economically significant regulatory action. The annual impact of this rule on the economy is approximately $46 million. This regulation's effect on the economy is below the $100 million threshold to qualify as an economically significant action. Furthermore, this final rule makes no significant change to the interim rules which have been in place, and the regulated industry has been following, since 2002.

*Coordination among FEMA Regions:* Two commenters wrote that coordination within the 10 FEMA Regions is needed to ensure consistency for plan review and other aspects relating to regulation implementation.

*FEMA's response:* FEMA has worked to ensure that the regulation has been implemented in a fair and consistent manner. The agency has held several workshops, meetings, and training sessions to bring together FEMA staff and State representatives to identify areas of concern and to develop policy and guidance to resolve these issues. For example, a FEMA course entitled ''Mitigation Plan Review'' has been delivered at FEMA's Emergency Management Institute (EMI) in Emmitsburg, Maryland, and in almost all FEMA Regions, as well as in many States. FEMA will continue to work towards a nationally consistent application of the planning requirements.

*Flexibility in implementing the requirements:* Four commenters wrote that it is necessary for hazard mitigation plans and the hazard mitigation planning process to be flexible to meet the needs of diverse communities, to address mitigation issues based on actual circumstances, and to meet post-disaster mitigation needs.

*FEMA's response:* FEMA understands the commenters' concerns. To emphasize the importance and flexibility of the planning process, FEMA has taken, to the extent possible, a ''performance standard'' approach rather than a ''prescriptive'' approach to the planning requirements. In other words, hazard mitigation planning requirements are designed to generally identify what should be done in the process and documented in the plan, rather than specify exactly how it should be done. This approach recognizes and appreciates the inherent differences that exist among State, Indian tribal, and local governments with respect to size, resources, capability, and vulnerability. In addition, FEMA recognizes that flexibility is necessary in the post-disaster environment, and that individually-tailored mitigation plans can be very useful tools in the recovery process.

*Benefit-cost and planning:* Eight commenters wrote and asked what level of effort is required to prioritize cost-effective projects in the State level plan and in the local level action plan where ''benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.''

*FEMA's response:* Local mitigation plans do not require a formal benefit-cost calculation to be included within the plan document. However, one consideration in deciding what type of mitigation action(s) to pursue is an economic assessment of the particular action. This (and other considerations) should be debated and discussed as part of the planning team's and/or larger community's decision-making process. A possible result of these local discussions could be the decision to complete a formal benefit-cost evaluation of the various mitigation approaches that are technically appropriate for the situation. However, this is not required to be included in the plan. It is sufficient if economic considerations are summarized in the plan document as part of the comprehensive range of specific mitigation actions of projects being considered. Once funding is sought for the particular mitigation action, a detailed benefit-cost calculation would be required as described under the various grant program regulations. A similar evaluation should be done as part of the State planning process. The plan is required to document the process by which projects and activities will be prioritized and ranked, and this process must include cost effectiveness. In addition, FEMA intends to release additional guidance to help clarify the requirements.

*Definition of Critical facility:* Two commenters requested a definition of the term ''critical facility.''

*FEMA's response:* The list of assets that are most important to protect, as well as the criticality of any given facility, can vary widely from community-to-community. Thus, there is no universal definition of a critical facility, nor is one associated with FEMA's planning requirements. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions. FEMA's Mitigation Planning How-To Guide, ''Understanding Your Risks: Identifying Hazards and Estimating Losses'' (FEMA 386–2) provides guidance on how to identify critical facilities. Based on a hazard-by-hazard identification of facilities that may be at risk, the Guide's emphasis on determining priorities for inventory data collection will help planners identify assets that are most critical to the jurisdiction. The companion publication ''Integrating Manmade Hazards into Mitigation Planning'' (FEMA 386–7) details how asset inventory can be tailored to focus on high-risk facilities such as critical infrastructures and key resources. In addition, the inventory information available with FEMA's HAZUS–MH loss estimation software can assist in identifying critical facilities. HAZUS–MH databases include information on essential facilities such as hospitals,

police and fire stations, emergency operations centers, shelters, and schools; transportation systems; utility lifelines; high potential loss facilities such as potable water, wastewater, oil, natural gas, electric power, and communication systems; and hazardous material facilities.

Other sources provide additional guidance on identifying facilities that may be critical. FEMA's ''Public Assistance Guide'' (FEMA 322) states that ''[c]ritical facilities are those that serve as emergency shelters; contain occupants who are not sufficiently mobile to avoid death or injury, such as hospitals; house emergency operation or data storage that may become lost or inoperative; are generating plants and principal points of utility lines; or that produce, use, or store volatile, flammable, explosive, toxic, or water reactive materials.'' The related regulation at § 206.226, Restoration of damaged facilities, refers to facilities that provide critical services, ''which include power, water * * * sewer services, wastewater treatment, communications, emergency medical care, fire department services, emergency rescue, and nursing homes.'' Further, the National Infrastructure Protection Plan (NIPP), issued in 2006, provides a framework for a national strategy that includes State, local, Tribal and regional identification of risks and the protection of ''critical infrastructure'' and ''key resources.'' Critical Infrastructure is defined in the NIPP as ''[a]ssets, systems, and networks, whether physical or virtual, so vital to the United States that the incapacity or destruction of such assets, systems, or networks would have a debilitating impact on security, national economic security, public health or safety, or any combination of those matters,'' and Key Resources is defined as ''publicly or privately controlled resources essential to the minimal operations of the economy and government.'' Mitigation planning is identified in the NIPP as an activity that can help achieve protection of these assets.

The hazard mitigation plan should provide enough information regarding critical facilities to enable the jurisdiction to identify and prioritize appropriate mitigation actions. However, some information may be deemed highly sensitive and should not be made available to the public. Such information that the jurisdiction considers sensitive should be treated as an addendum to the mitigation plan so that it is still a part of the plan, but access can be controlled. For more information on protecting sensitive information *See,* ''Integrating Manmade Hazards into Mitigation Planning'' (FEMA 386–7).

FEMA notes that in § 201.4(c)(2)(ii), the regulation contains the phrase ''State owned critical or operated facilities,'' when in fact FEMA intended to use the phrase ''State owned or operated critical facilities.'' This typographical error is corrected in this final rule.

*Coordination of FEMA's planning requirements:* Four commenters requested that FEMA coordinate its planning requirements, especially between FMA and the new regulations at part 201.

*FEMA's response:* It was FEMA's intent to create a single local mitigation plan requirement in publishing the planning regulations at part 201. Since part 201 has been in effect, FEMA has realized that there are few areas of difference between the FMA plans and the part 201 plans. FEMA plans to revise part 201 to clarify that part 201 contains FEMA's mitigation plan requirements for all mitigation grant programs.

*Plan adoption:* Three commenters asked for clarification on how the State plan is ''formally adopted.'' One comment specifically requested that the plan be approved by the ''Governor's Authorized Representative.''

*FEMA's response:* An appropriate body in the State must adopt the plan. Depending on the State's established procedures, this could be the State Legislature or the Governor. States with hazard mitigation teams or councils may choose to use these bodies to adopt the plan. At a minimum, the plan must be endorsed by the director of the State agency responsible for preparing and implementing the plan, as well as the heads of other agencies with primary implementation responsibilities. The plan must include a copy of the resolution of adoption, indicating the State's formal adoption of the plan. It is recommended that the plan be formally adopted after FEMA has reviewed the plan and determined that it meets all the other requirements of part 201.

*Consultation with Indian tribal governments:* One commenter wrote that FEMA did not fulfill its requirement to consult with Indian tribal governments prior to issuing this rule.

*FEMA's response:* Before FEMA developed the interim rule, the agency met with representatives from State and local governments and the Bureau of Indian Affairs to discuss the new planning requirements of section 322 of the Stafford Act. The same opportunity for comment was offered to all parties. FEMA received valuable input from all attendees, which helped FEMA to develop the interim rule. Also, since FEMA published the interim rule, it has coordinated more directly with Indian tribal governments, and with the organizations that represent them. For example, in conjunction with the National Congress of American Indians, FEMA hosted a Tribal Mitigation Conference in October 2002 at the Ak-Chin Indian Community, Arizona. This conference provided FEMA with an opportunity to better understand its responsibilities relating to Indian tribal governments and to build a working relationship with many of the Indian tribal representatives. A follow-up conference was held at the Salish Kootenai Community, Montana in August 2003. As a direct result of these conferences, FEMA developed an EMI resident course titled ''Mitigation for Tribal Officials.'' This course provides a direct opportunity for coordination and information sharing between Indian tribal representatives and FEMA, resulting in refinements to FEMA's Indian tribal policy and guidance.

*Indian tribal governments and mitigation planning:* Three commenters wrote that the interim rule contributes to a loss of sovereignty of Indian tribal governments.

*FEMA's response:* FEMA sees no impact on the sovereignty of Indian tribal governments as a result of these regulations. FEMA recognizes that Native American Tribes are sovereign States. Although § 201.2 states that Indian tribal governments who chose to act as subgrantees are accountable to the State grantee, Indian tribal governments are not required to act as subgrantees. Furthermore, in § 201.3(e), Indian tribal governments may interact directly with the Federal government, or may choose to apply through a State as a subgrantee. This allows for an Indian tribal government to have the flexibility of either applying directly to FEMA for mitigation assistance, or, where the Indian tribal government has a working relationship with a State, apply through the State as a subgrantee. Some Indian tribal governments have participated on local level multi-jurisdictional plans, which have allowed them to participate in FEMA's mitigation programs while they gain expertise and management capability. It is entirely at the discretion of the Indian tribal government and the State whether funding should be sought by Indian tribal governments directly from FEMA or through the State.

*Edits to § 206.434(d):* One commenter requested that in § 206.434(d), FEMA make available 7 percent of any unspent HMGP funds currently available to the

States regardless of declaration date, and remove the word ''tribal.''

*FEMA's response:* Section 322 of the Stafford Act (42 U.S.C. 5165) limits 7 percent of the HMGP funds to be spent on mitigation planning, and since Indian tribal governments are eligible for mitigation funding, FEMA is unable to make them ineligible for HMGP planning grants.

*Technical assistance:* One commenter wrote that mitigation planning has great public value for Indian tribes; however, Indian tribes do not have the financial resources or the technical capacity to undertake such exercises, and that the rule seems to overlook the role of technical assistance.

*FEMA's response:* FEMA believes that technical assistance is critical to successful mitigation at all levels of government. FEMA has been working to technically assist all Federally-recognized Indian tribal governments regarding the availability of grant funding, training opportunities, as well as program requirements.

*The definition of ''Indian tribe:''* One commenter wrote that the term ''Indian tribe'' should be clarified to identify if FEMA means all Indian tribes, just Federally-recognized Indian tribes, or those tribes with either Federal or State recognition.

*FEMA's response:* The term ''Indian tribe'' means all Federally recognized Indian tribes. Section 201.2 includes the definition for Indian tribal government: ''* * * any Federally recognized governing body of an Indian or Alaska Native tribe, band, nation, pueblo, village, or community that the Secretary of Interior acknowledges to exist as an Indian tribe'' under the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. 479a.

*Enhanced State Mitigation Plans:* Six commenters asked for additional clarification regarding Enhanced State Mitigation Plan requirements.

*FEMA's response:* In July 2002, FEMA provided guidance titled ''Multi-Hazard Mitigation Planning Guidance under the Disaster Mitigation Act of 2000'' on the development of Enhanced State Mitigation Plans, FEMA revised that guidance in March 2004. These documents are available through FEMA regional offices, and the 2004 guidance, which retains the 2002 guidance but includes more explanations and examples, is available on the FEMA Web site at *http://www.fema.gov/plan/mitplanning/index.shtm.* These documents provide guidance on implementing each section of the enhanced plan requirements. FEMA established the criteria for enhanced plans to provide a more qualitative and less quantitative basis for evaluating the plans. In addition, FEMA's policy for reviewing enhanced plans has been to establish a panel consisting of two State representatives, staff from two FEMA Regions, and two FEMA Headquarters staff to review and evaluate the plan. This practice makes the plan review process more transparent and fair and provides States with an opportunity to see how the process works. As of August 2007, there are 9 States with approved Enhanced Mitigation Plans.

*Confusion regarding § 201.5(b)(4):* Commenters wrote that there is confusion regarding § 201.5(b)(4), which states: ''Demonstration that the State is committed to a comprehensive state mitigation program, which might include any of the following.''

*FEMA's response:* The list of items in § 201.5(b)(4)(i) through (vi) are provided as examples of that commitment, and are not expected to be addressed in every plan.

*State ability to satisfy NEPA requirements:* One commenter wrote that States should not be required to ensure that all environmental reviews (categorical exclusions, environmental impact statements, etc.) are completed because they are incapable of performing an environmental assessment or environmental impact statement.

*FEMA's response:* Section 201.5(b)(2)(iii)(B) requires States to prepare and submit accurate environmental reviews and benefit-cost analyses. FEMA concurs that it is FEMA's responsibility to develop the environmental documentation, in compliance with the National Environmental Protection Act (NEPA). However, FEMA's position is that the State is responsible for and is capable of ensuring that all appropriate information necessary to prepare the NEPA documentation is provided with project applications.

*Documentation of capability to manage HMGP:* One commenter expressed concern regarding how the Enhanced State Mitigation Plan requirement in § 201.5(b)(2)(iii), ''[d]emonstration that the State has the capability to effectively manage the HMGP as well as other mitigation grant programs, including a record of the following,'' would be implemented.

*FEMA's response:* FEMA recognized that it would be difficult for States to provide documentation of their capability in this section, so FEMA developed a policy that allows the Region and State to work together to complete the documentation for this requirement. This policy appears in the ''Multi-Hazard Mitigation Planning Guidance under DMA2000, Part 2 Enhanced State Mitigation Plans, Program Management Capability,'' which can be found at: *http://www.fema.gov/library.* For the initial Enhanced Plan approval, a State would be evaluated on their capability to effectively manage the HMGP as well as other mitigation grant programs over the previous four quarters. For subsequent plan update approvals, the State would be evaluated based on demonstrated capability for the full 3 years the plan had been in effect.

*Private Nonprofit entities:* One commenter asked for more clarification regarding the planning requirements for private nonprofit entities (PNPs).

*FEMA's response:* Private nonprofit (PNP) organizations, especially those that may be eligible applicants for hazard mitigation projects under 44 CFR part 206, should participate in the development of the local mitigation plan. If a PNP has fully participated in the development and review of the local plan, it is not necessary for the PNP to approve/adopt the plan, as long as it is adopted by the local jurisdiction. PNP applicants for HMGP project grants do not need to have an approved multi-hazard mitigation plan in order to receive HMGP project funds. However, FEMA has developed a policy for PNP project applications; in order for the applications to be approved, the jurisdiction in which the project is located should have an approved plan, and the project must be consistent with the plan's goals and objectives. For FEMA's PDM program, PNPs are not eligible subapplicants, but an eligible local government could apply for a grant to mitigate a PNP facility.

*Rural Electric Cooperatives:* One commenter wrote that a discrepancy exists regarding rural electric cooperatives. The commenter wrote that public power States with electrical services provided by districts administered by elected officials cover multiple local jurisdictions. These types of cooperatives do not conform to the definition of local jurisdictions and potentially multiple districts would have to be included in every local plan to qualify for future funding. This problem must be addressed in the rule.

*FEMA's response:* Multi-jurisdictional utility PNPs, including Rural Electric Cooperatives (RECs), which sometimes span several counties, are eligible subapplicants for assistance under HMGP. Their infrastructure often sustains damage from severe snow and ice storms, and they frequently seek HMGP funding after disaster declarations from these storms to mitigate future similar losses. RECs are

treated as PNPs for the purposes of disaster assistance provided by FEMA under the Stafford Act. They are not considered local governments. This distinction is important, because current regulations provide only for local governments, not PNPs, to meet the planning requirement by submitting a local mitigation plan (LMP) to FEMA. For PNPs such as RECs or other multi-jurisdictional utilities, FEMA is identifying two ways in which RECs may meet the mitigation planning requirements to ensure that projects funded by HMGP are consistent with the mitigation strategies of the State, Tribal, and/or local jurisdiction in which the project is located: the local jurisdiction(s) within which the REC mitigation project is located must have FEMA approved LMPs, or the FEMA approved State Mitigation Plan must address RECs. Further guidance is available on this topic on FEMA's Web site at *http://www.fema.gov.*

*Small and impoverished communities:* One commenter wrote that FEMA should identify criteria it will use to determine if a State identified community qualifies as ''small and impoverished.''

*FEMA's response:* The term ''small and impoverished communities'' is defined in § 201.2. This definition combines the term in section 203 of the Stafford Act, as amended by the Disaster Mitigation Act of 2000, with criteria for ''economically disadvantaged'' communities as used by the U.S. Environmental Protection Agency under their National Watershed Initiative. Communities can compare their per capita income to the Bureau of Economic Analysis's per capita income for the U.S. as a whole, issued annually; local unemployment data can be compared with the national unemployment rate according to the U.S. Bureau of Labor Statistics, also issued annually. Further guidance on FEMA's criteria for determining small and impoverished communities can be found on pages 1–10 of the FY 2007 Pre-Disaster Mitigation Program Guidance, which can be found at *http://www.fema.gov/library/viewRecord.do?id=2095.*

*State authority:* Two commenters wrote that FEMA was taking away the State's authority to administer and manage mitigation programs. The commenters wrote that States should be able to approve local mitigation plans and prioritize mitigation funding decisions.

*FEMA's response:* FEMA believes it is important to establish a national standard for local mitigation plans and to ensure that local jurisdictions are being evaluated based on the same criteria across the Nation. States may introduce additional criteria for their localities, but FEMA may only enforce the requirements of this rule. FEMA has worked to establish a solid baseline for mitigation plans, especially at the local level, and FEMA continues to work to ensure that plans are being evaluated in a fair and consistent manner. FEMA believes that the planning process supports the State's authority to administer the grant programs. By engaging in State-established planning processes, funding decisions can be made based on State-developed mitigation strategies.

*Listening session:* One commenter wrote and questioned the value of listening sessions that were held to gather comments and suggestions on implementing the planning requirements.

*FEMA's response:* The intent of the listening sessions was to gain input at an early stage from State and local officials, as well as other Federal agencies, for FEMA to consider as it began to develop regulations to implement the planning requirements. Much of the information generated by the listening session was very useful to FEMA in developing these regulations.

*Definition of local government:* One commenter wrote to request the word ''community'' be used rather than ''jurisdiction'' regarding the terminology used to discuss the local entity developing the local level plan.

*FEMA's response:* FEMA uses the term ''jurisdiction'' rather than ''community'' since the term ''jurisdiction'' is broader than the term ''community.'' A jurisdiction could be a county, city, township, parish, or other local entity. Furthermore, within FEMA, the term ''community'' is closely linked to the local entity that implements the National Flood Insurance Program.

*Local plan eligibility:* One commenter wrote that local governments should be able to receive assistance if the local jurisdiction has an approved plan, even if the State does not have an approved plan.

*FEMA's response:* The State is responsible for administering FEMA's programs. The requirement for a State plan as a condition for local governments to receive non-emergency disaster assistance was originally established through section 409 of the Stafford Act (42 U.S.C. 5176). However, section 409 was repealed by the Disaster Mitigation Act of 2000. In addition, every State has met the planning deadline thus far, and FEMA is confident that States will continue to meet the planning deadlines, thus ensuring that local plans can be approved.

*Availability of post-disaster assistance:* Two commenters wrote to ask how post-disaster assistance would be affected by the lack of an approved State Mitigation Plan by the established deadline.

*FEMA's response:* The post-disaster assistance that would be withheld by the lack of an approved State Mitigation Plan includes Public Assistance, categories C–G, HMGP, and Fire Management Assistance. As stated above, however, every State has thus far met the planning deadlines, so no post-disaster assistance has been withheld due to a State's lack of an established State plan.

*State planning:* One commenter asked what the purpose of the State mitigation planning process is, how the term ''effectiveness'' will be measured, how the ''factual basis'' for proposed activities will be established, how State laws should be evaluated, and stated that the requirement that the plan contain an overview of ''all natural hazards'' that can affect the State is too comprehensive.

*FEMA's response:* FEMA's approach to the planning process is to establish a mechanism for State and local governments to make informed decisions regarding their risk reduction activities rather than creating a prescriptive list of requirements. Section 201.4(a) describes the purpose of the State Mitigation Plan: ''[t]he mitigation plan is the demonstration of the State's commitment to reduce risks from natural hazards and serves as a guide for State decision makers as they commit resources to reducing the effects of natural hazards.'' FEMA looks to the State to establish baselines by which the State will measure the effectiveness of the programs and activities that it has identified that reduce its risks. FEMA is evaluating the effectiveness of plans based on how well the States document the planning process. The requirement regarding the ''factual basis'' for activities means that the State should be developing its mitigation strategy based on the facts (risks and vulnerabilities) established in its risk assessment. State laws would be evaluated based on the criteria established by the State to do so. Regarding the requirement that the plan contain overviews of all natural hazards, FEMA requires the State to *identify* all natural hazards that can affect the State, but only to *evaluate* those that pose the greatest risk (as determined by the State). This distinction ensures that natural hazards are not overlooked and can assist in future evaluations of the

State's risk, by summarizing the process used to conduct the risk assessment.

*Generic plans:* One commenter wrote that the required elements of a mitigation plan, such as listing facilities located in hazard areas or estimating the potential dollar losses to vulnerable structures, may produce generic plans or lists that are simply trying to comply with specifications rather than truly reducing risk.

*FEMA's response:* The type of information indicated above is essential to developing a thorough risk assessment. It is not FEMA's intent to require plans that merely list information, but, rather, have States, Indian tribes, and local jurisdictions carefully analyze information to better establish their risks and vulnerabilities. FEMA will continue to provide guidance regarding the level of detail necessary in the planning process, and to ensure that the process remains relevant to those who develop plans.

*Public Assistance:* Two commenters wrote that there should be a link between the mitigation plan and mitigation activities that might be funded through FEMA's Public Assistance program.

*FEMA's response:* FEMA concurs with these comments, and continues to coordinate within the agency to ensure that our programs and requirements are implemented as consistently as possible.

*Link between State and local plans:* Four comments requested clarification of the requirement that State Mitigation Plans be linked to local mitigation plans.

*FEMA's response:* Section 201.4(c)(4) requires that State Mitigation Plans describe the processes for incorporating local planning efforts into the statewide plan and prioritizing assistance to local jurisdictions. The intent of this section is to ensure that the State mitigation strategies and priorities can be evaluated and incorporated into the local mitigation plans, as appropriate. In addition, risk assessment and other data used in the development of the State plan can be used by local jurisdictions developing their plans, and more site specific data developed in the local mitigation plans may be useful to the State as it progresses in the development of any updated State Mitigation Plans. When the State plans were originally prepared under this regulation, there were few local plans that met FEMA's planning requirement under part 201. Therefore, States had limited local information on which to base their plans. Since then, many local plans have been approved and adopted, providing States with the opportunity to better coordinate with local jurisdictions.

*Types of resources for Local Mitigation Planning:* Two commenters requested additional information regarding the types of resources that are to be used to obtain information and data for the risk assessment and mitigation strategy in local mitigation plans.

*FEMA's response:* The information used to develop the local mitigation plans will be driven by local needs, State priorities, and the availability of information and data. Our guidance has been for jurisdictions to do a reasonable search for risk assessment information, to use the ''best available data'' for the analysis, and to indicate how any lack of information or data will be addressed (if at all) in future plan updates. The mitigation strategy should be vetted through the process established by the local mitigation planning team, which should include a public involvement process.

*Use of HMGP Planning Funds:* One commenter asked whether the 7 percent HMGP planning funding can be used for plan amendments at the local level.

*FEMA's response:* HMGP planning funds can be used to update or amend mitigation plans.

*Privacy concerns:* One comment stated that while State and local mitigation plans should identify factors that will be considered when developing specific projects, the plan should not be required to identify specific projects or properties, because doing so could affect privacy concerns and the perceived impact on land values.

*FEMA's response:* FEMA agrees that specific property addresses should not be included in the plan; however, it may be appropriate to identify project areas for certain risk mitigation activities. For example, as part of a mitigation strategy, a list of properties or areas being considered for acquisition should be prepared, but the specifics regarding property addresses should remain within project applications and not in the plan document itself.

*Definition of mitigation:* Two commenters wrote that the term ''sustained'' must be clarified to avoid confusion as to what specifically is appropriately termed hazard mitigation and what will be allowed for funding under FEMA programs. The commenters also noted that the term is at odds with the definition found in § 206.2(14).

*FEMA's response:* As the commenters note, § 206.2(14)'s definition of ''Hazard Mitigation'' is any cost-effective measure which will reduce the potential for damage to a facility from a disaster event, while § 201.2's definition of ''Hazard Mitigation'' is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards. The difference between the part 201 and part 206 definitions of hazard mitigation is that ''sustained'' is related to mitigation planning under part 201, and ''cost-effective measures'' is related to grant activities under part 206. The definition for hazard mitigation found in part 201 is meant to allow State, tribal, and local officials latitude to evaluate a wide range of options that might reduce risk; the term ''sustained'' was added to the definition in part 201 to make clear that mitigation activities should be a continuous undertaking, and is consistent with the long-term explanation of hazard mitigation projects in part 206.

*Definition of local government:* One commenter wrote that the definition of local government was too broad, covering subdivisions of political jurisdictions, and that it is important to look at the community as a whole.

*FEMA's response:* FEMA understands the commenter's concern. However, section 102 of the Stafford Act (42 U.S.C. 5122) contains a definition for ''local government,'' and this is the definition that FEMA closely follows. FEMA agrees that it is important to look at the whole community. FEMA developed guidance titled ''Multi-Jurisdictional Mitigation Planning,'' (FEMA 386–8), which assists jurisdictions in developing plans that can look at the whole community. A plan developed for a larger community can be adopted by sub-jurisdictions (as long as those sub-jurisdictions participated in the process), which ensures a sub-jurisdiction's eligibility for mitigation grant projects.

*Assistance affected by lack of plan:* One commenter wrote that §§ 201.4(a) and 201.6(a)(1) are inconsistent with each other, as the former eliminates eligibility for all assistance other than emergency measures for all local governments in a State, if the State fails to secure approval of a plan, while the latter only eliminates eligibility for funding if local entities fail to complete a plan. Since the State is dependent upon local mitigation planning efforts for data, the two sections should be consistent.

*FEMA's response:* The State Mitigation Plan is required in order for non-emergency disaster assistance, as well as mitigation grants, to be made available throughout the State. The local mitigation plan is required in order to receive mitigation project grants. Other

non-emergency assistance is not affected by the lack of a local mitigation plan. FEMA recognizes that the initial State planning efforts will be limited by the lack of local mitigation plans, but updated State plans will be able to incorporate local level data as it becomes available.

*''Ongoing State planning efforts:''* One commenter asked what is meant by ''ongoing state planning efforts'' in § 201.4(b).

*FEMA's response:* Section 201.4(b) states that an effective planning process is essential in developing and maintaining a good standard State Mitigation Plan. ''Ongoing state planning efforts'' means that the process should include continued coordination to the extent possible with other State agencies, appropriate Federal agencies, and additional interested groups. It is up to the State to determine what other planning processes might be affected by the mitigation planning process.

*Vulnerability Assessments:* One comment stated § 201.4(c)(2)(ii) would require the States to conduct vulnerability assessments based on local assessments of hazards and risk, but that it is not clear if the States would have to abandon their existing Hazard and Vulnerability Analysis methodology. Also, these risk analyses would have to be based on local participation, which cannot be mandated in many States.

*FEMA's response:* FEMA does not intend for any State to abandon their existing Hazard and Vulnerability Analysis methodologies. The State Mitigation Plans should document the process used to gather and analyze the data, and explain the methodology in determining vulnerability assessments. This documentation of previous hazard events and potential future hazard events will ensure that current and future users of the mitigation plan will be able to understand the basis for the decisions made in the plan. FEMA agrees that local participation in the planning process cannot be mandated, but where there are local plans, the available data and information should be used.

*State risk assessment:* One commenter questioned the level of detail required in the State risk assessment. The commenter stated that requiring the State Hazard Mitigation Plan to contain the potential losses to each structure, facility, or infrastructure identified as a risk by local governments for being located in an identified hazard area is redundant of the local mandates.

*FEMA's response:* Section 201.4 requires the State plan to provide an overview and analysis of potential losses to identified vulnerable structures based on estimates provided in local risk assessments. The intent is to look more broadly on risk and vulnerability than can be done at a local level. The local mitigation plans provide the necessary detail, but the State Mitigation Plan is where the data can be evaluated and summarized to determine overall vulnerabilities and to identify areas that may need additional assistance.

*State mitigation strategy:* One commenter questioned the level of detail required in the mitigation strategy section of the State Mitigation Plan. The commenter wrote that States may not be able to properly represent local actions and projects with respect to the elements in § 201.4(c)(3)(iii) because it would be quite costly to fully incorporate data for every local plan.

*FEMA's response:* Section 201.4 (c)(3)(iii) is based on the risk assessment portion of the plan and includes actions that have been identified through the planning process. These actions may be statewide in nature (such as adopting statewide building codes or establishing a multi-agency grant evaluation panel). It is not intended that every activity or action identified in local mitigation plans would be specifically addressed in the State plan. The State plan, through the description of the planning process, the establishment of the mitigation strategy, and the plan maintenance process, will dictate how future plan updates will be evaluated. FEMA will look at what was completed, deleted, or deferred from the plan and the justification for the process.

*Intense development pressure:* One comment asked for clarification of the term ''intense development pressure.''

*FEMA's response:* FEMA believes that States can reasonably interpret and apply the term ''intense development pressure.''

*Prioritizing HMGP funds:* One commenter requested that FEMA should consider allowing each State to prioritize the use of HMGP funds generated by a disaster based on whether the community has a multi-hazard plan.

*FEMA's response:* FEMA agrees with this comment. Program regulations, policy, and guidance allow States to prioritize the use of HMGP funds.

*Mandatory planning:* One commenter wrote that mitigation planning is a mandatory requirement, yet there is no guaranteed funding.

*FEMA's response:* The mitigation planning requirement is not an independently enforced, mandatory requirement. Rather, mitigation planning is a condition of eligibility for receiving certain assistance under the Stafford Act. State mitigation planning can result in reduced disaster losses. While there is no guaranteed funding for mitigation planning, FEMA has provided over $157 million in mitigation planning grants to States, Indian tribal governments, and local jurisdictions from February 2002 through March 2007. Projects are funded based on a thorough understanding of the local risks and vulnerabilities and the mitigation strategy outlined in the local mitigation plan.

*Executive Order 12898:* One comment stated that the rule substantially affects human health or the environment under Executive Order 12898 by creating a planning requirement that will be difficult for large urban cities and rural poor areas to meet, thereby denying those jurisdictions the opportunity to apply for HMGP project grants.

*FEMA's response:* FEMA does not agree that the rule has a disproportionate, adverse impact on minority or low income populations or on large urban cities. After the first interim rule, FEMA recognized that insufficient time was originally allowed to prepare the plans, and issued another IR on October 1, 2002 that extended the planning requirement for local plans under the HMGP from November 1, 2003 to November 1, 2004. Currently, over 14,000 jurisdictions now have approved local level mitigation plans, covering over 50 percent of the United States population. Large urban cities generally have their own planning and emergency management departments with staff who can carry out the work related to preparing the plan and/or direct the efforts of contractors. FEMA also recognized the potential administrative burden on jurisdictions that did not budget for the costs associated with the development of mitigation planning, and FEMA has provided funding opportunities for jurisdictions (through planning grants) to allow projects to proceed in minority or low income populations. This eases the potential burden on these jurisdictions while maintaining the statutory intent. Through these programs, FEMA has approved over 1,400 planning grants between February 2002 and March 2007 with obligated Federal grants of over $157,000,000.

In addition, § 201.6(a)(3) allows for an exception, in extraordinary circumstances, for a jurisdiction to receive an HMGP project grant without an approved plan. In this circumstance, the jurisdiction must agree to develop a plan within 12 months of receiving the project grant. This exception allows small or impoverished communities or

jurisdictions with limited resources the opportunity to apply for project funds, while meeting the planning requirement. This exception is available after a disaster, which also allows FEMA to provide resources to jurisdictions that need to complete their mitigation plan. These resources can include training and workshops, new data leading to the risk assessment, assistance in holding and facilitating community meetings, as well as the grant funding for plan development. This allows such potentially disadvantaged communities to receive HMGP project grants concurrent with the development of their mitigation plan, and FEMA will work with those jurisdictions to assist them in meeting the planning requirement. Therefore, FEMA has implemented the planning requirement in a manner that addresses any potential disproportionate adverse effect on minority or low income populations by providing technical assistance and funding opportunities to meet the requirement, as well as exceptions allowing project grants to proceed even where the regular planning requirement is not yet met.

*45-day FEMA review:* One comment wrote to express concern with the regulatory language that FEMA will review mitigation plans within 45 days, ''whenever possible,'' yet State, tribal, and local governments are required to meet firm deadlines.

*FEMA's response:* While FEMA makes every effort to review all plans in a timely manner, it must have the flexibility to have an extended review period beyond 45 days, if necessary. FEMA cannot control for disaster activity, field deployments, or large numbers of plans being submitted within a short timeframe, but is not aware of any programs or project grants being denied due to the lack of a plan being approved. The FEMA Regional offices have established draft plan review procedures that expedite the review and approval of final plans.

*Multi-jurisdictional plans:* One comment requested additional information regarding criteria for multi-jurisdictional planning.

*FEMA's response:* FEMA has developed a guidance document titled ''Multi-Jurisdictional Mitigation Planning'' (FEMA 386–8). This document contains all of the guidance developed to date regarding multi-jurisdictional planning, and provides direction to those considering this type of planning process. This document can be obtained through any FEMA Regional office or on the FEMA Web site at *http://www.fema.gov/plan/mitplanning/index/shtm*.

*Disaster funding restrictions and planning:* One commenter wrote that the Disaster Mitigation Act of 2000 did not intend to restrict disaster assistance to individuals due to the lack of a mitigation plan, and that failure to complete a plan should result in the denial of the increased mitigation dollars, not the entire mitigation grant program.

*FEMA's response:* FEMA agrees that assistance to individuals and other emergency disaster assistance should not be impacted by the lack of a State Mitigation Plan, and have provided for this exception in the regulation in § 201.3(c)(1). However, regarding non-emergency disaster assistance, State Mitigation Plans are critical to the disaster recovery process. The State establishes the framework for the recovery regarding how to address specific issues arising from the disaster, how to address building codes in the recovery effort, and to set priorities for mitigation activities. The requirement for this plan is based on over 30 years of experience that State mitigation planning can result in reduced disaster losses. Since State-level mitigation plans have been required for over 30 years, and section 322 of the Stafford Act is intended to increase mitigation activities, FEMA allows for Enhanced Plans, which make States eligible for the increased share of HMGP funding.

*Vulnerability information in State Plans:* One commenter wrote that every structure, infrastructure, and critical facility is vulnerable to the risk of disasters and the estimated total loss is potentially the total assessed value of all properties in a jurisdiction, excluding land; therefore, the requirement to analyze these losses as indicated in § 201.4(c)(2)(iii) is a meaningless and burdensome task.

*FEMA's response:* Section 201.4 requires the State to provide an overview and analysis of potential losses in order to develop a strategy for reducing its risk and vulnerability. If an entire State is subject to losses from disasters, it would be important to assess that risk and determine the best approach to reducing vulnerabilities. FEMA has designed the planning criteria so that each State can develop its own approach to determining how to mitigate its risks.

*Publish as a proposed regulation:* One comment stated that the regulation should be published as a proposed regulation to allow adequate consideration of the comments from State and local governments.

*FEMA's response:* As FEMA noted in the interim rule, these regulations needed to be effective in order for State and local governments to be eligible for and to receive mitigation funds as soon as possible. The public benefit of an interim rule is to assist States and communities assess their risks and identify activities to strengthen the larger community in order to be less susceptible to disasters. For these reasons, delaying the effective date of this rule would not have furthered the public interest. Furthermore, prior to this rulemaking, FEMA hosted a meeting where interested parties provided comments and suggestions on how FEMA could implement planning requirements. FEMA has also considered comments provided by States and local governments during the rulemaking process in implementing the planning requirements. The agency will continue to assess the utility and practicality of the requirements based on the experiences of States, tribes, and local governments.

*Mitigation under the Public Assistance Program:* One comment requested that FEMA change § 206.226(c) so that the hazard mitigation measures identified in a FEMA approved local hazard mitigation plan and associated with facilities and sites which subsequently suffer disaster related damage in a declared disaster are automatically incorporated into the entity's public assistance hazard mitigation proposal on the Project Worksheet as an eligible item.

*FEMA's response:* Activities funded under § 206.226 must meet the basic eligibility requirements of the Public Assistance program. While mitigation measures identified in the approved mitigation plan may be worthwhile actions, they may not meet the requirements of the Public Assistance program, and would not be eligible.

*New language for the regulation:* A number of comments proposed specific language revisions. One commenter wrote that the following language should be added to the FEMA responsibilities set out in § 201.3(b)(2), ''* * * and assist the [S]tate in the identification of the appropriate mitigation actions that a [S]tate or locality must take in order to have a measurable impact on reducing or avoiding the adverse effects of a specific hazard or hazardous situation'' because requiring the State to coordinate all State and local activities exceeds the State's capability and authority with regard to local control. Another commenter wrote that § 201.3(c) be revised to read ''[t]he key responsibilities of the State are to coordinate all State and regional activities relating to hazard evaluation and mitigation, and to the extent

possible, local activities relating to hazard evaluation and mitigation.'' One commenter wrote that § 201.3(c)(4) should be removed as it is redundant to Subpart N, and that § 201.4(c)(4)(iii) should be stricken as it conflicts with § 201.4(c)(3)(iii). One comment suggested that FEMA should add the following to § 206.401: ''* * * except where the local or [S]tate entity has adopted, in the post disaster period, new codes, standards, and ordinances that decrease risk to facilities from natural and manmade hazards.'' One comment asked that the language in § 206.432(b)(1) and (2) replace ''not to exceed'' with ''equal to.''

*FEMA's response:* Regarding the request to add ''* * * and assist the [S]tate in the identification of the appropriate mitigation actions that a [S]tate or locality must take in order to have a measurable impact on reducing or avoiding the adverse effects of a specific hazard or hazardous situation'' to FEMA's responsibilities; FEMA believes that the existing description requiring FEMA to provide technical assistance covers this type of activity, if necessary, but does not require the provision of the assistance in every situation, where it might not be required. In addition, FEMA believes that State and local jurisdictions often have a better understanding than FEMA of what is an appropriate mitigation action given the local conditions.

Regarding the request to revise § 201.3(c) to read ''[t]he key responsibilities of the State are to coordinate all State and regional activities relating to hazard evaluation and mitigation, and to the extent possible, local activities relating to hazard evaluation and mitigation;'' FEMA understands that some States lack the authority to mandate local actions, but FEMA believes that this section can be (and is) interpreted broadly enough to accommodate this situation. The proposed language change emphasizes regional over local activities, and FEMA believes that if the State coordinates regional activities, it has met the requirements of this section, given the broad interpretation of local activities.

Regarding the comment that § 201.3(c)(4) should be removed as it is redundant to Subpart N; FEMA believes that it is important to identify a potential source of funding for planning within the planning regulation, even if it addressed in Subpart N.

Regarding the comment that § 201.4(c)(4)(iii) should be stricken as it conflicts with § 201.4(c)(3)(iii); FEMA believes that while the two sections are similar, they are not identical and both need to be retained. Under the Mitigation Strategy (§ 201.4(c)(3)(iii)), the intent is to identify a range of mitigation actions and activities that are prioritized based on a variety of criteria and under the Coordination of Local Mitigation Planning (§ 201.4(c)(4)(iii)), the requirement is to prioritize communities who might most benefit from either planning or project grants (*i.e.* communities with high risk or multiple repetitive loss properties).

Regarding the comment that FEMA add the following to § 206.401: ''* * * except where the local or [S]tate entity has adopted, in the post disaster period, new codes, standards, and ordinances that decrease risk to facilities from natural and manmade hazards;'' FEMA disagrees with this change since it would conflict with regulations guiding the restoration of damaged facilities under § 206.226(d), and would substitute a very broad qualitative criterion of codes in general, as opposed to the five very specific criteria in the current regulation, which specifically requires that codes must be written, adopted, universally applied, and have demonstrated evidence of prior enforcement.

Regarding the comment that that the language in § 206.432(b)(1) and (2) replace ''not to exceed'' with ''equal to;'' it would not be appropriate to lock in the HMGP funding level by replacing ''not to exceed'' with ''equal to'' since Congress has already demonstrated a willingness to modify the HMGP funding formula.

In the future, FEMA intends to engage in additional discussions with interested groups on how to improve the planning process, which may include changes to the regulatory language.

*Hazard Mitigation Surveys:* One comment requested that FEMA restore the Hazard Mitigation Early Implementation Strategy, the Hazard Mitigation Surveys, and the Interagency Hazard Mitigation Survey requirements.

*FEMA's response:* FEMA will consider restoring these post-disaster surveys as part of the ongoing implementation of the Hazard Mitigation Grant Program.

*Comments on the Second IR*

*Support for the extension of the date:* One comment encouraged the interim rule to become final, and supported the extension of the date by which State and local governments must develop mitigation plans as a condition of grant assistance to November 1, 2004.

*FEMA's response:* FEMA agrees and had already extended the date by which State and local governments must develop mitigation plans.

*Plan updates:* One commenter asked about the process to bring existing mitigation plans into compliance with the regulations at part 201, and how plans are to be updated when they expire.

*FEMA's response:* Plans approved prior to the implementation of part 201 must be reevaluated and re-approved by FEMA to ensure that they meet the planning requirements identified in part 201. FEMA has also provided guidance through FEMA's ''Multi-Hazard Mitigation Planning Guidance under DMA2000'' on how plans developed under the FMA program can be upgraded to meet the regulations at part 201. This document may be obtained through any Regional office or from the FEMA Web site at *http://www.fema.gov/plan/mitplanning/index.shtm*. In addition, FEMA is in the process of issuing specific guidance on how to update the State, tribal, and local plans when they expire.

*Disaster costs and mitigation planning:* One commenter asked that FEMA provide each State and community with a detailed analysis of prior disaster assistance outlays by all Federal agencies, an integrated review of all structural projects in the community both as built and proposed, and a legal review regarding the authority of the planning process.

*FEMA's response:* FEMA will work with State, tribal and local jurisdictions to ensure that they have information generated by FEMA regarding disaster outlays, and has developed guidance through its ''Multi-Hazard Mitigation Planning Guidance under DMA2000'' on how to obtain additional data. This document may be obtained through any Regional office or from the FEMA Web site at *http://www.fema.gov/plan/mitplanning/index.shtm*. Most State, tribal, and local jurisdictions have the authority to develop and implement plans. FEMA encourages the mitigation planning process to be integrated across jurisdictions to ensure that existing data and information is shared and that there is no duplication of effort in gathering and analyzing data.

## III. Regulatory Requirements

*A. Executive Order 12866, Regulatory Planning and Review*

FEMA has prepared and reviewed this rule under the provisions of Executive Order 12866, Regulatory Planning and Review. Under Executive Order 12866, a significant regulatory action is subject to the Office of Management and Budget (OMB) review and the requirements of the Executive Order. OMB has determined that this rule is not a

significant regulatory action. OMB has not reviewed this rule. The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

The purpose of this rule is to implement section 322 of the Stafford Act, which addresses mitigation planning at the State, local and tribal levels, identifies new local planning requirements, allows HMGP funds to be used for planning activities, and increases the amount of HMGP funds available to States that develop a comprehensive, Enhanced Mitigation Plan. The rule clarifies the requirements for State Mitigation Plans, identifies local mitigation planning requirements before approval of project grants, and requires our approval of an Enhanced State Mitigation Plan as a condition for increased mitigation funding. The rule also implements section 323 of the Stafford Act, which requires that repairs or construction funded by disaster loans or grants must comply with applicable standards and safe land use and construction practices.

FEMA calculates the annual economic impact of the interim rules that this final rule finalizes to be approximately $46,000,000. As this final rule makes no significant change to these interim rules, FEMA is adopting the economic impact estimate of these interim rules as the economic impact of this final rule. The following paragraphs provide a more detailed explanation of the economic impact of this rulemaking.

This rule modifies the State Mitigation planning requirement. Currently, all 50 States, the District of Columbia, 7 territories, and 33 Indian tribal governments have approved State level mitigation plans. FEMA estimates that it takes an average of 2,080 hours for States to prepare State Mitigation Plans to comply with this regulation. Using wage rates from the May 2004, U.S. Department of Labor, Bureau of Labor Statistics (BLS), Standard Occupation Classification (SOC) System, the median hourly wage for urban and regional planners (SOC Code Number 19–3051) is $26.31 per hour. Adding 30 percent to the BLS figure to account for benefits, FEMA has calculated the burden using a wage rate of $34.20 per hour. Since there are a total of 91 State level plans, it is estimated that the one time cost of compliance to submit the State Mitigation plans is $6,473,376. This figure is calculated as follows: ((91 × 2,080) × $34.20).

These State Mitigation Plans must be updated every 3 years. Since there are a total of 91 State level plans, the cost estimate will assume that, on average, there will be 31 updated plans each year. All States now have existing State Mitigation Plans, and the only continuing requirement is for plan updates. FEMA estimates that it would take an average of 320 hours for States to prepare plan updates. Using wage rates from the May 2004, U.S. Department of Labor, BLS, SOC System, the median hourly wage for urban and regional planners (SOC Code Number 19–3051) is $26.31 per hour. Adding 30 percent to the BLS figure to account for benefits, FEMA has calculated the burden using a wage rate of $34.20 per hour. Therefore, it is estimated that the annual cost of compliance to submit the updates to State Mitigation Plans is $339,264. This figure is calculated as follows: ((31 × 320) × $34.20).

This rule also allows States to submit an Enhanced State Mitigation Plan, should they wish to increase the amount of HMGP funds they receive from 15 percent to 20 percent. States may now opt to create an Enhanced Mitigation Plan to receive additional funding. As of March 2007, there were 11 States with Enhanced Mitigation Plans. Two were approved in 2004, four in 2005, three in 2006, and two in 2007. These plans must be renewed every 3 years. As of July 2, 2007, there were only nine approved plans as two States opted not to renew their Enhanced Mitigation Plan.

Once a State has a FEMA-approved Enhanced Mitigation Plan, its only remaining requirement is to review and update it once every 3 years. Using the data from the 5 years since the first interim rule was published the average number of plans submitted in a year is three. The cost estimates will assume three new and three renewal plans submitted to calculate the annual burden.

Again, all States already have existing State Mitigation Plans. FEMA estimates that it would take an average of 320 hours for States to update their Enhanced Mitigation Plan, and an additional 160 hours for States to upgrade an existing Standard State Mitigation Plan to an Enhanced Plan. Since FEMA is encouraging States to update their plans when preparing an Enhanced Plan, the total hours for developing ''new Enhanced Mitigation plans'' is 480 hours (160 hours to upgrade from Standard to Enhanced plus 320 hours to update the plan). Using wage rates from the May 2004, U.S. Department of Labor, BLS, SOC System, the median hourly wage for urban and regional planners (SOC Code Number 19–3051) is $26.31 per hour. Adding 30 percent to the BLS figure to account for benefits, FEMA has calculated the burden using a wage rate of $34.20 per hour. Therefore, it is estimated that the annual cost of compliance to voluntarily submit an Enhanced Mitigation Plan is $82,080. This figure is calculated as follows: ((3 × 480) × $34.20) + ((3 × 320) × $34.20).

After its Enhanced Mitigation Plan is approved, pursuant to § 206.432(b), a State is then able to receive an amount equal to 20 percent of the total estimated Federal assistance (excluding administrative costs) provided for a major disaster declaration, instead of 15 percent. The table below reflects all States with Enhanced Plans, each disaster that has been declared in that State since its Enhanced plan was approved, and reflects the amount of HMGP funds it was eligible for. Each State was given funds at the 20 percent rate, however, the 15 percent rate is provided to determine the economic benefit (transfer) received from having the approved Enhanced Plan. In some cases, these are not final lock-in figures, but it is the most accurate data that FEMA has as of August 2007.

TABLE: HMGP FUND ELIGIBILITY FOR STATES WITH ENHANCED PLANS 2004—AUGUST 2007

| State | Enhanced plan approved date | Disaster dates declared after enhanced plan | Declaration No. | 20% Amount | 15% Amount | Difference |
|---|---|---|---|---|---|---|
| WA | July 1, 2004 | May 17, 2006 | 1641 | $989,290.00 | $741,967.50 | $247,322.50. |
| | | December 12, 2006 | 1671 | 6,106,627.00 | 4,579,970.25 | 1,526,656.75. |
| | | February 14, 2007 | 1682 | 7,209,865.00 | 5,407,398.75 | 1,802,466.25. |
| MO | July 2, 2004 | March 16, 2006 | 1631 | 1,290,726.00 | 968,044.50 | 322,681.50. |
| | | April 5, 2006 | 1635 | 4,210,525.00 | 3,157,893.75 | 1,052,631.25. |
| | | November 2, 2006 | 1667 | 128,676.00 | 96,507.00 | 32,169.00. |
| | | December 29, 2006 | 1673 | 825,000.00 | 618,750.00 | 206,250.00. |
| | | January 15, 2007 | 1676 | 16,549,000.00 | 12,411,750.00 | 4,137,250.00. |
| | | June 11, 2007 | 1708 | Data Unavailable | Data Unavailable | Data Unavailable. |
| OK | March 18, 2005 | January 10, 2006 | 1623 | 2,138,136.00 | 1,603,602.00 | 534,534.00. |
| | | April 13, 2006 | 1637 | 244,990.00 | 183,742.50 | 61,247.50. |
| | | February 1, 2007 | 1677 | 746,250.00 | 559,687.50 | 186,562.50. |
| | | February 1, 2007 | 1678 | 7,592,175.00 | 5,694,131.25 | 1,898,043.75. |
| | | June 7, 2007 | 1707 | Data Unavailable | Data Unavailable | Data Unavailable. |
| OH | May 17, 2005 | July 2, 2006 | 1651 | 1,798,019.00 | 1,348,514.25 | 449,504.75. |
| | | August 1, 2006 | 1656 | 3,411,736.00 | 2,558,802.00 | 852,934.00. |
| MD | August 26, 2005 | July 2, 2006 | 1652 | 1,274,514.00 | 955,885.50 | 318,628.50. |
| WI | December 14, 2005 | None | NA | NA | NA | NA. |
| OR | March 7, 2006 | March 20, 2006 | 1632 | 1,511,700.00 | 1,133,775.00 | 377,925.00. |
| | | December 29, 2006 | 1672 | 921,824.00 | 691,368.00 | 230,456.00. |
| | | February 22, 2007 | 1683 | 687,362.00 | 515,521.50 | 171,840.50. |
| FL | August 22, 2006 | February 3, 2007 | 1679 | 4,044,445.00 | 3,033,333.75 | 1,011,111.25. |
| | | February 8, 2007 | 1680 | 263,916.00 | 197,937.00 | 65,979.00. |
| PA | August 23, 2006 | February 23, 2007 | 1684 | 1,822,812.00 | 1,367,109.00 | 455,703.00. |
| IA | January 3, 2007 | March 14, 2007 | 1688 | Data Unavailable | Data Unavailable | Data Unavailable. |
| | | May 25, 2007 | 1705 | Data Unavailable | Data Unavailable | Data Unavailable. |
| VA | March 14, 2007 | None | NA | NA | NA | NA. |
| Totals | | | | 63,767,588.00 | 47,825,691.00 | 15,941,897.00. |

These disasters range in date from March 16, 2006 to Feb. 23, 2007, which is roughly one year. A total of $63,767,588 in HMGP funds were granted at the 20 percent rate due to the fact that these States had approved Enhanced Mitigation Plans. This 5 percent increase translates to an additional $15,941,897 in funds distributed as a result of this regulation.

This rule also requires that after November 1, 2004, a local mitigation plan must be approved in order to receive HMGP project grants. As of June 2007, over 2,500 local mitigation plans covering over 13,000 jurisdictions have been approved. FEMA receives and approves approximately 280 local plans per year. The requirement of a local plan does not affect the amount of HMGP funds that were available to the jurisdiction before this regulation. The economic impact results from the cost to create the plan. If a local jurisdiction is covered by a plan, it will receive the same amount of HMGP project funds it would have received before this requirement was created.

From experience over the past 5 years, FEMA expects approximately 280 new local plans to be developed annually. Once a local jurisdiction has a FEMA-approved Mitigation plan, they are required to review and update it once every 5 years. FEMA averages 280 plan updates per year. FEMA estimates that it would take an average of 2,080 hours to develop new plans, and 320 hours for plan updates, plus 8 hours for the State to review the local plan. Using wage rates from the May 2004, U.S. Department of Labor, BLS, SOC System, the median hourly wage for urban and regional planners (SOC Code Number 19–3051) is $26.31 per hour. Adding 30 percent to the BLS figure to account for benefits, FEMA has calculated the burden using a wage rate of $34.20 per hour. Therefore, it is estimated that the annual cost of compliance is $(((280 \times 2{,}080) + (280 \times (320 + 8)) \times 34.20) = \$23{,}059{,}008$.

Under § 206.434(d), up to 7 percent of the State's HMGP grant may be used to develop State, tribal and/or local mitigation plans. This change does not have any effect on the actual amount of HMGP funds that a State is eligible for, but allows the cost to develop plans described above to be offset by HMGP planning grants. This regulation simply expands the eligible use of HMGP funds to include the development of mitigation plans. States are not required to use the funds for this purpose. Any HMPG funding spent on mitigation planning is accounted for in the analysis above, under each category of planning (Standard State Mitigation Plans, Enhanced State Mitigation Plans, and local mitigation plans). For the reasons stated above, the annual impact of this rule on the economy is approximately $46,000,000. This figure is calculated as follows: ($6,473,376+$339,264+ $82,080+$15,941,897+$23,059,008).

*B. Regulatory Flexibility Act*

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*) (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121, 110 Stat. 857), FEMA is not required to prepare a final regulatory flexibility analysis for this final rule because the agency has not issued a notice of proposed rulemaking prior to this action.

*C. National Environmental Policy Act*

The National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*) (NEPA) implementing regulations governing FEMA activities at § 10.8(d)(2)(ii) categorically exclude the preparation, revision and adoption of regulations from the preparation of an environmental assessment or environmental impact statement, where the rule relates to actions that qualify for categorical exclusions. Mitigation plans to be developed under regulations revised or adopted by this rulemaking

include hazard mitigation measures categorically excluded under § 10.8(d)(2)(iii).

*D. Executive Order 12898, Environmental Justice*

Under Executive Order 12898, ''Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations'' (59 FR 7629, published February 16, 1994), FEMA incorporates environmental justice into its policies and programs. The Executive Order requires each Federal agency to conduct its programs, policies, and activities that substantially affect human health or the environment in a manner that ensures that those programs, policies, and activities do not have the effect of excluding persons from participation in programs, denying persons the benefits of programs, or subjecting persons to discrimination because of race, color, or national origin.

FEMA believes that no action under the rule will have a disproportionately high or adverse effect on human health or the environment. This rulemaking implements sections 322 and 323 of the Stafford Act. Section 322 focuses specifically on mitigation planning to identify the natural hazards, risks, and vulnerabilities of areas in States, localities, and tribal areas; development of local mitigation plans; technical assistance to local and tribal governments for mitigation planning; and identifying and prioritizing mitigation actions that the State will support as resources become available. Section 323 requires compliance with applicable codes and standards in repair and construction, and use of safe land use and construction standards. This rulemaking is intended to result in the creation of hazard mitigation plans that will assist communities in planning for hazards, so as to protect human lives and the environment. The Hazard Mitigation Grant Program is available to all States, tribes and local communities regardless of race, color, or national origin. Accordingly, the requirements of Executive Order 12898 do not apply to this rule.

*E. Congressional Review of Agency Rulemaking*

FEMA has sent this final rule to the Congress and to the Government Accountability Office under the Congressional Review of Agency Rulemaking Act, (''Congressional Review Act''), Public Law 104–121. This rule is not a ''major rule'' within the meaning of the Congressional Review Act. The rule will not result in a major increase in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions. It will not have ''significant adverse effects'' on competition, employment, investment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises.

*F. Unfunded Mandates*

Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), enacted as Public Law 104–4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of $100 million or more (adjusted annually for inflation) in any one year.

This final rule is not an unfunded Federal mandate within the meaning of the UMRA. This final rule would not impose a significant cost or uniquely affect small governments. The final does not have an effect on the private sector of $100 million or more in any 1 year. Any enforceable duties that FEMA imposes are a condition of Federal assistance or a duty arising from participation in a voluntary Federal program.

*G. Executive Order 13132, Federalism*

Executive Order 13132, entitled ''Federalism,'' (64 FR 43255, published August 10, 1999), sets forth principles and criteria that agencies must adhere to in formulating and implementing policies that have federalism implications; that is, regulations that have substantial direct effects on the States, or on the distribution of power and responsibilities among the various levels of government. Federal agencies must closely examine the statutory authority supporting any action that would limit the policymaking discretion of the States, and to the extent practicable, must consult with State and local officials before implementing any such action.

FEMA has determined that this rule involves no policies that have federalism implications under Executive Order 13132. However, FEMA consulted with State, local and tribal officials in the promulgation of this rulemaking. Furthermore, in order to assist in the development of this rule, FEMA hosted a meeting to allow interested parties an opportunity to provide their perspectives on the legislation and options for implementation of the Stafford Act requirements. Stakeholders who attended the meeting included representatives from the National Emergency Management Association, the Association of State Floodplain Managers, the National Governors' Association, the International Association of Emergency Managers, the National Association of Development Organizations, the American Public Works Association, the National League of Cities, the National Association of Counties, the National Conference of State Legislatures, the International City/County Management Association, and the Bureau of Indian Affairs. FEMA received valuable input from all parties at the meeting which was taken into account in the development of the initial interim rule. In addition, FEMA received comments on the interim rules from 14 State emergency management agencies, 3 organizations, 2 local governments; and 1 independent group.

*H. Paperwork Reduction Act*

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*), an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection of information displays a valid control number. OMB has approved a collection of information entitled ''State/Local/Tribal Hazard Mitigation Plans—Section 322 of the Disaster Mitigation Act of 2000'' (OMB No. 1660–0062) for the use of information gathered pursuant to this rulemaking. The OMB collection number for this collection is 1660–0062. An emergency extension was filed with OMB on June 18, 2007, and approved on June 25, 2007. The collection is currently set to expire on October 31, 2007. Before the collection expires, FEMA will submit a request for revision to this collection and begin the OMB clearance process for long-term approval by publishing a 60 day request for comments on the revision.

*I. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments*

FEMA has reviewed this rule under Executive Order 13175, ''Consultation and Coordination with Indian Tribal Governments'' (65 FR 67249, published November 9, 2000). FEMA finds that, while it does have ''tribal implications'' as defined in Executive Order 13175, it will not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Despite this determination, FEMA has, and continues to, consult with Indian tribal governments with respect to hazard mitigation. Before FEMA developed the interim rule, the agency met with representatives from State and local governments and the Bureau of Indian Affairs to discuss the new planning requirements of section 322 of the Stafford Act. The same opportunity for comment was offered to all parties. FEMA received valuable input from all attendees, which helped FEMA to develop the interim rule. Also, since FEMA published the interim rule, it has coordinated more directly with Indian tribal governments, and with organizations that represent them. For example, in conjunction with the National Congress of American Indians, FEMA hosted a Tribal Mitigation Conference in October 2002 at the Ak-Chin Indian Community, Arizona. This conference provided FEMA with an opportunity to better understand its responsibilities related to Indian tribal governments and to build a working relationship with many of the Indian tribal representatives. A follow-up conference was held at the Salish Kootenai Community, Montana in August 2003. As a direct result of these conferences, FEMA developed an EMI resident course titled ''Mitigation for Tribal Officials.'' This course provides a direct opportunity for coordination and information sharing between Indian tribal representatives and FEMA, resulting in refinements to FEMA's Indian tribal policy and guidance.

Finally, FEMA believes that planning is critical to successful mitigation at all levels of government. The agency has been working to technically assist all federally-recognized Indian tribal governments regarding the availability of grant funding, training opportunities, as well as program requirements.

**List of Subjects**

*44 CFR Part 201*

Administration practice and procedure, Disaster assistance, Grant programs, Reporting and recordkeeping requirements.

*44 CFR Part 204*

Administration practice and procedure, Fire prevention, Grant programs, Reporting and recordkeeping requirements.

*44 CFR Part 206*

Administrative practice and procedure, Coastal zone, Community facilities, Disaster assistance, Fire prevention, Grant programs—housing and community development, Housing, Insurance, Intergovernmental relations, Loan programs—housing and community development, Natural resources, Penalties, Reporting and recordkeeping requirements.

■ Accordingly, for the reasons stated in the preamble, the interim rules amending 44 CFR parts 201, 204, and 206 that were published at 67 FR 8844 on February 26, 2002, 67 FR 61512 on October 1, 2002, 68 FR 61368 on October 28, 2003, 69 FR 55094 on September 13, 2004, and the correcting amendment published at 68 FR 63738 on November 10, 2003, are adopted as final with the following changes:

## PART 201—MITIGATION PLANNING

■ 1. The authority citation for part 201 is revised to read as follows:

**Authority:** 42 U.S.C. 5121–5206; 6 U.S.C. 101; Reorganization Plan No. 3 of 1978, 43 FR 41943, 3 CFR, 1978 Comp., p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp., p. 376; E.O. 12148, 44 FR 43239; 3 CFR, 1979 Comp., p. 412; E.O. 13286, 68 FR 10619, 3 CFR, 2003 Comp., p. 166.

■ 2. Revise § 201.4 (c)(2)(ii) to read as follows:

**§ 201.4 Standard State Mitigation Plans.**

* * * * *

(c) * * *

(2) * * *

(ii) An overview and analysis of the State's vulnerability to the hazards described in this paragraph (c)(2), based on estimates provided in local risk assessments as well as the State risk assessment. The State shall describe vulnerability in terms of the jurisdictions most threatened by the identified hazards, and most vulnerable to damage and loss associated with hazard events. State owned or operated critical facilities located in the identified hazard areas shall also be addressed;

* * * * *

Dated: October 24, 2007.

**Harvey E. Johnson, Jr.,**

*Deputy Administrator/Chief Operating Officer, Federal Emergency Management Agency.*

[FR Doc. E7–21264 Filed 10–30–07; 8:45 am]

BILLING CODE 9110–41–P

## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

### 50 CFR Part 635

**RIN 0648–XD44**

## Atlantic Highly Migratory Species; Atlantic Bluefin Tuna Fisheries

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Temporary rule; inseason retention limit adjustment.

**SUMMARY:** NMFS has determined that the Atlantic tunas General category daily Atlantic bluefin tuna (BFT) retention limit should be adjusted for the November and December time periods of the 2007 fishing year and the January period of the 2008 fishing year. NMFS increases the daily BFT retention limits, including on previously scheduled Restricted Fishing Days (RFDs), to provide enhanced commercial fishing opportunities to harvest the established General category quota.

**DATES:** The effective dates for the adjusted BFT daily retention limits are November 1, 2007, through January 31, 2008.

**FOR FURTHER INFORMATION CONTACT:** Brad McHale or Sarah McLaughlin, 978–281–9260.

**SUPPLEMENTARY INFORMATION:** Regulations implemented under the authority of the Atlantic Tunas Convention Act (16 U.S.C. 971 *et seq.*) and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; 16 U.S.C. 1801 *et seq.*) governing the harvest of BFT by persons and vessels subject to U.S. jurisdiction are found at 50 CFR part 635. Section 635.27 subdivides the U.S. BFT quota recommended by the International Commission for the Conservation of Atlantic Tunas (ICCAT) among the various domestic fishing categories, per the allocations established in the Consolidated Highly Migratory Species Fishery Management Plan (Consolidated HMS FMP). The latest (2006) ICCAT recommendation for western Atlantic BFT included a U.S. quota of 1,190.12 mt, effective beginning in 2007, through 2008, and thereafter until changed (i.e., via a new ICCAT recommendation).

The 2007 fishing year began on June 1, 2007, and ends December 31, 2007. NMFS published final specifications on June 18, 2007 (72 FR 33401) and

Document TOC

# FEMA

## *Moving People Out of Harm's Way*

**Kenosha County, WI** – An excerpt from a May 2000 emergency bulletin announced: “Residents are strongly urged to evacuate until river levels subside…. Rapidly-rising swift currents will provide an extreme danger to residents and responders.” This announcement is a common occurrence for residents of Kenosha County, Wisconsin living along the Fox River between Highway 50 and Highway F. Low-lying land in this region is plagued by frequent, dangerous floods that threaten the safety of the residents and cause severe damage to homes.

The Illinois Fox River rises near Menomonee Falls, Wisconsin and flows through Waukesha, Racine, and Kenosha Counties in southeast Wisconsin for a total of 70 miles before entering Illinois. There are two rivers in Wisconsin called the Fox River. This particular river is designated as the Illinois Fox River by local residents as it flows out of Wisconsin and into Illinois. Flooding is common in Kenosha County, Wisconsin along the river, especially near the Towns of Wheatland and Salem and the Village of Silver Lake.

During the middle of the 20th century, the riverside was valued as a vacation or weekend get-away spot and many people from nearby cities built rustic cabins on the banks of the river. Later, as the area’s population grew, some families built year-round residences and even more constructed weekend cabins. The waterfront properties were occasionally flooded, but the owners kept coming back to clean up and rebuild. The river area provided the scenic beauty and outdoor recreation they treasured.

The private property in this floodplain has created an “urban interface” problem similar to those in the forested lands of America’s western states. Having a population adjacent to or in an area that frequently experiences natural disasters puts stress on local emergency management and law enforcement as well as public works.

When extensive, heavy rains enter the watershed for the Illinois Fox River, Kenosha County emergency management personnel and law enforcement officers keep steady contact with the National Weather Service to receive constant updates about rainfall and river-level predictions. When the river rises to hazardous flood-stage levels, the County Executive issues an emergency declaration to set in motion safety procedures to protect citizens in the path of floodwaters. During emergency declarations, county law enforcement officers personally warn residents of the imminent danger of fast-moving floodwaters and are prepared to provide help to evacuate them to safety if the need arises. The officers patrol the flooding areas in four-wheel drive vehicles carrying personal flotation devices in case people need assistance. During rescue efforts in the 1994 floods, a rescue boat flipped over in a fast-running current. Luckily, no one was killed in the incident.

**Kenosha County, Wisconsin**


### Quick Facts

Year:
**1993**

Sector:
**Public/Private Partnership**

Cost:
**$7,000,000.00 (Actual)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Flood Mitigation Assistance (FMA)**

FEMA

# *Multiple Mitigation Measures Give Darlington an Elevating Experience*

**Lafayette County, Wisconsin**

**Darlington, WI** - Located in the southwestern corner of Wisconsin, this rural city (population of 2,398) was founded beside the Pecatonica River and officially given the name of Darlington in 1869. During the past 172 years, this beautiful community has been at odds with the Pecatonica River, a medium-sized body of water that nearly encircles the city with coils of brownish water during floods. Normally, the river gently flows southward, then bends east until it bends abruptly north, east, south and east again, forming a tight horseshoe. It is at this horseshoe bend where trouble bubbles over and swamps Darlington when the river rises.

Flooding was deteriorating structures and drastically reducing property values all over town. The losses continued to grow with every clean-up and repair. The buildup of mold and mildew in downtown structures was destroying Darlington's business infrastructure. The frequency of flooding in Darlington was approximately once every 20 to 21 years, but since 1950, floods began occurring more often.


During the onslaught of floods, the city's mayor, Bev Anderson, with help and advice from State and Federal officials, and other community leaders began developing a come-back strategy by developing a flood mitigation plan. They used a multi-objective approach to understanding their watershed problems: consider all flooding solutions, identify community concerns, obtain expert advice, and built strong partnerships. Mitigation became the one word that could offer hope for everyone involved.

In the end, Darlington's Flood Hazard Mitigation Plan became the first in the State of Wisconsin to be approved by the Federal Emergency Management Agency (FEMA). The plan called for business property owners to cover the costs of rehabilitation and historic preservation of their buildings; private homeowners encouraged to purchase flood insurance if they did not already have policies; and historic structures brought into conformance with current building codes and the requirements of the Americans with Disabilities Act (ADA). Meeting the ADA requirements called for constructing a shared, concrete, handicap-access ramp constructed in the rear of the downtown buildings. The ramp not only would serve several buildings, it also would act as a flood barrier.

Among the mitigation plan's projects involved mitigating the city's utilities, constructing flood shields, elevating buildings, and relocating buildings. Darlington's wastewater treatment facility was relocated away from the flood zone. All major utilities such as gas and electric in the flood zone were raised as much as eight feet off the ground. Anything that had previously been covered by floods would now be high and dry.

## Quick Facts

Year:
**1992**

Sector:
**Public/Private Partnership**

Cost:
**$2,300,000.00 (Actual)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

FEMA

# *Mitigation Project Reunites a Town Divided*

**Columbia County, Wisconsin**

**Cambria, WI** - Cambria, population 792, is one of many pleasant spots in the middle of Wisconsin corn country, about 33 miles north of Madison. It is quiet, clean, and well managed by experienced and energetic individuals. And, although no sign announces it, it is recognized by many in and around Cambria as the lima bean capital of the world. However, flooding is a common occurrence in Cambria's history, as it is in many Wisconsin towns.

Settled in 1844 by Dutch immigrants, residents built a dam forming what is now Tarrant Lake. They also built a sawmill and gristmill, both powered from the dam's spillway. Cambria experienced its first destructive flood in 1858. Both mills were destroyed. Years later, a roadway was built over the old dam, which the Dutch settlers had constructed of earth, rock, and brick. Culverts at lake level under the roadway provided outlets for the lake water. The roadway subsequently was paved and designated Wisconsin Route 146.


The roadway and dam are about 70 yards from the end of Cambria's main business district. The road is a major throughway for everyone including farmers, school busses, and trucks serving Cambria's three food processors. Any closure of Route 146 requires a five-mile detour around the town.

The 10-acre, man-made Tarrant Lake is fed by two small tributaries and underground springs. Land on either side of Tarrant Lake slopes upward into farmland, contributing runoff to the lake's water levels.

In 1993, the Cambria Dam suffered a major washout. Damage to the old earthen constructed roadway was extensive. Repairs included the installation of two new five-foot culverts under the road and flood gates to control the release of water from the lake to prevent water from overtopping the dam and roadway.

Eleven years later, floodwaters assaulted the Cambria dam again. In late May 2004, heavy rain began soaking the Cambria area and continued for weeks. The heavy rains caused dams elsewhere in the state to burst, forcing people out of their homes. Department of Public Works (DPW) Director Tom Tietz and members of the Cambria Volunteer Fire Department kept close watch on their dam.

## Quick Facts

Year:
**2004**

Sector:
**Public**

Cost:
**$1,500,000.00 (Actual)**

Primary Activity/Project:
**Flood Control**

Primary Funding:
**State sources**

# FEMA

## *Pulling the Plug on Monroe's Water Problems*

**Green County, Wisconsin**

**Monroe, WI** - Monroe is a city with just over 10,800 people. Situated about 12 miles from the Illinois state line, it is in the middle of the southern half of Green County, Wisconsin. Its local claim to fame is cheese, produced by many of the surrounding farms whose earlier pioneering families immigrated from Germany and Switzerland in the early 1900s. Most people nationwide would recognize Monroe's biggest employer as the headquarters for a Nationally famous Wisconsin cheese gift package shipper.


An aerial view of the city shows it to be surrounded by farmland. Thousands of acres of corn reach up into the blue sky in every direction. Numerous large red barns with silos and neat white farm houses are sprinkled amidst miles of corn that stand in long perfect rows and march off into the horizon. Accompanying this are herds of black and white and brown cows, which give Wisconsin its well deserved title of "America's Dairyland." In recent years, however, the blue skies have been changing, darkening rapidly and then dumping great quantities of rain all over the state. Fortunately, Monroe has been planning and building projects to manage the runoff from these seasonal storms.

Normally this is a quiet area, free from the continual siege of serious flooding that has plagued other Wisconsin counties. But as Monroe developed, with new businesses and homes adding to the percentage of paved area, heavy rains became more of a nuisance. Monroe's primary problem was rainwater runoff accumulating in streets and parking lots and causing sewer backups in basements. Although the flooding and backups would come and go quickly, they were causing appreciable damage to roads and property.

Fortunately, the city had this problem in its sights. In December 1987, Monroe joined the National Flood Insurance Program (NFIP), enabling homeowners to purchase flood insurance. When the August 1996 floods triggered a disaster declaration, detention ponds became a major focus in the city's mitigation plans.

In 2003, the city hired a project developer who was a specialist in storm water control. After completion of the runoff study, Monroe's solution for handling it was mapped out. Plans called for the construction of a stormwater management system known as retention and detention basins. Alan Gerber, Engineering Supervisor at the Monroe Department of Public Works, began devising specific plans to handle the runoffs, a major focus of the city's Hazard Mitigation Plan.

### Quick Facts

Year:
**1996**

Sector:
**Public**

Cost:
**$179,529.00 (Actual)**

Primary Activity/Project:
**Flood Control**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# *Innovative Flooding Idea: Elevating the Land Rather Than the Structure*

**Crawford County, Wisconsin**


**Gays Mills, WI** —In June 2008, when the Kickapoo River in Wisconsin overflowed after a deluge, homes around town were submerged in six feet or more of brownish water. But not Mason Evans' and his wife's, Diane, home. Learning from the floods of 1978 and 2007, the Evans' home was high and dry, because of their choice to elevate the land and prevent history from repeating itself.

During the flood of 1978, the Evans' former home was under two feet of water. The mold infestation rendered it unsafe for habitation, and subsequently, they demolished the flood-damaged structure. The total losses for that flood came to about $50,000, approximately what the property was worth in terms of his initial investment and property values at the time. After the flood of 1978, Evans purchased flood insurance, in order to protect his investment against the next flood.

When another flood in August 2007 inundated the Evans' home again, the damage was far worse than the 1978 flood. Four days of rain pushed the Kickapoo River over its banks, engulfing the entire town of Gays Mills with more than six feet of water. Like everyone else in town, the Evans grabbed everything of value they could think of and left their home for higher ground.

A week later, when the water level went down, Evans re-entered his house along with 36 friends to start the cleanup phase. After they disposed of every square yard of ruined carpeting, gutted the water-soaked drywall and insulation, and threw out all of the ruined furniture and cabinetry, the house was just a reeking, waterlogged shell. Total losses this time came to $150,000.

His combined losses from the 1978 and 2007 flood came to well over $200,000. In addition to his flood insurance payment, which covered a portion of his losses, he also received a Federal Emergency Management Agency (FEMA) grant for roughly $28,000. Evans remarked that it wasn't more than a week later that a check came through the mail. "It was surprising how quickly FEMA reacted," said Evans, "I called in and registered, then inspectors came out and looked over the damage that same week."

Evans then made a proactive decision and decided he was not going to be a flood victim again.

He remembered specialists from FEMA's Mitigation Directorate talking about structural elevation. Although it was too late for his waterlogged house, he owned another piece of land where he could rebuild. Evans decided that rather than elevating the structure, which is the usual method, he would elevate this large piece of land to three feet above the Base Flood Elevation (BFE). The BFE is the minimum standard that many communities use to regulate floodplain development under the National Flood Insurance Program (NFIP). It is assumed that there is a 1-percent chance per year that floodwaters could reach the BFE. In his case, raising the level of his house plot to above the minimum BFE would reduce his chances of floodwaters reaching his new home.

## Quick Facts

Year:
**2007**

Sector:
**Private**

Cost:
**$54,000.00 (Actual)**

Primary Activity/Project:
**Elevation, Structural**

Primary Funding:
**Other FEMA funds/ US Department of Homeland Security**

# *Village Locals Reflect Moving Was Best Flood Protection*

**Crawford County, Wisconsin**

**Village of Soldiers Grove, WI** – In August 2007, the biggest flood in the history of Soldiers Grove came roaring through the village. The Kickapoo River quickly topped the levees, and water didn't recede for about 10 days. Years earlier the center to the town had been moved.

Residents experienced floods in 1907, 1912, 1917, 1935, 1951, and the "big one" in 1978. From 1969 to 2007, the state had 25 nationally declared flood disasters in 38 years. The flood of record in 2007 inflicted the worst damage in the state just 10 miles downstream in Gays Mills.

"The Kickapoo can turn into a wild river. I don't know how we escaped all the floods without loss of life. We had a lot of good people, fire crews, and emergency management crews out there working evacuations and rescues," stated Jerry Moran, Crawford County Sheriff. "Each time there was very little advance warning. People woke up at night with three to four inches of water already in their homes."


Local debate about what to do about the flooding began to swell in the mid-60s when the U.S. Army Corps of Engineers proposed an upstream dam and a new levee for the village. The costs to the village exceeded their ability to pay. The unprecedented move of their downtown, surrounded on three sides by the river, to higher ground began to make financial sense.

Environmentalists were fighting against the Corps over the dam, and the maintenance of the levee was going to cost the village nearly all of their annual tax revenues. By 1975, a small Comprehensive Employment and Training Act grant paid for a relocation coordinator. By 1976 the village took the unprecedented move of passing a resolution that supported relocation to avoid future flood disasters.

The flood of July 1978 made things happen. On July 7, 1978 a federal disaster declaration made federal funds available to flood-proof the village. Local planners convinced state and federal officials moving the town was the best flood-proofing and eventually received their first federal grant of $900,000 from HUD's Community Development Block Grant to get the project moving – acquire flood prone properties, clear the area, demolish old properties, and rebuild the town uphill.

By 1983 the $6 million relocation project was done. According to Hirsch, in 1979 the village wanted to "help the US reduce its dependency on foreign oil" so the village incorporated solar heating in the new buildings, subsequently dubbed Solar Village.

"Since the buildings have solar heating they are insulated a lot better. If I get a good day of sun, I'll get three days of heat. It's clean. I've never had to paint because of dirt from the system," Young noted.

Locals have witnessed a moderate population growth to over 600 with new businesses and the expansion of older ones. "If Soldiers Grove stayed in the floodplain, it would have been a stagnant community; it would have still existed, but stagnant. All the new businesses would have not happened if we were still over there," Moran stated.

"The recent August 2007 flood devastation reinforced that we did the right thing. I don't ever want to go through another flood like 1978," added Young.

## Quick Facts

Year:
**1978**

Sector:
**Public/Private Partnership**

Cost:
**$6,000,000.00 (Estimated)**

Primary Activity/Project:
**Flood-proofing**

Primary Funding:
**Local Sources**

# FEMA

## *Moving Highway Shop Improves Disaster Response*

**Crawford County, Wisconsin**


**Crawford County, WI** – Before, during, and after flooding, employees of the Crawford County Highway Shop in Gays Mills, Wisconsin, spent hours and days moving vehicles, heavy equipment, and computers, and sandbagging and raising things off the ground, all in an effort to protect their facility from rising waters.

During past floods, the old concrete block building was inaccessible for as long as a week. Phone calls from residents went unanswered and staff was often on the wrong side of the flooding Kickapoo River from the equipment they needed. Then everything had to be dried out, cleaned up, and put back. They always lost vehicle parts.

Some of the duties Crawford County Highway Shop performs during major storms include closing roads, floodwater rescues, erecting safety devices, providing a physical presence, and building temporary dikes. Time spent protecting their equipment and shop took them away from providing these services to residents of the county.

Following two flood events in 2000 when the Kickapoo River overflowed and in 2001 when the Mississippi River flooded the area, Crawford County applied for and secured funds from Wisconsin Emergency Management through Hazard Mitigation Grant Program (HMGP) of the Federal Emergency Management Agency (FEMA). Relocating the facility was underway.

Crawford County spent an estimated $2.7 million from various grants to fund the relocation project, which involved acquisition of the original property, demolishing and clearing the property, and rebuilding out of the floodplain.

With fuel contaminates and chlorinated solvents in the soil underneath the original building, county officials conducted an extensive cleanup project to reduce risk of flood waters transporting contaminants to area water ways.

The county was also required to do a “Farmland Impact Study” for the new property. Because the 42-acre site had been previously subdivided, zoned, and platted for development, no farmland was lost in the move.

By 2003 the county had a newly constructed Crawford County Highway Shop, centrally located near Seneca and at one of the highest points in the county.

“The central location has made it a lot easier to send equipment out to necessary areas and it doesn’t take as long to reach different parts of the county,” added Pelock. “The new facility is larger with bigger sign and mechanic shops and vehicle storage. We have more offices and now a large conference room which is accessible for public meetings. It gets used almost every night.”

In August 2007 Gays Mills received more than 12 inches of rain, and the highest flood waters in the valley’s history did not recede for two weeks. The new shop remained high and dry while Gays Mills was inundated.

## Quick Facts

Year:
**2000**

Sector:
**Public**

Cost:
**$2,700,000.00 (Estimated)**

Primary Activity/Project:
**Flood-proofing**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# FEMA

## *Small Wisconsin Village Leads the Nation Rebuilds Above Floodwaters*

**Crawford County, Wisconsin**

**Soldiers Grove, WI** – Residents of the Village of Soldiers Grove in southwest Wisconsin created an innovative mitigation plan of their own. Instead of embracing a traditional dam and levee flood-proofing method to protect their community, they raised their town.

Beginning in 1907, repetitive flooding annoyed residents until 1935 when the first disastrous flood engulfed homes and businesses up and down the valley with sludge and mud. Congress directed the U.S. Army Corps of Engineers to study flood options.

Delayed by wars, the study wasn't completed until 1962 when the Corps recommended a dam be built 36 miles upstream in addition to a levee around the village. The fully federally funded dam was attacked by environmentalists, and its future was uncertain.

The $3.5 million village levee system would require Soldiers Grove to pay $220,000 toward construction and an estimated $10,000 in annual maintenance. The village's property was valued at less than $1 million with an annual tax levy of $14,000. These numbers did not add up for the citizens.

For decades the village, with an estimated population of 600, had debated a better plan – instead of spending all the money on trying to control the river, they proposed spending less to move the flood-prone areas of the town. Without significant financial support from higher levels of government, the move could not be accomplished.

The folks at the Village took a huge first step in 1977 and pooled their local and private resources together and with $90,000 in public financing purchased the relocation site. They acquired 100 acres of uphill land away from the Kickapoo River floodplain along the re-routed state highway and hoped for eventual funding to realize their goal – raise the town.

Torrential rains in July 1978 brought damages in excess of a half million dollars. It was declared a natural disaster as the Kickapoo River exceeded its flood stage by over six feet. The local debate was over, and the community began selling their idea to the state and federal government with a united front.

Armed with the research results of feasibility studies and outside consultation paid for with small state grants, local officials convinced state and federal officials that the move would be the best flood-proofing for the Village - to buyout floodplain properties, demolish the structures, clear the land and rebuild the town uphill.

A combination of state and local funds provided over a third of the estimated $6 million total project. The Village applied for and successfully received grants for the remaining cost from federal agencies including HUD's Community Development Block Grant (CDBG). CDBG funds may be used to assist communities recovering from a disaster, especially in low-income areas.


## Quick Facts

Year:
**1978**

Sector:
**Public/Private Partnership**

Cost:
**$6,000,000.00 (Estimated)**

Primary Activity/Project:
**Flood-proofing**

Primary Funding:
**Local Sources**

# FEMA

## *Wisconsin Emergency Management*
## *HAZUS Used to Evaluate Flood Risk/Losses*

**State-wide,**
**Wisconsin**


**The State of Wisconsin** - In 2005, the agency charged with helping safeguard the State of Wisconsin against the impacts of all types of disasters initiated a significant undertaking: to conduct a 100-year flood risk-and-loss estimate that could apply to the entire state. While still engaged in that ambitious project, Wisconsin Emergency Management (WEM) has also been preparing for the launch of a second statewide assessment, one that will utilize the powerful processing abilities of HAZUS-MH methodology.

A comprehensive study of flood risks and losses can prove particularly useful in a state such as Wisconsin. Wisconsin features a varied topography that ranges from lowlands to highlands, and is bordered by Lakes Superior and Michigan. When rainfall or snowmelt exceeds normal levels, the State can suddenly find itself facing a flood threat of huge proportions—underscoring the pressing need for analytical research and predictive models.

Under requirements of the Disaster Mitigation Act of 2000 (DMA 2000), states and local jurisdictions must now calculate the amount of risk present and estimate the potential damage that could occur during a flood event, in order to retain eligibility for mitigation funds. However, quantifying the magnitude of flood threat has previously proven difficult, due to the highly subjective nature of calculating risk and loss.

Wisconsin Emergency Management (WEM) first became aware of HAZUS-MH in the mid-90s, back when the program was specifically being used to calculate damage estimates about losses from earthquakes. In 2002, after learning about the HAZUS flood model, the agency sent one of its planners to the Emergency Management Institute (EMI) to receive training about the program. At that time, WEM utilized HAZUS software in order to analyze a limited selection of counties and watersheds.

The possible applications and utility of HAZUS-MH were so varied and intriguing that in 2006, WEM, in conjunction with FEMA Region V, sponsored a training seminar for potential HAZUS-MH users located in the Midwest. The training culminated in the students performing a HAZUS-MH flood run for the jurisdiction of their choice.

After sending another planner to EMI to receive HAZUS-MH Advanced Flood training, WEM began its statewide 100-year flood risk-and-loss estimate. About one-fourth of the state's 72 counties have been analyzed using HAZUS-MH, and planners report successful results, while working with HAZUS software developers to identify ways to bolster the program's functionality.

While continuing to work on the 100-Year Flood-Risk Assessment, WEM has requested funding from FEMA's Pre-Disaster Mitigation (PDM) program so it can contract with the University of Wisconsin and the POLIS Center to complete a Level 1.5 HAZUS-MH flood-risk assessment for the entire state. The goal of this second assessment is to incorporate local data in order to create more accurate estimates. The results from both studies will be compared and used in developing future strategies, including those outlined in the Wisconsin State Hazard Mitigation Plan.

### Quick Facts

Sector:
**Public**

Cost:
**Amount Not Available**

Primary Activity/Project:
**HAZUS-MH**

Primary Funding:
**State sources**

FEMA

# *Community Outreach*
# *Education at the Wisconsin State Fair*

**Milwaukee County, Wisconsin**

**Milwaukee County, WI** - A grant from the Hazard Mitigation Grant Program provided the Milwaukee County Division of Emergency Management with funds to create an informative, eye-catching Community Outreach Display.

During the Wisconsin State Fair, held in Milwaukee from August 2 through 11, 2001, the Milwaukee Division of Emergency Management made contact with more than 10,000 people and handed out 24,400 pieces of disaster and storm preparedness materials. The take-away material covered a wide-range of topics, including flood-proofing how-tos, children's coloring books and FEMA Disaster Twins booklets, Family Disaster Plans, National Weather Service information packets and Taking Shelter from the Storm booklets.

Pat Fuchs, Project Coordinator for the Community Outreach Display, describes what it takes to create a successful exhibit:

Make it eye-catching. "We incorporated bright orange, yellow and blue colors into the display and used the Sheriff's logo."

Create an adaptable base so display images can be changed, if needed, to represent up-to-date disaster information. "For example, on the pop-up display portion, we created a cloth panel to which we Velcro pictures relating to the most recent weather and disaster events."

Plan for the costs of on-site space rental, hookup and utility costs, as well as salaries of booth staff.

Finally, partner with related agencies, like the Police and Fire Departments, to increase attention from attendees.


## Quick Facts

Sector:
**Public**

Cost:
**Amount Not Available**

Primary Activity/Project:
**Education/Outreach/Public Awareness**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# FEMA

## *Floodways and Wetlands*
## *Trenton Island, Wisconsin*

**Pierce County, Wisconsin**

**Pierce County, WI** - Wisconsin wetlands are in danger -- only half of the 10 million acres the state once had still exist. Wetlands play a vital role in the environment, storing water to prevent flooding, protecting water quality and providing wildlife habitat. Wetlands restoration is a positive by-product of actions taken to mitigate against flooding. An acquisition program conducted by Pierce County, Wisconsin, has done just that. It has prompted the return of wetlands to an island in the floodway of the Mississippi.

The great Midwest flood of 1993 set the stage for a $6 million buyout program in Pierce County that would involve Trenton Island properties.

Flooding caused roads to close, washed away stabilizing vegetation and threatened lives. Building structures sustained debilitating damage in previous years: major floods occurred in 1952, 1965, 1969, 1993, 1997 and 2001, with minor floods experienced in 1967, 1975 and 1986. The structural damages in the 1993 floods for some were extensive. The losses exceeded 50 percent of the structure's value and thus subjected homeowners to the floodway regulation prohibiting repair or replacement of the structure.

Pierce County applied for mitigation funding because of the continual damage and exposure to environmental hazards. Property owners were provided with the opportunity of a buyout program using combined funding from FEMA's Hazard Mitigation Grant Program, Wisconsin Emergency Management and Wisconsin Department of Administration Community Development Block Grants.

The buyout program had several goals: eliminate loss of lives, minimize property damage and local response costs, bring the island community into compliance with already established zoning ordinances and restore the island to the best possible natural state. Pierce County also developed a Mitigation Plan in 1996.

Within Pierce County, 70 improved parcels were purchased along with three vacant parcels. Salvage materials provided an additional $147,000 toward the acquisition. Participating property owners received the fair market value of their properties. Owners of primary residences were compensated for moving expenses and received a replacement housing cost differential as required under Wisconsin state law. (The housing cost differential payment made up the difference between the acquisition cost and the cost to purchase a comparable replacement). Over 80% of those participating in the buyout program chose to relocate within five miles of Trenton Island.

In 1997 and 2001, floodwaters crested two to three feet higher, respectively, than the 1993 flood, but damage was far less extensive because of the FEMA/state acquisition project. As the books are closed on this project, rough estimates indicate that with losses avoided in the 2001 flood alone, 80 percent of the project cost has been recovered.

The methodology used in projecting potential damage is based on first floor elevations and depth and duration of flooding. In 1993, 1997 and 2001, the depth of flooding got progressively worse. In all cases, the duration of water in structures lasted more than seven days.


### Quick Facts

Sector:
**Private**

Cost:
**Amount Not Available**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# FEMA

## *New School Building "Hardened" Should Stand Against the Wind*

**Oakfield, WI** - A few years back, in Oakfield, Wisconsin, fund-raising T-shirts were printed with the motto: "There's no place like Oakfield," rewording Dorothy's feelings about her tornado experience in The Wizard of Oz. The T-shirts were designed after a tornado roared through the small community in July of 1996, demolishing nearly half the town.

The middle school was one of the 180 structures destroyed or damaged by the tornado. Community residents could also now say, "There's no middle school like the new Oakfield Middle School." With "hardened" interior walls and the roof bolted to wall supports, the school building is now constructed to endure twice the wind force than most other Wisconsin schools. It was designed to withstand 150-mph winds, as compared to the 88-mph wind load required by Wisconsin building code for public buildings.

"From the destruction of that July day, the community of Oakfield built a school to be proud of, and one that provides a greater sense of security for those who experienced the devastation of the tornado," said Joe Heinzelman, Superintendent of Oakfield School District.

Just minutes after sirens signaled its coming, the tornado slammed through the middle of Oakfield, destroying 44 homes, two churches and the middle school. It also razed a majority of the village's mature oak trees, 1800 of them, for which the village was named back in 1847. Authorities estimated Oakfield suffered $50 million in damages.

When a disaster is federally declared, as it was after the Oakfield tornado, mitigation funds are activated through the Hazard Mitigation Grant Program (HMGP). These funds are available to communities for prevention of future disaster damage. In consultation with staff at Wisconsin Emergency Management (WEM), the Oakfield school administration learned that HMGP funds could be used to build a more wind-resistant structure.

"Strengthening the school building was very important to our community," said Heinzelman. "Just to assure people that we have a building that could withstand destructive winds like we experienced and it could become a community shelter in a similar circumstance. It could also become the command center in case other buildings were destroyed. We learned how important that was with the last storm."

The construction technique of "hardening" the walls of the new Middle School included the placement of reinforcing steel in the masonry walls to provide for the additional wind load requirements. The roof structure was changed from steel to a masonry pre-cast concrete roof, and the roof was welded to plates embedded into the walls, placed at double the normal rate, to tie the roof into the structure more securely.

The cost of the improvements to the building totaled $207,260. FEMA contributed $151,662 through HMGP, the state WEM provided $25,277, and the local match was $25,277.

With the funding in place and the building designs completed, an aggressive construction schedule was begun to ensure that no student would miss out on the middle school experience. By January of 1998, after attending classes in temporary classrooms for 18 months, students had a school building they could call their own.

**Fond du Lac County, Wisconsin**


## Quick Facts

Sector:
**Public**

Cost:
**$207,260.00 (Actual)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# FEMA

## *Fighting Floods In Kenosha Property is in Safer Place*

**Kenosha County, Wisconsin**

**Kenosha County, WI** - In the span of 10 years, five emergency declarations have been issued for the Fox River Floodplain in Kenosha County. Following an emergency declaration in May 2004, when the Fox River again overflowed its banks, many fewer homes and residents were at risk, and the costs for response and recovery were substantially reduced. One reason for the remarkable turnaround is that over the 10-year period, 56 property owners have participated in the Fox River Flood Mitigation Program. The Kenosha County Housing Authority administers the program. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) provides staff support.

In 1994, Kenosha County officials initiated a plan to help people move out of the flood-prone area that was mapped as the 100-year floodplain of the Fox River. Since then owners of 56 properties in the communities of Wheatland, Salem and Silver Lake have participated in the voluntary buyout program. Various resources were used to fund the program including Community Development Block Grants - Emergency Assistance Program (CDBG-EAP) from the Wisconsin Department of Commerce, and grant money from the Hazard Mitigation Grant Program and Flood Mitigation Assistance programs administered through Wisconsin Emergency Management (WEM).

During the emergency phase of the 2004 flood, Kenosha County Emergency Management/Homeland Security Director Ben Schliesman noted that as a result of the buyout program, emergency responders had far fewer doors to knock on as they went door-to-door to warn residents of the dangerous flooding situation. Schliesman reported that in addition to fewer enforcement personnel required, no rescue squads needed to be dispatched to help people leave the flooded area.

Following flooding in 2000, the Fox River crested at 2.75 feet over flood stage. Under a federally declared disaster, the communities of Salem and Silver Lake were reimbursed for emergency protective measures under the Public Assistance program for $3,431 in expenses. Kenosha County received reimbursement for $9,253 in expenses for emergency protective measures. Federal reimbursements included the cost of sandbagging and overtime hours incurred by emergency authorities in notifying and evacuating residents.

Under the disaster declaration of 2000, eligible flood victims in the Silver Lake and Salem communities received grants from FEMA that averaged $2,800 for minimal repairs to make the home livable. If the homes had remained in the floodplain, with each successive flood event, like in 2004, an estimated $156,800 in disaster recovery grants for these residents could have been incurred. Property replacement and cleanup costs not covered by grants, and the emotional strain of residents suffering property loss and damage must also be factored into the overall impact if no mitigation measures had been undertaken.

Thus far, the Fox River Flood Mitigation Program removed 56 structures at a cost of $5.5 million dollars, with FEMA contributing $2.5 million in HMGP and FMA grants and CDBG providing approximately $3 million in grants.


## Quick Facts

Sector:
**Private**

Cost:
**$5,500,000.00 (Estimated)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

FEMA

# *The Dry Facts*
# *Protecting Homes From Damage*

**Milwaukee County, Wisconsin**


**Milwaukee, WI** - As basements dried and Milwaukee residents discarded water-soaked belongings, it was evident that flood-proofing needed to be done in regards to these saturated homes and basements.

"Even a rain of two inches over several hours can produce conditions for flooding in Milwaukee County," said Carl Stenbol, Assistant Director for Milwaukee County Division of Emergency Management.

After the June 1997 storm, emergency management staff began developing ideas to better educate homeowners about preventing flooding and sewer backup damages. The disaster declaration the county received in response to the $78 million in damages enabled the department to apply for Hazard Mitigation Grant Program (HMGP) funds through the Federal Emergency Management Agency (FEMA) and Wisconsin Division of Emergency Management (WEM).

"Citizens were asking questions on how they could protect themselves, their property and belongings prior to actual flooding," said Midge Casperson, Milwaukee County Municipal Emergency Service Coordinator and project coordinator/producer for the community outreach video.

Mitigation techniques previously developed and tested could provide the answers to these homeowners' questions. But the challenge was how to get that information to the citizens of Milwaukee County.

"We wanted to put it in a format that was easy to understand and implement, and in a way that was accessible to our citizens," said Casperson.

The staff felt that visual demonstrations provide the best form of teaching. A "mitigation" video production was begun involving script development, actors, and technical expertise. While the county knew it would be a costly undertaking, state emergency management officials helped to determine that the HMGP was a perfect match. The Milwaukee County received a grant of $30,000 from HMGP to produce the video and a corresponding brochure. The final cost of production totaled $40,000. The state and county each matched a $5,000 contribution. Utilizing experts, taking a hands-on approach throughout the entire production schedule, and having a plan for distribution were the successful elements of the project.

"I depended on the production people for what they are best in and researched with mitigation experts, like the Wisconsin mitigation officer and local municipal public works, to get the most up-to-date information and make it a well-rounded video on all aspects of flood-proofing. I worked closely with the production company every step of the way to ensure the accuracy of the content," said Casperson.

County-wide distribution included involving the Milwaukee Federated Library system that encompasses 19 libraries in the City of Milwaukee and the surrounding suburbs. "Librarians told me they had a hard time keeping the video on the shelf," Casperson said.

Timing helped make the video a success in a rather unfortunate way. The video debuted after the county experienced its second 100-year flood event within two years. People were eager to implement protective measures against further flooding damage after basements flooded a second time in two years. The video was able to lay out mitigation suggestions in a very understandable format.

## Quick Facts

Sector:
**Private**

Cost:
**$40,000.00 (Estimated)**

Primary Activity/Project:
**Education/Outreach/Public Awareness**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

# FEMA

## *City of Darlington Honored Acquisition and Floodproofing*

**Lafayette County, Wisconsin**


**Darlington, WI** - The City of Darlington is a small community located in southwestern Wisconsin along the Pecatonica River. When the City was flooded in the Great Flood of 1993, community leaders decided enough was enough. After experiencing flooding in 1950, 1959, 1969, and 1990, City officials, residents, and business owners decided they could no longer sit by and let nature decide the future of their community. As the Mayor stated, "The preservation of the past is an investment in our future."

The City developed a comprehensive flood-hazard mitigation plan that detailed a downtown rehabilitation and flood mitigation project. The ongoing multi-year project combines historic rehabilitation with innovative floodproofing techniques. Instead of moving the downtown district, the project included in-place floodproofing and rehabilitation of buildings listed on the National Register of Historic Places, as well as acquisition and relocation of some non-historic buildings and business revitalization.

The project included floodproofing 35 buildings in the downtown area, many of which were classified as historic structures. The plan also called for relocating 15 businesses from the downtown area and developing an alternative site for business operation on a 35-acre parcel south of Darlington. The business owners covered the costs for rehabilitation and historic preservation of the buildings. The local banks had a $600,000 fund to provide low-interest loans to the business owners for the costs they incurred. Federal funding covered the flood mitigation aspect of the project.

As of Nov. 1, 1998, 11 buildings have been acquired and demolished, and 16 buildings have been floodproofed. The acquired properties have been converted into open, recreational space.

The Darlington project is a prime example of what can be achieved by long-term planning and the cooperation of City officials, local business owners, and concerned residents. The project was a cooperative effort among many agencies including FEMA; Wisconsin Emergency Management; State Historical Society; Wisconsin Departments of Natural Resources, Administration, and Commerce; Economic Development Administration; and Southeast Wisconsin Regional Planning Commission.

The City was honored with a State Historical Society of Wisconsin Historic Preservation Achievement Award on May 9, 1998. The architectural and engineering firm hired for the project received a State award for special categories through the Association of Building Contractors.

### Quick Facts

Sector:
**Public**

Cost:
**$4,706,531.00 (Actual)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Grant Program (HMGP)**

FEMA

# *City of Eau Claire Acquisition*

**Eau Claire County, Wisconsin**

**Eau Claire, WI** - Historically flooding from the Chippewa River took its toll on residents of the Forest Street neighborhood in the City of Eau Claire, Wisconsin. Starting in 1993, the city began to turn the tide on damages created by repetitive flooding when it implemented an acquisition program supported by FEMA's Hazard Mitigation Grant Program.

From the devastation of flooding has grown a planned revitalization of downtown Eau Claire. The west central Wisconsin city is changing its vulnerability to flooding into a recreational and aesthetic amenity that is spurring downtown economic growth.

History is repeating itself in Eau Claire. The Eau Claire and Chippewa rivers first brought settlers to the area. Here, loggers capitalized on the bounty of the woods. The growing city on the river served as an economic center during the logging decades of the 1850s to 1880s. When that 'boom era' passed, the city rebuilt as an industrial and medical center for the surrounding agricultural industry. The city is in another phase of rebuilding its downtown, this time after the shopping malls and freeway corridors influenced the development of retail centers on the outskirts of town. The Chippewa River, now bordered with newly opened up green space, is once again bringing commerce to downtown Eau Claire.

Nearly every spring, houses in the Forest Street neighborhood on the northern edge of downtown and near the Chippewa River filled with floodwaters. The 100-year-old houses were deteriorating from successive flooding and age.

The third highest flood of record hit the city in 1993. People nicknamed it the 'Great Flood'. Homes in the Forest Street neighborhood were among the 75 structures in the city that had river water in the basements. The estimated cost to the city in damages and flood fighting was $750,000.

The federal disaster declaration of 1993 triggered FEMA's Hazard Mitigation Grant Program (HMGP). Armed with HMGP funds, city officials acquired 50 properties in the five-block Forest Street neighborhood. "Although other areas of the city also incurred flooding, the city chose these homes to acquire because of the 100-percent participation by property owners in a concentrated area," said Donna Meier, Project and Acquisitions Coordinator for the city's Department of Finance. "Every year these homes were flooded. It was very destructive. People saw that they were much better off getting out of there and everyone agreed to sell."

In the summer of 2001, the City of Eau Claire approved ambitious plans for the space left vacant by the demolition of flood-prone homes and rental units. The 13.5-acre green space would be linked to another nearby redevelopment area along the river to form a riverfront park. The Redevelopment Plan introduction states, "The open space is readily accessible to downtown businesses, the government center, the University of Wisconsin campus and surrounding neighborhoods. The riverside edges of the site offer excellent views, water access, and an attractive urban destination in the heart of the city."

The buy-out of homes and resulting vacant acreage prompted the development of the park plan.


## Quick Facts

Sector:
**Public**

Cost:
**$2,557,143.00 (Actual)**

Primary Activity/Project:
**Acquisition/Buyouts**

Primary Funding:
**Hazard Mitigation Technical Assistance Program (HMTAP)**

FEMA

# *Wisconsin Mitigation Video*
# *An Education and Training Tool*

**State-wide,**
**Wisconsin**


**Darlington, WI** - Several communities in the State of Wisconsin experience repetitive flooding. The City of Darlington is one that has successfully reduced its risk through a variety of flood mitigation measures. In cooperation with The Wisconsin Emergency Management and Department of Natural Resources (DNR), they created a video to encourage other communities to follow in Darlington's example.

The video explains how repetitive flooding forced the community to look at mitigation options. It discusses how Darlington brought civic leaders, business owners, and citizens together in the flood mitigation planning process. It also demonstrates how one community used seven steps in mitigation planning to address its flooding problem and find long-term solutions. The message relayed is that every community is unique and needs to go through a planning process to find the right solution for their community. But the most significant point is that communities must be pro-active instead of reactive to determine their future.

The video has been used as a practical training tool and will be used in conjunction with the DNR Community Flood Mitigation Guidebook, a community planning document. Local officials have been very satisfied with its practical and applicable use for their needs, and the video has provided them with an insight to the success of mitigation projects and mitigation planning.

Standard Homeowner's insurance policies do not cover flood damage. The National Flood Insurance Program makes Federally backed flood insurance available to homeowners, renters, and business owners in participating communities.

## Quick Facts

Sector:
**Public**

Cost:
**$8,688.00 (Actual)**

Primary Activity/Project:
**Land Use/Planning**

Primary Funding:
**State sources**