

## Chapter 8

General recommendations appear at the end of Chapters 4 – 7 for each of the goals set by Chippewa County. 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.

The Hazard Analysis Committee applied the criteria to the general recommendations and determined specific action items to take, which hazards this action would mitigate, which department or municipality would be responsible, identified costs and benefits, established a timeline to undertake the action and identified potential funding sources.

The next two chapters consist of Action Items that may be considered FEMA eligible or FEMA non-eligible projects. Chapter 8 lists those projects the Hazard Analysis Committee believes would be eligible for FEMA funding. Chapter 9 list the projects that the Hazard Analysis Committee would like to implement but may not be eligible for FEMA funding. All of the action items can be tied to the listed goals and guidelines and the recommendation(s) in Chapters 4 – 7. The recommendations and the discussions in the earlier chapters provide more background and direction on these action items.

Several action items refer to the Hazard Planning Mitigation Committee. A plan is worthless if there is no instrument for ensuring that it is carried out. In Chapter 10 Administrative Action Items are identified with the creation of a permanent Hazard Planning Mitigation Coordinating Committee. The Committee's proposed responsibility would be to monitor the implementation of the *Plan*, report to the County Board and municipalities on its progress, and recommend revisions to this *Plan* as needed. .

### **Program Action Items –**

#### **Eligible FEMA Funded Action Items/Projects**

##### **Action Item 1: Warning Sensors for Rivers**

Review the gauging network to determine if additional rain and stream gauges are necessary. Seek funding to purchase the best equipment available.

*Specific Vulnerable Areas:* Waishkey River and Branches – near W. 6 Mile Road and Hwy. M-28; Pine River - Prairie Rd. and Mackinac Trail; Charlotte River – near Lower Hay Lake Rd., Hwy. M-129; Munuscong River – near Riverside Dr., Main Street/Gogomain Rd. Pickford; Tahquamenon River – near Hwy M-123

*Specific Hazard(s) Addressed:* Riverine Flooding, Transportation Accidents, Infrastructure Failure

*Responsible Agencies:* County Office of Emergency Services, Local Municipalities with rivers/streams, National Weather Service

*Cost:* Consultant/Engineering fees to determine equipment needed and best placement. Equipment purchase, installation, maintenance and recurring costs. Staff/Volunteer time for monitoring and training.

*Benefits:* Early warning of potential flooding to provide for possible evacuation of buildings and residences or traffic re-routing due to road closures caused by flooding.

*Anticipated Funding Source:* County general funds, Local funds, grant opportunities through FEMA – HMGP, PDMP

*Timeline:* December, 2006

## **Action Item 2: Snow Fences for State/County Roads**

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

*Specific Vulnerable Areas:* Interstate I-75 – W. 6 Mile Rd. area, W. 10 Mile Rd. area, Mackinac Trail area; Hwy. M-28 - 7.5 Mile stretch between I-75 and M-221; Hwy M-123- 6 Mile stretch north of Curley Lewis Highway, along open shore areas; Hwy. M-48 east of Hwy. M-129; Hwy. M-129 – 5 Mile Rd. to 10 Mile Rd.; Hwy M-134 – along open shore areas west of DeTour Village.

*Specific Hazard(s) Addressed:* Severe Winter Weather, Land Transportation Accidents, Hazardous Materials Transportation Accidents

*Responsible Agency:* Chippewa Co. Office of Emergency Services, Road Commission, EUP Regional Planning, Local municipalities, MDOT

*Cost:* 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.

*Anticipated Funding Source:* Local; FEMA – HMGP, PDMP; MDOT Transportation Enhancement

*Timeline:* December, 2006

### **Action Item 3: Lightning Protection**

*Specific Vulnerable Areas:* Kinross Twp. Waste-Water Treatment Facility; Communication Towers – Pickford Twp., Soo Twp.

*Specific Hazard(s) Addressed:* Thunderstorms, Infrastructure Failure

*Responsible Agencies:* Critical facility owners, Chippewa Co. Office of Emergency Services, Local municipalities

*Cost:* Staff time, training, travel, studies/ engineers and consultants

*Benefits:* Provide protection measures to ensure operability and functionality during severe weather emergencies.

*Anticipated Funding Source:* Facility owners and operators, County general fund, FEMA – HMGP, PDMP

*Timeline:* December, 2007

### **Action Item 4: Backflow Prevention Valves**

*Specific Vulnerable Areas:* City of Sault Ste. Marie, Kinross Twp., Village of Rudyard, Brimley, DeTour Village

*Specific Hazard(s) Addressed:* Flooding, Infrastructure Failure, Public Health Emergencies

*Responsible Agencies:* Critical facility owners, Chippewa Co. Office of Emergency Services, Health Department, Local municipalities

*Cost:* Staff time, training, travel, studies/ engineers and consultants

*Benefits:* Provide protection measures to ensure operability and functionality.

*Anticipated Funding Source:* Facility owners and operators, County general fund, FEMA – HMGP, PDMP

*Timeline:* December, 2007

### **Action Item 5: Bury Utility Lines**

*Specific Vulnerable Areas:* County-wide

*Specific Hazard(s) Addressed:* Thunderstorms, Infrastructure Failure, High Winds, Severe Winter Weather

*Responsible Agencies:* Critical facility owners, Chippewa Co. Office of Emergency Services, Local municipalities

*Cost:* Staff time, training, travel, studies/ engineers and consultants

*Benefits:* Provide protection measures to ensure operability and functionality during severe weather emergencies.

*Anticipated Funding Source:* Facility owners and operators, County general fund, FEMA – HMGP, PDMP

*Timeline:* December, 2007

### **Action Item 6: Storm Water Detention Basin**

*Specific Vulnerable Areas:* **Kinross Charter Township** - Access road around the runway at the Chippewa County International Airport

*Specific Hazard(s) Addressed:* Flooding, Environmental Contamination, Infrastructure Failure

*Responsible Agency:* Critical facility owners, Chippewa Co. Office of Emergency Services, Local municipality

*Cost:* Engineer/Consultants, staff time, construction

*Benefits:* Maintain access to all parts of airport during and following storms; prevent contaminated drainage from entering red pine plantation; prevent soil erosion and scouring as a result of runoff. Reduce flooding/erosion of roads.

*Anticipated Funding Source:* FEMA-HMGP, PDMP, Local, Private

*Timeline:* December, 2007

### **Action Item 7: Culvert Replacement**

*Specific Vulnerable Areas:* In **Rudyard Township** - area at the intersection of Main Street and Mackinac Trail in the community of Rudyard

*Specific Hazard(s) Addressed:* Flooding, Environmental Contamination, Infrastructure Failure

*Responsible Agency:* Chippewa Co. Road Commission, Chippewa Co. Office of Emergency Services, Local municipality

*Cost:* Engineer/Consultants, staff time, construction

*Benefits:* Provide adequate culvert and drainage structure to prevent flooding and storm water runoff.

*Anticipated Funding Source:* FEMA-HMGP, PDMP, Local, Private

*Timeline:* December, 2007

### **Action Item 8: Retrofit City Buildings & Response Facilities**

*Specific Vulnerable Areas:* City of Sault Ste. Marie – Chippewa Co. War Memorial Hospital, Sault Ste. Marie Fire Department, Sault Ste. Marie Water and Sewer Facility

*Specific Hazard(s) Addressed:* Flooding

*Responsible Agency:* Critical facility owners, Chippewa Co. Office of Emergency Services, Local municipality

*Cost:* Engineer/Consultants, staff time, construction

*Benefits:* Reduce property damage caused by flooding by enhancing drains.

*Anticipated Funding Source:* FEMA-HMGP, PDMP, Local, Private

*Timeline:* December, 2007

### **Action Item 9: Acquire Flood-prone NFIP Properties**

*Specific Vulnerable Areas:* City of Sault Ste. Marie, Bay Mills Township, Bruce Township, DeTour Township, Drummond Island Township, Raber Township, Superior Township, Whitefish Township

*Specific Hazard(s) Addressed:* Flooding

*Responsible Agencies:* Chippewa Co. Office of Emergency Services, Local municipality

*Cost:* Engineer/Consultants, staff time, acquisition costs

*Benefits:* Reduce property damage caused by flooding.

*Anticipated Funding Source:* FEMA-HMGP, PDMP, Local, Private

*Timeline:* December, 2008

**Action Item 10: Insulate Municipal Water Lines**

*Specific Vulnerable Areas:* City of Sault Ste. Marie, Kinross Charter Township, DeTour Village, Village of Rudyard

*Specific Hazard(s) Addressed:* Severe Winter Weather, Extreme Temperatures, and Public Health Emergencies

*Responsible Agencies:* Chippewa Co. Office of Emergency Services, Local municipality

*Cost:* Engineer/Consultants, staff time, materials, labor

*Benefits:* Preventing property damage and potential contamination due to freezing water lines.

*Anticipated Funding Source:* FEMA-HMGP, PDMP, Local, Private

*Timeline:* December, 2008

**Action Item 11: Construct Storm Shelter “Safe Rooms” for Critical Facilities**

*Specific Vulnerable Areas:* Whitefish Township – Community Center, Superior Township – School, Dafter Township - Township Hall

*Benefits:* This project would provide safe emergency shelter for residents and/or visitors to the area in the event of disruption of electrical power, transportation, communications and/or other vital services.

*Specific Hazard(s) Addressed:* Extreme Temperatures, Severe Winter Weather, Fire, Flooding, Subsidence, High Winds, Tornadoes, and Thunderstorms

*Responsible Agency:* Chippewa Co. Office of Emergency Services, Local municipalities, EUP Regional Planning, Red Cross

*Cost:* Staff time, construction, engineer, supplies.

*Benefits:* Maximize utilization of existing resources. Validate through study and evaluation of existing resources and planning efforts. Improved emergency response capabilities in each community. Improved community confidence in government.

*Anticipated Funding Source:* County Emergency Services funds, Local funds, FEMA – HMGP, PDMP

*Timeline:* December, 2007