

**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 2012-2017
- Review of Mitigation Goals
- Prioritize Identified Mitigation Strategies
- Establish Mitigation Action Plan

**PROGRESS REPORT 2012 - 2017**

Table 16 identifies the completed, deleted or deferred mitigation actions from the previous 2012 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".

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.

<b>2012-2017 Plan Measure</b>	<b>Progress Report</b>	<b>Original Status</b>	<b>New Status</b>
Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	Recent grant applications not funded. County EM continues to promote use of the radios and seek funding to disseminate 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. Created a "Ready Lincoln" page to help educate and prepare public.	On-going (2)	On-going (2)
Verify that back-up utilities are available at all critical facilities.	Installation at some county facilities. More evaluation needed.	On-going (3)	On-going (3)
Create second street to the hospital in the City of Tomahawk.	Not yet completed. Remains concern. Wetlands issues blocking progress.	2015 (4)	2021 (4)
Develop county-wide early warning systems possibly including all telephone message cast and cable TV broadcast, among others.	County has been exploring some emergency alert systems such as CodeRed, NIXLE, and others.	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.	Did review Red Cross sheltering but more is needed. Trailer parks in the County are one area of concern. Shelter needs in Towns of Harding and Merrill.	On-going (6)	On-going (6)
Establish a second well field and water tower for the City of Tomahawk.	Budget constraint has been the limiting factor for this recommendation.	2016 (7)	2020 (7)
Develop Emergency Response Zone Atlas.	Little progress to date. May be increasing priority with WDNR.	2013 (8)	2019 (8)
Establish an "off-site" emergency command post for City of Tomahawk.	Budget constraint has been the limiting factor for this recommendation.	2014 (9)	2022 (9)
Update radio / emergency communications systems for City of Merrill.	Police department did acquire new radios but more updating is needed. Other key depts need new radios.	2013 (10)	2020 (10)
Continue development of County EOC and mobile command post.	Limited development due to lack of available funding.	2016 (11)	2022 (11)
Address gaps in emergency interoperability communications coverage...	Tower/repeater installed in Pine River in 2013. Additional work needed.	2015 (12)	2021 (12)
Improve addressing signage to improve emergency response in Corning.	Status unknown. Not reported as current priority by Town.	2013 (13)	Removed from list (-)
Analyze water towers for tornado strength.	No progress to date.	2013 (14)	2019 (17)
Encourage mobile homes to have tie-downs with ground anchors.	Limited progress to date.	On-going (15)	On-going (18)
Promote winter hazards awareness at home and while traveling.	County EM working with Health Department on extreme cold safety awareness.	Annual (16)	Annual (19)

<b>2012-2017 Plan Measure</b>	<b>Progress Report</b>	<b>Original Status</b>	<b>New Status</b>
County/City continued participation in NFIP.	On-going efforts of the County and both cities.	On-going (17)	On-going (20)
If needed, mitigate impacts of flooding through acquisition / removal of flood damaged buildings in floodplain.	Has not been needed to date.	As needed (18)	As needed (21)
Culvert sizing evaluation and maintenance program.	County Hwys program in place and on-going. Town of Corning has installed larger culverts. Maintenance is still an issue.	On-going (19)	On-going (22)
Continue to review and test Emergency Action Plan (EAP) for each significant and high hazard dam.	Plans and exercises completed with WVIC, WPL, PCA & Kings dams. On-going maintenance efforts recommended.	On-going (20)	On-going (23)
Improve ditching along town roads...to better control flooding.	On-going maintenance concern with towns to prevent washouts and maintain access.	2013 (21)	On-going (24)
Determine if critical facilities are adequately grounded to eliminate lightning damage. Install surge protection as necessary.	No progress to date.	2014 (22)	2018 (25)
Promote lightning safety awareness to reduce risk.	County does lightning safety awareness as needed.	Annual (23)	Annual (26)
Assist population with reducing heat disorders through awareness program.	County EM working with Health Department on extreme heat safety awareness.	As needed (24)	As needed (27)
Develop countywide drought mitigation plans for multi-agency approaches to water conservation, drought prediction, stream and groundwater monitoring.	No progress to date.	On-going (25)	As needed (28)
Promote Firewise and related educational materials increase awareness of wildfire risk.	Combined public informational efforts of WDNR, area fire department and County EM.	Annual (26)	Annual (29)
Provide wildland/structural crossover firefighter training...	Local fire departments routinely conduct training and exercises	2013 (27)	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.	2015 (28)	2022 (30)
Develop "area-wide" wildfire protection plan for Tomahawk fire district covering northern Lincoln and southwestern Oneida Counties.	No progress to date.	2013 (29)	2020 (31)

**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.
- Continue compliance with the National Flood Insurance Program and work to reduce flood risk throughout Lincoln County and the Cities of Merrill and Tomahawk.
- 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 and visitors 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 and visitors from forest and wildfires.
- Protect Lincoln County computer systems and data from cyber-attack to help ensure continuing, effective operations of county government and emergency services.

**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 17.

**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 17.

**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 (responsible unit) 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, existing resources (authority, policies, programs. etc.) 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. Previously, the County distributed radios to key locations such as County buildings, schools, major employers, etc. Recent grant applications to refresh and expand this effort have not been successful. 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.

The County recently created a "Ready Lincoln" webpage which contains information and resources for residents to learn more about potential hazards in Lincoln County and help better prepare themselves and their families in the event of a disaster.

**Participating Jurisdictions for Action 2:**

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

**Action 3:**

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. Lincoln County has evaluated its existing facilities and installed back up power generation where needed. The City of Merrill has previously identified this as a need and has installed emergency power generators for City Hall. The City of Tomahawk and all Town governments should address this issue. 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, 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 discussions.

Several years ago, the City of Merrill did install new warning sirens with radio triggers. Now additional improvements are needed to deal with remaining older units that have been disconnected to address gaps in coverage and incorporate new technology that allows the sirens to be linked. Tomahawk had abandoned its warning sirens due to high cost for repairs and maintenance. There were also concerns about coverage area of those sirens. Currently, some officials and residents feel there is a need to reestablish warning sirens in the community.

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. There are a variety of other services available and the County has been evaluating some of the options such as NIXLE and RAVE. RAVE is a new system being used by the State, and some cost savings may be available via the state purchasing contract. Maintenance of such systems is currently from \$4,000 to \$6,000 per year.

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 worked on this issue in the past, particularly with regard to special needs populations. More recently, Emergency Management has worked with the Red Cross and ran a tabletop exercise to evaluate and update its shelter program in Lincoln County and identified a need to add more shelter sites. In addition, Emergency Management has been working with the County Health Department on warming and cooling shelters for extreme temperature situations.

To address these concerns, the County should work to develop a countywide disaster shelter plan. The Towns of Harding, Merrill, and Skananwan and 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 and have become more fundable under WEM/FEMA programs. 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:., Harding, Merrill, and Skanawan.

**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 Wisconsin Department of Natural Resources in conjunction with Lincoln County Emergency Management. 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 should 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 (narrow banding, etc.), the City of Merrill has made some upgrades and modernized its emergency communications equipment including radios for police and fire. However, interoperability, or the ability for different radios to work with each other, is a significant problem for emergency services and local governments across the state, and Merrill is no different. Radio compatibility across various key City departments such as public works, needs to be addressed. New, compatible radios need to be acquired for these departments, and cross department interoperability needs to be maintained as system updates and technology changes continue such as "Next-Gen 911".

**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 emergency operations center (EOC) needs additional outfitting including emergency radio communications equipment and HAM radio set and other supplies and equipment. EOC procedures and operations need to be review and developed, including identification of departments that might be involved in staffing the EOC in a given situation and determining the needs of each. For example, County GIS (Geographic Information Systems) staff can help with situational logics by providing access to aerial photography and mapping of areas and creating specialized maps for a given situation. However, such functions require more robust workstations with a more powerful PC and map plotting capabilities. 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. For example, the southwestern corner of the County (Pine River) was a coverage problem area until tower improvements were made in 2013. Western Corning is a candidate for an additional tower. In the far northwestern part of the County (i.e. Somo and Tomahawk) coverage can be "iffy" depending on weather conditions.

**Participating Jurisdictions for Action 12:**

Lead agency will be Lincoln County Emergency Management. Lincoln County and the Towns Corning, Harrison, Somo and Tomahawk will be the participating jurisdictions in this action.

**Action 13:**

The Town of Tomahawk has expressed a need to improve the posting of its addressing / fire number signs to improve emergency response.

**Participating Jurisdictions for Action 13:**

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

**Action 14:**

The Town of Harding has identified a need to develop a local emergency response plan (ERP). Other towns may not have an emergency response plan in place as well. An ERP helps the community determine the roles to be played by each emergency service, how communication channels will be utilized, lines of authority, and strategies or "game plans" for responding to different kinds of hazard situations. Wisconsin Emergency Management has plan templates that towns can use to fill in the blanks and begin formulating their own local ERP.

One area of concern identified as needing to be addressed in Lincoln County is the provision of aid and evacuation for elderly and other homebound as well as animals in the event of a disaster emergency. Towns should consider and plan for this issue when developing ERPs. Community groups and service organizations are a possible resource to tap in providing a mechanism to provide this aid.

ERP's should conform to the State and National Response Plans, which are organized by emergency support functions and incorporate the provisions of the National Incident Management System (NIMS). The NIMS is a comprehensive system that incorporates operations through the use of the Incident Command System (ICS) and application of standardized procedures and preparedness measures. It promotes development of cross-jurisdictional, statewide and interstate regional mechanisms for coordinating response and obtaining assistance during a large-scale or complex emergency incident.

**Participating Jurisdictions for Action 14:**

Lead agency will be the Town of Harding. Jurisdictions participating in this action will include The Town of Harding and other towns without a current ERP. Lincoln County and Wisconsin Emergency Management can provide assistance in developing a town ERP.

**Action 15:**

The Town of Merrill has identified a need to install an emergency generator in order to ensure the continued operation of critical facilities (i.e. town hall) during a power outage. One option might be the utilization of portable generators, however, the facility needing power would require special accommodations (transfer switch) be pre-installed to connect the generator and allow it to power the building/facility.

**Participating Jurisdictions for Action 15:**

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

**Action 16:**

Lincoln County should develop a Continuity of Government (COG), also known as a Continuity of Operations Plan (COOP) to sustain government operations in case of a catastrophic event such as a natural disaster or major cyber-attack that severely disrupts Lincoln County government facilities. In today's technology driven society, access to computers and databases is a critical component.

The goal of COOP planning is to ensure that essential functions of an organization such as a government can continue to operate during and after an emergency incident which may prevent access to normally operating systems such as physical plant, data or communications networks, or transportation. This includes system and personnel redundancy, educating staff, backing up and securing critical data, and setting up remote access site(s) to continue county operations in the event a particular government building(s) becomes inaccessible.

**Participating Jurisdictions for Action 16:**

Lead agency will be Lincoln County Emergency Management. Lincoln County would be the only directly participating jurisdiction. This recommendation is also suggested for other units of government within the County including the Cities of Merrill and Tomahawk and all towns.

**Hazard: Tornado**

**Goal:**

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

**Action 17:**

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

**Participating Jurisdictions for Action 17:**

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 18:**

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 18:**

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 19:**

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 19:**

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:**

Continue compliance with the National Flood Insurance Program and work to reduce flood risk throughout Lincoln County and the Cities of Merrill and Tomahawk.

**Goal:**

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

*Please note: actions denoted with an asterisk (\*) relate to compliance with the National Flood Insurance Program (NFIP).*

**Action 20\*:**

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 regulations will continue to apply to and be enforced for new and existing buildings and infrastructure.

**Participating Jurisdictions for Action 20:**

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 21\*:**

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 21:**

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 22:**

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 22:**

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 23:**

Lincoln County continues to work with owners and operators to review, update and test dam failure Emergency Action Plans (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. Lincoln County periodically coordinates such exercises, a tabletop and a functional exercise were completed during this planning process.

**Participating Jurisdictions for Action 23:**

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 24:**

In their hazard mitigation issues surveys, both the towns of Birch and Tomahawk indicated the need for improved ditching along town roads, while Town of Corning identified the need for installation of larger culverts 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 24:**

Lead agencies will be the towns of Birch, Corning and Tomahawk. Participating jurisdictions include the towns of Birch, Corning and Tomahawk.



**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 25:**

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 25:**

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 26:**

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 26:**

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 27:**

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 27:**

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 28:**

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 and tourism areas, and given the significance of the tourism sector of the County's economy, drought becomes an important hazard to prepare for.

**Participating Jurisdictions for Action 28:**

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 29:**

Promote Firewise program and related educational materials to increase community awareness of wildfire risk within the County. The Towns and County should develop education and information for homeowners on protecting their homes and other structures from fires and promote Firewise. 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 29:**

Lead agency will be local units of government. Participating jurisdiction would include Lincoln County, Wisconsin Department of Natural Resources, City of Tomahawk, all towns and area Fire Departments.

**Action 30:**

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 30:**

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

**Action 31:**

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 31:**

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.

**HAZARD: CYBER ATTACK****Goal:**

Protect Lincoln County computer systems and data from cyber-attack to help ensure continuing, effective operations of county government and emergency services.

**Action 32:**

Counties must plan to respond to catastrophic cyber events the way plan to manage tornadoes, blizzards or other emergencies: determine which assets are at risk, figure out what they are worth to the county, and put in place the security controls to protect them so that if attacked, the worst does not happen.

The County should implement a multi-layered process of assessment, patching and training to prevent cyber-attacks. These preventive measures are described as follows:

- *Assessment*: ongoing analysis of networks and processes to check for weaknesses
- *Patching*: regularly updating software to fix vulnerabilities
- *Training*: educating staff, elected officials, and all others who access the network about the risks of cyber-attacks and what they can do to keep the network safe

Maintaining an up to date and complete back-up of files is critical for continuity of operations in the event of a major cyber-attack. County IT is working on implementing a new back-up system.

**Participating Jurisdictions for Action 32:**

Lead agency will be the Lincoln County IT Department. Other jurisdictions with significant computer infrastructure should also follow this recommendation. Jurisdictions participating in this action will include Lincoln County, City of Merrill, and City of Tomahawk.

**TABLE 17 SUMMARY OF MITIGATION STRATEGIES  
LINCOLN COUNTY ALL HAZARDS MITIGATION PLAN**

<b>MITIGATION MEASURES (See Expanded Description in Plan Text)</b>	<b>RESPONSIBLE UNITS</b>	<b>COST ESTIMATE</b>	<b>EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT</b>	<b>PROJECT ** TIMEFRAME</b>	<b>PRIORITY LEVEL</b>
<b>ALL HAZARDS</b>					
1. Continue to promote the increased use of National Oceanic and Atmospheric Administration (NOAA) weather radios.	County EM Dept.	Staff Time	WEM Grant - Possible Radio sales to cover cost.	On-going	MEDIUM
2. Continue to add/update Emergency Management Department link off existing County website.	County EM Dept.	Staff Time	Dept. Budget	On-going	HIGH
3. Verify that back-up utilities are available at all critical facilities, including necessary maintenance.	County / All Cities / All Towns	Staff Time	Dept. Budget	On-going	LOW
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	Costs to be determined	General Fund / Local Road Aids	2021	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	MEDIUM
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	2020	LOW
8. Develop Emergency Response Zone Atlas - print and distribute.	Wisconsin DNR / County EM Dept.	20,000	Wisconsin DNR tech. assist. and funding / WEM funding	2019	LOW
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)	2022	MEDIUM
10. Update radio / emergency communications system interoperability within the City of Merrill.	City of Merrill	Costs to be determined	General Fund / OJA Funding Programs	2020	HIGH
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	2022	MEDIUM

<b>MITIGATION MEASURES (See Expanded Description in Plan Text)</b>	<b>RESPONSIBLE UNITS</b>	<b>COST ESTIMATE</b>	<b>EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT</b>	<b>PROJECT ** TIMEFRAME</b>	<b>PRIORITY LEVEL</b>
12. Address gaps in emergency interoperable communications coverage by installing communications towers/repeaters in problems areas like western Corning and the far northwest corner of County.	County EM Dept. / Sheriff's Office	Costs to be determined	General Fund / OJA Funding Programs	2021	HIGH
13. Improve addressing / fire number signing to improve emergency response in Town of Tomahawk.	Town of Tomahawk	Staff Time	Fee for address plaques.	2018	HIGH
14. Town of Harding should develop a local emergency response plan.	Town of Harding	Staff Time	General Fund	2018	MEDIUM
15. Town of Merrill should install emergency generator at Town Hall.	Town of Merrill	\$20,000	General Fund	2019	MEDIUM
16. Lincoln County should develop a Continuity of Operations / Government (COOP / COG) Plan.	County EM Dept. / Co. Administration	Staff Time	Dept. Budgets	2020	HIGH
<b>TORNADO</b>					
17. Analyze water towers for tornado strength.	City of Merrill / City of Tomahawk	Costs to be determined	General Funds	2019	MEDIUM
18. 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
<b>WINTER STORM / EXTREME COLD</b>					
19. Promote winter hazards awareness including home and travel safety measures.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	Annual	LOW
<b>FLOOD / DAM FAILURE</b>					
20. 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
21. 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
22. Culvert sizing evaluation and maintenance program.	County Hwy Dept. / All Cities / All Towns	Costs to be determined	Dept. Budgets	On-going	MEDIUM
23. Continue to work with dam owners to maintain EAPs for each significant and high hazard dam.	County EM Dept.	Staff Time	Dept. Budget	On-going	HIGH

<b>MITIGATION MEASURES (See Expanded Description in Plan Text)</b>	<b>RESPONSIBLE UNITS</b>	<b>COST ESTIMATE</b>	<b>EXISTING AND POTENTIAL RESOURCES TO IMPLEMENT</b>	<b>PROJECT ** TIMEFRAME</b>	<b>PRIORITY LEVEL</b>
24. Improve ditching and culverts along town roads in Birch, Corning and Tomahawk to better manage water and control flooding.	Towns of Birch, Corning, and Tomahawk	Costs to be determined	General Funds	On-going	MEDIUM
<b>SEVERE THUNDERSTORM / HAIL / HIGH WIND / LIGHTNING</b>					
25. 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	2018	LOW
26. Promote lightning safety awareness to reduce risk.	County EM Dept. / All Cities / All Towns	Staff Time	Dept. Budget	Annual	HIGH
<b>DROUGHT / EXTREME HEAT</b>					
27. 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	LOW
28. 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
<b>FOREST / WILD FIRE</b>					
29. Promote Firewise program and related educational materials to increase community awareness of wildfire risk within the County.	Wisconsin DNR / Local fire depts / all towns	Staff Time	Dept. Budget	Annual	MEDIUM
30. 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	2022	LOW
31. 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	2020	MEDIUM
<b>CYBER ATTACK</b>					
32. Implement multi-layered process of assessment, patching, and training to prevent cyber-attacks.	County IT Dept. / City of Merrill / City of Tomahawk	Costs to be determined	Dept. Budgets / General Funds	On-going	HIGH
*Denotes actions related to compliance with NFIP.					
**Actual project implementation dependent on funding and staff availability.					