SECTION 7: 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.

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 with the enhanced plan approved June 15, 2009.

This update of the State of Wisconsin Hazard Mitigation Enhanced Plan has addressed several of the recommended revisions identified in the review crosswalk in 2009.

7.1 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 4. 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 4 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 4.

Section 2 as well as the State Capability Assessment found in Section 4.2 discusses related mitigation programs and projects that make up the State's overall mitigation capability and contributes to the State's mitigation program. Table 7.1-1 below summarizes the integration of hazard mitigation planning with other State planning initiatives. They are discussed in more detail in Section 2.

TABLE 7.1-1 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

TABLE 7.1-1 STATE PLANNING INITIATIVES	
Initiative	**Description**
	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: • Continue updating and integrating information and methods in a Geographic Information System (GIS) compatible format regarding shoreline hazards. • 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. • Develop an institutional framework to improve the State's regulatory mechanism and local mitigation efforts. • 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 2011-2015. 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. Each ESF includes mitigation activities in support of the function. 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. The State's Long-Term Recovery strategy is outlined in ESF 14 which is a part of the State Emergency Response Plan.
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

TABLE 7.1-1 STATE PLANNING INITIATIVES	
Initiative	**Description**
	Assistance (PA) program in concert with the State's Hazard Mitigation program. Again, the State's Long-Term Recovery strategy is outlined in ESF 14 which is a part of the State Emergency Response Plan.
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. The strategic plan remained in effect during the rapid turnover of 5 administrators. The plan is scheduled to be updated in FY 2012.
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. 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, Trade and Consumer Protection; Health Services; Children and Family Services; Correctins; Justice; Natural Resources; Office of Energy Independence; 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	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 was developed to obtain needed site specific information on those facilities and infrastructure that are most critical and may be at most risk

TABLE 7.1-1 STATE PLANNING INITIATIVES	
Initiative	**Description**
Infrastructure	from future disasters. WEM, along with the Department of Administration, created a Wisconsin Risk Assessment Data Collection Worksheet that is the 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. Appendix H contains 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 4. Table 7.1-2 lists the agencies that were active in the planning process and summarizes their contributions to the process and the State's overall mitigation program.

TABLE 7.1-2 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. • 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. • The Wisconsin Land Information Program provides a data resource for state and local governments in the development of both comprehensive and hazard mitigation plans. • Wisconsin Coastal Management Program provides guidance and assistance to the 15 coastal counties on incorporating coastal hazards into comprehensive and hazard mitigation planning. • The Geographic Information System program developed the Wisconsin Recovery Task Force website which is now maintained by WEM. • The Division of State Facilities and WEM created a Wisconsin Risk Assessment Data Collection Worksheet that is the 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. • 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. • After the June 2008 Flood, three Flood Recovery Specialists were added to the Department of Administration (formerly Commerce) and are assisting communities, especially businesses, in the flood recovery process.
Department of Agriculture, Trade and Consumer Protection	• Manages and administers several programs that reduce environmental damages from flooding. • Chairs the WRTF Agriculture Subcommittee.
Wisconsin Emergency	• Responsible for the development, maintenance and implementation of the State Hazard Mitigation Plan.

TABLE 7.1-2 CONTRIBUTING AGENCIES	
Agency	**Contribution to Process**
Management	• Responsible for administration of HMGP, FMA, PDM, RFC and SRL programs. • 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 are incorporated into updates of the State Plan. • Promotes hazard awareness and mitigation through awareness campaigns, newsletter, agency website, and workshops. • 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. • Administers FEMA crisis counseling grants and case management for declared disasters. Works closely with the Long Term Recovery Committees, Individual Assistance and Mitigation staff. • 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. • Coordinates with WEM and DNR on annual Flood Awareness Week.
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. • 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. • Environmental staff provides review and input in the environmental review process on proposed mitigation projects. • Administers the State's Shoreland Protection Program, Local Floodplain Management Standards, and State Wetland Standards. • 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. • Administers the NFIP and provides information on flood insurance, floodplain management and flood hazard mapping.. • 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. • Administers Chapter 30 which sets standards for placement of structures and material, diversion of water and other activities in navigable waters. • Stormwater management requires erosion controls and stormwater management practices on construction sites. • Administers Non-point Targeted Runoff Management Program. • Manages and administers the provisions of the Managed Forest Law, and provides technical assistance to private forests statewide. • Administers Forest Fire Protection Grant Program, Health Forest Initiative, Single Engine\ Air-Tanker Program and the Wildland Urban Interface and Fire Wise Communities programs. • DNR representative co-chairs with WisDOT the WRTF Infrastructure Subcommittee.

TABLE 7.1-2 CONTRIBUTING AGENCIES	
Agency	**Contribution to Process**
	• Coordinates with Office of Commissioner of Insurance and WEM on annual Flood Awareness Week.
Department of Safety and Professional Services	• 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.
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. • In highway and bridge improvement projects, strives to eliminate or reduce potential damages from hazards. • Identifies mitigation opportunities as part of project developments. • Transportation Security identifies measures to reduce damages to critical infrastructure, airports, rail, and maritime. • 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.
Wisconsin Economic Development Corporation	• Chairs the WRTF Business Subcommittee.

7.1.1 Comprehensive Planning

Wisconsin's Comprehensive Planning Law was enacted in 1999 and is often referred to the "smart growth law" requires all local governments to develop and adopt a comprehensive plan. Beginning January 1, 2010, if a town, village, city or county enacts or amends an official mapping, subdivision regulation, or zoning ordinance, the enactment or amendment ordinance must be consistent with the community's comprehensive plan. The law was amended in 2010 to delay the requirements until January 1, 2012 for those local governments that have applied for but have not received a comprehensive planning grant; and allows the Department of Administration the authority to grant local governments that have received a planning grant a time extension to adopt the plan by January 1, 2012.There are nine planning elements:

- Issues and Opportunities
- Housing
- Transportation
- Utilities and Community Facilities
- Agricultural, Natural and Cultural Resources
- Economic Development
- Intergovernmental Cooperation
- Land Use
- Implementation

At the same time the legislation was passed, a Comprehensive Planning Grant Program was created in the Department of Administration (DOA) to help local governments develop their comprehensive plans. Grant funds are available through the Department of Administration (DOA) for completing comprehensive plans. As of September 2010, $21 million in grants had been awarded to 1,171 communities.[1] As of March 24, 2011, 59 county plans and 1,382 municipal plans had been submitted with another 150 plans estimated under development.

Although there is no requirement element for hazard mitigation, the importance of comprehensive planning is discussed and stressed at the annual Hazard Mitigation Planning Workshops held by Wisconsin Emergency Management. 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. 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* (http://emergencymanagement.wi.gov/mitigation/docs/wem_mitigation?guide-402003.pdf.) In addition, where to integrate the comprehensive planning elements into the all hazards mitigation plan are also described in the guidance. The Department of Administration's website includes a link to the Guide.

There is a DOA representative on the Wisconsin Hazard Mitigation Team. The State Hazard Mitigation Officer (SHMO) was also a member and participated on the State Agency Resource Working Group.

7.1.2 Regional Planning

The Council of Regional Planning Organizations represents the nine Regional Planning Commissions in Wisconsin (see Figure 7.1.2-1). 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

[1] Due to budget cuts, no grants were awarded in fiscal years 2011 and 2012. It is uncertain whether grant funds will be available again in 2013.

planning workshops and distributed upon request. The Guide can be found on WEM's website at http://emergencymanagement.wi.gov/mitigation/docs/wem_mitigation?guide-402003.pdf. 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 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.

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.

As a result of the 2008 flood disaster, the Economic Development Administration (EDA) provided grants to the Regional Planning Commissions in the disaster area for the development of Flood Recovery Strategies. To accomplish the tasks assigned, the Department of Commerce as the lead coordinated the effort that was referred to as the EDA Disaster Recovery Collaboration. The group met monthly up through August 2011. WEM mitigation staff participated in the collaboration by attending the meetings and providing input. Potential projects were brought forward and discussed to maximize funding opportunities. In addition, a collaboration website was established where members shared information. One of the outcomes of the group, again with the Department of Commerce as the lead, was the development of a Community Economic Recovery Guidebook to assist economic development organizations, businesses and community leaders in preparation of economic recovery from a disaster. A link to the guidebook was placed on WEM's website and can be downloaded at http://emergencymanagement.wi.gov/recovery/business.asp.

The Regional Planning Commissions are one of WEM's strongest partners in mitigation planning. The RPCs have provided planning services to many of the counties in the development and update of the all hazard mitigation plans. In addition, the Commissions prepare grant applications for local governments to obtain federal and state assistance for many types of activities including mitigation grant applications for both planning and projects. After the 2008 floods, RPCs located in the southern part of the state worked 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.

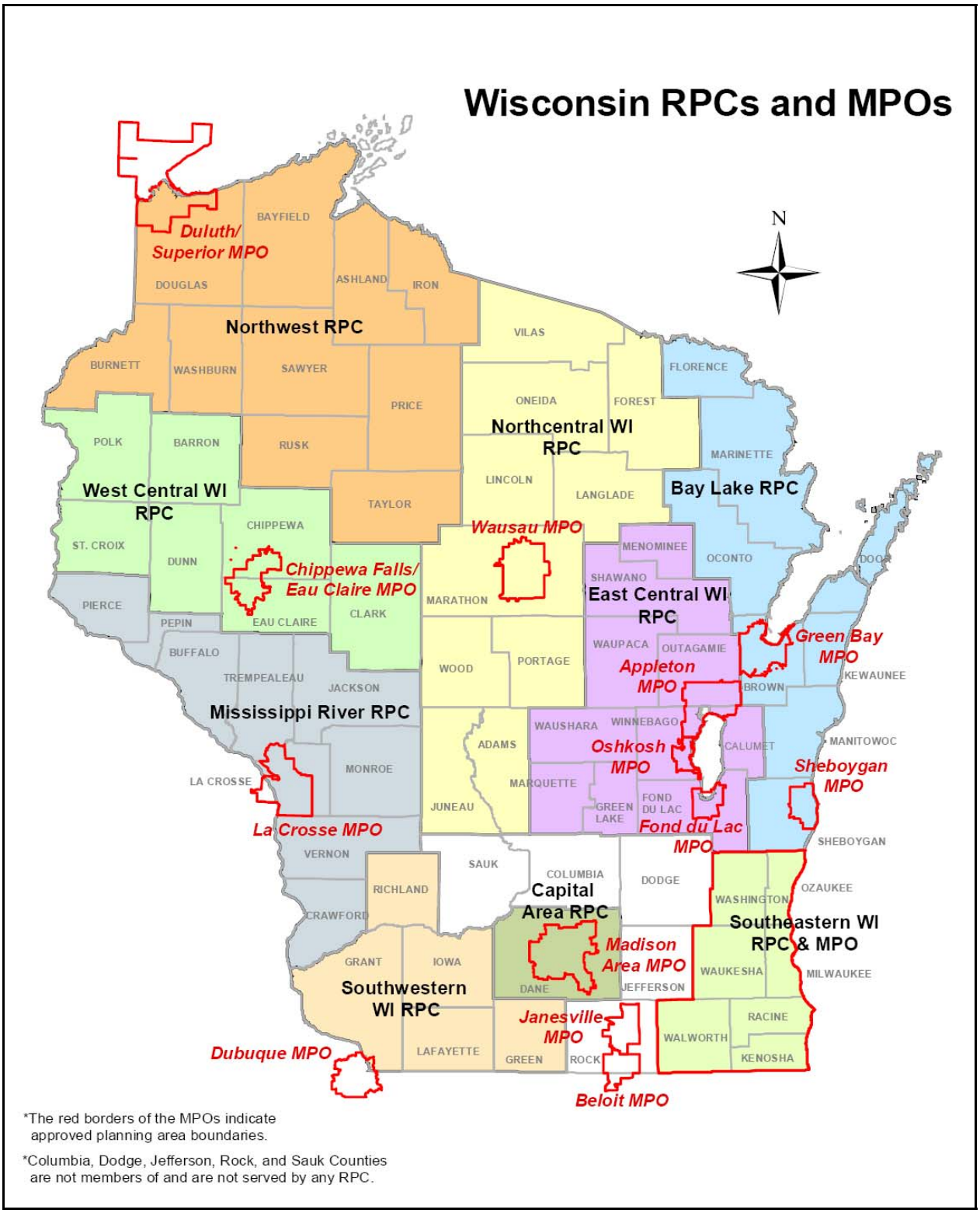


Figure 7.1.2-1 Regional Planning Commissions and Metropolitan Planning Organizations in Wisconsin

The majority of the local hazard mitigation plans in Wisconsin are countywide plans. The Northwest Wisconsin Regional Planning Commission is working on the development of a four-county all hazard mitigation plan (Rusk, Sawyer, Price and Taylor).

7.1.3 Rural Electric Cooperatives

Rural Electric Cooperatives are integral to the State of Wisconsin and its communities. The first electric cooperative in Wisconsin energized its system in the spring of 1937 and the last cooperative energized its system in 1945. Today, there are 25 electric cooperatives in Wisconsin that generate, transmit and distribute electric power. Wisconsin's electric cooperatives collectively serve more than 267,000 consumers; and maintain more than 49,000 miles of power lines.

Initial discussions of development of an electric cooperative annex to the State of Wisconsin's Hazard Mitigation Plan began in late 2007. Several electric cooperatives in the State had been recipients of hazard mitigation funding. WEM approached the Cooperative Network (at that time Wisconsin Federation of Cooperatives) to gage the interest of the state's electric cooperatives in developing an electric cooperative annex to the State of Wisconsin Hazard Mitigation Plan.

Thirteen of the state's electric cooperatives entered into a Memorandum of Understanding with Wisconsin Emergency Management that included the following:

- Joint development of an electric cooperative annex for the inclusion in the State of Wisconsin's Hazard Mitigation Plan
- Identification of natural hazards that have the potential of affecting an electric cooperative's infrastructure
- Conducting an assessment of vulnerabilities of the infrastructure to these hazards and mitigation measures to reduce these vulnerabilities
- Active participation in the periodic review, evaluation, and update of the electric cooperative annex.

This annex ensures that participating Rural Electric Cooperatives will be eligible to apply for hazard mitigation funds to prevent loss of function and damage in rural Wisconsin. The Rural Electric Cooperative Annex is Appendix G of the State Plan.

7.1.4 Other Planning Initiatives

In 2008, WEM partnered 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 is included in this Plan. In addition, the individual county HAZUS flood risk assessments were distributed to all counties and each respective Regional Planning Commission. WEM's website

includes an interactive map where the county HAZUS risk assessment can be viewed and downloaded.

WEM Staff also joined the Central HAZUS Users Group. Staff from the East Central and Bay Lakes Regional Planning Commissions joined the group and worked with State mitigation staff in the use of HAZUS to assist in the development of hazard mitigation plans.

As a result of the Floods of 2008, 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 particularly in those communities where HMGP buyout programs were implemented. Figure 7.1.4-1 below shows the 11 Long-Term Recovery Committees from the 2008 Floods. The committees have continued to provide recovery assistance in events that have occurred since 2008.

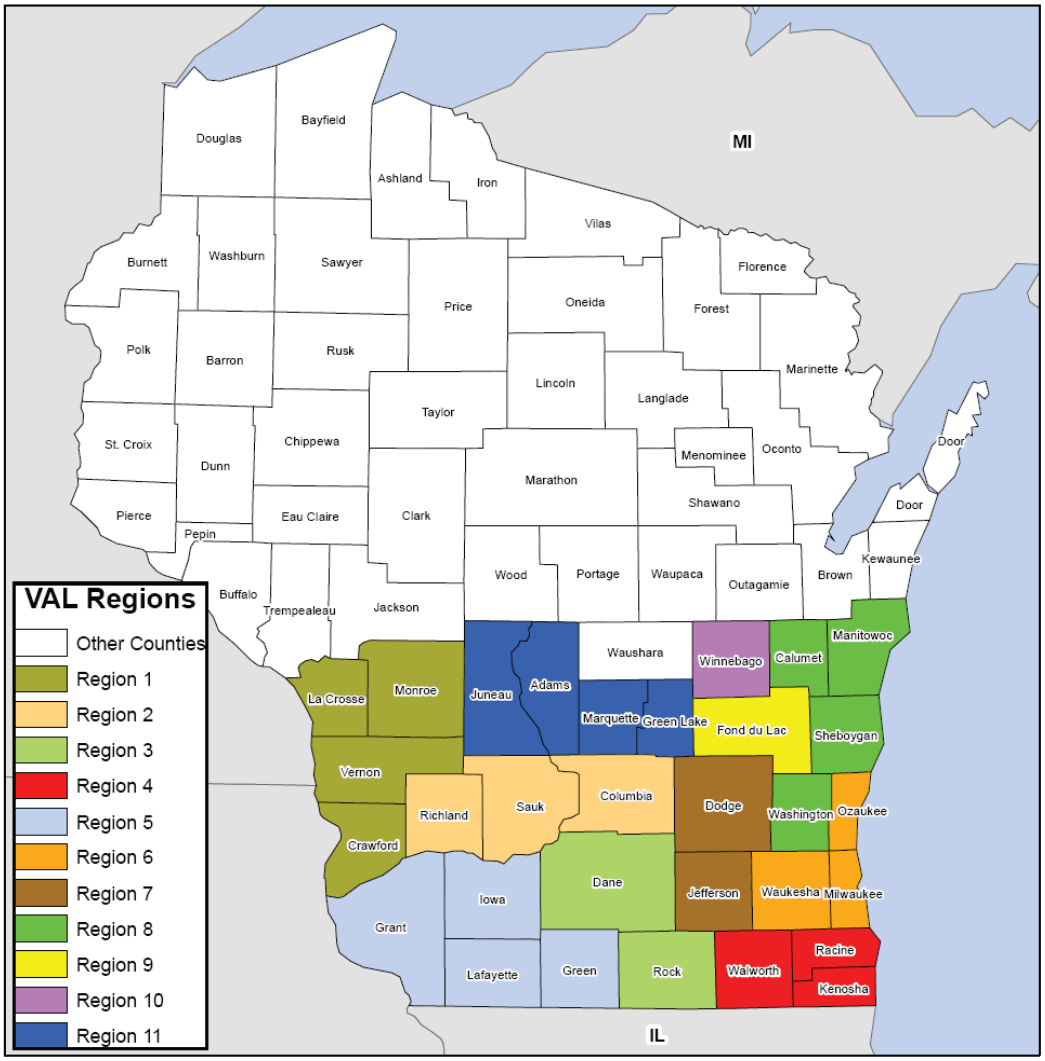


Figure 7.1.4-1 Wisconsin VOAD Long-Term Recovery Committees

7.2 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. Section 4, Table 4.2-2 beginning on page 4-83 provides information on federal capabilities.

7.2.1 Project Impact

In 1998, FEMA created Project Impact. Project Impact was a community-based initiative where public and private partners worked together to improve disaster resistance. Each year between 1998 and 2002 one Wisconsin community was selected as a Project Impact community and received Project Impact funds. The purpose of becoming a Project Impact community was to permanently embrace disaster resistance as a community-wide effort. Another goal the initiative was for the designated communities to share their experiences and successes with other communities and mentor them in implementing similar programs.

City of Wauwatosa

The City of Wauwatosa became the first Project Impact community in Wisconsin in November 1998. The City conducted a wide variety of mitigation activities: acquisition and demolition of 66 flood-prone properties along the Menomonee River; riverside clean up with partners AmeriCorps and Milwaukee County; stormwater and sewer projects that will reduce future flood damages; hazard mitigation planning; and an ongoing public awareness and information program on hazard reduction efforts.

Racine County

In 1999, Racine County was selected as Wisconsin's second Project Impact community. Their mitigation activities included the following:

- Development of a local all-hazards mitigation plan (the first in the state)
- Completion of a tornado shelter assessment of schools in the County
- Distribution of weather radios to all schools in the County
- Collaboration with the local technical college to collect information about residents' opinions, attitudes, and preparedness regarding disasters
- Development of public awareness campaigns
- Promotion of Project Impact and hazard mitigation through safety fairs, workshops, and booths at community functions
- Presentation of Project Impact and hazard mitigation topics to a variety of groups in the community
- Creation and distribution of a Project Impact coloring book for children about staying safe during natural hazard events

- Promotion of Project Impact through local broadcast weather reports and articles for local newsprint
- Collaboration with the local Housing Authority to include a safe room in the construction of a new home
- Incorporation of wind resistant construction techniques in the Town of Norway's new town hall

City of Waukesha

The 2000 Project Impact community selected in Wisconsin was the City of Waukesha. The City of Waukesha has experienced flooding in the past during major rain events and has had many severe weather events. However, the City is also home to numerous highway and railroad corridors that pose technological hazards from accidental spills of industrial chemicals. Therefore, the City completed an all-hazards risk analysis. The information gathered was used to develop an all-hazards mitigation plan.

Other activities included an assessment of tornado shelters for all schools and public buildings in the City, promotion of hazard mitigation techniques with local developers and architects, and integration of emergency and mitigation planning with the City's GIS system. In addition, the City installed protective film on the City's Council Chambers and upgraded it to an Emergency Operations Center. They also worked with Habitat for Humanity to include a safe room in the construction of a new house and implemented a public awareness and education program that included a variety of activities.

City of Eau Claire

The City of Eau Claire has had a long history of river flooding. It incurred flood damages in 1971, 1973, 1980, 1992, 1993, and in September 2000, just prior to being selected as Wisconsin's 2001 Project Impact community. Thunderstorms and tornadoes have also affected the City and surrounding areas.

Based on past flood events, the City acquired and demolished flood-prone structures on the south and northwest sides of the City using Project Impact funds. The City also developed a local all-hazards mitigation plan, the first in the state to meet the minimum planning criteria per 44 CFR Part 201. Another project the City completed was a tornado shelter assessment of all schools, colleges, and public buildings in the City. The results were incorporated into the existing School Crisis Intervention Plans. The City also integrated information such as wetlands, floodplains, and hazardous materials sites, into its GIS system to assist in emergency and mitigation planning as well as emergency response and recovery. Additionally, the City implemented a public education and outreach program. Some of the activities in the program included producing a natural hazard safety calendar and working with local media to develop videos and safety messages. For the Project Impact program, they also purchased and distributed 125 weather radios to critical facilities within the City including schools, hospitals, nursing homes, clinics, and day care centers.

7.2.2 Public Assistance Program

Mitigation measures can also be implemented through FEMA's Public Assistance (PA) Program after a disaster declaration (under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5172). PA 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 in the regulations, however, has been very much underutilized. Initially, the PA Program provided funds to repair facilities to pre-disaster condition without considering mitigation opportunities. Beginning in 1996 with disaster declaration FEMA-1131-DR-WI, a greater effort was made to fund Section 406 mitigation through the PA Program. Federal mitigation staff was assigned to liaise with state PA staff and to provide technical assistance. To further emphasize mitigation opportunities, a Memorandum of Understanding (MOU) for disaster declaration FEMA-1180-DR-WI was developed between state and federal representatives to promote the implementation of Section 406 mitigation measures.

In disaster FEMA-1332-DR declared in July 2000, the Federal Coordinating Officer's goal was to incorporate Section 406 mitigation in 20% of all projects. Mitigation was actually incorporated in 40% of projects, significantly exceeding the goal. Mitigation staff coordinates with the PA staff to ensure that Section 406 mitigation opportunities are included wherever possible.

7.2.3 National Flood Insurance Program (NFIP)

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 and count towards the required local match. ICC benefits are also available for severe repetitive

loss properties mitigated with SRL funds regardless of whether recent flood damage has occurred.

Knowing the importance of flood insurance, WEM, the Office of the Commissioner of Insurance (OCI) and the Department of Natural Resources 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. The three agencies again coordinated efforts to promote subsequent Flood Awareness Weeks March 15-19, 2010 and March 14-18, 2011. Efforts include mailing media packets to the County Emergency offices and media outlets promoting flood safety awareness and encouraging residents to assess their risks and purchase flood insurance. The information was posted to WEM's and Ready Wisconsin websites.

The NFIP's Community Rating System (CRS) was implemented in 1990 to recognize and encourage community floodplain management activities that exceed the minimum NFIP standards. The National Flood Insurance Reform Act of 1994 codified the CRS in the NFIP. 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 10 CRS classes (categories): class 1 requires the most credit points and results in the largest premium reduction; class 10 receives no premium reduction. The CRS recognizes 18 creditable activities, in four categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness. Table 7.2.3-1 below shows the credit points earned, classification awarded, and premium reductions given for Wisconsin communities in the CRS.

TABLE 7.2.3-1 WISCONSIN COMMMUNITIES IN THE CRS

Community Number	Community Name	Entry Date	Current Effective Date	Current Class	Credit For SFHA	Credit For Non- SFHA
550001	Adams County	10/1/1991	5/1/2007	8	10	5
550612	Allouez, Village	10/1/1992	10/1/2002	7	15	5
550128	Eau Claire, City	10/1/1991	10/1/2008	7	15	5
550578	Elm Grove, Village	4/1/2001	10/1/2006	6	20	10
550366	Evansville, City	5/1/2010	5/1/2010	7	15	5
550022	Green Bay, City	10/1/1991	10/1/2001	7	15	5

TABLE 7.2.3-1 WISCONSIN COMMMUNITIES IN THE CRS						
Community Number	**Community Name**	**Entry Date**	**Current Effective Date**	**Current Class**	**Credit For SFHA**	**Credit For Non- SFHA**
555562	La Crosse, City	10/1/1991	10/1/2002	8	10	5
550085	Mazomanie, Village	10/1/1991	10/1/1991	9	5	5
550487	New Berlin, City	10/1/2005	5/1/2010	7	15	5
550310	Ozaukee County	10/1/1991	10/1/2007	8	10	5
550660	Suamico, Village	5/1/2008	5/1/2008	8	10	5
550107	Watertown, City	10/1/1991	10/1/2007	7	15	5
550108	Waupun, City	10/1/1991	10/1/2001	8	10	5
550537	Winnebago County	10/1/1991	10/1/2001	8	10	5

Source: FEMA, 2010.

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 (FIS) 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.

Table 7.2.3-2 below shows NFIP participation statistics for Wisconsin as of June 30, 2011. There are serious consequences for communities that elect not to participate in the NFIP: flood insurance is not available to individuals or businesses (lending institutions cannot approve mortgages for properties located in a SFHA without the purchase of flood insurance); certain disaster assistance (HGMP, FMA, PDM and SRL programs) and other federal grants are not available to individuals, businesses, or local governments.

TABLE 7.2.3-2 NFIP STATISTICS FOR WISCONSIN	
Participating communities - regular program	522
Participating communities - emergency program	10
Total participating communities	532
Participating communities with no special flood hazard area (SFHA) identified	15

TABLE 7.2.3-2 NFIP STATISTICS FOR WISCONSIN	
Non-participating communities with SFHAs identified	67
Total communities with (SFHAs) identified	584*
Suspended communities	12
Withdrawn communities	1

*This number includes all 72 counties.

Source: FEMA, 2011.

As part of the mitigation action plan after a disaster declaration, DNR contacts the non-participating and suspended communities to provide them with information and technical assistance and encourage them to join the 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 DNR Floodplain Management Program plays an important role in state mitigation. The responsibilities of FMP staff members include, but are not limited to, the following:

- Help communities administer local floodplain management programs
- Make substantial damage determinations after a flood
- Ensure that communities are in compliance with local ordinances
- Assist to non-participating communities in enrolling in the National Flood Insurance Program (NFIP)
- Assist NFIP-participating communities in enrolling in the Community Rating System (CRS)
- Represent the FMP on the Wisconsin Hazard Mitigation Team
- Work with WEM mitigation staff to administer mitigation programs and develop a repetitive loss strategy for the state
- Provide training to local government and emergency management officials on floodplain management and mitigation

In 1995 the Department of Natural Resources (DNR) developed the "Wisconsin Community Flood Mitigation Planning Guidebook." WEM then developed additional flood mitigation planning guidance to assist local governments in meeting Flood Mitigation Assistance program planning requirements. WEM and the DNR sponsored and conducted flood mitigation planning workshops using both of these documents as training tools.

As complement to the guidebook, the DNR, with financial assistance from FEMA/WEM, developed the video "Mitigation Revitalizes a Flood Community: The Darlington Story." The video showed how the city investigated mitigation measures following recurrent

flooding events. The City followed a mitigation planning process similar to the one described in the guidebook to produce a plan that included strategies to decrease future flood damages and attack the underlying economic problems. The video explained how the City brought civic leaders, business owners, and citizens together. The efforts of the City have been recognized in videos produced by FEMA and the Association of State Floodplain Managers.

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 since 2007. The brochures are handed out at the Public Officials Briefings, training workshops, public meetings, mitigation training sessions/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, 2008 and 2010 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. To further support floodplain management in the State, DNR conducted 19 floodplain development and permitting workshops in 2008 and 2009; 15 flood insurance workshops in 2010 and 2011; developed and distributed a newsletters to over 1,000 subscribers; and provide support to the Wisconsin Association for Floodplain, Stormwater and Coastal Managers. Staff outreached to the following organizations: Wisconsin County Code Administrators, Wisconsin Building Inspectors Association, Wisconsin League of Municipalities; Wisconsin Counties Association; American Society of Civil Engineers, Wisconsin Bar Association, Wisconsin Surveyors Association and Wisconsin Counties Highways Association as well as several tribal governments HoChunk and the Potowatomi/Sakaogon Tribes.

7.2.4 Map Modernization

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)*.

The *Map Modernization Plan for the State of Wisconsin* also noted 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, and May 2008)*.

DNR started working with FEMA as a Cooperating Technical Partner (CTP) in 2001. Under Map Modernization DNR had three Goals:

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.

Wisconsin DNR accepted the fact that the type of funding required to properly map all flooding sources throughout the State is simply not available. Map 7.4 highlights the counties currently involved in the Map Modernization process

As of September 2011, 2 counties are in the preliminary map production phase, 15 counties are in the final map production phase, and 44 counties have DFIRMS available. Elevent counties will not be mapped due to limited funding.

The Map Modernization program will achieve its performance goals, but will not address all of the unmet needs. FEMA has headed into a map maintenance type of phase that will build on the foundation of Map Modernization and strive to meet unmet needs. Nationwide, their efforts will focus on three main areas: Coastal flood studies; mapping of levee areas and addressing other significant flood hazard engineering needs.

7.2.5 RiskMAP

During 2009 FEMA began to develop a robust multi-year plan called RiskMAP (Risk Mapping, Assessment and Planning) to address the full scope of the remaining needs. RiskMAP is the successor to FEMA's Map Modernization and expands the focus to include risk assessment, mitigation planning and traditional hazard identification (flood mapping) activities. RiskMAP is meant to better inform communities as they make decisions related to reducing flood risk by implementing mitigation actions. RiskMAP will built on the strong foundation of Map Modernization that is in place. This integrated flood risk management approach will weave county-level flood hazard data developed in support of the NFIP into watershed-based risk assessments that serve as the foundation for local hazard mitigation plans and targeted risk communication activities.

The vision for RiskMAP is to deliver quality data that increases public awareness and leads to action that reduces risk to life and property. The RiskMAP goals are the following:

1. Address gaps in flood hazard data;
2. Measurably increase public's awareness and understanding;
3. Lead effective engagement in mitigation planning;
4. Provide an enhanced digital platform; and
5. Align risk analysis programs and develop synergies.

The outcomes and benefits are: engaged communities making informed decisions; increases in accuracy and reliability of products; effective risk assessments and mitigation plans; and communities can more effectively communicate risk. RiskMAP products may include: Flood risk database; flood risk report; and/or flood risk map.

DNR's priorities for watershed selection were based on flood risk, recent flood events, and availability of digital floodplain and high quality elevation data. The primary area of focus in FFY 2011 was the Upper and Lower Rock River watersheds along with one study in the Lower Wisconsin watershed and a few others in the Upper and Lower Chippewa and Eau Claire watershed. The Upper and Lower Rock River watersheds as well as Chippewa and Eau Counties are still in the discovery phase in which the areas in greatest need of new engineered floodplains are determined. Discovery meetings for Chippewa and Eau Counties was held in January 2011 and for the Upper and Lower Rock River watershed in February 2011 to view maps with streams with invalid studies. Community officials had the opportunity to share their local knowledge and concerns on which streams warranted new floodplain engineering and pointed out their areas of concerns. In addition, the State Hazard Mitigation Officer attended the discovery meetings for the Upper and Lower Rock River watershed and discussed the status of the communities' hazard mitigation plans and how RiskMAP products might assist in making the plans more comprehensive; previous mitigation projects in the area; and hazard mitigation funding opportunities. Mitigation will be part of future discovery meetings as they are held in the Lower Wisconsin River watershed.

7.2.6 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, 2007, and 2010, but not 2006 and 2009. Subapplicants may also now request up to 5% of the grant for management costs. In 2004 funds were required to be used on for RLPs. The State solicited applications, but there were no projects submitted that met the requirement. Although the state solicited FMA applications in 2008, no applications were received, therefore, the State did not apply for FMA funds. The State solicited FFY 11 FMA applications during the annual HMA (Hazard Mitigation Assistance) program application period. The State reviews applications to determine if any of the projects will fit the FMA program criteria. None were received. However, the project funded in FFY10 is incurring a cost overrun. Therefore, it was the State's intent to reapply to the FFY11 FMA program when the application reopened in the spring of 2011 to mitigate one of the properties originally approved as part of the FFY10 award. Normally there are funds available after the national competition. However, in 2011 all funds were exhausted. The subgrantee will be applying for the FFY12 FMA funds. Due to program restrictions, the State is not always able to spend the available allocation. Below challenges to the program are discussed. Appendix C contains detailed tables describing the FMA projects and plans that have been funded in Wisconsin. Below in Table 7.2.6-1 is the FMA funds (federal share) the State has received and implemented:

TABLE 7.2.6-1 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

TABLE 7.2.6-1 FLOOD MITIGATION ASSISTANCE FUNDING

FFY	Planning	Project	Tech. Asst.	Total
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	-	$ 89,349	$ 3,811	$ 93,160
2004	-	-	-	-
2005	$ 13,399	$ 107,512	$ 8,183	$ 129,094
2006	$ 10,364	-	-	$ 10,364
2007	-	$ 180,441	$ 5,360	$ 185,801
2009	-	$ 153,000	-	$ 153,000
2010	-	$134,348	$8994	$143,342
Total	**$118,931**	**$1,562,835**	**$26,348**	**$1,708,114**

Due to unspent funds of other states, Wisconsin was able to receive additional funds.
Source: WEM, 2011.

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 Hazard Mitigation Grant Program. 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 including severe 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 December 2010 is presented in Appendix D. The state makes every attempt to mitigate repetitive loss properties through all of the HMA programs.

There are several challenges with the FMA Program. Planning grant funds can only be used to address flood hazards, not all hazards in a community. They can be used to complete flood mitigation components of local all-hazards mitigation plans. Due to this restriction it makes it difficult to award planning grant funds. Subgrantees are not interested in having to apply for two different planning grants to complete one all hazard mitigation plan. The result is that the State has great difficulty in getting communities to apply for the FMA 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. The State has encouraged counties to apply for FMA funds to

enhance the flood risk assessment portion of the all hazard mitigation plan such as doing a detailed floodplain structure inventory.

In the past, due to restrictions in certain fiscal years, the State was denied planning grant funds for communities with no repetitive loss properties even when those were the only communities in the state to submit planning grant applications.

The limited amount of planning grant funds received annually is inadequate for producing more than one plan per year. However, in order to receive FMA project grant funds, a community must have a FEMA-approved hazard mitigation plan that identifies the proposed project(s). Prior to the creation of the Pre-Disaster Mitigation Program (PDM), which is the primary funding source for the development and update of all hazard mitigation plans, initially there was a concentration of projects in just four jurisdictions with approved flood mitigation plans: the cities of Darlington and Brookfield, and Kenosha and Jefferson counties.

The program is restrictive in that funds can only be used to protect structures insured through the NFIP. Further when projects are submitted that include NFIP-insured structures, the project may not pass the benefit-cost analysis. This can be very frustrating particularly if the property has been identified as a repetitive loss or severe repetitive loss property.

Finally, all applications have to be submitted through FEMA's e-Grants system. Subgrantees are not familiar with utilizing this system and some have great difficulty in completing the required application. In addition, the system itself has had problems, but has improved in recent years. Another issue is the application utilized in e-Grants does not request the required information needed for the BCA.

7.2.7 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 (DMA2K) 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, 2007, 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. As of June 30, 2011, $73,045,269 in HMGP project funds and $1,228,594 in HMGP planning funds have been used in or allocated to the State for 104 mitigation projects and 33 local plans or plan updates. Two federal declarations (1933-DR and 1944-DR) were declared in 2010 and one in 2011 (1966-DR). The State's mitigation staff members are presently processing applications. Based on the six-month allocation, the estimated amount of funds available for 1933-DR and 1944-DR is $21,338,523 and $1,050,261. The best estimate for 1966-DR is $1,900,000. This will bring the total for HMGP funds to over $98 million for the history of the program. Projects consist of acquisition and demolition, floodproofing, wind retrofit, storm shelters, education and outreach, structural such as stormwater management, utility protection, NOAA weather radios, and planning. Table 7.10 identifies funding approved funding allocation by declaration. In addition, Appendix B provides a detailed history of the disaster declarations and the

HMGP. Appendix C identifies mitigation projects implemented statewide. HMGP is the primary funding component for implementing mitigation actions identified in state and local hazard mitigation plans.

The mitigation staff makes every attempt to fully utilize all available funding. Applications are submitted in the amount of or exceeding all available funding for the declaration within the required timeframe (i.e., 18 months from the declaration.) In addition, eligible projects over above the allocation are submitted in the event funds become available. As projects are completed, any unspent funds in projects are reobligated to projects that have cost overruns. The goal is to spend as much funds as possible and returning as little as possible at the end of the performance period.

The program does have some challenges which are not unique to HMGP, but impact all of the FEMA mitigation programs. The requirement for the project to be cost-effective, meaning that the benefits must outweigh the cost of one to one is the largest challenge that faces projects submitted for funding. Many viable mitigation projects are not funded as they cannot meet FEMA's strict BCA requirements. In most situations the required documentation cannot be obtained. This is particularly frustrating when repetitive loss or severe repetitive loss properties are involved. The planning requirements, in some cases, are another challenge. In order for a community to be eligible for funding, they must have an approved hazard mitigation plan. This requirement in some instances may delay funding of mitigation projects by either the community not having an approved hazard mitigation plan or the plan has expired. In some instances the plan may be in the update process, but not yet completed. WEM diligently works with counties to ensure that the plans remain current and do not expire. If there is a county that doesn't have a plan or if it is expired, they would be a high priority to receive HMGP planning grant funds.

Under the HMGP program, the BCA requirement is waived for properties that are determined by the authorized local official to be substantially damaged under the local floodplain ordinance. This greatly expedites project approval for acquiring flood damaged properties. However, a challenge is getting the community to complete the substantial damage determinations. After a declaration, DNR contacts all communities to remind them of their responsibility to complete substantial damage determinations. WEM will work with those communities that have substantially damaged structures to apply for HMGP funding to mitigate those structures. In addition, DNR and WEM conduct substantial damage workshops for local officials. DNR also provides technical assistance to communities if requested.

In October 2000, Wisconsin became a Managing State for the HMGP. This means that FEMA recognized that the State is capable of performing benefit-cost analyses and environmental reviews for proposed projects. Based on a Memorandum of Understanding signed by FEMA and WEM, the State prepared a project summary sheet for all HMGP applications submitted to FEMA. Then, instead of reviewing the entire application package, FEMA reviewed the project summary sheet and approved the project and environmental documents. This significantly streamlined the approval

process. In a letter dated February 15, 2006, the MOU was terminated. The reason was that with the passage of the DMA2K, Interim Final Rule published on February 26, 2002, 44 CFR 201, 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 . . ." To date, such criteria has never been developed. Therefore, there are no "managing states."

7.2.8 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 and update of an all-hazards mitigation plan or for a cost-effective hazard mitigation project. Applicants must be participating in the NFIP for projects located in a special flood hazard area.

Interim Final Rule, 44 CFR Part 201, Hazard Mitigation Planning, published February 26, 2002, and Final Rule published October 31, 2007, established criteria for State, local and tribal 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. A major change in the final rule was 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. The development and subsequent updates 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 the states for developing a statewide strategy for PDM program implementation. Wisconsin 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 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. It can be found on WEM's website at http://emergencymanagement.wi.gov. 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 $4,166,387 ($3,142,442 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 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 $1,556,063 for 17 planning grants, and two 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 and funded 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 $1,758,611.

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. The initial application was denied as it was determined not to be cost effective. The community resubmitted an application that was approved in the amount of $238,344.

The 2009 PDM-C application included eight planning and one project grant along with State Management Costs totaling $5,155,319. All of the planning subgrants and State Management Costs were approved for a total of $379,217. Again in 2009, the state was designated with a LDPM grant in the amount of $300,000 (federal share). The county was approved two subgrants for a generator and sirens in the amount of $136,500 and $229,883 for a total of $366,383. Along with State Management Costs the total grant was $383,409.

The 2010 PDM-C application included 11 planning and two project subgrants along with State Management Costs in the amount of $1,104,398. Nine of the planning subgrants and one project along with State Management Costs were approved for $734,825.

The 2011 PDM-C application included eight planning and three project subgrants along with State Management Costs totaling $4,228,135. The State was initially notified that all of the planning subgrants and two of the projects were selected for further review. However, due to funding cuts, one of the planning and one of the project subgrants was no longer under consideration. The State resubmitted these two subapplications, along with one of the other unfunded projects, for funding through the HMGP program under declaration 1933-DR. The one remaining project is presently undergoing the required environmental review. The planning subgrants have been approved in the amount of $275,924. State Management costs are still pending approval.

TABLE 7.2.8-1 PRE-DISASTER MITIGATION FUNDING

FFY	Planning	Project	State Mgmt.	Total
2002	$476,883	$0	$50,000*	$ 526,883
2003	$230,990	$3,758,585	$176,812	$4,166,387
2004-05	$1,064,142	$341,600	$150,321	$1,556,063
2006	$156,412	$65,000	$22,141	$243,553
2007	$1,037,919	$650,500	$70,092	$1,758,611
2008	$239,017	$0	$23,897	$262,914
2008-LPDM	$0	$238,344	$18,906	$257,250
2009	$353,639	$0	$25,579	$379,218

TABLE 7.2.8-1 PRE-DISASTER MITIGATION FUNDING				
FFY	**Planning**	**Project**	**State Mgmt.**	**Total**
2009-LPDM	$0	$366,383	$17,026	$383,409
2010	$593,373	$93,593	$47,859	$734,825
2011	$275,924	$2,064,738**	$58,878**	$2,399,540
Total	**$4,428,299**	**$4,428,299**	**$8,856,598**	**$12,668,653**

*One-time grant, **Pending Approval
Source: WEM, 2011.

On January 22, 2009, the State of Wisconsin had its first Disaster Resistant University (DRU) approved for the University of Wisconsin-River Falls. As a result of the plan, the University received a project subgrant for the construction of small storm shelters located at two research farms. The University of Wisconsin-Madison, the State's largest campus, was granted a FFY 11 PDM subgrant for the development of a hazard mitigation plan, which is presently underway. The University of Wisconsin-Superior is participating in the City of Superior's plan update. There are several other state universities interested in developing DRU plans and mitigation staff is committed to assisting in the plan 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 future updates.

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 was 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 is utilized for collecting information on structures. 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. Section 3.17 of the State Hazard Mitigation Plan discusses the process and results to date. The Wisconsin Risk Assessment Data Collection Worksheet can be found in Appendix H. Future updates of the State of Wisconsin Hazard Mitigation Plan will include assessment of additional structures.

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 3.7. The 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 to each respective Regional Planning Commission. WEM's website includes an interactive map where the county HAZUS risk assessment can be viewed and downloaded. 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. With the 2011 update of the State Plan, a HAZUS risk assessment was completed for the counties that had digitized FIRM maps completed since the 2008 update. This included new assessments for thirteen (13) counties. The statewide summary was updated to reflect these changes. The project was also highlighted at GIS Day held at the State Capitol in February 2009 for State Legislators.

There are several challenges in administering and implementing the PDM program. As in the FMA and HMGP programs, meeting FEMA's BCA requirements is again a challenge. Another major challenge is that the annual funding for the program is uncertain from year to year. States solicit and process applications without knowing what the funding availability is. In the past funding has been cut resulting in a limited number of applications allowed to be submitted, or projects that passed the national evaluation and were selected for funding consideration were eliminated from consideration after funding cuts. In addition, the guidance changes from year-to-year, although it has been more consistent in the last two years. Another challenge is the short application period of six months. In this time period the State has to review the guidance, solicit applications, review and process those applications including completing the benefit-cost analysis and the preliminary consultation for the environmental review. The State does not get any management costs up-front to complete this effort. Management Costs are only awarded based on subgrant awards. So if funding is drastically reduced, the state may have put a considerable amount of effort and resources into the program without being awarded adequate management costs. Finally, all applications have to be submitted through FEMA's e-Grants system. Subgrantees are not familiar with utilizing this system and some have great difficulty in completing the required application. In addition, the system itself has had problems, but has improved in recent years. Another issue is the application utilized in e-Grants does not request the required information needed for the BCA.

WEM Mitigation staff work with local jurisdictions and Regional Planning Commissions to develop projects. State Mitigation staff have served on FEMA's National Evaluation panels every year. 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, Washington, and Florida State Enhance Plan reviews. Another mitigation staff person sat on the panel that reviewed the second update of the State of Washington's enhanced plan.

Appendix C contains detailed tables describing the PDM projects and plans that have been funded in Wisconsin.

7.2.9 Repetitive Loss Properties

The NFIP paid over $700 million in 2010 in flood insurance claims. Historically, over 30% of claims go to property owners who hold only 1% of the policies issued. To address this issue, Congress passed the Flood Insurance Reform Act on June 30, 2004. The Act created the Repetitive Flood Claims (RFC) and Severe Repetitive Loss (SRL) programs described below. Repetitive loss properties (RLPs) are properties that have had two or more flood insurance claims of at least $1,000 each within a ten-year period since 1978. Severe RLPs (SRLPs) are properties with four or more flood losses where cumulative payments exceed $20,000, or two or more flood losses where cumulative payments exceed the property value. There are an estimated 6,200 SRL properties nationwide.
A summary of repetitive loss properties in Wisconsin can be found in Appendix D, Wisconsin's Repetitive Loss Report. As of December 2010, there were 579 statewide repetitive loss properties. Of that number 112 (19.34%) have been mitigated, whether by removal or elevation. The report identifies 97 communities with repetitive loss properties. Nearly 85% of the communities with repetitive loss properties in Wisconsin have five or less repetitive loss properties, as displayed in Table 3 of the report. The City of Milwaukee is the only community with more than 50 RLP.

The report 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 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 recommends 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.

The majority of the RLP in the state are located in the City of Milwaukee, the most densely populated city in the State. The City of Milwaukee and the Milwaukee Metropolitan Sewage District (MMSD) actively undertake mitigation projects. In most cases, they are not funded with federal mitigation grants, therefore, WEM is not aware of all of the activities undertaken. It can therefore be difficult to track the status of repetitive loss properties in Milwaukee. The same is true for other communities around the state that engage in locally-funded mitigation activities.

Probably the greatest challenge in mitigating RLP and SRL properties is meeting FEMA's strict BCA requirements. As stated previously, the benefits of a project must exceed the cost of at least a one to one ratio. It is frequently difficult to achieve this ratio. For the SRL program, the State can utilize the "greatest savings to the fund" BCA methodology, however, that has also not been successful.

Another challenge is that as flood claims are processed, the repetitive loss data constantly changes. As the state works to mitigate repetitive loss properties, additional properties are identified in subsequent flooding events. In addition, some of the repetitive loss properties are impossible to identify due to poor location information.

As stated previously, mitigating RLP and SRL properties is high State priority. WEM strongly encourages local governments to mitigate such properties, however it cannot force local governments to do so.

7.2.10 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. RFC funds are made available to mitigate residential or commercial properties that have received one or more NFIP insurance payments within a state or community that cannot meet the requirements of the FMA program for either cost share or capacity to manage the activities. In order to be eligible, the community and the state must include a letter explaining why the FMA cost-sharing requirement cannot be met. FEMA may contribute up to 100% of the project cost. Like the FMA program, state and local management costs are available. Like the other programs, the State is required to have an approved Hazard Mitigation Plan; however, a local mitigation plan is not required. WEM solicits applications for RFC through the annual HMA application period, and are submitted to FEMA for the national competition. FEMA ranks the eligible projects on the basis of the greatest savings to the National Flood Insurance Fund (NFIF) as verified by the benefit-cost ratio (BCR.) Projects are ranked from highest verified BCR to lowest verified BCR. FEMA considers the national ranking and program priorities in determining which projects are identified for further review up to the amount of funds available for the RFC program. To date the State has not received any eligible RFC applications from local governments. In 2009, the State worked with a community in Waukesha County where they did not have an approved all hazard mitigation plan on the potential acquisition and demolition of a property that was substantially damaged in the June 2008 floods. However, the project did not have a positive BCR, therefore, was determined not to be cost effective.

Again, the greatest challenge as in the other FEMA mitigation programs, is meeting the BCA requirements. In addition, the program is restrictive in that funds can only be used to protect structures insured through the NFIP, and there has to have been at least one paid claim. Finally, RFC applications have to be submitted through FEMA's e-Grants system. Subgrantees are not familiar with utilizing this system and some have great difficulty in completing the required application. In addition, the system itself has had problems, but has improved in recent years. Another issue is the application utilized in e-Grants does not request the required information needed for the BCA.

7.2.11 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 the NFIP. The Act created 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 a NFIP-insured residential property that meet one of two triggers: four or more claims over $5,000 (including building and contents) each, and the cumulative amount of such claims payments exceed $20,000; or at least two claims with cumulative amount exceeding the value of the building. For both, at least two of the claims must have occurred within any ten-year period and must be greater than ten days apart.

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.

If the owner of a severe repetitive loss property refuses an offer made under the program, the flood insurance premium will increase to 150%. 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. 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 June 1, 2011, Wisconsin had 11 identified properties that met the SRL definition. Four of the properties identified have been "validated" by FEMA as a SRL property. One of the four properties has been recently included in a HMGP application. Two properties are "validated uninsured." One of those properties has been mitigated through HMGP. Five of the properties are "pending uninsured." Of those five, two have been mitigated again through HMGP, and one of the properties cannot be located due to insufficient data. That brings the number of potential SRL properties down to six statewide. (In the previous update of this plan, there had been a SRL property identified

in Jefferson County. The County has since acquired and demolished the identified structure utilizing HMGP funds.)

The State of Wisconsin supports, through funding and technical assistance, the development of local mitigation plans in counties with severe repetitive loss properties. In addition, WEM will work with the county to assist in the plan, as well as with the community to assist in the project application for SRL properties. All of the communities with an identified SRL property either have an approved hazard mitigation plan or are in the process of updating the plan with one exception. Washington County is identified with two SRL properties, but has chosen not to apply for a grant to develop the required mitigation plan. WEM has strongly encouraged them to develop a hazard mitigation plan and offered them grant funds to do so.

TABLE 7.2.11-1 SEVERE REPETITIVE LOSS PROPERTIES

Community	Severe Repetitive Loss Properties	Comment
Crawford County	1	Cannot be located due to insufficient data
Jefferson County	1	Mitigated
Kenosha County	1	Has been included in a pending HMGP application
Milwaukee, City of	3	1 validated uninsured; 2 pending uninsured
Prescott, City of	1	Validated
Trempealeau County	1	Mitigated
Washington County	2	Validated; county has no mitigation plan
Wauwatosa, City of	1	Mitigated
Total	**11**	

WEM outreaches to those communities with identified SRL properties annually as part of the HMA application period as well as after disasters when HMGP funds are available. The State has not applied for SRL funds to date, however, it has mitigated several SRL properties through other programs such as FMA and HMGP.

As with the other mitigation programs, the greatest challenge is meeting the BCA requirements. For the SRL program, the State can utilize the "greatest savings to the fund" BCA methodology, however, that has also not been successful. In addition, the program is restrictive in that funds can only be used to protect SRL structures insured through the NFIP. The other challenges were mentioned above. First, two of the properties are located in a community with no mitigation plan. Therefore, they are ineligible for the SRL program. In addition, there are serious consequences to the property owner if they are made a mitigation offer through the SRL program, and they

do not participate. Therefore, the state looks for wayts to fund mitigating SRL properties through other mitigation programs. Finally, SRL applications also have to be submitted through FEMA's e-Grants system. Subgrantees are not familiar with utilizing this system and some have great difficulty in completing the required application. In addition, the system itself has had problems, but has improved in recent years. Another issue is the application utilized in e-Grants does not request the required information needed for the BCA.

7.2.12 Unified Hazard Mitigation Assistance Program

Beginning FFY 2009, FEMA 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 was integrated into the HMA guidance in FFY10, providing a single guidance and referenced documents for both pre and post disaster hazard mitigation assistance.

7.2.13 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). 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 members have also attended HAZUS classes at EMI. 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.

As mentioned before, WEM applied for and received a FFY07 PDM grant to complete a level 1.5 HAZUS-MH flood risk assessment for the entire state. WEM contracted 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 the statewide flood risk assessment. 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 to each respective Regional Planning Commission. In addition, an

interactive map can be found at http://emergencymanagement.wi.gov/mitigation/maps/statewide_flood_risk_assessment_map.asp where the individual county reports can be accessed. Digitized FIRMs (Flood Insurance Rate Maps) provide better results in HAZUS-MH. Therefore, as additional FIRMs were digitized, WEM reran the HAZUS-MH for those counties for the 2011 update of the State Plan. This included thirteen (13) additional counties with digitized FIRMS. The statewide summary was then updated to include the data.

Mitigation staff made a presentation for State Legislators on the statewide HAZUS flood risk assessment at GIS Day at the State Capitol in February 2009. In addition, a presentation was made to the Wisconsin Land Information Association in June 2010.

7.3 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 (properties in the floodplain where losses are greater than 50% of equalized assessed value);
- Acquisition and demolition or relocation of repetitive loss properties and severe repetitive loss properties;
- Acquisition and demolition or relocation of damaged properties in the floodplain;
- Acquisition and demolition or relocation of floodplain properties;
- Acquisition or relocation 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, safe rooms and storm shelters, etc.);

- Promotion of the National Flood Insurance Program.

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 and update of all hazard mitigation plans. The above priorities can also be found in this Plan in Section 4 as well as the State Administrative Plan for the HMGP, Appendix F.

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. This criteria has not changed from the last plan update:

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, and 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 F, State Administrative Plan for the Hazard Mitigation Grant Program-May 2011, 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 priorities particularly when there is insufficient funding and there is a need to prioritize projects among multiple jurisdictions (State priorities are listed on p. 7-37):

- 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, June 2009 and June 2011 for local officials to understand the software and the type of data required. The workshops were all very well attended. 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. The State Hazard Mitigation Officers from Wisconsin and Minnesota presented a short BCA training session at the Minnesota Association of Floodplain Managers and the Wisconsin Association for Floodplain, Stormwater and Coastal Managers Combined Annual Conference in October 2009.

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.)

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.

7.4 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 submission 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 MOU 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) was the administration of HMGP from the 2008 June floods. The State's HMGP allocation was nearly $30.8 million for FEMA-1768-DR-WI declared on June 14, 2008. DR-1768 and is by and far the worst disaster Wisconsin has faced. The HMGP is the largest in State history; double the previous amount from the 1993 Midwest Floods. The State's priority was acquisition and demolition of substantially damaged properties with priority given to primary residences. Applications for the acquisition and demolition of 214 properties were approved for funding along with the elevation of one property.

The State Administrative Plan for the Hazard Mitigation Grant Program (Appendix F) 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 F, 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, 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.

7.4.1 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 F, Administrative Plan for the HMGP, page 12 and Attachment E, include the procedures for preparing and completing accurate environmental reviews. The same procedures apply for the HMA Programs.

7.4.2 Preparing and Submitting Accurate Benefit-Cost Analysis

As previously stated 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 F, 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 Workshops in October 2007, June 2009 and June 2011 for local officials to understand the software and the type of data required. WEM hopes to host future classes.

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. First Floor Elevation
2. Building replacement value
3. Building area (square footage)
4. Flood Hazard Data (flood elevation and discharge data) from the Flood Insurance Study or Hydrology and Hydraulics (H&H) study for the flooding source including the summary of discharges and flood profiles that reflect the flood stage for the property locations
5. Flood Frequency data (Flood Insurance Study or H&H) or historical records of flood frequencies for past storm events with the date of the event; recorded flood depth; damage amounts; stream gauge data; rain gage data; newspaper clippings; or detailed engineering calculations

6. Building contents data
7. Displacement costs
8. Well documented cost-estimate for the project
9. Useful life of the project
10. Pre-mitigation damage data
11. Post-mitigation damage data
12. Loss of function for roads, bridges, etc.
13. Function of the facility
14. Associated future maintenance 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.

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 the six FEMA computer BCA modules based on the type of project and availability of appropriate and accurate data:
   - Flood
   - Hurricane Wind
   - Tornado Safe Room
   - Earthquake
   - Wildfire

- Damage Frequency Assessment

2. Documents the BCA fully, including explanations of assumptions, data derivations and analytical techniques.
3. Attaches the BCA report along with supporting documentation 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 a written explanation of the problems and (where possible) propose solutions to those problems.

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 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.

7.4.3 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 HMA programs. 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 F. (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 F, 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. A second reminder is sent prior to the 15th. If no report is submitted a notice is sent advising the subgrantee that the quarterly report is overdue and that per the Agreement they are required to submit a quarterly report.

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 non-disaster 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 F, Attachment K.) 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 management costs 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.

7.4.4 Completing Projects

WEM 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 F. (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 F, Attachment L.) The Environmental Closeout Declaration (Appendix F, 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 F, Attachment M.) The FMO will close out the HMGP financially by submitting a final SF 425, 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 C 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 loss 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 June 30, 2011, the State has closed the HMGP for 16 of 21 disasters since 1990 for which it received grant funding. One declaration is under a time extension until September 25, 2012. The remaining four declarations are still within their original performance periods. The FMA programs have all been closed except for federal fiscal years 2009 and 2010 which are still within the original performance period. For the PDM, FFY02 and FFY03 (non-competitive) grants are closed. Work has been completed on all projects for FFY 2003 (competitive grant), 05, 06, and 08 and closeout is in progress. Closeouts on grants are done upon project completion.

7.4.5 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 "enhanced plan" was approved on December 14, 2005 and on June 15, 2009. Reaching this status in itself demonstrates the State's ability and performance in administering and implementing a successful mitigation program.

7.5 ASSESSMENT OF MITIGATION ACTIONS

An important component of mitigation is to celebrate our successes. 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.

Since 1991, nearly $100 million in HMGP funds have been or are currently being administered in Wisconsin. In addition to the HMGP, FMA funds of $1.7 million and PDM funds of over $12 million have been or are currently being administered. That totals more than $113 million in mitigation funds awarded to the State for mitigation activities. The funding for each grant program is broken down by project in Appendix C.

As stated previously, the priority for mitigation is acquisition and demolition, relocation and floodproofing of hazard-prone structures. Table 7.5-1[1] below identifies the number of structures that have been mitigated as such through HMGP, FMA, and PDM (see Appendix C for project descriptions by grant program and community). Most of the commercial structures that have been floodproofed were in the historic district in the City of Darlington and thus required special consideration as historic structures in a floodplain.

The totals in Table 7.5-1 do not reflect the mitigation efforts undertaken by other agencies and local governments.

TABLE 7.5-1 STRUCTURES MITIGATED IN WISCONSIN WITH HMGP, FMA, AND PDM FUNDS

Project Type	Residential	Commercial	Other	TOTAL
Acquisition/Demolition	574	31	31	636
Floodproofing	62	22	-	84
Relocation	1	-	1	2
Total	**637**	**53**	**32**	**722**

Source: WEM, 2011.

Figure 7.5-1 on the following page shows the location of mitigation projects statewide.

7.5.1 Measuring Success: Loss Avoidance

An important component of mitigation is to acknowledge and quantify successes. The quantification of mitigation successes validates the work of WEM, FEMA, and other state and federal agencies. As stated above, it has been estimated that for every $1 spent on flood mitigation, $5 is saved in future flood losses. For every $1 spent mitigating other hazards, an estimated $4 is saved in future disaster losses. Loss avoidance studies are one type of activity that WEM and FEMA undertake to document their successes and quantify the economic benefits of mitigation measures implemented through mitigation programs. These studies use a methodology developed by FEMA to quantitatively evaluate the effectiveness of mitigation projects using actual post-mitigation hazard events in the calculation. The loss avoidance studies can be found on the WEM website at http://emergencymanagement.wi.gov/mitigation/stories.asp.

[1] The figures in Table 7.5-1 include grant projects that have been completed and those that have been approved by FEMA as of June 30, 2011, but are not yet completed.

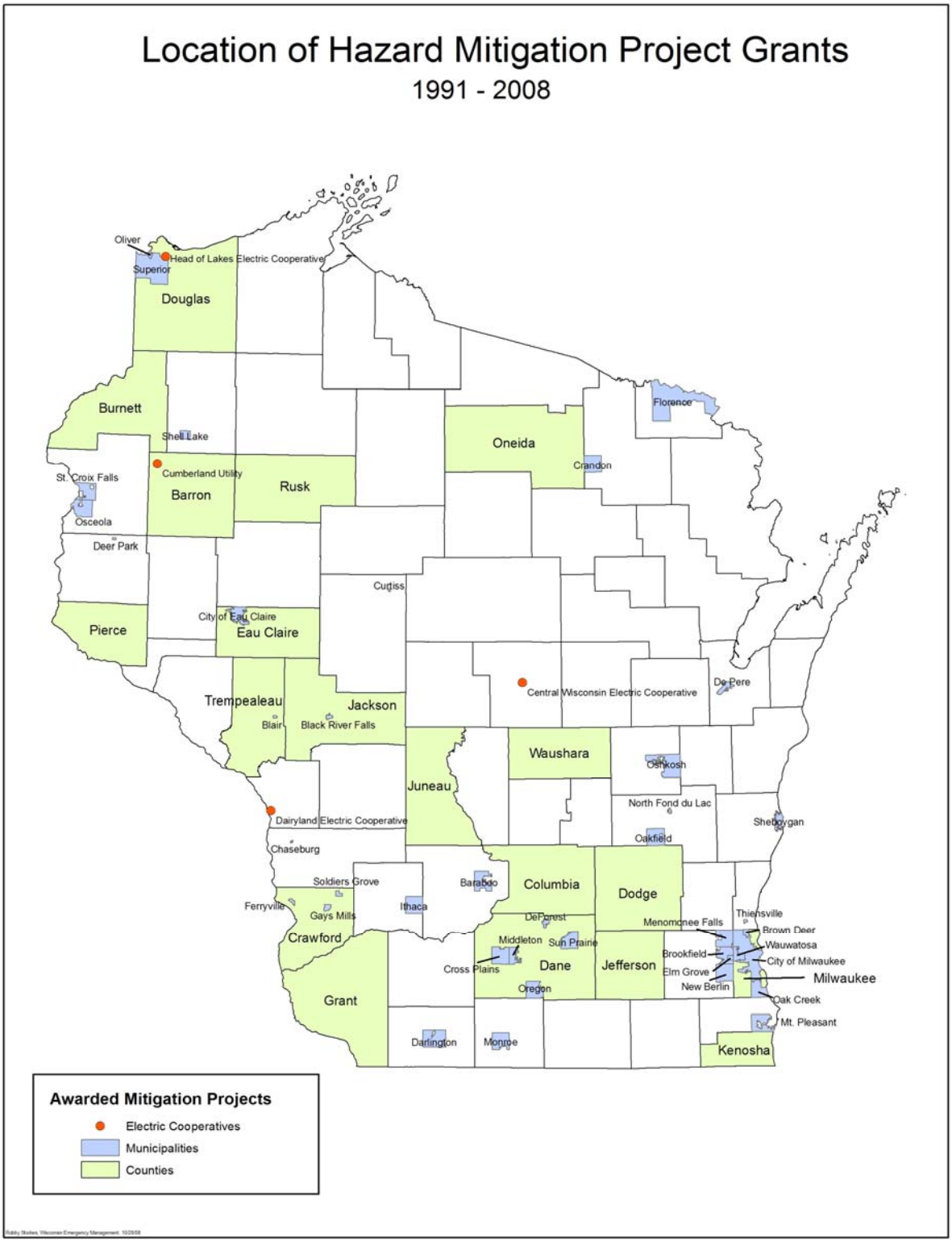


Figure 7.5-1 Hazard Mitigation Projects Statewide

Kenosha, Jefferson, and Crawford Counties

In 2009, a loss avoidance study of mitigation efforts was completed for three frequently flooded rivers in Wisconsin: the Fox River in Kenosha County, the Rock River in Jefferson County, and the Kickapoo River in Crawford County. Each county had acquired flood-prone structures after previous significant flood events. To calculate losses avoided through mitigation actions, a formula was used based on actual flood events that occurred after the acquisitions and previous flood damages including physical losses, losses of function, and emergency management costs. The return on investment (ROI) was calculated using the losses avoided and the project costs. The results were encouraging.

The Fox River floods at least once a year and sometimes two or three times in a year. Between 1993 and 2003, five local emergency declarations were issued for the Fox River Floodplain. With the emergency declaration of May, 2004, when the Fox River again overflowed its banks, many fewer homes and residents were at risk because over that ten year period, 56 property owners had participated in the Fox River Flood Mitigation Program, administered by the Kenosha County Housing Authority, with staff support provided by the Southeastern Wisconsin Regional Planning Commission. Damages were averted where mitigation measures had been undertaken. By 2008, 75 flood-prone properties had been acquired along the Fox River using HMGP, FMA, PDM, and CDBG funds. Between 1996 and 2009, the ROI for the acquisitions was 102%.

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 Great Flood of 1993, the County applied for and received a HMGP grant to implement their Flood Mitigation Buyout Program. Along with HMGP, the County has utilized FMA funds, CDBG funds, and grant funds from the Department of Natural Resources to continue to acquire structures on and near Blackhawk Island. By 2008, 35 properties had been acquired and demolished. Between 1993 and 2009, the ROI for Jefferson County's program was 107%. Since the area experiences flooding annually, the ROI has certainly increased since 2008 and will continue to do so in the future.

Crawford County has also been active in flood mitigation. The Kickapoo River floods regularly and has caused damage to numerous buildings in several different Crawford County villages. Of particular concern to County officials was the Crawford County Highway Shop. Whenever the Shop flooded, the staff could not access equipment. This was a significant problem because the staff performs many duties during flood events including the following: floodwater rescues, closing roads, building temporary dikes, and constructing safety devices. In 2002, Crawford County utilized HMGP funds to relocate the facility to higher ground. Although it was an expensive project, the ROI was calculated to be 592% after only two flood events (2007 and 2008.) This mitigation project can certainly be considered a success.

Milwaukee County

In 2010, a loss avoidance study of acquisition projects in Milwaukee County was compiled. WEM requested a report with a methodology that could easily be replicated. The study included properties mitigated in Wauwatosa, Milwaukee, Brown Deer, and Oak Creek. FEMA used their HAZUS and BCA[1] software programs to determine losses avoided due to mitigation actions.

In 1998 and 1999, the City of Wauwatosa, using HMGP and CDBG funds, acquired and demolished 23 floodway structures in the Valley Park area along the Menomonee River. Calculated for individual properties, the ROIs ranged from 35% to 143% with an average of 77%. This may seem low, but the computations were done for only one potential flood event. The Menomonee River at Wauwatosa has experienced five historic crests since August 1998. Clearly, considerable losses have been avoided as a result of this project.

The Lincoln Creek area in the City of Milwaukee experienced over 4,000 flood events between 1960 and 1997. It was targeted for mitigation activity prior to the June 1997 flood. Using HMGP funds from the 1997 flood, WEM and the City of Milwaukee worked together to acquire and demolish 21 properties. The Milwaukee Metropolitan Sewerage District (MMSD) also completed a flood mitigation project in the area involving two detention basins and channel modifications. The area was remapped after the MMSD project, so only six of the mitigated properties remained in the floodplain. The ROIs for these six properties ranged from 28.7% to 35.0% with an average of 31.7%. These figures were again calculated for only one potential flood event.

After Root River flooding in May and July, 2000, a repetitive loss property in the City of Oak Creek was determined to be uninhabitable. Without mitigation, the property would continue to incur damages and have flood insurance claims paid. WEM and the City used HMGP funds to purchase and demolish the structure. The ROI calculated by FEMA for one potential flood event was 61%. Data from the National Climatic Data Center indicates that the property actually would have flooded three or more times since the acquisition.

After the devastating floods of 1997 and 1998, the Village of Brown Deer initiated an acquisition and demolition project for nine repetitive loss properties along South Branch Creek using HMGP and CDBG funds. The ROIs for the properties ranged from 42.0% to 52.4% with an average of 45.8%. Again, the ROIs were calculated for only one flood event and would be much greater if several events occurred. After the project was completed, MMSD used the acquired properties to create a detention basin along the South Branch Creek which has helped mitigate flood damage in much of the County. The benefits from the detention basin are not included in the loss avoidance calculation.

[1] HAZUS, short for HAZards United States, is a geographic information system-based program for estimating losses from natural hazards; BCA stands for Benefit-Cost Analysis.

Evaluation of the benefits of a mitigation project really cannot be documented until the area of the project is impacted by another similar disaster. 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.
- Identify what data is available to support a loss avoidance study or best practices story. This could include pictures, newspaper articles, 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 identify if there is sufficient data to complete a loss avoidance study.

For acquisition projects the following is one method that can be utilized to document loss avoidance if there is adequate data available:

Phase 1: Data Collection

- Evaluate available data for inclusion in the study.
  - Address
  - Structure and content values
  - Project Costs
  - FIS Reports – specific event data
  - Acquisition date
  - Stream Gauge Date – depth and/or stream flow
  - Insurance payout data

Phase 2: Analysis

- Establish the values of structure and contents potentially at risk during an event.
- Establish what events occurring after the completion of an acquisition project would affect the acquisition properties.
- Establish the level of damages associated with the events above.
- HAZUS-MH Analysis
  - Used in the event of incomplete or inadequate data for either the events or property. Using the current state provided flood boundary a HAZUS-MH model can be ran for a typical 100-year flood event. This process will produce an estimated damage projection for each property.

Phase 3: Reporting

- The reporting phase involves taking the damage curves established in the analysis phase and applying them to the values established.
- Values established represent loss avoided which when applied to the cost of acquisition can be used to determine a return on investment.
- Additional reporting in the presence of location maps for properties and stream gauges if available offers background to support conclusions.

If there is not sufficient data to support a loss avoidance study, best practices or success stories could be developed that would encourage communities and individuals to develop hazard mitigation strategies and implement mitigation measures to reduce or eliminate future disaster losses.

7.5.2 Other Mitigation Successes

Many mitigation projects in Wisconsin have been profiled by FEMA as "best practices." Below are descriptions of several best practices projects that represent a variety of mitigation actions. Following the descriptions is a table of other mitigation best practices projects in Wisconsin. The full-length best practices articles can be found on WEM's website at http://emergencymanagement.wi.gov/mitigation/stories.asp or on FEMA's website at http://www.fema.gov/mitigationbp/. Success stories will continue to be developed for future events to demonstrate the success and economic benefits of effective mitigation measures.

Pierce County

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. 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 HMGP and CDBG funds to implement a buyout program.

Over the next several years, owners of 59 Trenton Island properties participated in the program. Another seven 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 demonstrated the benefits of the buyout program. In 1997, the river crest was almost 2 feet higher than in 1993 and in 2001 it was 2.5 feet higher. The extensive losses on Trenton Island caused by the Great Flood of 1993 would have been dwarfed by the losses in the 1997 and 2001 floods if the mitigation project had not been implemented.

Milwaukee County

In addition to acquisitions and floodproofing, other types of mitigation projects have been implemented using HMGP funds in Wisconsin. After the June 1997 flood that caused $78 million in damages, the Milwaukee County Emergency Management staff wanted to educate homeowners about preventing flooding and sewer backup damages. The County was awarded a grant for the development of a flood mitigation video and accompanying brochure. The video and brochure were aimed at property owners and included information about flood protection.

The timing of the video helped it succeed in a rather unfortunate way. The video debuted in 1998 after the county experienced its second 100-year flood event within two years. It was distributed to all the public libraries in the county. Over 10,000 brochures were printed and distributed. Newspaper stories and local home improvement television programs provided other avenues of distribution. Though developed for Milwaukee County, the information in the video and brochure is valid for all Wisconsin residents.

Village of Oakfield

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 techniques into the construction when rebuilding the school. The school can now withstand 150 mph winds and can serve as a community storm shelter.
Techniques included “hardening” the interior walls, and placement of reinforcing steel in the masonry walls. The roof structure was changed from steel to masonry pre-cast concrete. It was then welded to plates embedded in the walls, placed twice as close together as usual, to connect the roof to the structure more securely. The additional expense was relatively minor compared with the overall construction costs and resulted in increased protection for the students, faculty, and others living in the area.

Head of Lakes Electric Cooperative

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 accomplish the following: 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 replace 2.2 miles of overhead power lines with underground lines.

Juneau County

Between 1982 and 2010, Juneau County has been hit with over 200 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 each hold up to 12 people. Shelters have been installed near vulnerable structures 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.

City of Darlington

One of the State's most successful mitigation programs is in the City of Darlington. Buildings were deteriorating and drastically reducing property values as a result of repetitive flooding. 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 visited the City to see first hand the successful mitigation that the City has implemented over the years.

TABLE 7.5.2-1 WISCONSIN MITIGATION BEST PRACTICES ARTICLES

Year	Project Type	Municipality	County	Title
1978-1983	Flood Control; Floodproofing; Relocation	Soldiers Grove, Village	Crawford	Village Locals Reflect: Moving Was Best Flood Protection
1978-	Flood Control;	Soldiers Grove,	Crawford	Small Wisconsin Village Leads

TABLE 7.5.2-1 WISCONSIN MITIGATION BEST PRACTICES ARTICLES				
Year	**Project Type**	**Municipality**	**County**	**Title**
1983	Floodproofing; Relocation	Village		the Nation: Rebuilds Above Floodwaters
1993-ongoing	Acquisition/Buyouts; Flood Control; Retrofitting, Structural	Darlington, City	Lafayette	Multiple Mitigation Measures Give Darlington and Elevating Experience
1994-97	Acquisition/Buyouts; Elevation, Structural; Flood Control	Black River Falls, City	Jackson	Freeboard Saves Town from Additional Flood Losses
1993-ongoing	Floodproofing	Darlington, City of	Lafayette	Mitigation Leadsd to Preservation and Economic Recovery for One Community
1994-98	Acquisition/Buyouts	Eau Claire, City	Eau Claire	City of Eau Claire: Acquisition
1994-98	Acquisition/Buyouts	Eau Claire, City	Eau Claire	City of Eau Claire Acquisition
1994-ongoing	Acquisition/Buyouts; Building Codes	Kenosha County	Kenosha	Moving People Out of Harm's Way
1994-ongoing	Acquisition/Buyouts	Kenosha County	Kenosha	Fighting Floods, Saving Property and Protecting Lives in Kenosha
1994-ongoing	Acquisition/Buyouts	Jefferson County	Jefferson	Program Cooperation Alleviates Repetitive Flooding Burden
1994-1997	Acquisition/Buyouts	Trenton Island	Pierce	Mitigation Success, Trenton Island
1996-97	Acquisition/Buyouts	Trenton Island	Pierce	Floodways and Wetlands of the Mighty Mississippi: Trenton Island, Wisconsin
1996-97	Education/Outreach/ Public Awareness; Land Use/Planning	Wisconsin State	All	Wisconsin Mitigation Video: An Education and Training Tool
1996-98	Acquisition/Buyouts	Oakfield, Village	Fond du Lac	New School Building Hardened Against the Wind
1997-ongoing	Education/Outreach/ Public Awareness	Milwaukee County	Milwaukee	The Dry Facts: Protecting Homes From Damage
1997-ongoing	Acquisition/Buyouts; Floodproofing; Land Use/Planning	Darlington, City	Lafayette	City of Darlington Honored: Acquisition and Floodproofing
1998-2001	Acquisition/Buyouts; Flood Control	Brown Deer, Village	Milwaukee	Detention Ponds, Not Homes, Played Host to Recent Flood Event

TABLE 7.5.2-1 WISCONSIN MITIGATION BEST PRACTICES ARTICLES				
Year	**Project Type**	**Municipality**	**County**	**Title**
1998-2001	Acquisition/Buyouts	Wauwatosa, City	Milwaukee	Acquisition Project Proves Beneficial as Safety Measure and Recreational Avenue
1999-2006	Acquisition/Buyouts; Elevation, Structural; Flood Control	Elm Grove, Village	Waukesha	Small Village Executes Large Mitigation Project
2001	Education/Outreach/ Public Awareness	Milwaukee County	Milwaukee	Community Outreach: Milwaukee County at the Wisconsin State Fair
2001-03	Flood Control; Floodproofing; Relocation	Crawford County	Crawford	Moving Highway Shop Improves Disaster Response
2003	Warning Systems	Portage County	Portage	Enabling Residents to Hear and Heed Severe Weather Warnings
2005	Flood Control	Cambria, Village	Columbia	Mitigation Project Reunites a Town Divided
2005-ongoing	Flood Control	Monroe, City	Green	Pulling the Plug on Monroe's Water Problems
2005-ongoing	HAZUS-MH	Wisconsin State	All	Wisconsin Emergency Management-HAZUS Used to Evaluate Flood Risk and Losses
2006-10	Flood Control	Thiensville, Village	Ozaukee	Village of Thiensville Channelization Project
2007-08	Elevation, Structural	Gays Mills, Village	Crawford	Higher and Drier in Wisconsin
2008-10	Mitigation Planning	Clark County	Clark	Teamwork Gives Rise to a Comprehensive All Hazards Mitigation Plan

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.

7.5.3 Mitigation Efforts of Other Agencies

The totals in the table above do not reflect the mitigation efforts undertaken by other agencies and local governments. The Department of Commerce (now the Department of Administration) through Community Development Block Grant (CDBG) funds has

provided mitigation assistance to several communities by acquiring and demolishing numerous floodplain properties (see Appendix C). Notable mitigation successes using this funding strategy include Kenosha and Jefferson Counties.

Kenosha County has purchased or is in the process of purchasing 109 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 funds as well as HMGP, FMA, and PDM funds. The County's mitigation goal is to acquire and demolish up to 160 flood-prone properties, as funds become available.

Another example of successful flood mitigation is the Rock River/Lake Koshkonong area in Jefferson County. In addition to CDBG, HMGP, and FMA funds, the county received Urban Rivers Grant Program funds through the Department of Natural Resources. These funds combined have enabled the county to purchase 68 properties, many of which were in the floodway. The county would like to purchase up to 85 properties in the area. Both counties continue to apply for funding to reach their mitigation goals.

There are also mitigation projects occurring in Wisconsin through local initiatives using mostly local funding. The Milwaukee Metropolitan Sewerage District (MMSD) has been implementing a floodplain and stormwater management strategy for over ten years. Their strategy involves engineered flood management structures and acquisition to protect structures that are vulnerable to a 1% probability flood according to flood hazard models. MMSD has spent $200 million since 1998 to protect 2,300 flood-prone 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, million-gallon underground storage tank, 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. Large acquisition projects have also been implemented in the area. Along the Root River approximately 76 structures have been acquired with the largest number in the City of Greenfield (43). Along the Menomonee River approximately 80 structures have been acquired with the largest number in the City of Wauwatosa (73).

In addition, after severe flooding in 1997 and 1998, MMSD constructed a detention basin in the Village of Brown Deer along South Branch Creek to protect neighboring and downstream properties. The detention basin worked as designed alleviating flood damages to structures. The system was tested in May of 2004 after nearly two weeks of rain. The Village Manager reported there was no overland flooding and stated that the nearby structures definitely would have had water in their basements if the project had not been completed.

One of the more well known mitigation projects was the relocation of Soldiers Grove. The Village 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 some of

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 received HMGP funds and elevated four structures and acquired another.

7.6 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 HMA programs (HMGP, FMA, PDM, RFC and SRL.) 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 7.3. This section 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 C identifies mitigation projects funded and completed to date throughout the State.

In addition to the five HMA 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.
- 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 4.2 and Table 4.2-1.

Since 1991, $74 million in HMGP funds has been administered. The HMGP allocation for FEMA-1933-DR-WI and 1944-dr declared August 11, 2011 and October 21, 2011 is $22 million. This will bring the total for HMGP funds to $96 million for the history of the program. FMA funds in the amount of $1,708,114 have been administered, and PDM funds in the amount of $12,668,653. Between the three programs over $110 million in funds has been provided to communities for mitigation planning and project implementation. To date the number of structures that have been mitigated through HMGP, FMA and PDM by acquisition/demolition, floodproofing or relocation is 722 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, 84 all-hazards mitigation plans are complete or under development (48 original countywide plans, 22 countywide plan updates, ten single jurisdictions plans or updates, two tribal plans, and two university plans). In addition, five 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 36 plans (14 new county plans, 15 county plan updates, six single jurisdiction plans, and the state's first regional plan involving four counties) have been funded and nine counties and one tribal government have planning grant applications currently submitted to FEMA. Two more countywide plans have been

developed under the Project Impact initiative. One countywide plan is being developed without a grant. Total planning efforts involve 68 counties,[1] 37 plan updates, 11 single jurisdictions, six tribal governments, and two universities for a total of 119 plans, with ten more planning grants applied for. The federal, state, local, and tribal investment in this planning effort is over $5.5 million.

As stated in Section 7.4, 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. 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, eligible 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 277 hazard mitigation grants, including those identified in Appendix C, and has effectively managed the HMGP for over 21 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.

7.7 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.

7.7.1 Support Local Mitigation Planning

Both FEMA and the State agree that in order to be truly effective in mitigation at the local level, there needs to be a local mitigation planning process. The biggest challenge for the State has been convincing communities at risk from natural hazards to complete the mitigation planning process. Before 2002, the only federal mitigation planning grant

[1] Menominee County's planning efforts were undertaken under the Menominee tribal government which applied for funds directly to FEMA, so the county does have a plan, but it is counted under tribal plans instead of county plans.

funds available were for flood mitigation planning through the FMA program. The all-hazards mitigation planning requirements prove to be difficult for local governments to meet, particularly small communities with limited or no staff. Most of the communities developing mitigation plans have contracted with their local Regional Planning Commission or hired a private consultant.

Using PDM funds and the authorized 7% of HMGP funds, 69 of the 72 counties in Wisconsin have completed or are developing all-hazards mitigation plans as of June 30, 2011. Additionally, 7 single jurisdictions and 7 tribal governments have completed or are developing plans with PDM or HMGP funds. Local plans are required to be updated every five years. PDM and HMGP funds have been used to complete 18 plan updates and 35 more are in the process of being updated. For more information about local hazard mitigation planning efforts in Wisconsin, see Section 5.

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. This presented another challenge for State mitigation staff. The majority of approved plans statewide are countywide, multi-jurisdictional plans. To ensure that plans do not expire, state mitigation staff have closely monitored expiration dates of local mitigation plans and notifies the counties with plans due to expire within two years of the requirement to update the plan and inform them of the availability of planning grant funds.

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 5 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 fourteen 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, 2008, 2009, 2011 and two in 2010, 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 400 people have attended the workshops. At a minimum one planning workshop is 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) and 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 with web links available through state and federal agencies, locally and nationally.
- Providing information via WEM's website. The website provides a "Local Hazard Mitigation Planning" link where local governments can find the resource guides and tools for developing local all hazard mitigation plans. In addition, there is an interactive map where you can click on a particular county and it will take you to that county's hazard mitigation plan. In addition there is a link to the State Hazard Mitigation Plan
- WEM hosted a four-day HAZUS class in 2006 conducted by FEMA contractors.
- As part of the 2008 update to the State Plan, WEM completed 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) a statewide flood risk assessment was completed. The results can be found in Section 3.7. The county assessments were provided to the counties to assist them in development or update of the county all hazard mitigation plans. An interactive map is available on WEM's website to view and download the county HAZUS flood risk assessment.

- 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 was utilized in the two previous updates of the plan.
- 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.

7.7.2 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 4, Mitigation Strategy.

- Chapter 323, Emergency Management
- Wisconsin Commercial Building Code, Comm. 61 to 66.
- Wisconsin Uniform Dwelling Code, Comm 20 and 25.
- 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

7.7.3 Interagency Disaster Recovery Group

A significant development for the state following the record-breaking 1993 floods was the creation of Wisconsin's Interagency Disaster Recovery Group (IDRG). Additional funding for the state made available through HR 2667 gave rise to the need for a mitigation strategy and coordination of long-term recovery efforts. The IDRG, consisting of individuals from a core group of agencies, met weekly to act as a clearinghouse for proposed long-term recovery projects.

The IDRG included members from the following agencies (* denotes charter member):

- FEMA*
- WEM*
- Wisconsin Economic Development Association*
- Wisconsin Department of Administration (DOA)*
- Wisconsin Department of Commerce (Comm) (formerly the Department of Development)*
- Wisconsin Department of Natural Resources (WDNR)*
- Wisconsin Historical Society (WHS)*
- Farmers Home Administration (FmHA)
- US Department of Agriculture Natural Resources Conservation Service (NRCS)

- Wisconsin Department of Workforce Development (DWD) (formerly the Department of Industry, Labor and Human Relations)
- Wisconsin Department of Transportation (WisDOT)
- Regional Planning Commissions (RPCs) from around the state

The mission of the IDRG 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 following objectives were laid out by the IDRG to achieve their mission:

- 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, FEMA established the Wisconsin Interagency Hazard Mitigation Recovery Office (WIHRO). This office, located in WEM headquarters, was staffed with a full-time FEMA employee who worked closely with WEM and the IDRG. The WIHRO monitored the status of all mitigation project submissions. The WIHRO added another staff member before long and played a vital role in implementing mitigation projects within the state until 1996.

FEMA's policy was to focus on projects that reduced future disaster losses through the acquisition or 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 and demolition, relocation, and/or floodproofing of floodprone properties.

In keeping with their objectives, the IDRG identified and funded as many mitigation projects as possible. In numerous instances, several agencies provided funding on the same project to ensure implementation. The IDRG worked to "package" funding for communities so that even local match requirements would be covered. Agencies on the IDRG also provided technical assistance for projects on such topics as relocation assistance, floodplain management community compliance, environmental contamination, treatment of historic sites, building reviews and permits, and the Americans with Disabilities Act.

The success of the IDRG during the recovery from the Great Flood of 1993 demonstrated the value of the group to communities around the state. Therefore, the IDRG remained in place to coordinate long-term recovery efforts following every disaster declaration. In 2003, the IDRG merged with the State Hazard Mitigation Team to form the Wisconsin Hazard Mitigation Team.

7.7.4 State Hazard Mitigation Officer

In addition to forming the IDRG, WEM realized that they would benefit from hiring a full-time State Hazard Mitigation Officer (SHMO). The SHMO was hired in August 1994. An Assistant SHMO was added in 1998, and a Disaster Response and Recovery Planner in 2003, increasing the WEM hazard mitigation staff to three full-time employees.

7.7.5 Wisconsin Hazard Mitigation Team

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 merged to form the Wisconsin Hazard Mitigation Team (WHMT). Additional members from State agencies include the team; the Department of Administration, Intergovernmental Relations, Comprehensive Planning Program and Division of Sate Facilities; and Department of Commerce, Division of Safety and Buildings (now the Department of Safety and Professional Services.) In addition, a representative from the Wisconsin Association of Floodplain, Stormwater, and Coastal Managers (WAFSCM); the Executive Director from the Mississippi River Regional Planning Commission, representative from the Wisconsin Emergency Management Association, the Volunteer Organizations Active in Disasters, Cooperative Network and the National Weather Service also joined the Team. This brings the total of the Team to 41 members representing 11 state agencies and 7 federal agencies along with WAFSCM, Council of Regional Planning Organizations, WEMA, Cooperative Network and VOAD (see Appendix E for a the team membership.). The Team is active in updating the State Plan, but also assist in disaster recovery activities and played an integral role in establishing the Wisconsin Recovery Task Force after the devastating floods of 2008.

The WHMT has established a set of five State Hazard Mitigation Goals which were revised in 2010 for this plan update:

1. Minimize human, economic and environmental disruption and reduce the potential for injury and loss of life from natural hazards.
2. Enhance public education about disaster preparedness and resilience, and expand public awareness of natural hazards.
3. Encourage and promote continued comprehensive hazard mitigation planning and implementation of the plan.
4. Support coordination and collaboration among federal, state, and local authorities, and non-governmental organizations regarding hazard mitigation activities.
5. Improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion or renovation.

7.7.6 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 also assisted 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 hundreds 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 future loss avoidance studies in Gays Mills and Jefferson County.

The Committee worked together to identify needs and match the needs with the appropriate agency and funding source/s. In addition, it worked together to try and package funding where possible. As a result of this Committee and the Wisconsin Hazard Mitigation Team, the Department of Commerce committed Community

Development Block Grant funds to cover the 12.5% local match to the Hazard Mitigation Grant Program grants. This provided 100% funding to those communities implementing buyout and elevation projects.

7.7.7 Municipal Flood Control Program

The Municipal Flood Control Grant Program administered by the State Department of Natural Resources provides grants to cities, villages, towns, Indian Tribes, and metropolitan sewerage districts concerned with municipal flood control management. The program assists 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 function of watercourses. The grants are 70% state funded with a 30% local match.

The program priorities are:

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 stream bank 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.

Appendix C highlights the projects completed through the Municipal Flood Control Grant Program.

7.7.8 EDA Disaster Recovery Collaboration

As discussed in 7.1.2 as a result of the 2008 flood disaster, the Economic Development Administration (EDA) provided grants to the Regional Planning Commissions in the disaster area for the development of Flood Recovery Strategies. To accomplish the tasks assigned, the Department of Commerce as the lead coordinated the effort that was referred to as the EDA Disaster Recovery Collaboration. This group met monthly up through August 2011. WEM mitigation staff participated in the collaboration by attending the meetings and providing input. One of the outcomes of the group, again with the Department of Commerce as the lead, was the development of a Community Economic Recovery Guidebook to assist economic development organizations, businesses and community leaders in preparation of economic recovery from a disaster. A link to the guidebook was placed on WEM's website and can be downloaded at http://emergencymanagement.wi.gov/recovery/busienss.asp.

7.7.9 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. The 2006 – 2010 Needs Assessment and Strategy, the work plan for Natural Hazards included:

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

Technical tools were expanded through several projects:

- Complete the final phase of an effort to characterize bluff conditions on Lake Superior to assist communicates to create defensible setbacks.
- Partners used enhancement funds to take and geolocate oblique photographs of Wisconsin's coasts and develop a detailed GIS database to compare the new photographs to a set from the 1970s.
- The University of Wisconsin-Madison completed projects investigating the effect of lakebed down cutting on long-term bluff recession.
- The project led by UW-Madison "Education and Outreach of Bluff and Beach Profile in Response to Coastal Structures in Ozaukee County" will result in new technology.
- Bayfield County is seeking funds to incorporate LIDAR data into is building setback requirements.

Education and outreach include:

- Develop a final report "Managing Coastal Hazards Risks in Wisconsin's Changing Climate.
- Bay-Lakes Regional Planning Commission Completed "A Guide to Hazard Mitigation Planning for Coastal Communities in Wisconsin."
- The UW-Madison's project "Education and Outreach of Bluff and Beach Profile in Response to Coastal Structures in Ozaukee County" involves training students to evaluate the impacts of shore protection systems.

Coordination with municipalities and agencies:

- Efforts in Bayfield County involving partners assisting a community. Partners met with community planners and regional planning commission staff in developing the Coastal Hazards Risks report described above.
- UW-Madison met with Ozaukee County staff and Concordia University staff in developing its projects, leading to an improved relationship between all three entities.

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. A link to Mitigation programs on WEM's website is linked on the Wisconsin Coastal Management Program website.

7.7.10 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.

7.7.11 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, Department of Justice, Division of Criminal Investigation;

Department of Health Services; Department of Administration, Division of Enterprise Technology; Wisconsin Chief of Police Association; Badger State Sheriffs Association; Department of Natural Resources; Department of Agriculture, Trade, and Consumer Protection; Department of Administration, Division of Capitol Police; 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.

7.7.12 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 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.

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.

7.7.13 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 LaFollette School of Public Affairs, and Southwest Building Inspectors Group. 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.

WEM and DNR staff was contacted in early 2011 by the Environmental Law Institute (ELI) and the University of North Carolina (UNC) at Chapel Hill regarding collaborating together on a workshop on Wetlands, Wildlife Habitat and Flood Hazards in the Rock River Basin. The workshop was held May 13, 2011, and was designed to facilitate a greater collaboration between emergency managers and wetland and wildlife conservation managers to strengthen protection of vital wetlands and floodplains. Wisconsin Wetlands Association was a sponsor in addition to the ELI and UNC. The workshop explored how different agencies and organization can work together to meet multiple goals and identify the information needed and funding sources available for joint projects. Both WEM and DNR made presentations at the workshop. Based on the workshop results the ELI, UNC and Wisconsin Wetlands Association are working on developing a guidebook for the region on the obstacles and opportunities for collaboration.

7.7.14 Public Education and Outreach

One of the challenges that WEM has faced has been keeping citizens, local officials, and emergency management staff informed about the importance of and need for hazard mitigation. Educating the public and local governments on topics like household preparedness, flood insurance, and federal assistance opportunities is an ongoing process. Since the Midwest Flood of 1993 and the 2008 floods, officials in the state have become much more alert to the probability of disaster striking and the need for mitigation to reduce future loss of life and economic damages.

WEM uses numerous strategies to disseminate mitigation information:

- Incorporating mitigation information in annual winter weather, tornado and severe weather, and flood awareness campaigns.
- Publishing mitigation information on the WEM website.
- Including mitigation articles in the Department of Natural Resources and Wisconsin Association for Floodplain, Stormwater and Coastal Mangers newsletters.
- Integrating mitigation elements in all county-level Damage Assessment Workshops as well as the Introduction to Emergency Management, Disaster Response and Recovery, and New Directors' Orientation courses conducted yearly. The later there training is part of the Emergency Management Certification Program.
- Conducting an All-Hazards Mitigation Planning Workshop annually to educate local officials, emergency management staff, planners, consultants, and others about the mitigation planning process and plan components. The workshop again is part of the Emergency Management Certification program.
- Displaying the traveling mitigation display at mitigation training functions including the Annual Governor's Conference on Emergency Management and Homeland Security, Wisconsin Association for Floodplain, Stormwater and Coastal Managers, and the Wisconsin Emergency Management Association.
- Sponsor training such as Benefit-Cost Analysis and HAZUS-MH
- Creating timely workshops, such as a Project Application Development Course, Buyout Workshop, etc., for communities in need of training following a disaster event.

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.

In the development of the first Wisconsin Hazard Mitigation Plan and the subsequent three-year update, mitigation staff utilized a Household Natural Hazards Preparedness Questionnaire. 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 included 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 had general questions designed to help gauge household preparedness and the individual's knowledge of mitigation tools that may be available. The questionnaire was interactive and could be completed on WEM's website. In addition, the survey was distributed at various WEM training sessions, speaking engagements that mitigation staff attends, as well as at the Annual Governor's Conference on Emergency Management. On p. 2-10 and 2-11, there are comparison charts of responses provided from 2005 through 2008.

7.7.15 Non-Federal Match for HMGP

The FEMA mitigation programs all require a 75/25 cost-share with the exception of the Repetitive Flood Claims program. 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, other state agencies funded the local match requirements for many projects particularly when they involve acquisition and demolition, or funded projects in their entirety. After the 2008 floods, the Department of Commerce committed Community Development Block Grants to fund the entire local match for the HMGP grants that involved acquisition and demolition and/or elevation.

TABLE 7.7.15-1 HAZARD MITIGATION GRANT PROGRAM FUNDING HISTORY, 1991-2011

Disaster Number	Federal Share	State Share	Local Share	Total
912[1]	$54,342	$27,171	$27,171	$108,684
959[1]	$19,434	$9,717	$9,717	$38,868
963[1]	$188,187	$94,093	$94,093	$376,374
964[1]	$195,537	$97,768	$97,768	$391,074
994	$10,503,362	$1,750,521	$1,750,521	$14,004,403
1131	$258,395	$43,066	$43,066	$344,527
1180	$4,698,752	$783,125	$783,125	$6,265,003

TABLE 7.7.15-1 HAZARD MITIGATION GRANT PROGRAM FUNDING HISTORY, 1991-2011

Disaster Number	Federal Share	State Share	Local Share	Total
1236	$1,471,849	$245,308	$245,308	$1,962,465
1238	$3,337,816	$556,302	$556,302	$4,450,421
1284	$609,044	$101,529	$101,529	$812,059
1332	$3,318,014	$553,003	$553,003	$4,424,019
1369	$3,292,556	$548,760	$548,759	$4,390,075
1429	$496,952	$82,826	$82,825	$662,603
1432	$817,188	$136,198	$136,198	$1,089,584
1526[2]	$1,385,315	$230,886	$230,885	$1,847,086
1719[3]	$4,164,059	$694,010	$694,010	$5,552,079
1768[3]	$23,156,913	$3,859,486	$3,859,485	$30,875,884
1933[3,4]	$16,003,899	$2,667,317	$2,667,316	$21,338,532
1944[3,4]	$787,696	$131,283	$131,282	$1,050,261
1966[3,5]				
Total	**$74,759,310**	**$12,612,369**	**$12,612,363**	**$99,984,042**
Average	**$3,934,700**	**$663,809**	**$663,809**	**$ 5,262,318**

1. Cost share was 50% federal/25% State/25% local. HMGP was 10% of Public Assistance permanent repairs only.
2. HMPG is 7.5% of Individual and Public Assistance Programs.
3. HMGP is 20% of Individual and Public Assistance Programs.
4. Based on six-month lock-in
5. Have not received six-month estimate

7.7.16 Construction Standards

Wisconsin has adopted commercial building codes. The Wisconsin Commercial Building Code includes Comm. 61 through 66 and the adopted provisions of the International Code Council codes: International Building Code, International Energy Conservation Code, International Mechanical Code, International Fuel Gas Code and International Existing Building Code. 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 through 25.) 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 Safety and Professional Services reviews plans prior to construction for compliance with state statutes and building codes. The Department administers and issues certification 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.

7.7.17 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 to protecting the public health and safety of the citizens and property during a disaster. The structures identified fell into the following categories:

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 updated versions of the Plan, the State Risk Assessment (Section 3) 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

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 the hazard vulnerability for each building and to further develop a strategy to mitigate the losses from identified hazards. Section 3.17 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 among the State Department of Administration, Division of State Facilities, and WEM. They developed a Wisconsin Risk Assessment Data Collection Worksheet that is the basis for collecting information on each building. The worksheet, which can be found in Appendix H, covers everything from general information such as location, to more detailed questions involving construction materials. The Department of Corrections was the pilot for gathering the data. To date, WEM has received structure information on 370 buildings within the Department of Corrections. The information was entered into a database. The data was analyzed to establish a risk factor for flood and wind/tornado. Mitigation staff members are now working with to gather the data and identify risk for each building. Staff members are also working with the University of Wisconsin-Madison on the structure inventory. The University is presently developing a hazard mitigation plan. Staff will continue to work with the state agencies to complete the structure inventory.

7.7.18 Repetitive Loss Properties

Section 7.3 identifies the State's priorities for mitigation funding. The two highest priorities are acquisition and demolition of properties substantially damaged and acquisition, demolition or relocation 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 December 2010 is presented in Appendix D. The state makes every attempt to mitigate repetitive loss properties

through the HMA programs. As the State works to mitigate repetitive loss properties, additional properties are identified in subsequent flooding events.

The report showed that 112 of the repetitive loss properties (19.34%) have been mitigated, whether by removal or elevation. Of the 112 properties, 83 (14.34% of all RLP) were acquired and 24 (4.14% of all RLP) were removed or floodproofed. In addition there were 5 properties (0.86%) in the process of flood mitigation. There were 467 properties (80.66%) that remained floodprone and 97 NFIP communities with repetitive loss properties.

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 mitigation grants. The report 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 mitigation projects and planning grants. RLP information is also provided to local governments to address and include in development and update of the All-Hazard Mitigation Plans.

7.7.19 Severe Repetitive Loss Properties

Section 7.2.11 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.

As of June 1, 2011, Wisconsin had eleven (11) identified properties that met the SRL definition. Four of the properties identified have been "validated" by FEMA as a SRL property. One of the four properties has been recently included in a HMGP application. Two properties are "validated uninsured." One of those properties has been mitigated through HMGP. Five of the properties are "pending uninsured." Of those five, two have been mitigated again through HMGP, and one of the properties cannot be located due to insufficient data. That brings the number of potential SRL properties down to six statewide. (In the previous update of this plan, there had been a SRL property identified in Jefferson County. The County has since acquired and demolished the identified structure utilizing HMGP funds.)

7.7.20 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 and the Wisconsin Recovery Task Force 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/action plan. The strategy/action plan 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 7.4.1 and 7.4.2, and Appendix F, State Administrative Plan for HMGP.)

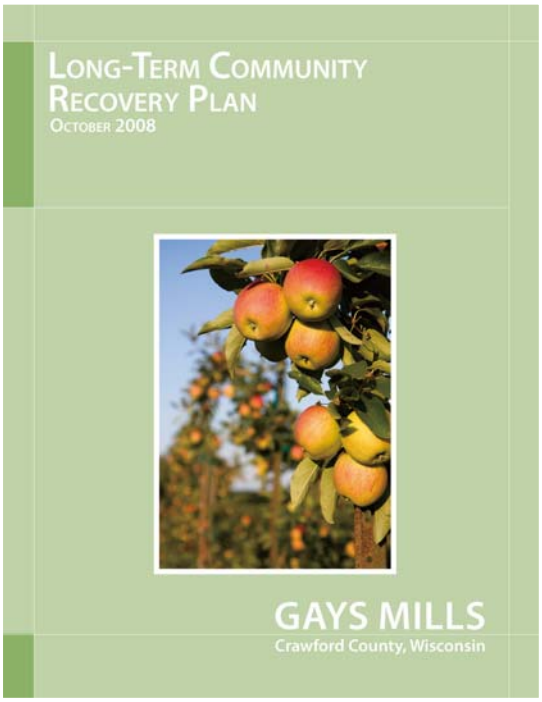
7.7.21 Gays Mills Recovery Efforts

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 non-glaciated 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 meetings 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.

Two relocation sites just north of the existing downtown were purchased by the Village. The site known as North Mills will be used for mixed use of residential housing and businesses. Two five-unit townhouses and several residential structures have been completed. Construction of a mercantile center for businesses and the Community Commerce Center which will house Village Hall, library and a community kitchen are all under construction. Future plans for the second site are to include a small health clinic, assisted living facility, EMS and Fire Department, Public Works building, and additional businesses. FEMA, WEM, EDA, USDA-Rural Development, State Department of Commerce, State Department of Transportation, State Department of Health Services as well as private investors have all been sources of funding.

Gays Mills Mercantile Center

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.

Gays Mills Community Commerce Center

7.7.22 National Efforts

State mitigation staff provides input and participates on panels, workgroups, committees, etc. as requested by FEMA regional or headquarters offices. Staff has served in FEMA's HMA national evaluation every year. The SHMO participated on the National Review Panel for the State of Maryland, Washington and Florida to review their enhanced plans. In addition, another mitigation staff sat on the panel that reviewed the second update of the State of Washington's enhanced plan. The SHMO participated on the Enhanced Plan Review Procedures Workgroup and the External Stakeholder Workgroup for Mitigation Plan Review Process. Wisconsin is committed to work with FEMA in the future to improve and streamline programs, policies and procedures.