

Project Impact



Hazard Mitigation Plan for Ottawa County

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Executive Summary

The *Project Impact Hazard Mitigation Plan for Ottawa County* was created to protect the health, safety, and economic interests of County residents and businesses by reducing the impacts of natural hazards through hazard mitigation planning, awareness, and implementation. The plan serves as the foundation for Project Impact hazard mitigation activities and actions within Ottawa County. It is hoped that implementation of the proposed actions will reduce loss of life, destruction of property, and economic losses due to hazards.

This plan employs a broad perspective in examining multi-hazard mitigation activities and opportunities in Ottawa County. Emphasis is placed on hazards which have resulted in threats to the public health, safety and welfare, as well as social, economic and physical fabric of the community. The plan addresses the hazards which were discussed in detail and ranked in order of potential severity in the *Ottawa County Natural Hazard Analysis*.

In addition to a description of each proposed mitigation activity, the *Project Impact Hazard Mitigation Plan for Ottawa County* outlines how Ottawa County Project Impact intends to allocate funding toward hazard mitigation in the County. In the plan, a total of \$414,846.00 has been budgeted for mitigation projects. The amount of funding allocated toward each hazard category is as follows:

Overall Hazard Mitigation Actions	\$ 36,100
Severe Winter Weather	\$ 2,000
Riverine & Urban Flooding	\$164,942
Windstorms	\$ 250
Tornadoes	\$ 32,701
Wildfires	\$100,453
Shoreline Flooding & Erosion	\$ 10,000
<u>Dam Failure Flooding</u>	<u>\$ 68,400</u>
Total	\$414,846

Of the \$414,846 intended for mitigation projects, \$217,477 will be provided by the Federal Emergency Management Agency Project Impact grant that was awarded to Ottawa County in April of 1999. The remaining \$197,369 necessary for the mitigation actions comes from local contributions. These local contributions are comprised of \$116,719 in cash contributions from public (non-federal) and private sources and \$80,650 in the form of in kind services from public and private sources. However, if the proposed partnerships do not generate the anticipated local funding, the budget will be adjusted to reflect the actual amount of partnership contributions. Because the minimum local contribution required by the grant is \$100,000, either in cash or in kind service contributions, there is room for adjustment.

Besides funding associated with mitigation projects, an additional \$88,288 has been budgeted to cover administrative costs for Ottawa County Project Impact. This brings the total Ottawa County Project Impact budget to \$503,134.

It is the expectation of Ottawa County Project Impact that this plan will provide a path toward continuous, proactive reduction of vulnerability to hazards which result in repetitive and oftentimes severe social, economic and physical damage. The ideal end state is full integration of hazard mitigation concepts into day-to-day government and business functions and management practices.

Introduction

Natural hazard mitigation is any action taken before, during, or after a disaster to permanently eliminate or reduce the long-term risk to human life and property from natural hazards. It is an essential element of emergency management and planning, along with preparedness, response, and recovery. There is a cyclical relationship between the four phases of emergency management. A community prepares for a disaster, and then responds when it occurs. Following the response, there is a transition into the recovery process, during which mitigation measures are evaluated and adopted. This, in turn, improves how prepared a community is for the next incident, and so on. When successful, mitigation will lessen the impacts of hazard events to such a degree that succeeding incidents will not become disasters.

Hazard mitigation strives to reduce the impact of hazards on people and property through the coordination of resources, programs, and authorities so that communities do not inadvertently contribute to the increasing severity of the problem by allowing potentially hazardous development to occur without consideration of emergency management concerns. Through a combination of regulatory, administrative, and engineering approaches, losses can be limited by reducing susceptibility to damage. Hazard mitigation provides the mechanism by which communities and individuals can break the cycle of damage, reconstruction, and damage again.

The *Project Impact Hazard Mitigation Plan for Ottawa County* proposes a variety of multi-hazard mitigation activities. Emphasis has been placed on hazards which have had a significant impact on the County in the past, and those foreseen to have potential significant impact in the future. The planning process followed in the development of this plan consisted of the following steps:

- 1) Identification of hazard and risks in the *Ottawa County Natural Hazard Analysis*.
- 2) Identification of alternative mitigation actions to address the hazard problems.
- 3) Selection of the proposed mitigation actions based upon cost, feasibility, equitability, and ability to mitigate potential damages.

The *Project Impact Hazard Mitigation Plan for Ottawa County* begins with a description of “Overall Hazard Mitigation Actions” to be carried out in the Project Impact initiative. The proposed actions in this section are those which are not hazard specific. Many of the actions described in this section involve providing information to the public on how prepare for, and prevent, damage and injury from natural hazards.

Following the first section, mitigation actions are listed by hazard, beginning with the hazards determined in the *Ottawa County Natural Hazard Analysis* to pose the greatest threat to the residents of the County, and ending with the hazards determined to pose the least threat. The order of the hazards is as follows: 1) severe winter weather, 2) riverine & urban flooding, 3) windstorms, 4) tornadoes, 5) wildfires, 6) public health emergencies, 7) thunderstorm hazards, 8) shoreline flooding & erosion, 9) extreme temperatures, 10) dam failure flooding, 11) drought, and 12) earthquakes.

In this mitigation plan, the following information has been provided for each proposed mitigation action:

- *Situation/Need*: explains why the proposed activity is necessary
- *Benefits*: explains the foreseen benefits of the proposed activity
- *Costs*: explains the costs associated with the proposed activity
- *Proposed Partners*: lists the potential agencies, local units of government, business, and individuals that will partner with Ottawa County Project Impact to provide either financial, in kind, educational, or other support to carry out the proposed activity
- *Proposed Time Frame*: states the intended time in which the proposed activity will occur
- *Description of Project*: provides a brief overview of the proposed activity.

Although mitigation actions have been proposed for most natural hazards, there are not specific actions for every hazard. Those hazard for which no specific actions were planned include: public health emergencies, thunderstorm hazards, drought and earthquakes. However, all of these hazard will be addressed indirectly by actions proposed in the “Overall Hazard Mitigation Actions” section.

It is the hope of the Ottawa County Project Impact initiative that the many benefits to be realized from this mitigation effort, including protection of the public health and safety, prevention of property damage, preservation of essential services, and protection of the local economic base, will help ensure that Ottawa County remains a vibrant, safe, and enjoyable place in which to live, raise a family, and conduct business, despite what natural events occur in the years to come.

Overall Hazard Mitigation Actions

Proposed Activity:

Distribute *Ottawa County Natural Hazard Analysis* to local units of government, local libraries, schools, and partners

Situation/Need:

In order for a community to thoroughly prepare for hazards, it is necessary to understand what hazards could potentially impact the community. The *Ottawa County Natural Hazard Analysis* provides the foundation upon which to build emergency planning efforts. However, this document is useless unless people have access to it. Therefore, it is important to distribute this document so that is available as a reference resource and planning tool for communities, businesses, and individuals.

Benefits:

The *Ottawa County Natural Hazard Analysis* identifies and describes the hazards which pose the greatest threat to the people of Ottawa County. This identification should assist planners, emergency management officials, political officials and citizens in their decisions of how to prepare for and prevent future hazard events. This also allows political officials and others to set priorities for resource allocation for response, recovery, and mitigation activities prior to the occurrence of a natural hazard incident.

Costs:

Total Cost: \$600.00

(Federal Grant = \$600.00; Contribution Local/Public = 0; In Kind Services = 0)

Copies	130 pages @ \$0.032 = \$4.16 each x 78 copies	= \$324.48
Card Stock	1 package @ \$9.73 = \$9.73	= \$9.73
Binders	1 package @ \$6.40 = \$6.40	= \$6.40
Envelopes	1 package @ \$25.00 = \$25.00	= \$25.00
Postage	78 copies @ \$2.97 each	= \$231.66
		= \$597.27

Proposed Partners:

None

Proposed Time Frame:

Summer and Fall 2000

Description of Project:

The *Ottawa County Natural Hazard Analysis* will be distributed to Project Impact partners, local units of government, schools and libraries in Ottawa County.

Proposed Activity:

Provide Project Impact, *Ottawa County Natural Hazard Analysis*, and hazard preparation/mitigation information on the Ottawa County web site

Situation/Need:

Many people who live and work in Ottawa County are not aware of the natural hazards that can occur here or how to prepare for these hazards. Although the *Ottawa County Natural Hazard Analysis* will be distributed to local units of government, libraries, schools and Project Impact partners, we recognize that this method of information distribution will only reach a small audience. The Internet is possibly the best method available for disseminating accurate, timely, reliable information to a vast audience, in a very short time.

Benefits:

Posting this information on the Ottawa County web site will provide information about specific local natural hazards and preparedness, including a history of natural disasters that have occurred in Ottawa County, to a number of people. The Internet is an inexpensive method of ensuring that the natural hazard analysis is accessible to a large number of people in Ottawa County and elsewhere.

Costs:

There are no direct costs associated with this activity.

Proposed Partners:

None

Proposed Time Frame:

Fall 2000

Description of Project:

The first section of the web site will provide a brief description of Project Impact and a link to the FEMA Project Impact web site. However, the primary content of the site will be the *Ottawa County Natural Hazard Analysis*, which cover subjects such as flooding, drought, fires, blizzards, hail storms, lightning, tornadoes, dam failures, and high wind events. This site will also provide phone numbers and links to other sources of information about disaster mitigation, public education, planning and response.

Proposed Activity:

Provide Project Impact and emergency preparedness information in local telephone books

Situation/Need:

Not all residents of Ottawa County are aware of the natural hazards they face or of simple emergency preparation activities such as how to create an emergency action plan, how to evacuate their home or business, what to do if sheltering in place is necessary, and what should be included in a disaster supplies kit.

Benefits:

Nearly every home and business in Ottawa County receives a phone book. Therefore this is an excellent method for distributing information to the public. By putting information about Project Impact and disaster preparation in the phone book, people have a handy reference. With this reference, more people in Ottawa County will be better prepared should an emergency situation arise.

Costs:

Total Cost: \$29,000 (Ameritech)
(Federal Grant = 0; Contribution Local/Public = 0; In Kind Services = \$29,000)

Ottawa County Project Impact will partner with Ameritech to provide an in kind service. The value of this service from Ameritech is \$29,000.00.

McLeod USA has been approached about a partnership, although no value of service has been determined at this time.

Proposed Partners:

Ameritech, McLeod USA

Proposed Time Frame:

Ameritech - June 2000
McLeod USA - May 2001

Description of Project:

Ameritech:

Ottawa County Project Impact will partner with Ameritech to include a two page feature on Project Impact and emergency preparation in the "Community Living" section of the Ameritech Holland/Zeeland Area directory which will be published in June, 2000.

McLeod USA:

Ottawa County Project Impact will partner with McLeod USA to provide emergency preparation tips and information resources, such as American Red Cross-Ottawa County and Ottawa County Emergency Management, in the phone directory that serves Ottawa County. This directory will be published in May 2001.

Proposed Activity:

Partner with local newspapers to create hazard preparation/mitigation supplement

Situation/Need:

Various natural hazards can impact the people who live and work in Ottawa County. However, not all residents are aware of these hazard or how to prepare for, or reduce damage and injury from these hazards.

Benefits:

A newspaper supplement will reach a large portion of Ottawa County's population and be able to provide extensive information on a variety of topics, including what types of disasters can occur in Ottawa County, how to prepare a family disaster supply plan, what to assemble in a 72-hour family survival kit, the differences between severe weather "watches" and "warnings", special considerations for people with special needs in a disaster, how to prepare for the care of pets in an emergency, emergency services provided in the County, the National Flood Insurance Program, how to help prevent wildfires, and more.

Costs:

There are no direct costs to Ottawa County Project Impact associated with this project. The value of the in kind service may be determined at a later time.

Proposed Partners:

Holland Sentinel, The Lakeshore Press, Grand Haven Tribune

Proposed Time Frame:

Fall 2000 or Spring 2001

Description of Project:

Ottawa County Project Impact will partner with local newspapers to publish a supplement dedicated to articles on the subject of natural hazard preparation and mitigation. Ottawa County Project Impact will submit ideas and resources to the newspapers, and the papers' writers will write the articles. Local business and industry that advertise in the supplement will cover the costs associated with production of the supplement.

Proposed Activity:

Partner with local TV station to show Project Impact public service announcement (PSA) and to create severe weather and other natural hazard PSAs

Situation/Need:

Not all residents of Ottawa County are aware of the potential threats from severe weather, how to respond in a natural hazard emergency situation, or what they can do to mitigate potential damages.

Benefits:

These are a number of advantages to partnering with a television station for severe weather awareness public service announcements. These include: 1) the ability to inform the public of potential hazards; 2) a TV station personality will provide credibility; 3) a TV station has the equipment and means to develop professional PSA and can provide air time.

Costs:

There are no direct costs to Ottawa County Project Impact associated with this project. FEMA has already supplied the Project Impact PSA at no cost, and the value of the in kind service will be determined once a TV media partnership has been established.

Proposed Partners:

WOOD TV8 (NBC) - Grand Rapids, WZZM (ABC) - Grand Rapids, WWMT (CBS) - Kalamazoo, WGVU (PBS) - Grand Rapids.

Proposed Time Frame:

PSAs will be relevant to the hazards associated with a particular season. Beginning in the fall of 2000, PSAs describing severe winter weather hazards such as snow and ice will be shown. In the spring and summer of 2001, station will air announcements on topics such as lightning, strong winds, tornadoes, and flooding.

Description of Project:

Ottawa County Project Impact will approach local television stations to become Project Impact partners. First, we will request that the station broadcast the Project Impact PSA which has already been provided by FEMA. This will help to spread the word about Project Impact. Next, Ottawa County Project Impact will then work together with the station to develop content for the PSAs. The TV station will then create and broadcast the PSAs.

Proposed Activity:

Partner with grocery stores to put hazard preparation/mitigation tips on grocery bags

Situation/Need:

Not all residents of Ottawa County are aware of the potential threats from severe weather, how to respond in a natural hazard emergency situation, or what they can do to mitigate potential damages.

Benefits:

By making hazard preparation and mitigation information readily available on grocery bags, the public will be better informed of the types of hazards they face in Ottawa County, and how to take actions to prevent damage from these hazards.

Costs:

There are no direct costs associated with this project.

Grocery stores do not charge a fee to place a public service message on a grocery bag. Placement of an announcement is based on availability of space (first come, first serve basis) and the approval of the store corporate office.

Proposed Partners:

D & W Food Centers, Family Fare, Meijer, American Red Cross-Ottawa County.

Proposed Time Frame:

Beginning fall of 2000 through summer of 2001. Select topics to be on bags based upon seasonal threats. Also, placement of message on a bag is on a first come first serve basis, so arrangements must be made several months in advance.

Description of Project:

Ottawa County Project Impact and the American Red Cross-Ottawa County will submit season specific hazard preparation/mitigation information to grocery stores. If approved, the grocery store will print message on grocery bags.

Proposed Activity:

Distribute hazard preparation/mitigation information at home shows, county fairs, festivals, community events, Ottawa Shores Humane Society, etc.

Situation/Need:

Not all residents of Ottawa County are aware of the potential threats from severe weather, how to respond in a natural hazard emergency situation, or what they can do to mitigate potential damages.

Benefits:

By distributing brochures and other hazard preparation and mitigation materials at public events, Ottawa County Project Impact may be able to reach an audience that might otherwise be overlooked.

Costs:

Total Cost: \$3000.00

(Federal Grant = \$2000.00; Contribution Local/Public = \$1000.00; In Kind Services = 0)

Cost of American Red Cross brochures	(per 25 brochures):	(per 1800 brochures)
Flood	\$ 1.50	
Disaster Supplies Kit	\$ 1.65	
Are You Ready for a Fire	\$ 1.80	
Food & Water in an Emergency	\$ 1.80	
Tornado	\$ 1.90	
Emergency Checklist	\$ 1.93	
Winter Storm	\$ 2.00	
Heat Wave	\$ 2.05	
Thunderstorm	\$ 2.05	
People with Mobility Problems	\$ 2.07	
Pets & Disasters	\$ 4.65	
Guide to Chemical Safety	\$ 5.09	
For Seniors by Seniors	<u>\$12.75</u>	
Total =	\$41.24	x 72 = \$2969.28

Proposed Partners:

Local business and industry, American Red Cross-Ottawa County, Home Builders Association of the Holland Area, Shoreline Builders Home Builders Association, Ottawa Shores Humane Society.

Proposed Time Frame:

Summer 2000 to Spring 2001.

Description of Project:

Ottawa County Project Impact, Ottawa County Emergency Management and the American Red Cross-Ottawa County will staff booths at the Home Builders Association of the Holland Area Spring Home Show at Holland’s Westshore Mall, and other festivals and community events. The booth will display examples of an emergency supply kit and a NOAA weather radio, as well as provide information on home improvement techniques that can help to mitigate against damage from severe weather, and natural hazard safety information .

Proposed Activity:

Host training session for local planners, planning commissioners and CEOs on developing strategies to integrate hazard mitigation into the community comprehensive plan/zoning ordinance process

Situation/Need:

A severe disaster can bring extraordinary hardship to a community’s residents, devastate its economic base, and damage its quality of life for years to come. How a community develops, or redevelops after a disaster, can have a tremendous impact on how the community will be affected by future potential hazard events.

Benefit:

By integrating the emergency management and mitigation function into the planning process, local government can enhance its opportunity to devise and implement strategies for reducing risks from multiple hazards, such as floods, hazardous materials incidents, and other natural and man made disasters, while providing a new and more efficient all hazards approach to emergency management. Hosting a training session on this topic will help ensure that local units of government are aware of and understand the planning recommendations set forth by emergency management professionals.

Cost:

Total Cost: \$950.00
(Federal Grant = \$750.00, Contribution Local/Public = \$200.00, In Kind Services = 0)

Speaker Fee:	\$500.00
(includes transportation)	
Announcement (based on copies/postage for 200):	\$72.40
Course materials:	
236 pages x \$0.032 per copy	= \$ 7. 56 each
2” binder	= \$ 6.50 each
	<hr/>
	\$14.06 each
\$14.06 x 25 people	\$351.50
	<hr/>
	\$923.90

Proposed Partners:

Local business and industry, William Wagoner - Livingston County Department of Planning.

Proposed Time Frame:

Winter 2001

Project Description:

William Wagoner, Livingston County Department of Planning, will provide an intensive, 4-hour, afternoon, interactive presentation of the national award winning *Hazard Mitigation/Comprehensive Plan Interface* course. Mr. Wagoner presents this course annually in a two-day session as part of the Michigan State Police Emergency Management Division Emergency Management Training Curriculum. For Ottawa County, this session will be presented in workshop format, concentrating on the application of the principles of emergency management to the practice of community comprehensive planning. Each workshop participant will receive a copy of *Issues of Public Policy in Emergency Management for Local Communities* brochure, as well as a copy of the course manual in a binder. This course will be held at the Ottawa County Fillmore Street Complex as part of the Ottawa County Planning Commissioner’s Seminar series.

Proposed Activity:

Partner with local banks to create and/or market low-interest loan programs for home improvements that address hazard mitigation

Situation/Need:

Residents in Ottawa County are susceptible to a variety of natural hazards. In some cases, property damage and injury that result from hazard events could be prevented or reduced by home improvements prior to a natural hazard event. However, the needed home improvements may be too costly, or a home owner may need extra incentive to make the home improvements when no immediate need is seen.

Benefits:

With low-interest rate home improvement loans, more Ottawa County residents will be able to take action to reduce property damage and possibly injury. Home improvements such as elevation of homes in flood prone areas, dry flood proofing basements, structural bracing to strengthen against wind damage, and tying down or anchoring manufactured housing could all be carried out under such a loan program.

Costs:

There is no direct cost to Ottawa County Project Impact.

Proposed Partners:

Huntington National Bank, Old Kent Bank, Macatawa Bank

Proposed Time Frame:

Summer 2000 to Spring 2001

Description of Project:

Ottawa County Project Impact will partner with local banks to either establish a new low-interest rate loan program for home improvements, or to market an existing program. One possible loan program for marketing is the Michigan State Housing Development Authority (MSHDA) Property Improvement Program. This program provides low interest home improvement loans to low income people. Some of the allowable home improvements under this program would also help to mitigate property damage from natural hazards.

Proposed Activity:

Upgrade remote weather monitoring system in Ottawa County

Situation/Need:

Residents in Ottawa County are susceptible to a variety of natural hazards. Because Ottawa County is located along the lakeshore, we may have little warning from the National Weather Service of impending storms.

Benefits:

Enhancements to the existing remote weather monitors in Ottawa County will allow for more accurate weather forecasting. Also, enhanced capability will provide more timely warnings for more rapid response times should a severe storm situation arise.

Costs:

Total Cost: \$3,600.00

(Federal Grant = \$3,600.00; Contribution Local/Public = 0; In Kind Services = 0)

Upgrades to 6 weather monitoring stations @ \$600.00 each = \$3,600.00

Proposed Partners:

National Weather Service

Proposed Time Frame:

Spring 2001

Description of Project:

Currently there are six remote weather monitors in Ottawa County. These monitors record and report data on wind speed, wind direction, temperature, rainfall, humidity, and barometric pressure. Ottawa County Project Impact will work with the National Weather Service to decide upon upgrades to these monitors so that they will be capable of reporting additional data.

1. Severe Winter Weather

Proposed Activity:

Partner with local TV station to create severe winter weather public service announcements (PSAs)

Situation/Need:

According to the *Ottawa County Natural Hazard Analysis*, severe winter weather, including heavy snow and ice, poses the greatest potential threat to the greatest number of people in Ottawa County. At the same time, it is a hazard for which little can be done to eliminate the actual hazard. Most severe winter weather hazard mitigation involves people not putting themselves in a position to be harmed during a severe winter weather situation. This includes avoiding driving in the ice and snow unless it is absolutely necessary, staying warm indoors, and avoiding strenuous activities in the cold. For this type of hazard, resources are often best spent on public education to ensure that the public is aware of the dangers associated with severe winter weather and know how to avoid dangerous situations.

Benefits:

Residents of Ottawa County will be more aware of severe winter weather hazards and less likely to receive property damage or injury from winter storm events.

Costs:

Total Cost: \$2000.00

(Federal Grant = 0; Contribution Local/Public = 0; In Kind Services = \$2000.00)

Proposed Partners:

Local media including, WOOD TV8 (NBC) - Grand Rapids, WZZM (ABC) - Grand Rapids, WWMT (CBS) - Kalamazoo, WGVU (PBS) - Grand Rapids

Proposed Time Frame:

Fall 2000

Description of Project:

Ottawa County Project Impact will partner with local television stations to create public service announcements (PSAs) that address natural hazards associated with severe winter weather. Possible topics for the PSAs include: how to avoid snow loading problems for a home or business; how to avoid frostbite or hypothermia; what to do and what not to do in a winter power outage.

2. Riverine & Urban Flooding

Proposed Activity:

Host training session for insurance agents and community planners regarding the benefits of, and compliance with, the National Flood Insurance Program

Situation/Need:

Flood damage occurs on an annual basis in Ottawa County. Property damage from flooding can cost the home or business owner anywhere from a few hundred dollars to several thousand dollars per flood event because flood damage is not covered by homeowner, business or renters insurance. During the heavy rain event of June 20-21, 1997, Ottawa County officials reported 111 homes and 5 businesses received damage, and damages to public facilities exceeded \$665,000 (source: Michigan Department of State Police Emergency Management Division).

And even though nearly every home or business in the County can be covered by flood insurance from the National Flood Insurance Program (NFIP), there are only about 340 flood insurance policy holder in the County. The following myths are partially responsible for lack of flood insurance coverage:

- 1) People assume that their regular property insurance covers flooding;
FACT: Flood damage is not covered by homeowner policies.
- 2) People do not feel that their property is at risk from flooding;
FACT: Nearly everyone lives in a flood zone, even those homes not located next to water.
- 3) People think that the premium for flood insurance is too high;
FACT: There are low cost policies for properties in low to moderate risk areas.
- 5) People believe that federal disaster assistance will pay for any flood damage;
FACT: Federal disaster assistance is only available if the President declares a disaster. This occurs in less than 10 percent of all disasters in the United States.
- 6) People do not know where or how to purchase flood insurance and think it is difficult to get;
FACT: NFIP flood insurance can be purchased from private insurance companies and agents.
- 7) Insurance agents do not know how to offer their clients flood insurance;
FACT: Training is available to teach agents how to write flood insurance policies and how to offer "Write Your Own" policies from other companies.

Many of the mentioned reason for not purchasing flood insurance are based upon lack of understanding about the NFIP. A seminar for local units of government and insurance will help to clear up confusion about the program, and allow attendees to disseminate correct information about the NFIP to their communities and clients.

Benefits:

For Commissioners and Planners:

Although every community in Ottawa County participates in the NFIP, many of these communities joined in the 1970s and 1980s. Current local planning commissioners, supervisors, and mayors may not have been in office when their community joined the NFIP, and therefore may not be aware of the requirements and benefits of the NFIP. Also, this will be a good information session for local planners to teach them about floodplain and stormwater management, especially when the population in Ottawa County is growing at a rapid pace.

For Insurance Agents:

Most insurance agents in Ottawa County do not advertise that the are able to offer flood insurance to their customers. Most likely, many agents do not know how to offer flood insurance to their customers. A training seminar for agents

will teach them about the rules and regulation of the NFIP, how to write a flood insurance policy, where agents can go for policy information and assistance, as well as marketing assistance that is available to them through the NFIP.

For Residents of Ottawa County:

When community leaders and insurance agents take a proactive role in informing the public about the hazards of flooding and the NFIP, they will assist in protecting the residents of Ottawa County against flood losses.

Costs:

Total Cost: \$150.00

(Federal Grant = \$150.00; Contribution Local/Public = 0; In Kind Services = 0)

Announcement			
Copies	250 x \$0.032	= \$	8.00
Postage	250 x \$0.33	= \$	82.50
Seminar			
Copies	200 x \$0.032	= \$	6.40
Miscellaneous		= \$	50.00
Total		= \$	146.90

NFIP representatives Rich Slevin and Guy Matheson and MDEQ representative George Hosek will not charge a speaker fee to present this session.

Proposed Partners:

National Flood Insurance Program Region V representatives Rich Slevin and Guy Matheson, Michigan Department of Environmental Quality Land and Water Management Division (George Hosek, State Coordinator of National Flood Insurance Program), local insurance agents.

Proposed Time Frame:

Winter 2000-2001.

Project Description:

Ottawa County Project Impact will coordinate and host a half-day training session regarding the benefits of, and compliance with, the National Flood Insurance Program. This training session will target two audiences: insurance agents and local planners. The format of the training session will be as follows:

For the first part of the seminar, NFIP representative Rich Slevin or Guy Matheson will present an overview of the NFIP, myths and facts about the NFIP, statistics relating to flooding, and other general information that is of importance to both audiences. Then the audience will divide into two groups, insurance agents and local planners. At this point, the NFIP representative will continue to train the insurance agent on topics such as why they should get involved in the NFIP, how to get involved in the NFIP, policy issues, claims procedures, rating elements, increased cost of compliance, and more. At the same time, George Hosek, State Coordinator of National Flood Insurance Program for the Department of Environmental Quality, will work with the local planners. Mr. Hosek will be able to answer questions they may have regarding mapping and compliance with the NFIP. He will also instruct them on floodplain management regulations and techniques for Michigan.

Proposed Activity:

Assist local units of government that do not have Flood Insurance Rate Maps (FIRMs) to obtain FIRMs, assist other local units of government with FIRM updates

Situation/Need:

All local units of government in Ottawa County participate in the National Flood Insurance Program (NFIP). However, they do not all have FIRMs. Communities that do not have FIRMs participate in the “Emergency Program” of the NFIP. The Emergency Program is the initial phase of a community’s participation in the NFIP and was designed to provide a limited amount of insurance coverage for business and homes in those communities. However, the Emergency Program does not provide many incentives to purchase flood insurance nor to develop a community in a less hazardous manner. In the Emergency Program, all policy holders pay the same premiums and the local government is only required to adopt limited floodplain management requirements to control future uses of its floodplains. The Ottawa County communities that currently participate in the Emergency Program of the NFIP are: Blendon Township, Crockery Township, Jamestown Township, Olive Township, Polkton Township, Robinson Township, Zeeland City, and Zeeland Township.

FIRMs exist for all other local units of government in Ottawa County. However, some maps are in need of updating. These updates may be necessary to reflect changes in hydrology of waterways, changes in, or additions to flood elevations, changes in floodplain boundaries, or the mapping of smaller waterways that were not included on the original maps, yet do result in flooding problems.

Benefits:

FIRMs are designed for flood insurance and floodplain management applications. For flood insurance applications, the map designates flood insurance rate zones and selected base flood elevations. Insurance agents use the zones and base flood elevations, in conjunction with information on structures and their contents, to assign premium rates for flood insurance policies.

With FIRMs, communities are allowed to progress to the “Regular Program” of the NFIP. During the Regular Program, owners of structures in flood hazard areas pay higher premiums than property owners outside of the flood hazard areas, and the local government is required to impose more comprehensive floodplain management requirements. Therefore the Regular Program of the NFIP provides better protection against flood losses for property owners in Ottawa County.

For floodplain management applications, the map shows the 100- and 500- year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations. Therefore, accurate and up to date floodplain maps will provide the communities with a more accurate picture of flood hazards associated with different parts of the County, and local units of government will be better able to adopt ordinances that limit development in the floodplains in their communities.

Costs:

Total Cost: \$86,397.00

(Federal Grant = \$64,798.00; Contribution Local/Public = \$21,599.00; In Kind Services = 0)

According to the Michigan Department of Environmental Quality Land and Water Management Division, the cost to map a potential flood hazard area is approximately \$5000.00 to \$8000.00 per mile, depending on existing topographic and hydrologic information. The Project Impact allocation of \$86,397.00 will allow for the mapping of approximately 10 to 17 miles of flood hazard areas in Ottawa County.

Proposed Partners:

Local units of government, local business and industry, Michigan Department of Environmental Quality Land and Water Management Division, National Flood Insurance Program.

Proposed Time Frame:

Fall-Spring 2000-2001

Project Description:

Ottawa County Project Impact will partner with local units of government, Michigan Department of Environmental Quality, and the National Flood Insurance Program to hire a consultant to develop waterway hydraulics and hydrology, prepare a report of the findings, and delineate the floodplains and elevations on base maps. This information will then be submitted to the National Flood Insurance Program for the creation of FIRMs.

Ottawa County Project Impact will focus mapping efforts in those areas that have a history of flooding but are not yet mapped and on those areas of the County that are mapped, but appear to show inaccurate flood boundary or elevation information. Cooperation and requests for assistance for mapping by the local unit of government will also factor into the decision of where to conduct the mapping studies.

Recently MDEQ received a Hazard Mitigation Grant to conduct floodplain mapping along the Grand River and Macatawa River. It is their intention to provide FEMA and the County with new and updated floodplain maps for the Grand River from Grand Haven to Tallmadge Township, and for the Macatawa River from Lake Macatawa to Section 2 of Zeeland Township. These maps will then be converted by FEMA into FIRMs. All the costs associated with this mapping is covered by the Hazard Mitigation Grant Program funding. Therefore, these areas will not need Project Impact assistance for floodplain mapping.

Proposed Activity:

Assist local units of government with the development of floodplain overlay or other floodplain zoning ordinance and zoning map updates to reflect flood hazard areas

Situation/Need:

Not all communities in Ottawa County have floodplain zoning ordinances. Without these ordinances in effect, it can be more difficult for community officials to regulate development in the potentially harmful floodplains of their communities. Other communities have ordinances, but these ordinance may need to be updated to meet the need of changing populations and land use patterns.

Benefits:

With accurate, up to date floodplain zoning ordinances, local units of government will be better able to guide development in their communities. By regulating development in the floodplains, it is hoped that property loss and injury from flooding will be minimized.

Costs:

Total Cost: \$36,000.00

(Federal Grant = \$27,000.00; Contribution Local/Public = \$9,000.00; In Kind Services = 0)

Consultant fee for zoning ordinance and map update = \$2000 x 18 communities = \$36,000.00

(Zoning ordinance and map updates have been budgeted for 18 communities because a telephone poll of a sampling of communities was taken and it was determined that not all communities would like Project Impact assistance for zoning ordinance or zoning map updates. Several communities already have appropriate ordinances in place to regulate floodplain development.)

Proposed Partners:

Local units of government, planning consultants, local business and industry, Michigan Department of Environmental Quality.

Proposed Time Frame:

Winter to Spring 2001

Description of Project:

Ottawa County Project Impact will partner with local units of government to hire a consultant to create or update floodplain zoning ordinances in participating communities. Where 100-year floodplain boundaries are known, these boundaries will be added to the communities' zoning ordinance maps. The Michigan Department of Environmental Quality will provide guidance for the content of the zoning ordinance.

Proposed Activity:

Assist with funding for the Ottawa County Drain Commission Rose Relief Drain Project

Situation/Need:

Portions of the City of Zeeland and Zeeland Township have a history of flooding. To alleviate some of this flooding, the Rose Relief Drain was constructed. An extension of the Rose Relief Drain is located on private property that is currently under development as the Sundance Estates subdivision in Zeeland Township. Two culverts on this property need to be upsized to accept the water flow from the Rose Relief Drain. If these culverts are not enlarge to handle the excess flow of stormwater, flooding may result in the surrounding area.

Benefits:

Oversizing the two culverts on this property will allow for more water to pass during high water situations. This will help to alleviate flooding in the City of Zeeland and Zeeland Township.

Costs:

Total Cost: \$27,545.00

(Federal Grant = \$10,000.00; Contribution Local/Public = \$17,545.00; In Kind Services = 0)

Sun Park Drive Rose Drain Culvert Oversizing	= \$11,528.00
Future Suntime Drive Crossing Rose Drain Culvert Oversizing	= \$12,424.00
Estimated 15 % of total for inspection and contingencies	= \$ 3,593.00
Total	= \$27,545.00

Proposed Partners:

Ottawa County Office of the Drain Commissioner and the Drainage District assisted by this project (this includes: Zeeland City, Zeeland Township, Ottawa County, Ottawa County Road Commission, and Michigan Department of Transportation)

Proposed Time Frame:

Summer 2000

Description of Project:

Ottawa County Project Impact will provide a portion of the funding to reimburse the developer of Sundance Estates for the cost associated with oversizing two culverts to accept flow from the Rose County Drain. Although the culverts are located on private property, this project is necessary for flood control in the drainage district, which includes the City of Zeeland and Zeeland Township. The drainage district assisted by this project will be assessed for the balance of the cost to oversize the culverts.

Proposed Activity:

Enhance Internet/GIS capability so local units of government can access GIS floodplain maps over the Internet

Situation/Need:

Every year, portions of Ottawa County suffer from flooding. To better address these flood hazards, local units of government need more efficient access to critical decision making information regarding potential flood areas.

Benefits:

The enhanced Internet/GIS application will provide visual, analysis, and reporting capabilities to local units of government in a more efficient manner. Local officials will be able to access this data on their desktops and be able to compare (overlay) various layers of data. This provides a more informed decision making process for the local units.

Costs:

Total Cost: \$15,000.00

(Federal Grant = \$15,000.00; Contribution Local/Public = 0; In Kind Services = 0)

The total cost of this project is based upon consultant estimates.

Proposed Partners:

Local units of government, planning consultants, local business and industry.

Proposed Time Frame:

Spring 2001

Description of Project:

The project is an Internet application developed by Ottawa County's Geographic Information Systems Department (GIS). The GIS department will create the application with data that is currently being developed through various source data collection projects. The GIS Department will then implement the project with training and support for application users.

3. Windstorms

Proposed Activity:

Purchase books, videos, and other educational resources about windstorm damage mitigation for the Ottawa County Planning and Grants Library collection

Situation/Need:

Homes and businesses in Ottawa County are susceptible to damage from severe wind events. The windstorm events of May 31, 1998 demonstrated that a windstorm in the County could cause millions of dollars in damage.

Benefits:

By purchasing books and videos for the Ottawa County Planning and Grants library, local planning officials, builders, home and business owners will have easily accessible information about how to protect structures from possible wind damage.

Costs:

Total Cost: \$250.00

(Federal Grant = \$250.00; Contribution Local/Public = 0; In Kind Services = 0)

\$250.00 has been budgeted for this activity. This should allow the library to purchase approximately five publications or videos for the Planning and Grants Library. Several other wind mitigation materials, including videos and manuals, have already been obtained for free from federal, state, and local resources.

Proposed Partners:

None

Proposed Time Frame:

Fall 2000

Description of Project:

Ottawa County Project Impact funds will be used to purchase wind hazard mitigation videos and publications for the Ottawa County Planning and Grants Library. Experts in the field of wind hazard mitigation will be asked to provide recommendations for what videos and publications to purchase.

4. Tornadoes

Although we cannot prevent natural events such as tornadoes from happening, we can mitigate the potential outcome by providing our citizens with the maximum warning and lead time possible.

Please note that both of the proposed activities listed below also address the issue of windstorms. Several local units of government in Ottawa County have recently agreed to follow a National Weather Service recommendation to sound tornado sirens when conditions exist with “sustained winds of 70 miles per hour or more.”

Proposed Activity:

Assist local units of government with the purchase of equipment to enhance their tornado siren system capabilities to be activated remotely one-way north/south

Situation/Need:

Currently tornado sirens operated by Ottawa County Central Dispatch Authority (OCCDA) are activated on a county-wide basis. This is because in the past the National Weather Service (NWS) has issued warnings for entire counties. However, with new NWS technology, warnings will soon be issued for partial county areas.

When the sirens are activated by OCCDA, each siren must be activated individually, unless it is currently tied into another community’s siren system.

Benefits:

This equipment will allow for two tones on each siren. The first tone will give all jurisdictions with sirens the capability to activate their sirens independently from Ottawa County Central Dispatch Authority (OCCDA). The second tone will allow OCCDA to activate all sirens north of Fillmore Street separately from sirens south of Fillmore Street. (The one exception is that the siren located at Grand Valley State University will be toned with the sirens south of Fillmore Street. This is because storm systems generally move from the southwest to the northeast.) This all north or all south activation capability will increase the speed at which OCCDA is able to activate sirens for the various local units of government in Ottawa County.

The ability to separately activate the sirens north and south of Fillmore Street allows for more accurate notification of a tornado for residents and businesses in the north and south of the County. This will help the eliminate the “cry wolf” effect from occurring when tornado sirens are activated in a part of the County where there is no danger from a tornado in another part of the County.

In addition, integration of the siren systems in Ottawa County will assist with the goal of local emergency management officials to establish a uniform day and time for siren testing in Ottawa County.

Note: The above information does not necessarily apply to the City of Zeeland or Coopersville which, at this time, wish to maintain siren systems independent from OCCDA. However, at this time the cost to these communities has been included in the cost estimates listed below.

Costs:

Total Cost: \$20,501

(Federal Grant = \$15,376; Contribution Local/Public = \$5,125.00; In Kind Services = 0)

Chester Township	\$ 85.00
Coopersville	\$ 4,541.00
Crockery Township	\$ 85.00
Ferrysburg	\$ 2,100.00
Georgetown Township	\$ 808.00
Grand Haven City	\$ 425.00
Grand Haven Township	\$ 2,525.00

Grand Valley State Univ.	\$ 85.00
Holland City	\$ 979.00
Hudsonville	\$ 255.00
Spring Lake Township	\$ 85.00
Zeeland City	<u>\$ 8,528.00</u>
Total	= \$20,501.00

The cost of upgrade to each local unit of government varies with the number and type of sirens operated. The cost for the various upgrade activities is based upon the following:

- Cost to reprogram existing radio equipment = \$ 85.00 per siren
- Cost to reprogram encoder = \$ 128.00 per siren
- Cost to add new one-way radio/receiver/decoder/timer = \$ 2,000.00 per siren

Proposed Partners:

Local units of government that operate tornado sirens. This includes the following: Chester Township, Coopersville, Crockery Township, Ferrysburg, Georgetown Township, Grand Haven City, Grand Haven Township, Grand Valley State University, Holland City, Hudsonville, Spring Lake Township, Zeeland City

Proposed Time Frame:

Fall 2000 - spring 2001

Project Description:

Ottawa County Project Impact will pay for 75 percent of the cost for these communities to upgrade their siren systems, and the local units of government will be responsible for the remaining 25 percent of the cost.

Proposed Activity:

Purchase two-way tornado siren monitoring system for Ottawa County Central Dispatch Authority (OCCDA)

Situation/Need:

Currently, when tornado sirens are tested in Ottawa County, all of these sirens require that spotters be present to determine whether or not the siren sound properly. Also, when a siren is damaged, the malfunction may not become apparent until the siren is tested, or does not sound in the case of an emergency activation.

Benefits:

The principle advantages of two-way status monitoring are:

1. The tornado siren system can be tested as frequently as needed
2. No spotters or outside personnel are required to determine if siren site is functioning
3. If a problem does arise with a siren site covered by two-way status monitoring capabilities, OCCDA personnel should be able to narrow the problem down to one or two areas. This will allow for expedited repairs of the particular siren site
4. When a siren is activated for an emergency situation, OCCDA personnel will be able to tell immediately what the status of the activation is. This is determined through icons which appear on a computer screen after activation indicating that the siren has received the signal and sounded.
5. Many siren problems will be detected immediately rather than two or three weeks later due to the fact that the remote terminal unit (RTU) at each siren site will automatically transmit to the dispatch center if any one of the following events were to occur:
 - a. Loss of AC power for more than 30 seconds
 - b. Problem in the DC backup circuit
 - c. Cabinet intrusion
 - d. Lack of activation during siren test

Note: The above does not necessarily apply to the City of Zeeland or Coopersville which, at this time, wish to maintain siren systems independent from OCCDA.

Costs:

Total Cost: \$12,200.00

(Federal Grant = \$12,200; Contribution Local/Public = 0; In Kind Services = 0)

Equipment required at Ottawa County Central Dispatch (one time purchase)

1 - SS2000D - Digital (FSK) Controller and status monitor	= \$2,980.00
1 - SFCD Ware Windows application software up to 255 sites	= \$5,220.00
1 - System startup and training	= \$4,000.00
Total	= \$12,200.00

Proposed Partners:

West Shore Services; and Ottawa County Central Dispatch Authority; and the local units of government which have siren systems that can be activated by OCCDA, including: Chester Township, Crockery Township, Georgetown Township, City of Grand Haven, Grand Haven Township, Grand Valley State University, City of Holland, Holland Township, City of Hudsonville, Spring Lake Village and Township.

Proposed Time Frame:

Spring 2001

Project Description:

Ottawa County Project Impact will purchase the equipment necessary to establish a two-way tornado siren system for Ottawa County. This equipment will be installed at Ottawa County Central Dispatch, but all local units of government that wish to integrate their siren systems into the two-way status monitoring program may do so. All local units of government will be responsible for the cost associated with upgrading their siren systems to two-way capability.

5. Wildfires

Proposed Activity:

Host training sessions on fire resistant landscaping and construction techniques: one session for professional landscapers, one session for the general public

Situation/Need:

Much of the population of Ottawa County resides or works in rural areas. Residents living in rural and/or wooded areas, especially those who have recently moved into such areas, need to know the fire risks associated with living in these surroundings, and how different landscaping and property maintenance can help to protect their homes and property from potential fire damage.

Benefits:

With education, professional landscapers and nurserymen will know more about connection between landscaping and fire hazards, and be better able to advise their clients on these matters. Also with proper training, rural home and business owners will know what type of landscaping would be best suited to protect their property against wildfire.

Costs:

Total Cost: \$450.00

(Federal Grant = \$150.00; Contribution Local /Public = \$150.00; In Kind Services = \$150.00)

The only costs of this project are advertising the general public seminar (the professional seminar will be part of a regular meeting). Ottawa County Project Impact will partner with a local newspaper to run the seminar advertisement.

None of the proposed speakers will charge any fee or require that we cover any of their expenses.

Proposed Partners:

Ottawa County-MSU Extension (Wendy Tuttle), Department of Natural Resources-Forest Management Division (Don Johnson), Department of Natural Resources-SW MI Fire Suppression Unit (Kim DuFresne), West Michigan Nurserymen & Landscapers Association, local nurseries, local landscaping companies, local newspapers

Proposed Time Frame:

January or February 2001 for the professional seminar and March 2001 for the general public seminar.

Project Description:

Don Johnson, Fire Prevention Program Leader for the Department of Natural Resources (DNR) Forest Management Division and Kim DuFresne of the DNR Southwest Michigan Fire Suppression Unit will present the two informational sessions. They will coordinate with Wendy Tuttle of the MSU Extension Master Gardener Program to ensure that these seminars are relevant to the residents of Ottawa County.

Topics that Don Johnson has proposed in the presentations include:

- Recommended clearances between unmanaged vegetation and structures
- Clearance zones around the home
- Qualities of fire resistant plants and general criteria for evaluating vegetation
- How to prevent fire from creeping through the landscaping/protecting the structure

Professional Seminar:

Wendy Tuttle has corresponded with the West Michigan Nurserymen & Landscapers Association about Mr. Johnson and Mr. DuFresne presenting this seminar at one of their monthly meetings and she has received positive feedback. Mr. Johnson has stressed this would not be a lecture on "how to landscape," but how to incorporate what the industry

already knows and does with fire prevention methods. He has a 3-part video series that totals 45 minutes. He could use a short piece of the video combined with lecture to create a 45 minute presentation.

General Public Seminar:

This could either be hosted by a local nursery and held at their place of business or could be held at the Fillmore Street Complex (although we may get better attendance if this is held at a nursery). Topics covered in this presentation will be similar to those discussed in the professional seminar.

Proposed Activity:
Install dry fire hydrants in Ottawa County

Situation/Need:

In 1998, local fire departments in Ottawa County reported 206 wildfires to the Michigan State Police Fire Marshal Division.

Having ready access to an ample supply of water is critical in a fire emergency. In many rural areas of Ottawa County, residents do not enjoy the protection of pressurized fire hydrants on water mains. Where pressurized fire hydrants are not available, tanker trucks may have to travel several miles to be filled, driven to the fire scene, emptied, and driven back to the water source to be filled again.

To enhance fire protection for rural homes, businesses, and forests where water supplies are not readily accessible, dry fire hydrants can be installed in bodies of water. There are many ponds and waterways located in rural areas, and a number of these could be utilized to provide sources of water.

Benefits:

Dry fire hydrants are a way of providing large volumes of water to tankers at a fire scene in area not served by water mains. Water is carried from existing lakes, ponds, or streams in a simple system of permanently installed non-pressurized pipe, up through the ground, coming out as a two-foot piece of PVC pipe

The benefits of installing dry fire hydrants at bodies of water around a community include:

- Reducing the time needed to fill tank trucks
- Added fire protection
- Possible lower insurance premiums
- Conservation of treated drinking water

Properly designed and placed dry fire hydrants not only improve fire fighting capabilities of rural fire departments, but also save fuel and reduce cost of operations.

Costs:

Total Cost: \$100,303.00
(Federal Grant = \$ 26,053.00; Contribution Local/Public = \$24,750.00; In Kind Services = \$49,500.00)

According to Kim DuFresne, Michigan Department of Natural Resources (DNR), the average cost per dry fire hydrant is approximately \$1600.00. This amount is based upon typical grant requests to the Michigan DNR for dry fire hydrant installation and may vary slightly with the length of pipe used, cost of labor, and equipment needed for excavation. In some instances, a \$50.00 permit from the Michigan Department of Environmental Quality may also be necessary.

Estimated cost per hydrant: Labor.....\$800
Materials/supplies.....\$800

Several local units of government and local fire departments were contacted by telephone and asked whether or not their community had a need for dry fire hydrants. Some responded favorably, while others did not see a need for dry hydrants because they are already covered by pressurized hydrants.

Proposed Partners:

Ottawa County Farm Bureau, Ottawa Conservation District, local fire departments, local units of government, Menards, Lowes, Rycenga Building Center, other building supply stores

Proposed Time Frame:

Spring of 2001

Project Description:

A dry fire hydrant is a non-pressurized permanent pipe assembly with fire truck pumper connections, installed into a dependable water source, such as a lake, large pond, river or stream. The dry fire hydrant delivery system consists of a hydrant strainer which is permanently lowered into the water source and a dry fire hydrant head to which the fire department can connect a pumper truck to draw water. These two pieces are connected by an L-shaped section of PVC pipe.

Ottawa County Project Impact will work with local units of government and local fire departments to determine the placement for installation of dry fire hydrants in Ottawa County communities. Although there are direct costs associated with the purchase of materials for dry fire hydrant construction, it is hoped that much of the labor and materials will be donated or provided at reduced cost by business in the communities where the dry fire hydrants are installed.

6. Public Health Emergencies

No specific funded projects

7. Thunderstorm Hazards

Please refer to the activities listed in the “OVERALL HAZARD MITIGATION ACTIONS” and “RIVERINE & URBAN FLOODING” sections above.

8. Shoreline Flooding & Erosion

Proposed Activity:

Assist local units of government to hire consultant to develop high risk erosion area overlay zone ordinance and zoning map updates to reflect high risk erosion areas in shoreline communities

Situation/Need:

Many homes and other structures have been destroyed along areas off the Great Lakes subject to rapid shore erosion processes. This destruction has resulted in severe financial loss to property owners. Existing structures threatened by erosion must either be moved landward, protected by costly shore protection, or lost.

According to the Michigan Department of Environmental Quality, high risk erosion areas in Ottawa County are those shorelands along Lake Michigan where “recession of the zone of action erosion has been occurring at a long-term average rate of one foot or more per year.” All of the shoreline communities in Ottawa County contain high risk erosion areas. These are areas that have been determined unstable for the construction of structures. Currently the Michigan Department of Environmental Quality regulates development in high risk erosion areas through a state permitting process.

Benefits:

Local units of government that wish to have local control of development in high risk erosion areas may elect to do so. However, these communities must have in place, and enforce, zoning and setbacks to protect property from the hazard of the high risk erosion areas.

Costs:

Total Cost: \$10,000.00

(Federal Grant = \$7,500.00; Contribution Local/Public = \$2,500.00; In Kind Services = 0)

Hire consultant for zoning and map updates = \$2000 x 5 communities = \$10,000.00

Proposed Partners:

Park Township, Grand Haven Township, Grand Haven City, Ferrysburg, Spring Lake Township. Port Sheldon Township already has high risk erosion area overlay zone ordinance.

Proposed Time Frame:

Spring 2001

Description of Project:

Ottawa County Project Impact will partner with local units of government to hire a consultant to develop a high risk erosion area overlay zoning ordinances for lakeshore communities. Ottawa County Project Impact will provide 75 percent of the funding for the cost to develop the new ordinances, and the local units of government will be responsible for the remaining 25 percent of the cost.

9. Extreme Temperatures

Proposed Activity:

Partner with American Red Cross-Ottawa County to establish a list of evacuation shelters that are equipped with air conditioners to be used as cooling shelters for extreme heat events

Situation/Need:

Currently, there is no plan in Ottawa County for where to evacuate people in case of extreme heat events.

Benefits:

If it becomes necessary to establish cooling centers and evacuate residents from their home to ensure that they do not suffer from heat stroke, heat exhaustion, or other heat related malady, the American Red Cross-Ottawa County and the Ottawa County Emergency Management Division will have an established list of shelter locations.

Costs:

No direct costs to Ottawa County Project Impact or partner.

Proposed Partners:

American Red Cross-Ottawa County

Proposed Time Frame:

Fall to Winter 2000

Description of Project:

Ottawa County Project Impact will partner with the American Red Cross-Ottawa County to develop a list of potential cooling shelters for extreme heat events. The American Red Cross-Ottawa County already maintains a list of evacuation shelters for other hazard events. These shelters will be contacted to determine whether or not they have air conditioning and how many people they could accept as an evacuation shelter.

10. Dam Failure Flooding

Proposed Activity:

Assist with the development of Emergency Action Plans (EAPs) for publicly owned dams in Ottawa County

Situation/Need:

There are many types of emergency situations that could affect the safety of dams in Ottawa County. Whenever people live in an area that could be flooded by the failure of a dam, an emergency potential is assumed to exist. An emergency in terms of dam operation is defined by FEMA as “an impending or actual sudden release of water caused by an accident to, or failure of, a dam or other water retaining structure.”

Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994, PA 451, as amended defines a dam “Emergency Action Plan” (EAP) as a “plan developed by the owner that establishes procedures for notification of the department, public off-site authorities, and other agencies of the emergency actions to be taken prior to and following an impending or actual failure of a dam.” All dams regulated by Part 315 which have a “high” or “significant” hazard potential rating are required by this statute to have an EAP. Although only Berens Dam in the southeast corner of Blendon Township falls into this category in Ottawa County (it has been classified as a significant hazard potential), it is beneficial to have an EAP for all dams which have the potential to cause property damage and casualties if failure were to occur.

Benefits:

Emergency Action Plans include the name, address, and telephone number of the person, and of an alternate person, responsible for operation of the dam; the name and telephone number of local emergency management coordinators; and a listing of occupied facilities, buildings, and residences that may be threatened by flooding due to a failure of the dam. Development of thorough and consistent EAPs helps to save lives and reduce property damage in areas that would be inundated by a dam failure.

Costs:

Total Cost: \$18,400.00

(Federal Grant = \$18,400.00; Contribution Local/Public = 0; In Kind Services = 0)

This cost includes the preparation of emergency action plans for the 6 publicly owned dams in Ottawa County, and is based upon a consultant’s estimate.

Proposed Partners:

Ottawa County Office of the Drain Commissioner

Proposed Time Frame:

Spring 2001

Project Description:

Ottawa County Project Impact will partner with the Ottawa County Drain Commissioner to hire a consultant to develop an Emergency Action Plan (EAP) for each of the six dams owned by the Ottawa County Drain Commission. An EAP is a formal document that identifies potential emergency conditions at a dam and preplanned actions to be followed to minimize property damage and loss of life in the event of dam failure. An EAP generally specifies actions a dam owner should take to moderate or alleviate the problems at the dam. It also contains procedures and information to assist the dam owner and emergency response personnel in issuing early warning and notification messages to downstream emergency response personnel, as well as inundation maps to show the emergency management authorities the critical areas for action in case of an emergency.

For this project, Ottawa County Project Impact will work with the Ottawa County Drain Commissioner to hire a consultant to develop an EAP for each of the 6 dams owned by the Ottawa County Drain Commission.

Proposed Activity:

Assist with safety improvements to Timmer Dam, located in Zeeland Township

Situation/Need:

In order to ensure public safety, Timmer Dam requires certain physical improvements. These improvements include widening of the spillway path, spillway repair, and raising of the berm of the dam.

Benefits:

The primary benefit of these improvements is that the safety of Timmer Dam would be improved. Also, Timmer Dam would be in compliance with Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, 1994, PA 451, as amended.

Costs:

Total Cost: \$50,000.00

(Federal Grant = \$15,000.00; Contribution Local/Public = \$35,000; In Kind Services = 0)

Replace the riser at the dam	= \$34,000.00
Widen the spillway and place fill on top of the dam	= \$10,000.00
Engineering and contingency	= \$ 6,000.00
Total	= \$50,000.00

Proposed Partners:

Ottawa County Office of the Drain Commissioner, Members of the Black Creek Watershed Drainage District; included in this group are: Holland Township, Zeeland City, Zeeland Township, Georgetown Township, Michigan Department of Transportation, and the Ottawa County Road Commission.

Proposed Time Frame:

Spring 2001

Project Description:

The proposed actions for the Timmer Dam include: replace the riser, widen the emergency spillway, and raise the top of the dam. This work includes the following items:

Riser

- Lower the water level to 8-10 feet of depth
- Place a coffer dam at the inlet to stop the water flow
- Place sheeting around the existing control structure and remove
- Place a 6' diameter concrete manhole structure complete with channels and boards
- Replace clay fill around the structure and compact
- Construct new cage over riser structure
- Remove sheeting at the riser and inlet

Dam

- Widen emergency spillway 5'
- Raise crest of the dam 1-3'
- Topsoil, seed, and place mulch blankets on all disturbed areas

Ottawa County Project Impact will fund \$15,000.00 of the dam improvements and the drainage district affected by the dam will be assessed for the remainder of the cost.

11. Drought

No specific funded projects

12. Earthquakes

No specific funded projects