

## Chapter 4

### Goals and Actions Eligible for FEMA Funding

Emergency services measures protect people during and after a disaster. A good emergency management program addresses all hazards, and it involves all municipal and/or county departments. In this chapter the goals that were set by the Hazard Analysis Committee are discussed as well as potential solutions and actions the County, municipalities, public and private agencies can take in order to address the issues, what hazards would be addressed, specific vulnerable areas, who would be responsible, a schedule to complete the action, costs, benefits and potential funding sources.

The Hazard Analysis Committee using a determined set of evaluation criteria chose the mitigation programs and policies which best suited the County. The Committee decided on the following evaluation criteria:

- The cost of the measure must be less than the cost of repetitive repairs that would be necessary if the measure was not implemented.
- The measure must be acceptable to those participating and/or primarily impacted.
- The measure must maintain equitable distribution of essential public services.
- The measure must be environmentally sound and not cause any permanent, significant environmental concerns.

#### **Issue 1:** Improve damaged infrastructure in the Village of Newberry

**Goal:** To improve the quality, efficiency and the capacity of the essential infrastructure in the Village of Newberry.

**Action:** Replace and insulate water mains to below freezing level.

**Action:** Replace storm sewer mains to improve capacity and minimize flooding.

**Action:** Replace waste water mains to improve the capacity and efficiency of extraction.

**Specific Hazard(s) Addressed:** Infrastructure Failure, Public Health Emergencies, Severe Winter Weather, Drought, Flooding

**Specific Vulnerable Areas:** Village of Newberry, Pentland Township, McMillan Township

**Responsible Agencies:** Newberry Village, Pentland Twp., McMillan Twp., Luce Co. OEM

**Costs:** Engineering, consultants, construction, equipment, testing, water waste, health of citizens

**Benefits:** Safe drinking water, reduced water waste, less environmental contamination, provides protection measures to ensure operability and functionality.

**Schedule for Completion:** 1 to 2 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; USDA grant/loans; Local

**Issue 2:** Equip County Emergency Operations Shelters

During and after a disaster, communities should undertake activities to protect public health and safety, facilitate recovery, and help prepare people and property for the next disaster. By providing emergency shelters with appropriate supplies, the County helps to ensure the safety of public during a disaster.

The area receives significant tourist traffic throughout the year, and guests in local motels and resorts could also be affected, being stranded in the area and without power and/or communications in their accommodations.

**Goal:** To designate, equip and provide the County with a shelter during an emergency.

**Action:** Identify mass care facilities and necessary resources such as cots, blankets, food supplies and generators, as well as snow clearance and removal equipment and services.

**Action:** Once identified assess care facilities for resistance to potential damage from hazards (snow loads on roof, wind protections, etc...). If areas are found that can or should be upgraded, every effort should be made to make the care facility disaster resistant.

**Action:** Purchase generator(s) to maintain power in case of power outages.

**Specific Hazard(s) Addressed:** All Hazards

**Specific Vulnerable Areas:** County-wide

**Responsible Agencies:** Luce Co. OEM, Municipalities

**Costs:** Equipment purchase, engineering, construction, supplies, staff time

**Benefits:** Maximize utilization of existing resources. Improved emergency response capabilities. Improved community confidence in government.

**Schedule for Completion:** 1 to 3 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

**Issue 3:** Identify areas for, and the installation of natural snow fences

Utilizing natural resources to create barriers that have proven to reduce blowing snow and ‘white-out conditions’ on major highways resulting in fewer accidents.

**Goal:** To reduce blowing/drifted snow and dust/debris across major roadways using vegetation management.

**Action:** Working with MDOT and Road Commission, identify areas along Highways M-28 and M-123 and major county roads best suited for natural plantings for living “snow fences” and construct.

**Specific Hazard(s) Addressed:** Severe Winter Weather, Drought, Thunderstorms/High Winds, Tornadoes, Land Transportation Accidents, Hazardous Materials Transportation Accidents

**Specific Vulnerable Areas:** Highway M-28, between CR 381 and Hwy M-123, Highway M-123 between CR 407 and CR 500.

**Responsible Agencies:** MDOT; Luce Co. Road Commission; Resource Conservation; Luce Co.OEM; Municipalities

**Costs:** Staff time for planning. Consultant/engineering fees to determine best plantings for area. Purchase, planting and upkeep of trees and shrubs.

**Benefits:** Reduction of blowing snow drifts and ‘white-out conditions’ leading to a safer transportation network. Efficient clean up of storm debris from roadways.

**Schedule for Completion:** 1 to 5 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; MDOT – Transportation Enhancement; Local

### **Issue 3: Debris Management**

**Goal:** To establish procedures for debris removal.

**Action:** Develop debris management procedures (to include the identification of multiple debris storage, processing and disposal sites) so that the tree and other storm-related debris can be handled in the most expedient, efficient, and environmentally safe manner possible.

**Specific Hazard(s) Addressed:** Severe Winter Weather, Thunderstorms/High Winds, Tornadoes, Land Transportation Accidents, Hazardous Materials Transportation Accidents

**Specific Vulnerable Areas:** County-wide

**Responsible Agencies:** MDOT; Luce Co. Road Commission; Resource Conservation; Luce Co.OEM; Municipalities

**Costs:** Staff time for planning, meeting

**Benefits:** Efficient clean up of storm debris from roadways, potentially making transportation routes safer, reducing potential for accidents.

**Schedule for Completion:** 1 to 5 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; MDOT; Local

#### **Issue 4:** Shoreline erosion along Lake Superior

**Great Lakes Shorelands Management Program:** Part 323, Shorelands Protection and Management, of the Natural Resources and Environmental Protection Act, 1994 Public Act 451 (formerly known as 1970 PA 245) is the key state statute providing consumer protection from the natural hazards of coastal erosion and flooding as well as environmental protection of our fragile coastal areas. Part 323 is closely integrated with Part 325, the Great Lakes Submerged Lands program and the Coastal Management Program which includes Part 353, Sand Dunes Management, which provide grants to state and local units of government.

**Sand Dune Protection:** Michigan's most unique and fragile sand dunes are protected by minimizing the impacts of development within designated critical dune areas along the Great Lakes shoreline. Earthmoving, vegetation removal, and construction activities within a critical dune area are regulated through a permit program from MDEQ. Critical Dune areas protected by Part 353 represent the highest and most spectacular dunes extending along much of Lake Michigan's shoreline and the shores of Lake Superior, totaling about 80,000 acres in size. The legislature has found that Critical Dune areas of the state are a unique, irreplaceable, and fragile resource that provide significant recreational, economic, scientific, geological, scenic, botanical, educational, agricultural, and ecological benefits to the people of Michigan.

Luce County has approximately 31 miles of Critical Dunes along the Lake Superior shoreline. (See Map15 - Critical Dunes)

**Goal:** To manage high-risk erosion areas and critical dunes.

**Action:** Relocate the Crisp Pt. Lighthouse out of danger or protect it from further erosion.

**Action:** Work with shoreline property owners and DEQ encouraging best management practices.

**Specific Hazard(s) Addressed:** Severe Wind, Great Lakes Shoreline Erosion

**Specific Vulnerable Areas:** Lake Superior Shoreline

**Responsible Agencies:** Luce County Board; Luce Co. OEM; Friends of the Crisp Point Lighthouse; DEQ; Corps of Engineers

**Costs:** Engineering, consulting, planning, construction, staff time, information dissemination

**Benefits:** Saving a historical landmark, protecting the shoreline property from erosion.

**Schedule for Completion:** 1 to 5 years, ongoing

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local



**Issue 5:** Flood study of the County for NFIP designation

Insurance is not really a mitigative measure for hazards. However, it does help the owner repair, rebuild and possibly afford to incorporate some of the other mitigation measures to protect from future losses.

Insurance has the advantage that, as long as the policy is in force, the property is protected and no human intervention is needed for the measure to work. A standard **homeowner's insurance** policy will cover a property for the hazards of tornado, wind, hail, and winter storms.

Although most homeowner's insurance policies do not cover a property for flood damage, an owner can insure a building for damage by surface flooding through the National Flood Insurance Program. **Flood insurance** coverage is provided for buildings and their contents damaged by a "general condition of surface flooding" in the area.

**Goal:** To have a flood study of the County conducted and the area evaluated for NFIP designation.

**Action:** Request to FEMA that a flood study be done to have this area evaluated under the National Flood Insurance Program.

**Specific Hazard(s) Addressed:** Flooding

**Specific Vulnerable Areas:** Tahquamenon River and tributaries; Two Hearted River and tributaries; Sage River and tributaries; Dollarville Dam; E. Br. Fox River; Manistique Lake; N. Manistique Lake; Muskallonge Lake

**Responsible Agencies:** Luce Co. Board; Luce Co. OEM; Municipalities

**Costs:** Staff time to correspond with FEMA, evaluation of County's watershed, digitizing into GIS system

**Benefits:** Ability to obtain flood insurance. Current layer of geographic information to add to the GIS system.

**Schedule for Completion:** 1 to 3 years

**Potential Funding Sources:** FEMA – HMGP; Local

**Issue 7:** Improve Railroad Crossings

**Goal:** To reduce risks of accidents as much as possible.

**Action:** Improve dangerous railroad crossings, Victoria Way in particular.

**Specific Hazard(s) Addressed:** Transportation Accidents, Hazardous Materials Transportation Accidents

**Specific Vulnerable Areas:** County – railroad grade; Village of Newberry – railroad spur to industrial park/Victory Way; Hwy. M-28; Hwy. M-123

**Responsible Agencies:** Luce Co. OEM, MDOT, Luce Co. Road Commission, Canadian National Railroad

**Costs:** Equipment purchase, consultants, engineers, staff time, meetings, training, planning

**Benefits:** Improved safety on transportation infrastructure. Improved community confidence in government.

**Schedule for Completion:** 1 to 3 years, Ongoing

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

### **Issue 8: Upgrade/Install Warning Sirens**

Threat recognition is most important. The first step in responding to a severe winter storm, thunderstorm, tornado, flood, or other natural hazard is knowing when weather conditions are such that an event could occur. With a proper and timely threat recognition system, adequate warnings can be disseminated

The National Weather Service issues notices to the public using two levels of notification:

*Watch:* conditions are right for thunderstorms, tornadoes or winter storms, wildfires or flooding.

*Warning:* a flood, tornado, etc. has started or has been observed.

A more specific warning may be disseminated by the community in a variety of ways. The following are the more common methods:

- Outdoor warning sirens
- Sirens on public safety vehicles
- Commercial or public radio or TV stations
- The Weather Channel
- Cable TV emergency news inserts
- Telephone trees/mass telephone notification
- NOAA Weather Radio
- Tone activated receivers in key facilities
- Door-to-door contact
- Mobile public address systems

Multiple or redundant systems are most effective – if people do not hear one warning, they may still get the message from another part of the system. Each has advantages and disadvantages:

Radio and television provide a lot of information, but people have to know when to turn them on.

NOAA Weather Radio can provide short messages of any impending weather hazard or emergency and advise people to turn on their radios or televisions, but not everyone has a Weather Radio.

Outdoor warning sirens can reach many people quickly as long as they are outdoors. They do not reach people in tightly-insulated buildings or those around loud noise, such as at a factory, during a thunderstorm, or in air conditioned homes. They do not explain what hazard is coming, but people should know to turn on a radio or television.

Automated telephone notification services are also fast, but can be expensive and do not work when phone lines are down. Nor do they work for unlisted numbers and calling screener services, although individuals can sign up for notifications.

Where a threat has a longer lead time, going door-to-door and manual telephone trees can be effective.

The Luce County Office of Emergency Management provides emergency and disaster early warning information on a request basis to special needs populations. There is a siren located in the Village of Newberry and on Columbus Township Fire Hall which is used mainly for fires. (See Map16 - Siren Location) With the numerous campgrounds throughout the County, additional siren coverage would be beneficial to area residents and visitors.

**Goal:** To ensure the County has the ability to provide early adequate warning.

**Action:** Make sure the siren coverage is adequate.

**Action:** Identify areas that need better coverage.

**Specific Hazard(s) Addressed:** Severe Weather, Flooding, Wildfire, Public Health Emergencies, Civil Disturbances

**Specific Vulnerable Areas:** County-wide

**Responsible Agencies:** Luce Co. OEM; Critical Facility Owners; DNR

**Costs:** Salary and benefits of any additional staff. Consultant fees to determine needs that would adequately address the County. Equipment purchase, installation, maintenance and recurring costs. Training costs associated with new equipment and software.



**Benefits:** Provides a more improved and reliable method for early warning to citizens and visitors in the County. Early warning and advance notice allows citizens to engage in protective actions. Improved community confidence in government.

**Schedule for Completion:** 2 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

### **Issue 8: Improve EAS System**

The Luce County OEM is responsible for disseminating warning information to the public and notifying response personnel during an emergency. Once a threat is perceived, the County's 911 dispatch center transmits the warnings to these offices, as well as schools, hospitals, government offices, business, and the general public through the following systems:

The Emergency Alert Radio System (EARS) is a tone alert system designed to provide weather watch and warning information to schools, hospitals, government offices, business, and the general public.

The Emergency Alert System (EAS) is a national warning system that utilizes broadcast radio and television stations and local cable televisions systems. In Luce County, the EAS works closely with radio stations WNBX (AM-1420, FM-93.7) and TV stations WWUP 9&10, WGTQ 29&8, WTOM 7&4.

**Severe Winter Storms:** The National Weather Service (NWS) is the prime agency for predicting winter storms. Though more difficult, the NWS can also forecast ice storms. They have completed a major modernization program designed to improve the quality and reliability of weather forecasting. The keystone of this improvement is Doppler Weather Surveillance Radar, which can more easily detect severe weather events that threaten life and property – including severe winter weather events such as snowstorms. Most important, the lead time and specificity of warnings for severe weather have improved significantly. Severe snowstorms can often be forecasted days in advance of the expected event, which allows time for warning and preparation.

The State and local government agencies are warned via the Law Enforcement Information Network (LEIN), National Oceanic and Atmospheric Administration (NOAA) weather radio, and the Emergency Managers Weather Information Network (EMWIN). Public warning is provided through the Emergency Alert System (EAS). The National Weather Service stations in Michigan transmit information directly to radio and television stations, which in turn pass the warning on to the public.

**Tornadoes and Thunderstorms:** The National Weather Service again, is the prime agency for detecting meteorological threats, such as tornadoes and thunderstorms. Severe weather warnings are transmitted through the Michigan State Police's Law Enforcement Information Network (LEIN) and through the NOAA Weather Radio System. The Federal agency can only look at the large scale, e.g., whether conditions are appropriate for formation of a tornado. For tornadoes

and thunderstorms, local emergency managers can provide more site-specific and timely recognition by sending out National Weather Service trained spotters to watch the skies when the Weather Service issues a watch or warning.

**Action:** To improve EAS system.

**Specific Hazard(s) Addressed:** Severe Weather, Flooding, Wildfire, Public Health Emergencies, Civil Disturbances

**Specific Vulnerable Areas:** County-wide

**Responsible Agencies:** Luce Co. OEM; Critical Facility Owners

**Costs:** Salary and benefits of any additional staff. Consultant fees to determine needs that would adequately address the County. Equipment purchase, installation, maintenance and recurring costs. Training costs associated with new equipment and software

**Benefits:** Provides a more improved and reliable method for early warning to citizens and visitors in the County. Early warning and advance notice allows citizens to engage in protective actions. Improved community confidence in government.

**Schedule for Completion:** 2 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

#### **Issue 10:** Warning sensors for creeks and rivers

**Floods:** A flood threat recognition system predicts the time and height of the flood crest. This can be done by measuring rainfall, soil moisture, and stream flows upstream of the community and calculating the subsequent flood levels.

In the absence of a gauging system on small streams, the best threat recognition system is to have local personnel monitor rainfall and stream conditions. While specific flood crests and times will not be predicted, this approach will provide advance notice of potential local or flash flooding

**Goal:** To incorporate rain/stream gauges for early warning of flooding.

**Action:** Update Dam Failure plan.

**Action:** Recruit volunteers to be trained to monitor areas of concern.

**Action:** Purchase stream gauges and place at areas of concern.

**Specific Hazard(s) Addressed:** Flooding

**Specific Vulnerable Areas:** Tahquamenon River, Big Manistique Lake

**Responsible Agencies:** Luce Co. OEM; DNR

**Costs:** Consultant's fees in determining equipment needed. Equipment purchase, installment and maintenance. Volunteer recruitment and training.

**Benefits:** Earlier warning of potential flooding allowing protection of property. Improved confidence in local government.

**Schedule for Completion:** 1 year

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

### **Issue 15: Public Education Program**

Just as important as issuing a warning is telling people what to do. A warning program should have a public information aspect. People need to know the difference between a tornado warning (when they should seek shelter in a basement) and a flood warning (when they should stay out of basements). Information on emergency shelters, protective measures, safety equipment should also be made available to the public.

**Goal:** To provide the public with information on hazards, warnings, shelters, protection measures, etc.

**Action:** Information about shelters should be made known for the citizens and the visitors who are traveling through the area.

**Action:** Educate public on meaning of warning siren.

**Action:** Improve public awareness on newly started Red Cross program and other actions citizens can take in protecting themselves from hazards.

**Action:** Keep public informed of dangers and locations of emergency shelters, safety phones, emergency response vehicles.

**Specific Hazard(s) Addressed:** All Hazards

**Specific Vulnerable Areas:** County-wide

**Responsible Agencies:** Luce Co. OEM; Red Cross; Private Citizens

**Costs:** Staff time, meetings, planning, training, information dissemination.

**Benefits:** Increased community confidence in government. Increased public awareness and better property protection.

**Schedule for Completion:** Ongoing

**Potential Funding Sources:** FEMA – HMGP; Local

**Issue 16:** Protection of Critical Assets from natural hazards

**Goal:** To assess critical assets and incorporate and encourage known preventative measures to protect the property.

**Action:** Create a standard checklist to evaluate a property's exposure to damage from the hazards most prevalent in Luce County: winter storms, wildfire, high winds, lightning, hail, flooding, and power losses from downed lines. It should include a review of insurance coverage and identify where more information can be found on appropriate property protection measures. The checklist should be provided to each agency participating in this planning process and made available to the general public.

**Action:** Each public entity should evaluate its own properties using the standard checklist. A priority should be placed on determining critical facilities' vulnerability to damage and whether public properties are adequately insured.

**Action:** Each public entity should protect its own publicly-owned facilities with appropriate mitigation measure(s), such as lightning rods, better drains etc.

**Action:** Public education materials should be developed to explain property protection measures that can help owners reduce their exposure to damage by natural hazards and the various types of insurance coverage that are available.

**Specific Hazard(s) Addressed:** Severe Winter Weather, Thunderstorms, Lightning, Hail, High Winds, Structural Fires, Flooding

**Responsible Agency:** Luce Co. Office of Emergency Management, Local municipalities, EUP Regional Planning

**Cost:** Staff time, training, travel, studies/ consultants, information dissemination

**Benefits:** Maintain quality of community through sound structure and protected property values.

**Schedule for Completion:** Annually

**Anticipated Funding Source:** FEMA – HMGP; County general funds

**Issue 13: Improve storm water drain**

**Goal:** To make area of Vulcan St. and McMillan Ave. safer by reducing flooding/erosion problems

**Action:** Purchase property around the ditch and fence in to make safer.

**Action:** Work with Road Commission and engineers to address the flooding and erosion issue.

**Specific Hazard(s) Addressed:** Flooding, Erosion, Accidents

**Specific Vulnerable Areas:** Village of Newberry, McMillan Township

**Responsible Agencies:** Newberry Village, McMillan Twp., Luce Co. OEM; Luce Co. Road Commission

**Costs:** Engineering, consultants, property acquisition, fencing supplies and construction, culvert replacement

**Benefits:** Safety to the neighborhood, less erosion of property, more improved storm water system. Improved confidence in local government.

**Schedule for Completion:** 1 to 2 years

**Potential Funding Sources:** FEMA – HMGP, PDMP; Local

