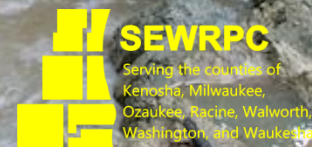# HAZARD MITIGATION PLANNING

April 22, 2015

Joseph Boxhorn, Ph.D., Senior Planner
Southeastern Wisconsin Regional Planning Commission

Katie Sommers, CFM, State Hazard Mitigation Officer
Wisconsin Division of Emergency Management

Roxanne Gray, Mitigation Section Supervisor
Wisconsin Division of Emergency Management

SEWRPC
Serving the counties of
Kenosha, Milwaukee,
Ozaukee, Racine, Walworth,
Washington, and Waukesha

WISCONSIN EMERGENCY MANAGEMENT

DOCS #225154

What is Mitigation?

- "Mitigation is any sustained action taken to eliminate or reduce the long-term risk to human life and property from natural and technological hazards" – FEMA definition

Photo from Kenosha County

- Constructive actions to reduce damages prior to the next disaster

Photo from Soldiers Grove, WI

What is Mitigation?

- Mitigation is <u>not</u>
  - Emergency response
  - Crisis management
  - Disaster preparation and recovery

- Mitigation focuses on reducing the impacts of disasters when the occur

Mitigation Breaks the Disaster Cycle

Why Do We Mitigate?

- Disasters cost society too much

- State and federal aid insufficient

- Can prevent future damages

- Less impact and speed response and recovery process
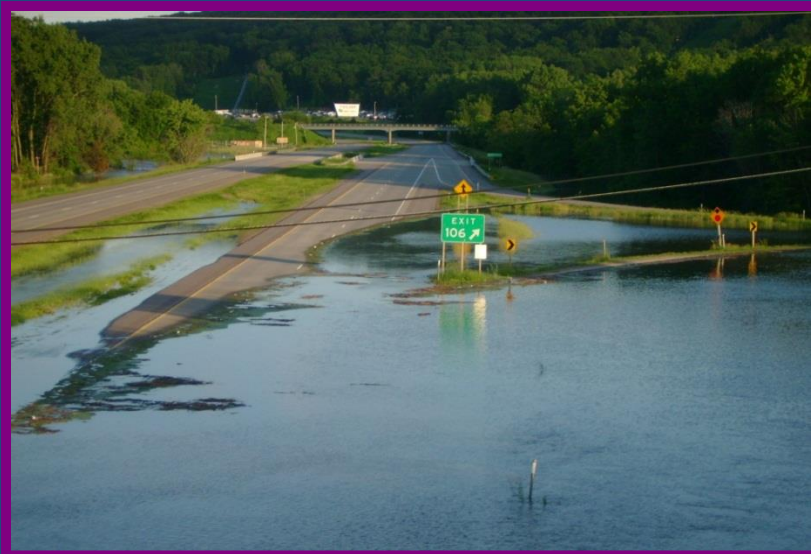
- Mitigation happens at the local level

Why Do We Mitigate?

Nationwide Trends

- $80 Billion 2004-2011 (GAO) responding to disasters

- $6 Billion per year in flood damages

- Costs continue to rise

- People continue to build and live in high-risk areas

Why Do We Mitigate?

In Wisconsin

- $3 billion in disaster-related damages last 3 decades

- 12 Federal Disaster Declarations in the 90's compared to 6 in the 80's

- 2000, 2001, two in 2002, 2004, 2007, 2008, two in 2010, 2011, 2012, 2013

- 2 snow emergencies (2000 and 2008)

Value of Mitigation

In 2005, the National Institute of Building Sciences found that for every $1 spent on mitigation, $4 are saved in avoided future damages

Examples of Mitigation Measures
(mostly related to flooding)

Acquisition/Demolition

Communities acquire land, demolish structures, and keep the land in open space.

Images from Darlington, WI

Elevation

Elevation raises a structure out of the floodplain. Wisconsin has specific regulations to follow with elevation projects. See DNR for more information.

Images from Soldiers Grove, WI

Floodwall

Floodwalls can prevent water from inundating structures that cannot be elevated, relocated, or demolished.

Image from Darlington, WI

Community Safe Room

Community safe rooms built to FEMA-361 standards can withstand winds up to 250 MPH.

Image from Town of Dunn, WI

Stormwater Detention

Detention ponds can store stormwater runoff, decreasing flash flooding in urban areas.

Image from MMSD Stormwater Detention Project (Wauwatosa, WI)

Stormwater Management

Stream restoration allows watersheds to better manage flooding.

Image from Thiensville, WI

River Warning Systems

River warning systems installed on conservation dams to warn county officials about expected dam breaching.

Images from Vernon County
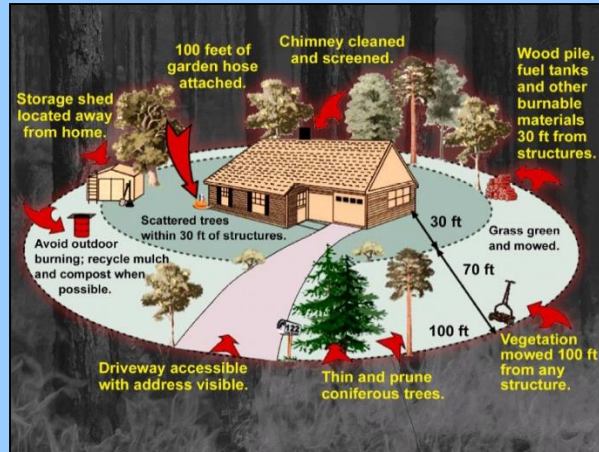
Other Projects

NOAA Weather Radios

Mobile Home Tie-Downs

Wind Retrofit Guide for Residential Buildings

FEMA P-804 / December 2010

Proper Landscaping

- Raise appliances and utilities
- Install back-flow valves
- Retrofit for wind resistance
- Education and public awareness
- Insurance (flood and sewer backup)
- Land use planning

Benefits of Mitigation

- Enhance recreation and tourism
  - Parks
  - Trails

- Increase community pride and quality of live

- Save tax dollars

Darlington, WI

Chaseburg, WI

Hazard Mitigation Planning

Disaster Mitigation Act of 2000

- Established a national disaster mitigation program

- Communities must have an approved hazard mitigation plan to be eligible to receive Federal funds through:

  - Hazard Mitigation Grant Program (HMGP)

  - Pre-disaster Mitigation Program (PDM)

  - Flood Mitigation Assistance Program (FMA)

- Plans must be reviewed and updated every five years

Disaster Mitigation Act of 2000

Vision of the Disaster Mitigation Act of 2000

- Communities will have all hazards mitigation plans that identify and prioritize cost-effective mitigation measures that can be implemented prior to a disaster or quickly after a disaster

- Having a plan would speed up the recovery process

Plan Components

1. Documentation of the planning process

2. Description of study area

3. Analysis of hazard conditions

4. Hazard mitigation goals and objectives

5. Hazard mitigation strategies

6. Plan adoption, implementation, and maintenance

Plan Components

1. Documentation of the Planning Process

- Chapter 1 and Appendix A

- Incorporated municipalities must participate in plan development and adopt the plan in order to be covered

  - County adoption covers the towns

- Public and adjacent communities must be given an opportunity to comment during the drafting stage

Plan Components

2. Description of Study Area – Chapter 2

- Demographic
- Surface waters
- Transportation
- Public facilities
  - Police facilities
  - Fire facilities
  - EMS facilities
- Related regulations and programs

- Land use
- Flood hazard areas
- Utility systems
- Critical community facilities
- Hazardous material use and storage
- Emergency operation planning

Plan Components

3. Analysis of Hazard Conditions-Chapter 3

– Vulnerability and risk analysis for each covered hazard

- Historical and recent incidents

- Vulnerabilities and community impacts

  – Human lives, property damages, crop damages

- Potential for future changes in hazard conditions

- Multijurisdictional aspects

Plan Components

4. Hazard Mitigation Goals-Chapter 4

– Express what the plan is trying to achieve

– Ties the plan to other active plans

- *e.g.* The County comprehensive plan

– Fairly general

Plan Components

5. Hazard Mitigation Strategies-Chapter 5

– Develop a range of actions and projects to reduce the impacts of each hazard

  • Structural, nonstructural, educational

– Prioritize actions for implementation

– Identify responsible parties

– Examine costs and benefits

– Consider multi-jurisdictional aspects

Plan Components

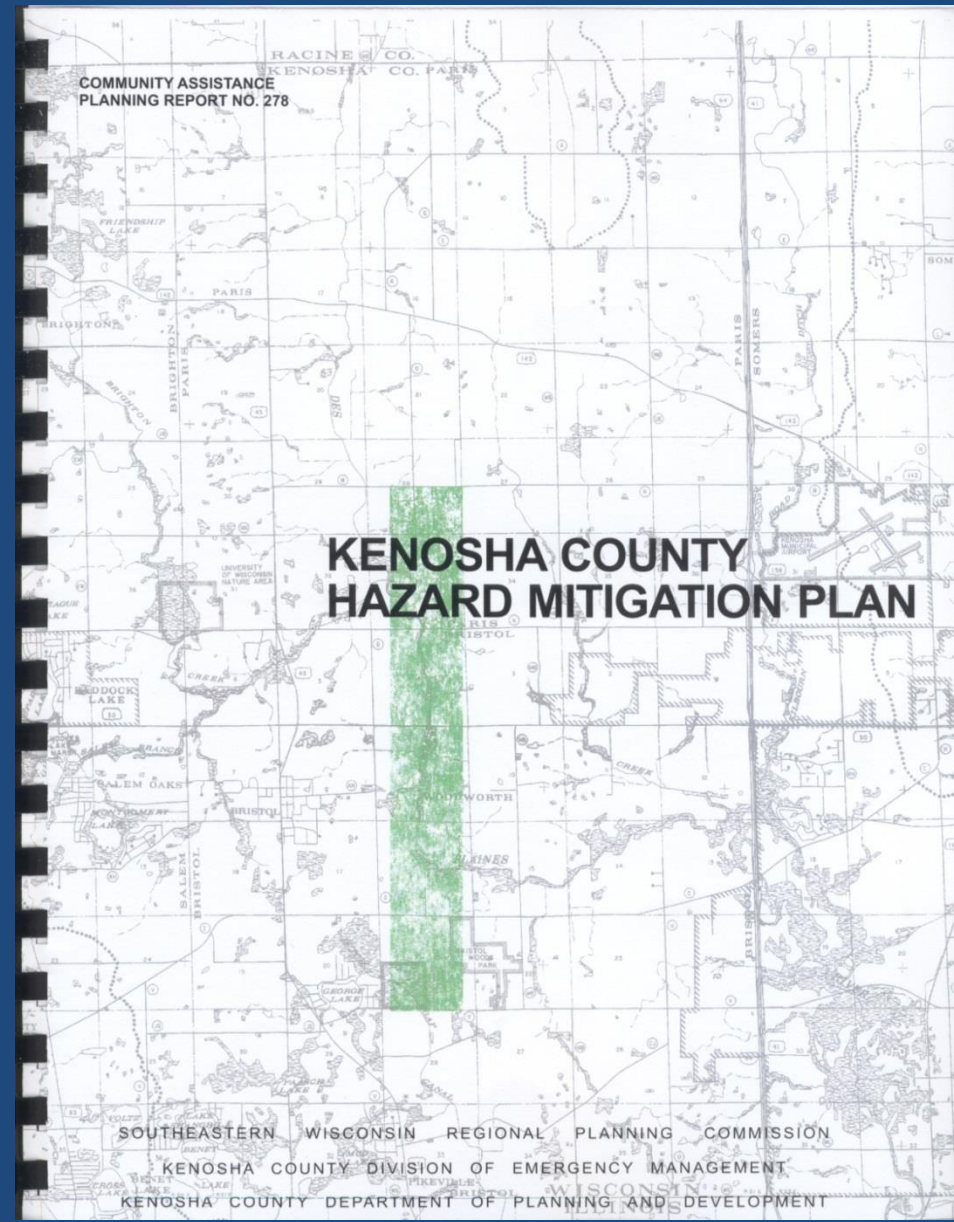6. Plan Adoption, Implementation, and Maintenance-Chapter 6

– County and incorporated municipalities must formally adopt the plan

- Towns are covered by County adoption

– Detail available funding and technical assistance

– Monitoring of plan implementation

– Incorporation of the plan into existing planning mechanisms

Background on 2nd Plan Update

Initial Kenosha County HMP

- Study conducted 2004-2005

- Report published 2005

Initial Kenosha County HMP

Local government partners:

- City of Kenosha
- Village of Genoa City
- Village of Paddock Lake
- Village of Pleasant Prairie
- Village of Silver Lake
- Village of Twin Lakes
- Town of Brighton
- Town of Bristol
- Town of Paris
- Town of Randall
- Town of Salem
- Town of Somers
- Town of Wheatland

Initial Kenosha County HMP

Additional Partners

- Kenosha County Executive's Office
- Kenosha County Board
- Kenosha County Departments
- State Representative Kerkman, 66th District
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- UW-Parkside, Carthage College, and UW-Extension
- Kenosha Area Business Alliance
- Kenosha Area Chamber of Commerce
- Wisconsin Division of Emergency Management
- American Red Cross
- We Energies
- ChemReport, Inc.

First Plan Update

- Study conducted 2009/2010
- Coordinated with development of the County comprehensive plan
- Reviewed and revised
  - Goals
  - Vulnerability and risk analysis
  - Mitigation strategies
- Report published 2010

First Update: Participating Jurisdictions

- Kenosha County
- City of Kenosha
- Village of Bristol
- Village of Paddock Lake
- Village of Pleasant Prairie
- Village of Silver Lake
- Village of Twin Lakes

- Town of Brighton
- Town of Paris
- Town of Randall
- Town of Salem
- Town of Somers
- Town of Wheatland

First Plan Update

Additional Partners

- Kenosha County Board
- Kenosha County Departments
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- UW-Parkside, Carthage College, and UW-Extension
- Kenosha Unified School District
- Wisconsin Division of Emergency Management
- American Red Cross
- We Energies
- ChemReport, Inc.

Plan Components to Review and Revise

- Review implementation activities

- Update inventories of natural and built features

- Review and reevaluate identification of hazards

- Update and reevaluate risk analysis

- Review and revise mitigation goals

- Review and revise mitigation strategies

- Update plan implementation and maintenance

  - Update potential funding sources

Tentative Schedule

Task	Estimated Completion Date
Update Planning Team Membership	April 1, 2015
Survey Designated Management Agencies Regarding Status of Implementation of Original Plan	June 30, 2015
Kickoff Planning Team Meeting	Late April 2015
Public Participation	January 2015 through July 2016
Develop Updated Community Profiles	June 15, 2015
Planning Team Meeting (Review Chapters 1 and 2)	Early August 2015
Identify and Describe Hazards	August 31, 2015
Review of Established Goals and Objectives	September 30, 2015
Update Risk and Vulnerability Assessments	October 30, 2015
Planning Team Meeting (Review Chapters 3 and 4)	Late January 2016
First Public Meeting	Mid February 2016
Development of Updated Mitigation Actions	April 30, 2016
Development of Updated Plan Maintenance Process	May 31, 2016
Apply to Wisconsin Emergency Management for Extension of Grant Deadline (Original Period of Performance Deadline is September 1, 2016)	June 15, 2016
Planning Team Meeting (Review Chapters 5 and 6)	Early June 2016
Second Public Meeting	Mid July 2016
Submit Draft Plan Update to Wisconsin Division of Emergency Management for Review	August 31, 2016
Revise Plan Based on State Review	October 31, 2016
Submit Final Plan Update to the Federal Emergency Management Agency for Approval Pending Adoption	November 15, 2016
Formal Adoption	February 15, 2017

Key Dates *(all tentative)*

- Local Planning Team Meetings

  - August 2015, January 2016, June 2016

- Public Meetings

  - February 2016, July 2016

- Submit for Review

  - August 2016

- County Adoption

  - February 2017

Local Planning Team Role

- Weigh in on hazard identification

- Review the plan chapters

- Help us get needed information

  – Recent and historical problems with hazards ➡ Location, occurrence, damages

  – Recent projects, planned and contemplated projects, recent hazard-related outreach

  – Inventory data

Project Web Site

http://www.sewrpc.org/SEWRPC/communityassistance/Hazard-Mitigation-Planning.htm

- Copy of the 2010 plan update

- Agendas and other meeting materials

- Summary notes from meetings

- Presentations

- Draft chapters as they are completed

- Comment screen

- Other ways to send a comment

Hazard Mitigation Goals

Hazard Mitigation Goals

1. A spatial distribution of the various land uses that minimizes hazards and dangers to health, welfare, and safety as well as further enhancing the economic base of the County, and will result in a compatible arrangement of land uses properly related to the existing and proposed supporting transportation, utility, public safety systems, and public facility systems.

2. A spatial distribution of the various land uses that maintains biodiversity and which will result in the protection and wise use of the natural resources of the County, including its soils, inland lakes and streams, groundwater, wetlands, woodlands, wildlife, and natural areas and critical species habitats.

Hazard Mitigation Goals

3.   An integrated transportation system that, through its location, capacity, and design, will safely, economically, and effectively serve the existing and proposed land use pattern and promote the implementation of the land use plan, meeting the current and anticipated travel demand and minimizing the potential for accidents and the associated toll on life and property damage.

4.   The provision of facilities necessary to maintain a high quality of fire and police protection and emergency medical services throughout the County.

Hazard Mitigation Goals

5.   The development of a stormwater and floodland management system which reduces the exposure of people to drainage- and flooding-related inconvenience and to health and safety hazards and which reduces the exposure of real and personal property to damage through inundation resulting from flooding and inadequate stormwater drainage.

6.   The identification of high erosion risk Lake Michigan shoreline areas and the development of a coastal erosion management program that reduces the exposure of people and real and personal property to shoreline erosion and bluff recession.

Hazard Mitigation Goals

7. The identification and development of programs that complement County and local emergency operations plans to mitigate the potential exposure to health and safety and the exposure of real and personal property resulting from a broad range of hazards that are unpredictable and not geographically specific in nature.

8. Communications interoperability throughout the County amongst all First Responders, so as to be able to quickly and effectively respond to any incident to prevent the loss of life and to save property.