

GENERAL HAZARD MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop data to support a more in-depth evaluation of the potential impacts of hazards.	Multi	High	<\$5,000	Local	2016	Land Information Emergency Government
Documentation of historical occurrences and hazard events, studies (hydraulic, dam failure), GIS and spatial data. One of the key pieces of information missing is structure fire data. While this data is available through the NFIRS system, it will require some manipulation in order to make it useful for local planning purposes.						
2. Develop all hazard public education campaign	Multi	Medium	\$0	None	Ongoing	Emergency Government
Develop local education program to encourage county citizens to prepare for all hazards through disaster education and the promotion of personal responsibility.						
3. Develop Community Emergency Response Team (CERT)	Multi	Medium	\$0	None	2016	Emergency Government, LEPC
The Community Emergency Response Team (CERT) Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations						
4. Develop large event emergency plans with local entities.	Multi	High	Unknown	Local, grant	ongoing	Emergency Government, LEPC
Coordinate with large-scale local and regional events (2015 Special Olympics, American Birkiebeiner, Lumberjack World Championships)						
5. Update list and develop service area map of utility providers.	Multi	Low	\$0	None	2016	Land Information Emergency Government
Develop a spatial database (GIS) of utility service areas within Sawyer County (gas and electric)						
6. Maintain and update the Sawyer County Hazard Mitigation Plan every 5 years [Updating the plan also requires updating the risk assessment every five years]	Multi	High	\$24,000	FEMA grant	Every 5 years	Emergency Government

7. Incorporate Hazard Mitigation Planning into existing and future local and countywide Comprehensive Planning.	Multi	High	\$0	None	ongoing	Multiple
8. Compile a comprehensive inventory of local structure fire occurrences.	Multi	Medium	\$0, no-cost access, time to analyze data unknown	Grant, if needed	2017	Emergency Government
Comprehensive structure fire occurrence data is contained within the National Fire Incident Reporting System database. Access to the database must be authorized through the Wisconsin Department of Safety and Professional Services, Department of Commerce Safety and Buildings Division.						
9. Public education campaigns on personal preparation and need to replace CO2 detectors at least every 5 years.	Multi	High	\$0	None	Ongoing	Emergency Government
10. Secure funds to purchase smoke detectors for elderly, vulnerable population and low income population.	Multi	High	\$5,000-\$10,000	FEMA Assistance to Firefighters Grant	2018	Emergency Government
11. Develop easier way to update maps on new subdivisions and structures.	Multi	Medium	<\$5,000	Local and/or Grant. Land Information Program	2017	Land Information
GIS and land information project						
12. Consider adoption of a countywide ordinance to ensure driveways on properties accessing county highways are appropriately sized to allow for access by emergency vehicles	Multi	High	<\$10,000	Grant sources	2018	Emergency Government
Several model "Access Management" ordinances are available online.						

WINTER WEATHER MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Improve shelter capacities with alternate power sources.	Winter Weather	High	Unknown	FEMA grant	Ongoing	Emergency Government
Acquire alternate power sources for all critical and essential facilities which do not currently have them. Understand the energy needs at the critical facilities and how the energy sources perform during disasters or severe storms.						
2. Develop outreach plan to contact isolated, vulnerable or special needs population	Winter Weather	Medium	\$0	None	Ongoing	Aging and Disability Resource Center
This action is ongoing through the Aging and Disability Resource Center.						
3. Develop list of heavy equipment and secure MOUs with private vendors.	Winter Weather	High	\$0	None	2015	Emergency Government
4. Provide education campaigns on Winter Hazards.	Winter Weather	Medium	\$0	None	ongoing	Emergency Government

FLOODING MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Update flood hazard maps to reflect new subdivisions, changes in corporate limits, and any new DFIRM data.	Flood	High	Unknown, depends on extent of revisions	FEMA grant funding	2017	Emergency Government
The Flood Insurance Rate Maps were last updated for Sawyer County in September of 1990. Since that time there has been significant land use change in some areas of the county, particularly along the flood-vulnerable lake and river frontage areas.						

2. Develop GIS layer of flood zone that is more accurate than current system.	Flood	High	<\$5,000	Local	2017	Land Information Emergency Government
This action supports #1 above. The county could also conduct localized flood modelling using Hazus software. HAZUS can be used to model event scenarios that are useful to compare risks between regions as well as to evaluate the effects of certain mitigation measures. Hazus is freely available through the Federal Emergency Management Agency http://www.fema.gov/hazus-software						
3. Develop a more comprehensive dam structure inventory and maintenance accountability form.	Flood	High	Unknown	Grant , Local	2017	Emergency Government
4. Conduct a Dam Failure Study/Hydro analysis for all major dams in Sawyer County.	Flood	High	Unknown	Grant , Local	2018	Emergency Government, WDNR
Conduct a dam failure analysis for all dams where there is the potential for significant downstream structural losses in the event of a failure. Based on the findings of the failure analysis, an emergency action plan should be created for all high hazard dams.						
5. Coordinate meetings with local officials to raise awareness of the Community Rating System (CRS), which can lower flood insurance rates. CRS is a voluntary incentive program that recognizes communities for implementing floodplain management practices that exceed the Federal minimum requirements of the NFIP to provide protection from flooding.	Flood	Medium	\$0	None	2016	Emergency Government
By participating, communities earn credit points that determine classifications. There are 10 CRS Classes: Class 1 requires the most credit points and provides the largest flood insurance premium reduction (45 percent), while Class 10 means the community does not participate in the CRS or has not earned the minimum required credit points, and residents receive no premium reduction.						
6. Continue to participate and remain in compliance with the National Flood Insurance Program (NFIP)	Flood	High	\$0	None	Ongoing	Emergency Government

HIGH WINDS MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Improve strategies for debris management for windstorm events.	High Winds	High	\$0	None	Ongoing	Emergency Government

In the past, the County has experienced a variety of debris-generating events, including severe storms, tornadoes, and flooding. There are a number of municipalities located within the County that have historically handled storm-related debris without assistance from the County. It is assumed that this will continue for future events as well. Consider the development of a disaster debris management plan (DDMP) to better respond to future emergency debris removal situations.						
2. Develop list of portable generators	High Winds	High	\$0	None	Ongoing	Emergency Government
3. Develop better communication between power companies and fire departments for priority response. Work with local electric service providers to educate local fire departments on power line protocols (i.e. priorities in the event of a wind storm)	High Winds	High	\$0	None	Ongoing	Emergency Government, Local fire departments
Currently, there is a communications gap between local power companies and utility service providers when it comes to responding to down lines and priorities for restoration of service.						
4. Secure MOUs from private vendors and educate them on IC and injury prevention.	High Winds	High	\$0	None	Ongoing	Emergency Government

WILDFIRE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop and implement a Community Wildfire Protection Plan for vulnerable areas of the county.	Wildfire	High	\$10,000-\$20,000 per Town	WDNR Grant	Ongoing	WDNR, Towns
A community wildfire protection plan (CWPP) allows communities to have input in the hazardous fuels reduction programs of federal land management agencies, and provides a plan of action for local community-based Firewise education programs. A CWPP was developed in 2012-2013 for the Clam Lake Area of Sawyer/Bayfield/Ashland Counties, which includes the Town of Spider Lake. The Wisconsin Department of Natural Resources “communities-at-risk” assessment indicates that there are other wildfire-vulnerable areas within the county, particularly within the Towns of Hayward and Lenroot. Work with WDNR to investigate the possibility of a future CWPP for these areas.						
2. Develop public education campaign on fire hazard reduction.	Wildfire	Medium	\$0	None	Ongoing	WDNR

The Firewise program is a national program designed to help landowners in the wildland-urban interface to reduce wildfire risks to their homes and neighborhoods. Through proactive creation of defensible space and firewise landscapes around existing structures to reduce wildfire fuels, to choosing fire-resistant building materials during construction, can greatly reduce the risk and severity of wildfire losses. The Forestry Division Wildland Urban Interface (WUI) Specialist is responsible for establishing, leading, administering and evaluating the Wildland Urban Interface program within a designated geographic areas of the state.						
3. Increase enforcement of burning permits and restrictions.	Wildfire	Medium	\$0	None	Ongoing	WDNR, County
The Wisconsin Department of Natural Resources regulates burning permits in Sawyer County, which is located entirely within the WDNR intensive protection area. A burning permit for debris burning is required throughout the year whenever the ground is not completely snow covered. Local ordinances may also regulate burning permits.						
4. Link on county and municipal websites on burn bans and permits	Wildfire	Medium	\$0	None	2016	Emergency Government
Provide, at a minimum, a link to the daily fire restrictions published on the Wisconsin Department of Natural Resources web page. http://dnr.wi.gov/topic/ForestFire/restrictions.asp						
5. Burning restrictions education	Wildfire	High	\$0	None	Ongoing	Emergency Government

EXTREME TEMPERATURE MITIGATION STRATEGY


Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Conduct public outreach and education to ensure energy users are operating systems efficiently during times of extreme temperatures and are aware of heating and cooling assistance options.	Extreme Temperatures	High	\$0	None	2017	Emergency Government
A large part of power supply cost is determined by energy used during peak load periods when people and businesses are using the greatest amount of electricity. If we can reduce the demand during these peak times, we can reduce power costs and prevent blackouts. This action should be conducted working in conjunction with local electric utilities.						
2. Organize outreach to vulnerable populations during periods of extreme temperatures	Extreme Temperatures	High	\$0	None	Ongoing, as needed	Emergency Government
Vulnerable populations would include households with very young children, individuals with disabilities, and frail older individuals. Develop public health information and outreach programs on home energy-related risks and energy assistance and weatherization programs. The Wisconsin Home Energy Assistance Program (WHEAP) is a federally-funded program that helps eligible households pay a portion of their home heating costs. The amount of heating assistance benefit depends on the household's size, income and heating costs.						

3. Establish cooling/heating centers	Extreme Temperatures	High	Unknown	Local and/or grant sources	Ongoing, as needed	Emergency Government
Initiate efforts to publicize the location of heating/cooling centers through targeted efforts to reach vulnerable populations.						

TORNADO MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Encourage the construction of emergency shelters and/or safe rooms in vulnerable areas of the county.	Tornado	High	\$0	None	Ongoing	Emergency Government
Establishing emergency shelters or safe rooms is a priority at county parks and in areas where there are dense residential developments, such as mobile home parks. Encourage the construction of safe rooms in all new municipal facilities and incentives for private buildings with approved safe rooms.						
2. Encourage sound wind engineering and construction techniques.	Tornado	High	\$0	None	Ongoing	Emergency Government
Provide information about various development and structural retrofitting options available to home builders.						
3. Develop a trained volunteer corps (CERT) to respond to events in their communities.	Tornado	High	\$0	None	Ongoing	Emergency Government, LEPC
The Community Emergency Response Team (CERT) Program educates people about disaster preparedness for hazards that may impact their area and trains them in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations.						

LIGHTNING MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop a public education program to include information on surge protectors, lightning rods, safe rooms, safety tips and other elements.	Lightning	Medium	Signs <\$1,000 Materials, free	Grant	2018	Emergency Government
 <p>Post signs at sports venues and other outdoor areas where large concentrations of people may be present. Use posters and other media resources available from NOAA to promote public awareness of the lightning hazard.</p> <p>Signs and lightning safety resources available at http://www.lightningsafety.noaa.gov/more.htm</p>						

DROUGHT MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Provide inventory of programs to assist with/respond to drought.	Drought	Medium	\$0	None	Ongoing	Emergency Government, Land Conservation
Provide a list of programs and links to state and federal resources on Emergency Government web page, including information on crop insurance, Emergency farm loans through the Farm Service Agency (FSA), FSA Disaster Assistance Programs and Emergency Haying and Grazing through the Conservation Reserve Program (CRP)						
2. Public education campaigns on water-saving measures.	Drought	Medium	\$0	None	Ongoing	Emergency Government, Land Conservation
Establish a water conservation program which emphasizes 1) public education—focused on the need and available methods for water conservation.2) plumbing code/ordinances—to amend the building code or pass an ordinance that would require the use of water-saving equipment in new construction and to encourage outdoor water conservation 3) Water-conserving rate structures—to create a pricing system that would discourage high-volume water use by pricing on marginal cost basis; and to collect revenues due to losses from reduced water consumption 4) refit programs—to establish incentives for the use of water-saving devices such as low-flow toilets and flow control aerators, including rebates on new appliances and fixtures 5) leak detection—start a leak detection and water meter maintenance program for the entire water distribution system.						
3. Develop a plan for alternative water sources for properties with shallow wells	Drought	Medium	\$0	None	Ongoing	Emergency Government
These well will likely ultimately need to be deepened, but a short-term solution should be explored.						

FOG MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Encourage area news media to broadcast emergency information concerning fog that addresses safety precautions and/or the need to avoid certain travel corridors during a fog event. No life flight for MVAs	Fog	Medium	\$0	None	Ongoing, as needed	Emergency Government
Public notification BEFORE event occurs, when predicted conditions are favorable for the development of dense fog and DURNING dense fog events.						

HAIL MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Provide shelter for emergency response vehicles.	Hail	Low	<\$500 per shelter for fabric or netting	Grant, local	2019	Emergency Government
Many low cost netting or fabric shelters are available for less than \$500.						
2. Notification system for large scale outdoor events	Hail	Low	\$0	None	2019	Emergency Government
Ensure that venues have NOAA weather radios and a protocol for public notification and sheltering.						

EARTHQUAKE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Inventory earthquake sustainability of dam structures	Earthquakes	Low	Unknown	Grant	2019	Emergency Government

HAZMAT RELEASE/EXPLOSION MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop a local public information and awareness strategy. (CodeRed)	Hazardous Materials Incident	High	\$8,500/year	None	ongoing	Emergency Government
This action item is currently in process						
2. Provide hazardous materials response training to first responders	Hazardous Materials Incident	High	<\$10,000	Grant	2019	Emergency Government
The HM-300 HazMat Emergency Response Technician (IFSTA) (40-hour Technician Course) provided through Wisconsin Emergency Management provides emergency response personnel with the information and skills needed to meet the training requirements cited in OSHA29 1910.120(q) and NFPA 472 (2008). It is intended for members of hazardous materials response teams, to recognize, evaluate, and control an incident involving the release or potential release of hazardous materials.						
3. Develop public education campaign through LEPC (Local Emergency Planning Committee)	Hazardous Materials Incident	Low	\$0	None	Ongoing	Emergency Government, LEPC
4. Conduct a commodity flow study	Hazardous Materials Incident	High	\$2300	Grant	2014	Emergency Government, LEPC
This action item is currently in progress.						

POWER OUTAGE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Ensure that critical and vulnerable facilities have access to a back-up power supply in the event of a disruption.	Power Outage	High	Unknown	Grant	2018	Emergency Government
<p>Promote power back-up generators in all critical structures (existing and new).</p> <ul style="list-style-type: none"> • Inventory all critical structures for the presence of a generator. • Prioritize critical structures in need. • Secure grant funding or dedicate private funds necessary to purchase and install generators. <p>Obtain funding to retrofit public facilities and/or call critical structures with appropriate wiring and electrical capabilities or transfer switches for utilizing a large generator for power back-up.</p> <ul style="list-style-type: none"> • Prioritize structures in need of wiring or transfer switches. • Determine needed equipment or retrofits for the prioritized structures. • Secure grant funding or dedicate private funds necessary to complete needed retrofits. 						
2. Develop list of portable electric power generators that can be used for vulnerable populations.	Power Outage	High	\$0	None	2017	Emergency Government, ADRC
3. Establish sites/obtain MOUs from facilities that have generators to shelter public.	Power Outage	High	\$0	None	2017	Emergency Government,
4. Promote public awareness on being self-sustained for at least 72 hours.	Power Outage	High	\$0	None	Ongoing	Emergency Government
<p>The first 72 hours after a major emergency or disaster are the most critical. Electricity, gas, water, and telephones may not be working. In addition, public safety services such as police and fire departments will be busy handling serious crises. The public should be prepared to be self-sufficient — able to live without running water, electricity and/or gas, and telephones — for at least three days following a disaster event.</p>						
5. Increase public awareness of alternative energy sources.	Power Outage	High	\$0	None	Ongoing	Emergency Government

MULTIPLE VEHICLE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Provide opportunities for responders to participate in exercises	Multiple Vehicle Accidents	High	Unknown	Grant	Ongoing, Annual	Emergency Government
2. Develop communication training between responders and public works departments	Multiple Vehicle Accidents	High	\$0	None	Ongoing	Emergency Government

COMMUNICABLE DISEASE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Educate citizens of Sawyer County about Contagious Diseases.	Communicable Disease	High	\$0	None	Ongoing	Public Health
Look at ways to educate the public: Media/public education						
2. Review Public Health mass clinic. Update MOUs	Communicable Disease	Medium	\$0	None	Ongoing	Public Health

WATER SYSTEM FAILURE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop a back-up plan and protocol for critical and vulnerable facilities in the event of a water system failure.	Water System Failure	High	<\$10,000	Grant	2018	Emergency Government

2. Develop public education on having 3 day water supply on hand, well head protection and groundwater contamination.	Water System Failure	High	\$0	None	Ongoing	Emergency Government
3. Develop list of facilities that have redundant water systems	Water System Failure	High	\$0	None	2018	Emergency Government

EXPLOSIVES ATTACK MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Assess the inherent and tactical vulnerabilities of critical facilities to explosives attack.	Explosives Attack	High	Unknown	Grant	2019	Emergency Government

CHEMICAL ATTACK MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Develop and maintain comprehensive pre-incident and recovery plans.	Chemical Attack	High	\$0	None	Ongoing	Emergency Government
2. Develop decontamination plan and alternate sites	Chemical Attack	High	\$0	None	Ongoing	Emergency Government

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AIRPLANE CRASH MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Participate, in emergency response training exercise in conjunction with local airports.	Airplane Crash	High	\$0	None	Ongoing, Annual	Emergency Government, Local airports
2. Implement protocol of early alert of distress plane.	Airplane Crash	High	\$0	None	Ongoing, Annual	Emergency Government, Local airports

FUEL SHORTAGE MITIGATION STRATEGY

Action	Hazards	Priority	Cost Estimate	Funding Method	Timeframe	Lead Agency
1. Ensure that there is an adequate supply of fuel necessary for emergency response vehicles and back -up generators and pumps.	Fuel Shortage	High	\$0	None	Ongoing	Emergency Government,