

HAZARD MITIGATION PLANNING

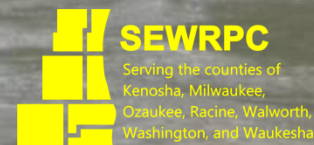
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What is Mitigation?

- “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
- Constructive actions to reduce damages prior to the next disaster



What is Mitigation?

- Mitigation is not
 - Emergency response
 - Crisis management
 - Disaster preparation and recovery
- Mitigation focuses on reducing the impacts of disasters when they occur



Mitigation Breaks the Disaster Cycle



Why Do We Mitigate?



- Disasters cost society too much
- State and federal aid insufficient
- Can prevent future damages
- Reduce impacts of disaster 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
- A loss avoidance study for Crawford, Jefferson, and Kenosha Counties found that as of 2009 mitigation measures taken between 1989 and 2008 costing \$11.0 million resulted in \$14.3 million in avoided 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

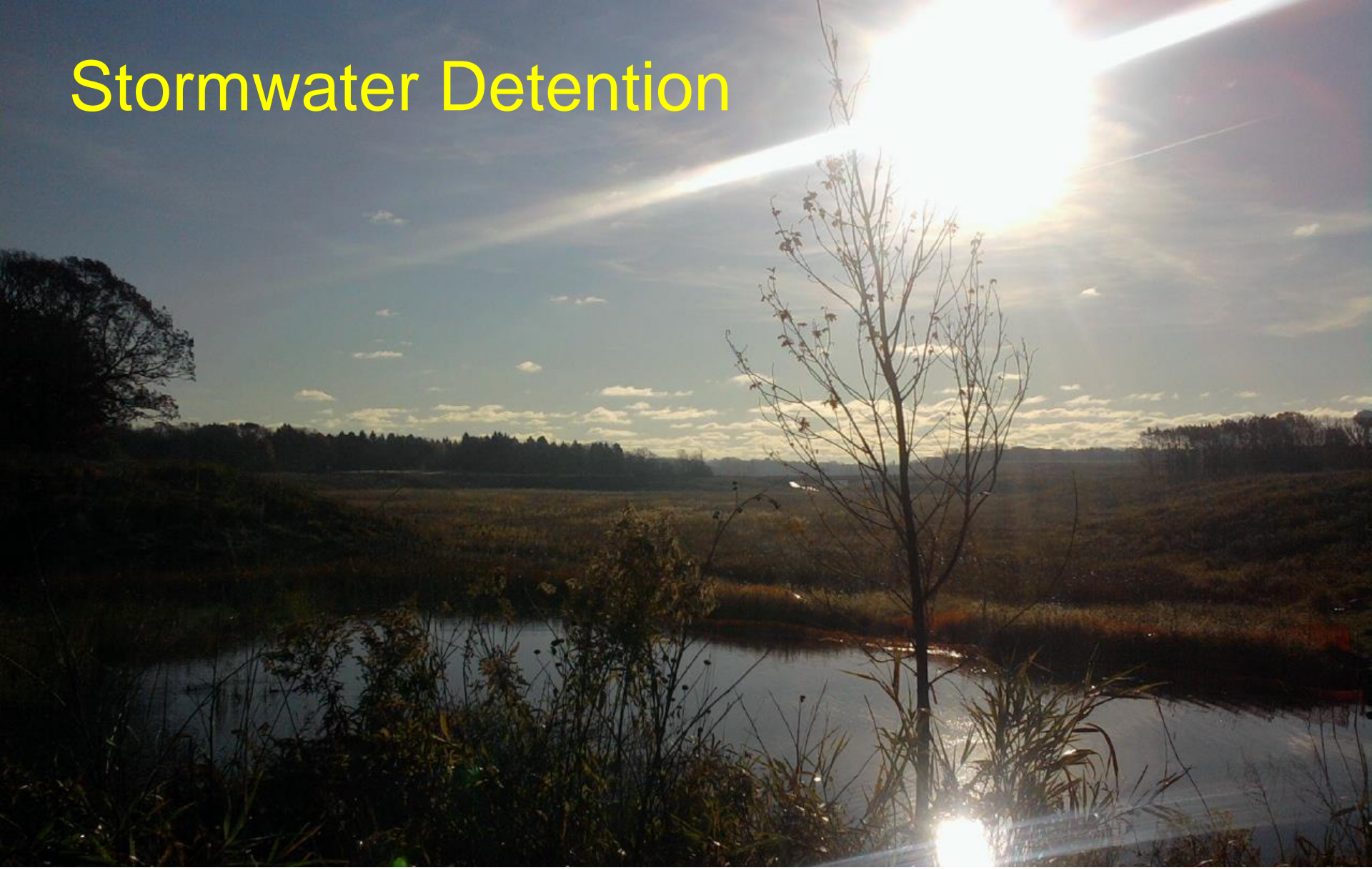
Community Safe Room



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

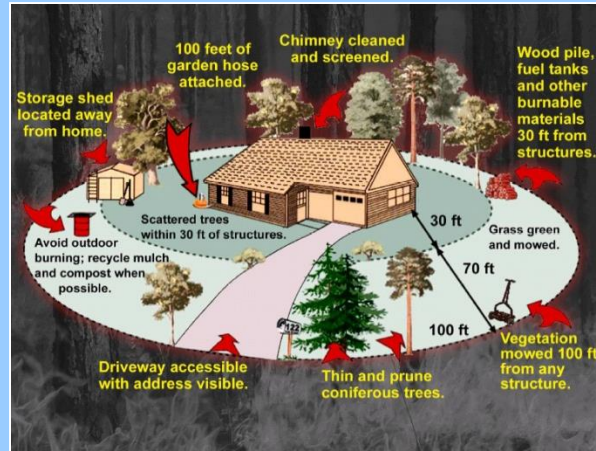


Mobile Home Tie-Downs



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 life
- Save tax dollars



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. Hazard mitigation goals and objectives
4. Analysis of hazard conditions
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. Hazard Mitigation Goals-Chapter 3

- 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

4. Analysis of Hazard Conditions-Chapter 4

- 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

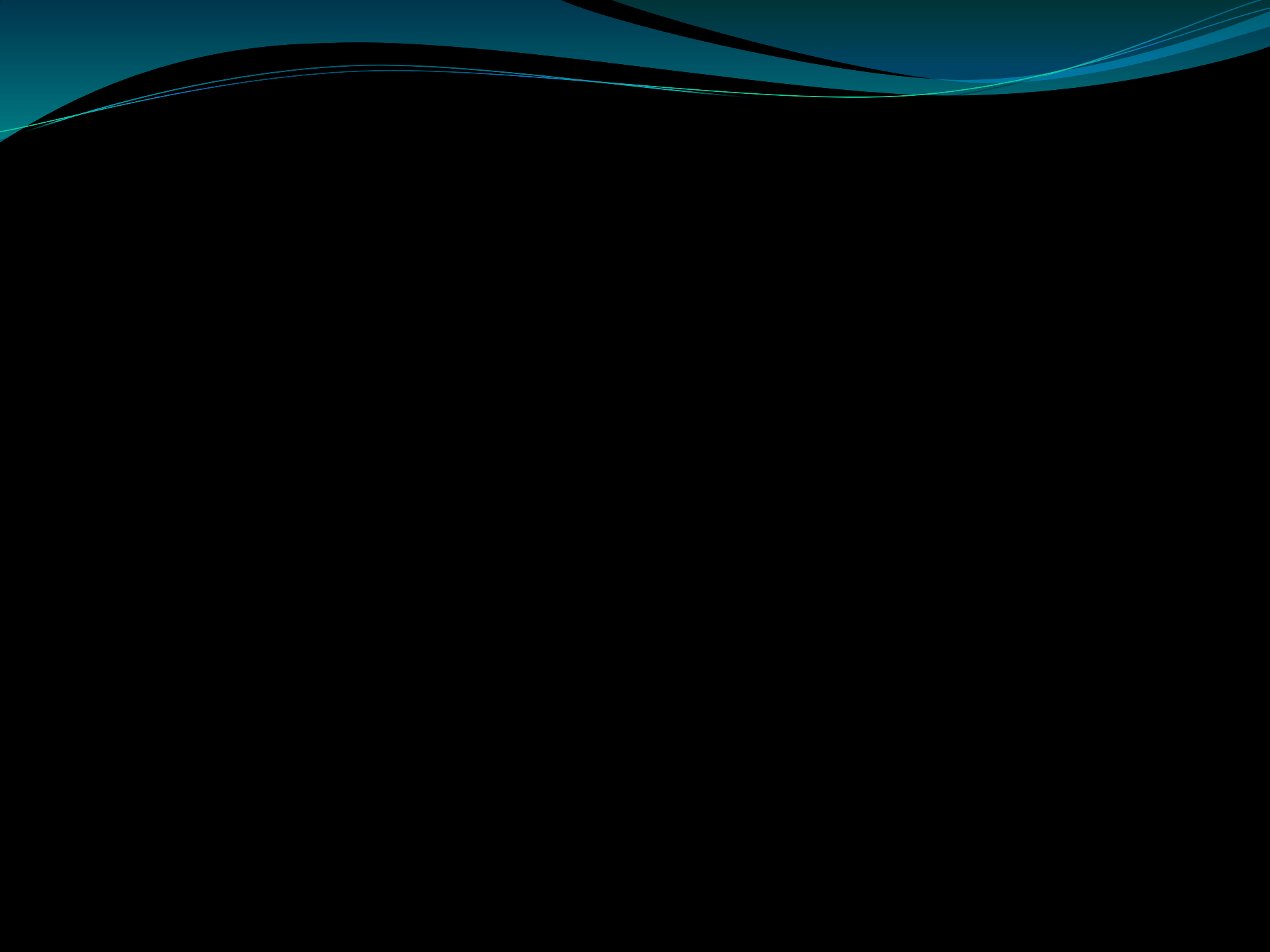
5. Hazard Mitigation Strategies-Chapter 5

- 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

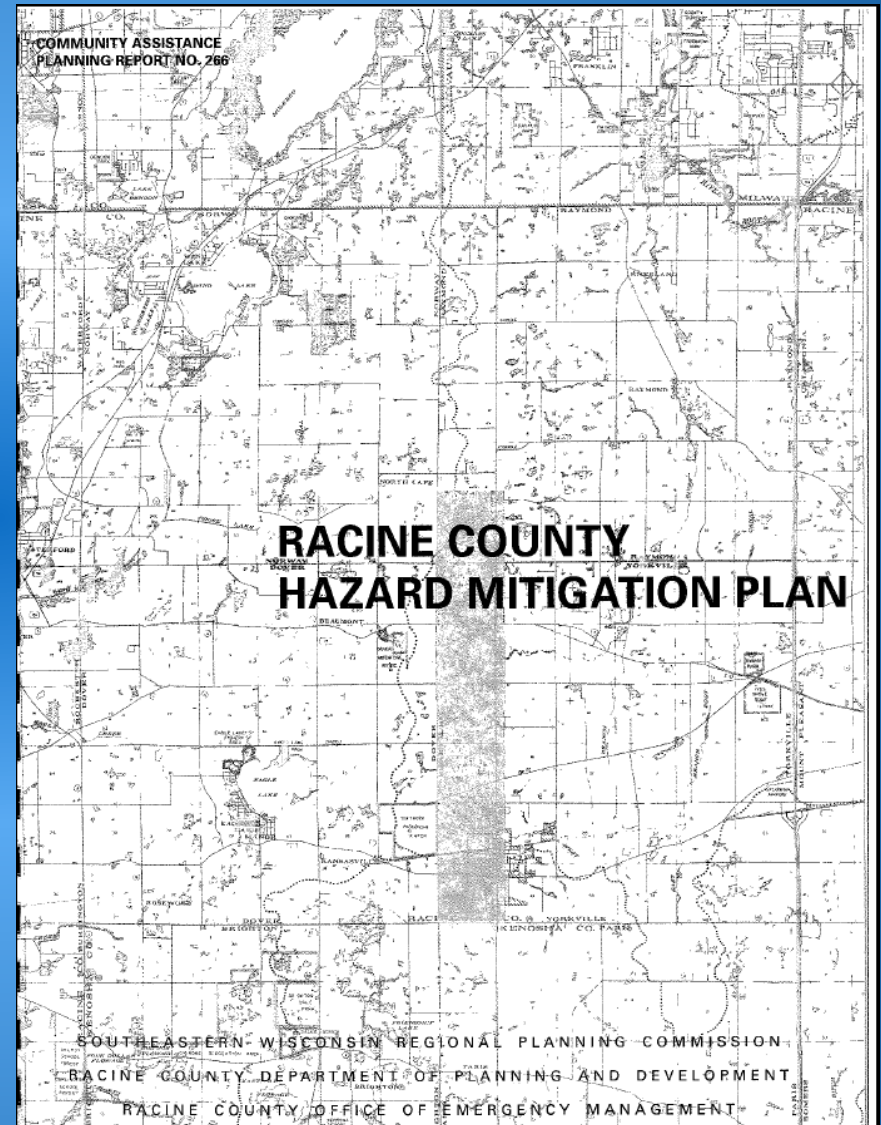


Background on 2nd Plan Update



Initial Racine County HMP

- Study conducted 2001-2004
- Report published 2004



Initial Racine County HMP

Local Government Partners

- City of Burlington
- City of Racine
- Village of Elmwood Park
- Village of North Bay
- Village of Rochester
- Village of Sturtevant
- Town of Union Grove
- Town of Waterford
- Town of Wind Point
- Town of Burlington
- Town of Caledonia
- Town of Dover
- Town of Mt. Pleasant
- Town of Norway
- Town of Raymond
- Town of Rochester
- Town of Waterford
- Town of Yorkville

Initial Racine County HMP

Additional Partners

- Racine County Board
- Racine County Departments
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- American Red Cross
- National Weather Service
- Racine Area Manufacturers and Commerce
- Racine Economic Development Corporation
- Sustainable Racine
- UW-Parkside and UW-Extension
- We Energies
- Wisconsin Coastal Management
- Wisconsin Department of Natural Resources
- Wisconsin Division of Emergency Management

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

- Racine County
- City of Burlington
- City of Racine
- Village of Caledonia
- Village of Elmwood Park
- Village of Mt. Pleasant
- Village of North Bay
- Village of Rochester
- Village of Sturtevant
- Village of Union Grove
- Village of Waterford
- Village of Wind Point
- Town of Burlington
- Town of Dover
- Town of Norway
- Town of Raymond
- Town of Waterford
- Town of Yorkville

First Plan Update

Additional Partners

- Racine County Executive's Office
- Racine County Board
- Racine County Departments
- Sherriff's, Police, and Fire Departments
- Public Works Departments
- Racine Area Manufactures and Commerce
- Racine County ARES/RACES
- Volunteer Center of Racine County
- We Energies
- Western Racine County Health Department
- Wheaton Franciscan Health Care
- Wisconsin Coastal Management
- Wisconsin Division of Emergency Management
- Wisconsin Department of Natural Resources

Plan Components to Review and Revise for 2nd Plan Update

- 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

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	Early June
Public Participation	January 2015 through July 2016
Develop Updated Community Profiles	June 15, 2015
Planning Team Meeting (Review Chapters 1 and 2)	Late August 2015
Identify and Describe Hazards	September 15, 2015
Review of Established Goals and Objectives	October 15, 2015
Update Risk and Vulnerability Assessments	November 15, 2015
Planning Team Meeting (Review Chapters 3 and 4)	Early February 2016
First Public Meeting	Late 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)	Late June 2016
Second Public Meeting	Late 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
Anticipated Period of Performance Deadline	March 1, 2017

Key Dates *(all tentative)*

- Local Planning Team Meetings
 - August 2015, February 2016, June 2016
- Public Meetings
 - February 2016, July 2016
- Submit for Review – Wisconsin DEM
 - 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/question:
 - aowens@sewrpc.org
 - (262) 953-4293

Hazard Mitigation Goals



60TH

248TH

WARNING



NEIGHBORHOOD WATCH
OUR NEIGHBORHOODS ARE BETTER
AND WE WANT YOU TO HELP US
KEEP THEM THAT WAY. PLEASE
REPORT SUSPICIOUS ACTS
TO POLICE OR NEIGHBORHOOD
SECURITY COUNCIL
8-2-1

Hazard Mitigation Goals

1. **Land Use:** A spatial distribution of the various land uses which 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. **Natural Resources:** A spatial distribution of the various land uses which 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. Transportation:** An integrated transportation system which, 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. Fire, Police, and Emergency Medical Services:** 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. **Stormwater and Floodland Management:** 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. **Lake Michigan Coastal Erosion:** The identification of high erosion risk Lake Michigan shoreline areas and the development of a coastal erosion control program which reduces the exposure of people and real and personal property to shoreline erosion and bluff recession.

Hazard Mitigation Goals

7. **Unpredictable Hazards:** The identification and development of programs which 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 which are unpredictable and not geographically specific in nature.

Questions?

Hazard and Vulnerability Assessment Exercise

- Evaluate the potential that specific hazards may occur, the likely severity of impacts resulting from these hazards, and the extent to which these impacts may be mitigated by current levels of preparedness.
- First step in identifying which hazards will be addressed by the plan