

INTRODUCTION

Hazard mitigation is any action taken to reduce or eliminate the long-term risk to human life and property damage from natural hazards. This chapter describes the mitigation goals and actions to be taken by Lincoln County and its local units of government for each of the hazards identified in Part III – Risk Assessment. The intention is to reduce or avoid long-term vulnerability to the identified hazards.

Part IV of the Lincoln County All Hazards Mitigation Plan will discuss the following factors in establishing the multi-jurisdictional mitigation strategies:

- Benchmark Progress of Previous Plan 2005-2011
- Review of Mitigation Goals
- Prioritize Identified Mitigation Strategies
- Establish Mitigation Action Plan

PROGRESS REPORT 2005 - 2011

Table 15 identifies the completed, deleted or deferred mitigation actions from the original 2005 Plan. For each action recommendation, a brief status report is provided which describes the progress made on that measure. If an item remains unchanged, a description is provided as to why no action has been taken and whether that item is deferred to the new plan.

The table also provides the new status of each recommendation with regard to the updated plan alongside the original timeframe target for comparison. Many of the recommendations are on-going efforts and are carried over as such in the updated action plan. Some have had significant progress or have been deferred, but are recommended for further action with new target date or on-going status. If the recommendation has been completed with no further specific action anticipated within the next five year planning period, it is shown as "Removed from list" and will not appear in the updated action plan. In some cases, an incomplete action is not selected for various reasons (noted) and is also shown as "Removed from list". In a few cases, related recommendations are combined as indicated.

This progress report serves as a benchmark for progress in achieving the multi-jurisdictional mitigation goals of Lincoln County and the local jurisdictions that participated in the Plan.

TABLE 15 BENCHMARK FOR PROGRESS 2005 - 2011 PLAN			
<i>2005-2011 Plan Measure</i>	<i>Progress Report</i>	<i>Original Status</i>	<i>New Status</i>
Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios	County EM continues to promote use of the radios.	On-going (1)	On-going (1)
Continue to add/update Emergency Management Department link off their existing County web site	Website actively maintained with hazard information.	On-going (2)	On-going (2)
Verify that back-up utilities are available at all critical facilities.	No progress to date.	On-going (3)	On-going (3)
Create second street to the hospital in the City of Tomahawk	Not yet completed. Wetlands issues blocking progress.	2006 (4)	2015 (4)
Develop county-wide early warning systems possibly including all telephone message cast and cable TV broadcast, among others	Limited progress to date. County has explored some options including CodeRed.	On-going (5)	On-going (5)
Develop county-wide disaster shelter plan possibly including i.d. available shelters, trailer park shelter needs, notification procedures, etc.	Limited progress to date. The County has had a joint committee working on this issue.	On-going (6)	On-going (6)
Establish a second well field for the City of Tomahawk	Budget constraint has been the limiting factor for this recommendation.	2008 (7)	2016 (7)
Construct a second water tower in the City of Tomahawk.	Due to similarities, was combined with item above by planning committee.	2010 (8)	Combined with above (7)
Work to improve county's rural addressing system as part of Enhanced 911 development.	Virtually complete. County's Master Street Address Guide (MSAG) at 99% - in maintenance and error fixing mode.	2006 (9)	Removed from list (-)
Consider increasing emergency outdoor siren coverage in the City of Merrill.	Completed. City recently installed new warning sirens.	2006 (10)	Removed from list (-)
Analyze water towers for tornado strength.	No progress to date.	2007 (11)	2013 (14)
Establish ordinance for mobile homes to have tie-downs with ground anchors.	Updated building codes now require. Recommendation modified to "encourage" anchors.	2006 (12)	On-going (15)
Establish shelters in Towns of King, Merrill and Schley.	Combined with <i>Shelter Planning</i> recommendation above by planning committee.	2008 (13)	Combined w/ related item (6)

<i>2005-2011 Plan Measure</i>	<i>Progress Report</i>	<i>Original Status</i>	<i>New Status</i>
Promote winter hazards awareness at home and while traveling.	County does annual winter awareness "PR" campaign.	Annual (14)	Annual (16)
Acquire digital aerial photography with appropriate contour levels (2 ft) to facilitate update and modernization of FEMA Flood Insurance Rate Maps	Completed. 2010 aerial photography acquired. FIRMs update to DFIRMs.	2010 (15)	Removed from list (-)
Establish additional elevation points on critical streams where more information is needed.	Completed. Update work done and DFIRM production finished.	2008 (16)	Removed from list (-)
Evaluate and repair levees in the City of Merrill.	Not considered a needed project at local mitigation planning meeting at this time.	2006 (17)	Removed from list (-)
Evaluate effects of roadway and bridge flooding in the 6th Ward area in the City of Merrill.	Not considered a needed project at local mitigation planning meeting at this time.	2007 (18)	Removed from list (-)
Culvert sizing evaluation and maintenance program.	County Hwys program in place and on-going. Locals encouraged to develop as well.	2006 (19)	Ongoing (19)
Require stormwater plans for new development on the urban fringe.	Completed. State and Local regulations now require.	2006 (20)	Removed from list (-)
Review and test Emergency Action Plan (EAP) for each significant and high hazard dam.	County recently finished round of updates for many of the EAPs. A few remain outstanding.	On-going (21)	On-going (20)
Verify that tornado sirens are protected from lightning strikes.	Removed from list by planning committee.	2005 (22)	Removed from list (-)
Determine if critical facilities are adequately grounded to eliminate lightning damage. Install surge protection as necessary.	No progress to date.	2005 (23)	2014 (22)
Review local building codes for revisions to improve ability to withstand wind and lightning.	Updated building codes now require higher standards for storm resistance. Removed from list by planning committee.	On-going (24)	Removed from list (-)
Assist population with reducing heat disorders through awareness program.	County does heat awareness "PR" campaign as needed.	As needed (25)	As needed (24)

TABLE 15 <i>Continued</i>			
<i>2005-2011 Plan Measure</i>	<i>Progress Report</i>	<i>Original Status</i>	<i>New Status</i>
Develop countywide drought mitigation plans for multi-agency approaches to water conservation, drought prediction, stream and groundwater monitoring.	No progress to date.	On-going (26)	As needed (25)
Use education programs aimed at mitigating fires.	No progress to date. Incorporate Firewise.	Annual (27)	Annual (26)
Construct Kings Hill water main loop connector to ensure adequate water pressure for fire flow in developing parts of the City.	Not a wildfire related issue per say - removed from list by planning committee.	2010 (28)	Removed from list (-)
Development of new fire department /district.	Completed. Town of Pine River established its own fire district and constructed new fire station.	2006 (29)	Removed from list (-)
Develop driveway ordinances and private road standards to ensure emergency vehicle access.	Many towns have ordinances, etc. along these lines, but more could be done in some areas of the County.	2006 (30)	2015 (28)
Insect Infestation & Livestock Disease Outbreak measures	No progress to date - removed from list by planning committee.	Annual / On-going (31 - 34)	Removed from list (-)

LOCAL HAZARD MITIGATION GOALS

The mitigation strategy is based on a set of goals to reduce or avoid long-term vulnerabilities to the hazards identified in the Risk Assessment. The goals were established by the previous Mitigation Plan Taskforce during the development of the original plan. The update Plan Taskforce reviewed the goals and concurred that these goals, with some minor revisions, continue to represent the desired conditions to strive for through the mitigation efforts of the County and municipalities.

The mitigation goals for reducing or avoiding the long-term vulnerability of Lincoln County are as follows:

- Prepare and protect residents and visitors from all natural hazards.
- Protect health, safety, and general welfare of county residents and visitors, along with mitigating future loss of property from tornados.
- Create safety awareness in citizens and travelers of Lincoln County to protect them during and after winter storm and extreme cold events.
- Lessen the impact floods have on people, property and the environment.
- Eliminate the loss of life and reduce the risk of property damage in downstream areas that result from a dam failure.
- Minimize the threat to human life and property damaged caused by severe storms and associated hail, lightning and high wind.
- Create safety awareness in citizens of Lincoln County to help protect themselves during extreme heat events.
- Minimize crop loss while maintaining water supplies during times of drought.
- Protect the safety and property of residents from forest and wildfires.

PRIORITIZATION OF STRATEGIES

The Mitigation Planning Committee considered a number of factors in identifying and ranking proposed mitigation strategies. The matrix, below, describes the factors incorporated into the prioritization process. The resulting priority of each strategy is shown in the summary Table 16.

Prioritization Factors for Lincoln County Mitigation Strategies

<i>Strategy Prioritization Factor</i>	<i>Description of Factor Considerations</i>
Priority of Hazard Type	The ranking of hazard types, tornado, flooding, etc., accounts for threat to human safety and possible property damage and was carried over to groups of strategies by hazard type. Strategies believed to benefit multiple hazards (listed under "All Hazards") were valued higher.
Ease of Implementation	Strategies where existing staff and resources are adequate were valued higher than those where additional resources are necessary. Consideration was also given to strategies that meet other countywide goals or incorporated as part of another county project. Project timing was also a consideration as to when funding such as grant applications might be available and when various activities could be scheduled.
Perceived Cost versus Potential Benefit	Although a detailed cost-benefit analysis was deemed beyond the scope of this study, the Committee weighed the perceived costs of each strategy against the potential benefit anticipated. Proposals that seemed economically unfeasible were rejected.
Multi-jurisdictional Application	Strategies benefiting multiple jurisdictions were valued more than those pertaining to fewer jurisdictions.

Members of the Taskforce scored each strategy based on these prioritization factors and assigned a high, medium or low rating to reflect their relative level of priority for that strategy. A 3-point weighted scale was used to average the scores into the overall high, medium or low priority for the County or local units as shown in Table 16.

MITIGATION ACTION PLAN

The mitigation strategies are organized by hazard beginning with some overall strategies that apply to a number of different hazards and are listed under the category, “all hazards”. For each hazard, a goal was established as to what the County intends to achieve by implementing the specific action strategies and is based on the risk assessment findings. Each action strategy is then briefly described and followed by a discussion of the jurisdictions/agencies that will pursue the action including the proposed lead jurisdiction/agency.

Each section of this part is broken down as follows:

Goal:

Broad, long-term mitigation goals to reduce or avoid vulnerabilities to the identified hazard are stated.

Action:

Each action strategy proposed to aid in achieving the overall goal for the identified hazard is described. A given action strategy may be comprised of a number of related sub-actions.

Participating Jurisdictions:

The proposed lead agency or lead jurisdiction is identified along with a listing of the other agencies or jurisdictions that the recommended action applies to. This does not preclude other agencies or jurisdictions from participating in the action.

The chapter concludes with a summary of the recommended mitigation strategies shown in Table 16. Table 16 also contains project cost estimates where available and potential time frames.

Hazard: All Hazards

Goal:

Prepare and protect residents and visitors from all natural hazards.

Action 1:

The county should continue to promote the increased coverage and use of National Oceanic and Atmospheric Administration (NOAA) weather radios. NOAA weather radios receive signals from a nationwide network of radio stations broadcasting continuous weather information from the nearest National Weather Service office. All National Weather Service forecasts, watches, warnings, and other hazard information like dam failures are broadcast 24 hours

/ 7 days a week. The NOAA weather radio is a single source for comprehensive weather and emergency information; because the Emergency Alert System (formerly the Emergency Broadcast System) broadcasts use the same network of radio stations as one of many electronic methods to broadcast other hazard information.

Participating Jurisdictions for Action 1:

Lead agency will be Lincoln County Emergency Management. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns including: Birch, Bradley, Corning, Harding, Harrison, King, Merrill, Pine River, Rock Falls, Russell, Schley, Scott, Skanawan, Somo, Tomahawk, and Wilson.

Action 2:

The County should continue to add and update information on an Emergency Management web page link off the existing County website. The web page should contain information describing the types of hazards and how to respond to a hazard threat. The site should also contain information on ordinances pertaining to hazards (i.e. County floodplain zoning), locations of shelters, and links to other sites that provide valuable information on weather conditions, burning permits, etc.

Participating Jurisdictions for Action 2:

Lead agency will be Lincoln County Emergency Management. The only directly participating jurisdiction will be Lincoln County.

Action 3:

There should be a countywide effort to itemize and test back-up utilities at all critical facilities. Critical facilities need operational utilities such as power, communications, water and sewer to function effectively. The need for back-up generators should electricity be cut off, obtaining alternative sources of potable water, and dealing with wastewater are issues that need to be examined. Back-up power (heat) is especially important at facilities that may be used to shelter people in case of a power outage during extreme cold weather. The City of Merrill has identified this as a need and has already installed emergency power generators for City Hall. Existing back-up systems need to be maintained to ensure operation in time of need.

Participating Jurisdictions for Action 3:

Lead agencies will be Lincoln County Emergency Management, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Action 4:

The City of Tomahawk needs to create a second street to the hospital located in the City. The Sacred Heart Hospital in Tomahawk currently has access via only one public street. There are no side or rear streets adjacent to the hospital property. A number of hazards could cut off the access road causing a significant problem in getting disaster victims into the facility for the appropriate level of care as well as impeding the flow of medical equipment and supplies.

The design and cost of the roadway will depend on the selected location. Currently, there are wetland issues surrounding the property, and the City must work with the Wisconsin DNR and US Army Corps of Engineers. This plan urges the Department of Natural Resources and Corps of Engineers to facilitate wetland permitting associated with establishing an alternate access to the hospital.

Participating Jurisdictions for Action 4:

Lead agency will be the City of Tomahawk. The only directly participating jurisdiction will be the City of Tomahawk.

Action 5:

Early warning related concerns were identified during the development of this All-Hazards Plan. The rural nature of much of the county, maintenance, liability technology issues, and funding are concerns raised during the discussion. The City of Merrill recently installed new warning sirens that cover a majority of the city.

Some counties in Wisconsin have been experimenting with new technology based alternatives to the traditional warning mechanisms. One example is CodeRED, which is a phone-based early warning system that can deliver targeted emergency notifications to phone numbers in an affected area.

Development of early warning and communication systems to include Emergency Alert System (EAS) capabilities and expanded use of emerging technologies is recommended. Currently, NOAA weather radio is the primary trigger for activating the EAS on commercial radio, television and cable systems. Another concern identified is the lack of access to cable television in certain parts of the county due to its rural nature and sparse population. Many residents rely on satellite television which has no connection to the emergency alert system and no access for local officials. Local access to these types of warning systems could facilitate more timely notification of a hazard situation as well as the ability to tailor important information or instructions for the specific area.

Participating Jurisdictions for Action 5:

Lead agency will be Lincoln County Emergency Management, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Action 6:

Shelter related concerns were identified during the development of this All-Hazards Plan. Issues identified included mobile home parks, campgrounds seasonal housing, power outage and disruption of fuel supplies, among others. The County has had a joint committee working on this issue, particularly with regard to special needs populations, but progress has been slow.

To address these concerns, the County should work to develop a countywide disaster shelter plan. The Towns of King, Merrill, Schley, Skananwan and Somo identified an interest or need for shelter facilities and should work cooperatively with the County to create detailed plans specific to their situations. Shelters may be eligible for funding under the Community Development Block Grant (CDBG) program. One issue with shelters may stem from lack of knowledge regarding existence of shelters and procedures for use. Plan distribution and public informational efforts are recommended.

The plan should identify available shelters by function and determine where coverage is deficient. The function of a shelter is to protect people during a disaster event, to accommodate displaced people in the aftermath, or both. Existing facilities (schools, churches, public buildings, etc.) should be evaluated for suitability or locations determined for new structures. Mobile home parks, campgrounds and County parks within the County lack shelters and are a particular concern.

Establish zones to help people to identify which shelter they should go to and procedures for notification. It is also important to evaluate shelters for suitability for various types of hazards. For example, a shelter located within a floodplain may not be the best place to send people during a storm that could result in flooding. Adequate heat (and back-up source of energy to run it) is an important consideration when seeking to shelter people during a winter weather power outage. Local sponsors should be identified to help maintain shelters and ensure they are open in time of need. Transportation options should also be considered especially for the elderly and those with disabilities. The transportation and subsequent shelter of persons with special medical or other needs are critical factors to address.

Participating Jurisdictions for Action 6:

Lead agencies will be Lincoln County Emergency Management and Health Departments, all Cities and all Towns. Jurisdictions participating in this action will

include Lincoln County, City of Merrill, City of Tomahawk, and all Towns, particularly including:, King, Merrill, Schley, Skanawan and Somo.

Action 7:

The City of Tomahawk should establish a second municipal well field and a second water tower. Currently, the City gets its entire water supply from a single well field and water tower. An incident affecting the water supply would likely impact all of the City's wells and/or water tower simultaneously. Many of the hazards covered in this plan have that potential. Another concern is the rail line that runs near the wells which carries potentially hazardous cargo that could threaten the water supply. The potential loss of water supply for the entire City presents public health concerns from lack of drinking water and economic concerns due to lack of water for industrial processes and tourism impacts. Further, a second tower would provide extra water storage capacity to help mitigate municipal well problems. Adequate fire flow is an issue in newly developing parts of the City that could be addressed through enhanced pressurization from the new second water tower.

Participating Jurisdictions for Action 7:

Lead agency will be the City of Tomahawk. The only directly participating jurisdiction will be the City of Tomahawk.

Action 8:

A county-wide emergency response zone atlas should be developed. Often referred to as a fire zone atlas, these atlas books were originally conceived to help direct firefighting and evacuation operations in rural areas at high risk for wildfire. A number of counties across the state have developed, or are developing these atlases, typically sponsored by and/or in conjunction with the WisDNR. Recognizing their potential value in responding to a wide variety of hazard events, many counties are utilizing them as a tool in responding to and managing other situations beyond fire.

Zones are drawn around groups of structures based on factors related to access and evacuation. The zones are named, colored-coded and indexed for ease of reference. Atlas books are distributed to police, fire and EMS units responsible for responding to emergency situations in rural areas of the county covered by the atlas.

Participating Jurisdictions for Action 8:

Lead agency will be Lincoln County Emergency Management in conjunction with the Wisconsin Department of Natural Resources. Jurisdictions participating in this action will include Lincoln County, the Cities of Merrill and Tomahawk, and all Towns including corresponding police, fire and EMS departments.

Action 9:

The City of Tomahawk's critical emergency response facilities: police, fire and public works departments are all located within close proximity of each other downtown. So, a hazard event causing significant damage to one facility would also likely inflict similar damage on the others. In addition, a large LP gas facility is located adjacent to this area as well. A hazard causing an incident at the LP facility could threaten significant damage or complete destruction of these critical city operations. As a result of these conditions, the City would like to establish an emergency operations center away from this central location to serve as a command post for city operations in the event a hazard threatens or destroys its downtown facilities.

Participating Jurisdictions for Action 9:

Lead agency will be the City of Tomahawk. The only directly participating jurisdiction will be the City of Tomahawk

Action 10:

Due to on-going changes in regulations and technology, the City of Merrill has identified the need to upgrade and modernize its emergency communications equipment including radios for police and fire. Necessary upgrades include mandated frequency narrow-banding. Interoperability is an important consideration for a small community that may work with a lot of outside services and mutual aid.

Participating Jurisdictions for Action 10:

Lead agency will be the City of Merrill. The only directly participating jurisdiction will be the City of Merrill.

Action 11:

The County's new emergency operations center location needs additional outfitting including emergency radio communications equipment and HAM radio set. The County should also look at potential needed updates to its mobile command post.

Participating Jurisdictions for Action 11:

Lead agencies will be Lincoln County Emergency Management and Sheriff's Office. Lincoln County will be the only directly participating jurisdiction in this action.

Action 12:

Existing County radio communication towers have good coverage from their high elevation location on Irma Hill. However, there are small areas or "gaps" that have been identified where communications could be improved. Western Corning is a candidate for an additional tower. In the southeast corner of the

County, the Town of Pine River has a tower at its new fire department location; however, a repeater is needed to improve communications coverage in that part of the County. The County should work with the Town of Pine River to acquire and install this repeater. In the far northwestern part of the County (i.e. Somo and Tomahawk) coverage can be "iffy" depending on weather conditions. The northwestern corner of the County (Harrison) is also a concern.

Participating Jurisdictions for Action 12:

Lead agency will be Lincoln County Emergency Management. Lincoln County and the Town of Pine River will be the participating jurisdictions in this action.

Action 13:

The Town of Corning has expressed a need to improve its addressing on seasonal dwellings and other structures in the Town to improve emergency response.

Participating Jurisdictions for Action 13:

Lead agency will be the Town of Corning. The only directly participating jurisdiction in this action will be the Town of Corning.

Hazard: Tornado**Goal:**

Protect health, safety, and general welfare of county residents and visitors, along with mitigating future loss of property from tornados.

Action 14:

The Cities of Merrill and Tomahawk should analyze water towers for strength and stability against tornados.

Participating Jurisdictions for Action 14:

Lead agency will be the Cities of Merrill and Tomahawk. The only directly participating jurisdictions will be the City of Merrill and the City of Tomahawk.

Action 15:

The County, cities and towns should encourage builders and owners of manufactured and mobile homes to use tie-downs with ground anchors to help secure the main structure and any exterior attachments such as carports and porches. Using these devices can reduce the risk of damage to mobile and manufactured homes. Local units with zoning (or other related) ordinances should strengthen applicable provisions and improve enforcement.

Participating Jurisdictions for Action 15:

Lead agencies will be Lincoln County Planning and Zoning Department, all Cities and all towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Hazard: Winter Storm/Extreme Cold**Goal:**

Create safety awareness in citizens and travelers of Lincoln County to protect them during and after winter storm and extreme cold events.

Action 16:

The County should promote winter hazards awareness, including home and travel safety measures, such as avoiding travel during winter storms and periods of extreme cold. If travel cannot be avoided, having a shovel, sand, warm clothing, food, water, and back-up heating system should be encouraged to have in vehicles.

Participating Jurisdictions for Action 16:

Lead agencies will be Lincoln County Emergency Management, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Hazard: Flood / Dam Failure**Goal:**

Lessen the impact floods have on people, property and the environment.

Goal:

Eliminate the loss of life and reduce the risk of property damage in downstream areas that result from a dam failure.

Action 17*:

Communities within Lincoln County currently participating in the National Flood Insurance Program (NFIP) should work to ensure continued compliance. Compliance primarily entails adopting and enforcing floodplain management regulations that meet minimum criteria. Lincoln County and the cities of Merrill and Tomahawk are in the program. All towns are included under the umbrella of the County through the state mandated county shoreland zoning. These floodplain management regulations will continue to apply to and be enforced for new and existing buildings and infrastructure.

Participating Jurisdictions for Action 17:

Lead agencies include Lincoln County Planning and Zoning, the City of Merrill and the City of Tomahawk. The only directly participating jurisdictions are Lincoln County, the City of Merrill and the City of Tomahawk.

Action 18*:

To mitigate the long-term impacts of flooding, if evidence of recurring flooding is an issue with specific properties after a significant flood event, the County or other appropriate jurisdiction should investigate, as a possible solution, the voluntary acquisition and removal of buildings in the floodplain with flood damage. Property owners should be informed of their floodplain status and related insurance issues. A survey to gauge interest in buy-out and relocation of properties within the floodplain is recommended to help evaluate the County's options in capturing part of a major stream of federal mitigation dollars.

Participating Jurisdictions for Action 18:

Lead agencies include Lincoln County Planning and Zoning and Emergency Management, the City of Merrill and the City of Tomahawk. Participating jurisdictions will include: Lincoln County, the City of Merrill and the City of Tomahawk.

Action 19:

The County and local units of government should inventory the drainage culverts in roads of their respective jurisdictions. Each culvert should be evaluated for sizing and maintenance status. A program should be implemented that regularly maintains free flow through the culvert and phases in replacement of undersized units. This is critical to minimizing flood damage to roadways and preventing washouts.

Participating Jurisdictions for Action 19:

Lead agencies will be Lincoln County Highway Department, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Action 20:

Lincoln County continues to work with owners and operators to review and test dam failure Emergency Action Plan (EAP) for each significant and high hazard dam within Lincoln County. FEMA guidelines for dam safety indicate that training and exercises are necessary to maintain operational readiness, timeliness and responsiveness. The status of training and levels of readiness should be evaluated in periodic simulated emergency exercises for response personnel and the dam owner/operator.

Emergency situations and/or dam failures are not common events, but the dams within the County are aging and as a result becoming more of a concern. The EAP can become outdated, lose its effectiveness and no longer be workable if the plan is not practiced. Those involved may become unfamiliar with their roles and responsibilities, especially with the turn over of local officials. If the plan is not updated, the information contained in it may become outdated and useless.

There are five types of exercises, including: orientation seminar, drill, tabletop exercise, functional exercise and full-scale exercise. They range in complexity from simple to more complex, but it is not required that every exercise program include all five types.

Participating Jurisdictions for Action 20:

Lead agency will be Lincoln County Emergency Management. Participating jurisdictions will include the Cities of Merrill and Tomahawk, and those Towns that could be affected, including Bradley, Wilson, Rock Falls, Harding, Merrill, Scott and Pine River. Federal and state officials should also be invited including DNR and State Patrol, as well as dam owners/operators.

Action 21:

In their hazard mitigation issues surveys, both the towns of Birch and Wilson indicated the need for improved ditching along town roads to better manage water and control flooding. The Town of Birch is interested in doing improved ditching techniques with rock retainers and sumps for water management to reduce flash flooding.

Participating Jurisdictions for Action 21:

Lead agencies will be the towns of Birch and Wilson. Participating jurisdictions include the Town of Birch and the Town of Wilson.

Hazard: Severe Thunderstorm/Hail/Lightning/Wind**Goal:**

Minimize the threat to human life and property damaged caused by severe storms and associated hail, lightning and high wind.

Action 22:

Determine if critical facilities such as hospitals, police buildings, fire halls, administration buildings, schools, and telecommunication antennas are adequately grounded to eliminate lightning damage. Lincoln County Emergency Management could coordinate efforts with cooperation from local units and private operators such as the hospitals.

Where necessary, install lightning grade surge protection devices for critical electronic components used by government, public service and public safety facilities, such as warning systems, control systems, communications and computers.

Participating Jurisdictions for Action 22:

Lead agencies will be Lincoln County Emergency Management, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Action 23:

Due to the wide variety of recreation activities throughout the County, public awareness of proven lightening safety guidelines to reduce risk should be promoted. Areas of concern include golf courses, country clubs, parks, ball fields (and other athletic fields), public beaches and boat launches. Efforts should be made to get managers and staff of such facilities "up to speed" with procedures and training for lightning safety. Another common measure is erecting of signs that inform people when to get out of the water or off a golf course (etc.) when lightening threatens.

Participating Jurisdictions for Action 23:

Lead agencies will be Lincoln County Emergency Management, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Hazard: Drought/Extreme Heat**Goal:**

Create safety awareness in citizens of Lincoln County to help protect themselves during extreme heat events.

Goal:

Minimize crop loss while maintaining water supplies during times of drought.

Action 24:

To assist the population in reducing heat disorders, the County should promote extreme heat hazards awareness, including safety tips, medical information, and contact information for health officials. Information regarding checking on neighbors or other known residents that live alone or that may be at a disadvantage in fending for themselves should be included.

Participating Jurisdictions for Action 24:

Lead agencies will be Lincoln County Emergency Management and Health Departments, all Cities and all Towns. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Action 25:

Develop countywide drought mitigation plan to encourage multi-agency approaches to water conservation, drought prediction and stream and groundwater monitoring. Droughts probably have the greatest impact on agricultural areas, and given the significance of the agricultural sector of the County's economy, drought becomes an important hazard to prepare for.

Even droughts of limited duration can reduce crop growth and yields, adversely affecting farm income. More substantial events can decimate croplands and result in total loss, negatively impacting both the individual producer and the local economy. Continuous monitoring of hydrologic conditions is important to identify and assess drought conditions.

Participating Jurisdictions for Action 25:

Lead agency will be Lincoln County Emergency Management, Land and Water Conservation and UWEX departments. Jurisdictions participating in this action will include Lincoln County, City of Merrill, City of Tomahawk, and all Towns.

Hazard: Forest/Wild Fires**Goal:**

Protect the safety and property of residents from forest and wildfires.

Action 26:

The County should develop education and information for homeowners on protecting their homes and other structures from fires. Since Lincoln County is mostly rural with vast woodlands, emphasis should be placed on construction and establishing defensible areas around structures. Roofs and exterior siding should be made of ignition-resistant materials. At least 30 feet should be left between homes and surrounding combustible vegetation. Outreach efforts can exist in the form of web sites, local newspaper articles, and pamphlets to homeowners.

Participating Jurisdictions for Action 26:

Lead agency will be Lincoln County Emergency Management. The only directly participating jurisdiction will be Lincoln County.

Action 27:

Local fire departments should coordinate with the Department of Natural Resources to provide cross-training and exercises for responding to larger wildfires.

Participating Jurisdictions for Action 27:

Lead agencies will be the various area Fire Departments and Wisconsin Department of Natural Resources Fire District Staff. Participating jurisdictions will include local Fire Departments.

Action 28:

Local units of government should develop driveway ordinances and minimum standards for private roads to support emergency vehicle access where lacking. The ability of emergency response units to reach a site is often the critical factor in the effectiveness of the response. Inadequate private access roads or driveways are common problems in rural areas. In some cases emergency units cannot physically reach a target site due to narrowness, tight corners, steep slopes, etc. Other problems include lack of space to maneuver or turn around.

Participating Jurisdictions for Action 28:

Lead agencies will be all Towns. Jurisdictions participating in this action will include all Towns.

Action 29:

Due to the nature of the pine "fuel" resulting in high risk for wildfire in the northern half of the County, Lincoln County should work with the northern towns, the City of Tomahawk and the Wisconsin Department of Natural Resources to develop an area-wide Community Wildfire Protection Plan (CWPP). Similar conditions also exist in southwestern Oneida County, presenting an opportunity to coordinate on a multicounty collaborative effort. The boundaries of the WisDNR Tomahawk Fire Response Unit make a logical planning area based on the similar conditions and risks throughout.

A CWPP identifies and prioritizes areas for hazardous fuels reduction treatments and recommends types and methods of treatment that will protect at-risk areas and critical infrastructure. WisDNR has grant funding available for community wildfire protection planning.

Participating Jurisdictions for Action 29:

Lead agency will be Lincoln County Emergency Management in conjunction with the Wisconsin Department of Natural Resources. Jurisdictions participating in this action will include: Lincoln County, the City of Tomahawk, the northern Towns, and the WisDNR, as well as Oneida County and towns in southwestern Oneida County.

**TABLE 16 SUMMARY OF MITIGATION STRATEGIES
LINCOLN COUNTY ALL HAZARDS MITIGATION PLAN**

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
ALL HAZARDS					
1. Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	County EM Dept.	Staff Time	Radio sales cover cost of radios.	On-going	HIGH
2. Continue to add/update Emergency Management Department link off existing County website.	County EM Dept.	Staff Time	Dept. Budget	On-going	MEDIUM
3. Verify that back-up utilities are available at all critical facilities.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	On-going	HIGH
4. Create second street to the hospital in the City of Tomahawk. Work with DNR and Corps of Engineers on wetland issues.	City of Tomahawk	100,000	General Fund / Local Road Aids	2015	HIGH
5. Work toward development of county-wide early warning systems possibly including all telephone message cast (e.g. "Code Red") and cable TV broadcast, among others.	County EM Dept. / All Cities / All Towns	Costs to be determined	General Funds / Dept. Budgets	On-going	HIGH
6. Consider developing county-wide disaster shelter plan possibly including i.d. available shelters, trailer park shelter needs, notification procedures, etc.	County EM Dept. / County Health Dept. / All Cities / All Towns	Costs to be determined	General Funds / Dept. Budgets	On-going	HIGH
7. Establish a second well field and water tower for the City of Tomahawk	City of Tomahawk	Costs to be determined	General Fund / US RDA Water Facilities Grant/Loan	2016	MEDIUM
8. Develop Emergency Response Zone Atlas - print and distribute.	County EM Dept.	20,000	Wisconsin DNR tech. assist. and funding. / WEM funding	2013	MEDIUM
9. Establish an "off-site" emergency command post to mitigate proximity of Tomahawk's police, fire and public works facilities to each other and to high hazard threats (LP gas).	City of Tomahawk	150,000	General Fund / Federal Assistance to Firefighters Grant (AFG)	2014	MEDIUM
10. Update radio / emergency communications system within the City of Merrill.	City of Merrill	Costs to be determined	General Fund / OJA Funding Programs	2013	MEDIUM
11. Continue to develop and enhance new County EOC location as well as County mobile command post.	County EM Dept. / Sheriff's Office	Costs to be determined	General Fund / OJA Funding Programs	2016	MEDIUM

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
12. Address gaps in emergency interoperable communications coverage by installing communications towers/repeaters in problems areas like eastern Pine River and western Corning.	County EM Dept. / Sheriff's Office	Costs to be determined	General Fund / OJA Funding Programs	2015	MEDIUM
13. Improve addressing on seasonal dwellings / other structures to improve emergency response in Corning.	Town of Corning	Staff Time	Fee for address plaques.	2013	MEDIUM
TORNADO					
14. Analyze water towers for tornado strength.	City of Merrill / City of Tomahawk	Costs to be determined	General Funds	2013	MEDIUM
15. Encourage mobile homes and exterior attachments such as carports and porches to have tie-downs with ground anchors.	County P&Z Dept. / All Cities / All Towns	Staff Time	Dept. Budgets	On-going	LOW
WINTER STORM / EXTREME COLD					
16. Promote winter hazards awareness including home and travel safety measures.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	Annual	HIGH
FLOOD / DAM FAILURE					
17. County/City continued compliance in the National Flood Insurance Program (NFIP)*.	County P&Z Dept. / City of Merrill / City of Tomahawk	Staff Time	Dept. Budgets	On-going	MEDIUM
18. If evidence of recurring flooding is an issue with specific properties after a significant flood event, investigate, as a possible solution, the voluntary acquisition/removal of buildings in a floodplain with flood damage.* (FEMA NFIP requirement)	County P&Z Dept. / City of Merrill / City of Tomahawk	Costs to be determined	Mitigation Grants	As needed	MEDIUM
19. Culvert sizing evaluation and maintenance program.	County Hwy Dept. / All Cities / All Towns	Costs to be determined	Dept. Budgets	On-going	MEDIUM
20. Continue to work with dam owners to review and test Emergency Action Plan (EAP) for each significant and high hazard dam.	County EM Dept.	Staff Time	Dept. Budget	On-going	MEDIUM
21. Improve ditching along town roads in Birch and Wilson to better manage water and control flooding.	Towns of Birch and Wilson	Costs to be determined	General Funds	2013	MEDIUM

MITIGATION MEASURES (See Expanded Description in Plan Text)	RESPONSIBLE UNITS	COST ESTIMATE	EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT	PROJECT ** TIMEFRAME	PRIORITY LEVEL
SEVERE THUNDERSTORM / HAIL / LIGHTNING / WIND					
22. Determine if critical facilities are adequately grounded to eliminate lightning damage. Install surge protection as necessary.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	2014	MEDIUM
23. Promote lightning safety awareness to reduce risk.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	Annual	LOW
DROUGHT / EXTREME HEAT					
24. Assist population with reducing heat disorders through awareness program as needed.	County EM Dept. / County Health Dept / All Cities / All Towns	Staff Time	Dept. Budgets	As needed	MEDIUM
25. Develop countywide drought mitigation plans for multi-agency approaches to water conservation, drought prediction, stream and groundwater monitoring.	County EM Dept. / County Land Conservation. / County UWEX	Staff Time	Dept. Budgets	As needed	LOW
FOREST / WILDFIRE					
26. Promote Firewise program and related educational materials to increase community awareness of wildfire risk within the County.	County EM Dept.	Staff Time	Dept. Budget	Annual	MEDIUM
27. Provide wildland / structural crossover firefighter training for local/volunteer fire departments in conjunction with the DNR.	Area Fire Depts. WisDNR District	Costs to be determined	Dept Budgets	2013	MEDIUM
28. Develop driveway ordinances and private road standards as well as possible zoning recommendations to ensure emergency vehicle access where lacking.	Various Towns	Costs to be determined	General Funds	2015	MEDIUM
29. Develop "area-wide" Community Wildfire Protection Plan For Tomahawk fire district covering northern Lincoln County and southwestern Oneida.	County EM Dept. / northern Towns / City of Tomahawk / WisDNR	24,999	WisDNR National Fire Plan Funding	2013	MEDIUM
<p>*Denotes actions related to compliance with NFIP. **Actual project implementation dependent on funding and staff availability.</p>					