

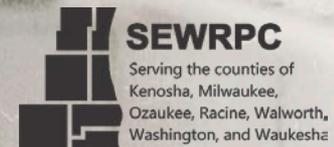
# Washington County Hazard Mitigation Plan

## July 27, 2017

1976 Washington County Ice Storm

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# 237316



# Agenda for Meeting

- Discuss purpose of plan
- Review the draft plan
- Answer questions on the plan
- Take comments on plan



# Plan Documentation



1981 West Bend Tornado

SEWRPC Community Assistance Planning Report  
No. 326, *Washington County Hazard Mitigation Plan*

# Participating Jurisdictions

- City of Hartford
- City of West Bend
- Village of Germantown
- Village of Jackson
- Village of Kewaskum
- Village of Newburg
- Village of Richfield
- Village of Slinger
- Town of Addison
- Town of Barton
- Town of Erin
- Town of Farmington
- Town of Germantown
- Town of Hartford
- Town of Jackson
- Town of Kewaskum
- Town of Polk
- Town of Trenton
- Town of Wayne
- Town of West Bend

# What is Hazard 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
- Actions to reduce the damages that result when disasters occur



# What is Hazard Mitigation?

- Mitigation is not:
  - Emergency response
  - Crisis management
  - Disaster preparation and recovery
- Mitigation focuses on reducing the impacts from hazard events when they occur



# Why Do We Mitigate Hazards?



1981 West Bend Tornado

- Disasters are costly
- State and Federal assistance are insufficient
- We can prevent future damages
- Lesser impacts mean a quicker response and recovery process
- Can do this locally

# Washington County Hazard Mitigation Plan

- Includes all of the municipalities in the County
- Sets forth strategies for mitigating impacts of several natural and technological hazards
- Establishes eligibility for hazard mitigation funding from the Federal Emergency Management Agency (FEMA)
  - FEMA requires that local hazard mitigation plans be updated and revised every five years
  - Hazard Mitigation Grant Program, Flood Mitigation Assistance Program, and the Pre-Disaster Mitigation Program

# Washington County Hazard Mitigation Plan

- Plan development and updating is overseen by a Local Planning Team
  - Team includes elected officials, appointed officials, department and agency representatives, business representatives, knowledgeable citizens
  - Law enforcement, fire, and EMS departments; public works and engineering departments, planning departments, conservation departments, health department, private sector firms, nonprofit agencies, and educational institutions
- Staff include Washington County Office of Emergency Management, Washington County Planning and Parks Department, the Wisconsin Division of Emergency Management, and SEWRPC

# Plan Components

(Described in Chapter I)

- Develop inventories of natural and built features
- Identify hazards posing risks to the County
- Conduct risk and vulnerability analysis
- Develop hazard mitigation goals
- Develop hazard mitigation strategies
- Develop plan adoption, implementation, and maintenance strategies
  - Develop an inventory of potential funding sources

# Inventory Data

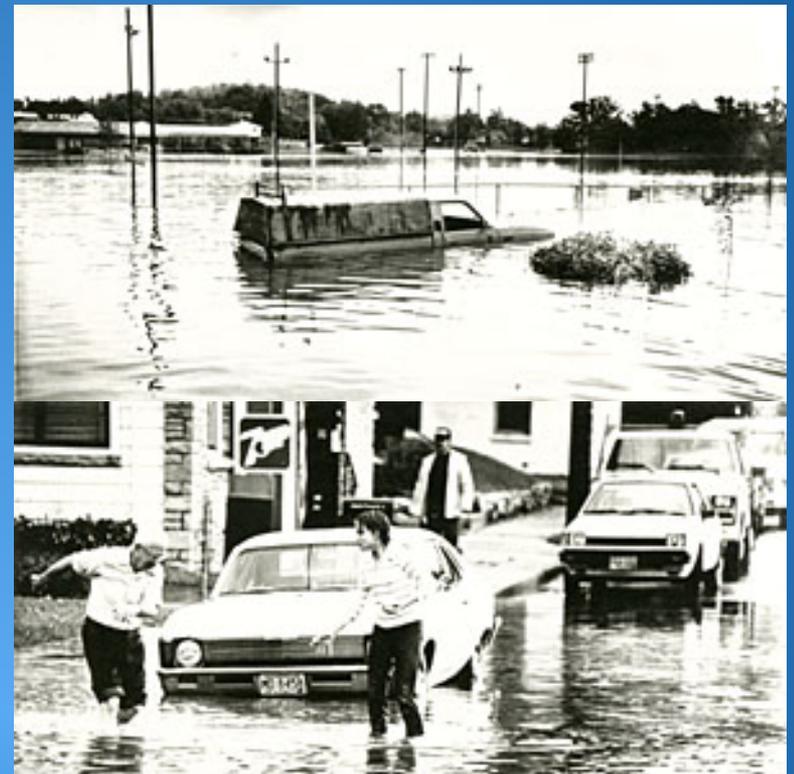
(Chapter II)

- Demographic characteristics
- Existing and planned land use
- Surface water
  - One-percent-annual-probability floodplains
- Transportation and utility systems
- Critical community facilities
- Existing programs and regulations

# Hazard Identification

(Chapter III)

- Local Planning Team input
  - Hazard and Vulnerability Assessment tool
- Past hazard experience
  - Frequency of occurrence
  - Property and crop damages
  - Fatalities and injuries



1986 Slinger Flooding

# Natural Hazards Addressed in the Plan

(Required by FEMA)



Drought



Flooding



Extreme  
Temperatures



Thunderstorms  
High Wind/Hail/Lightning



Tornado



Winter Storms

# Technological Hazards Addressed in the Plan

(Optional under FEMA rules)



Communicable  
Disease Outbreak



Contamination/Loss  
of Water Supply



Cyberattack on  
Local Government



Hazardous  
Material Incidents



Long-term  
Power Outages



Loss of  
Sewerage System

# Technological Hazards Profiled in the Plan

(Optional under FEMA rules)



Transportation Accidents

Terrorism

# Risk and Vulnerability Analysis

- Most profiles follow a similar format
  - Definition and description of the hazard
  - Description of notable recent and historical events that affected the County
  - Assessment of vulnerabilities to the hazard and community impacts from the hazard
  - Description of potential future changes in impacts
  - Discussion of any differences among communities in risks

# Average Annual Damages

Hazard	Years	Incidents per Year	Annual Property Damages (\$)	Annual Crop Damages (\$)	Total Annual Damages (\$)
Automobile Accidents	15	2,607.13	24,245,183	0	24,245,133
Tornadoes	51	0.31	1,425,239	3,925	1,429,164
Winter Storms	55	2.80	1,363,062	3,000	1,366,062
Flood	34	0.50	614,408	567,662	1,082,070
Thunderstorms/Wind/ Hail/Lightning	56	6.93	797,967	205,991	1,003,958
Drought	35	0.23	0	554,944	544,944
Pipeline Hazmat	46	0.15	535,720	0	535,720
Railway Accidents	40	3.58	210,122	0	210,122
Temperature Extremes	33	1.73	2,526	11,031	13,557
Transportation Hazmat	44	0.84	950	0	950

Note: All damages are expressed in 2014 dollars.

# Average Annual Fatalities and Injuries

Hazard	Years	Incidents per Year	Fatalities per Year	Injuries per year	Annual Total
Automobile Accidents	15	2,607.13	13.73	1,023.73	1,037.46
Communicable Diseases	9	253.81	0.00	253.81	253.81
Sexually-transmitted Diseases	9	216.06	0.00	216.06	216.06
Railway Accidents	40	3.56	0.35	1.15	1.50
Tornadoes	51	0.31	0.06	1.12	1.18
Thunderstorm/Wind/Hail/ Lightning	56	6.93	0.02	0.18	0.20
Pipeline Hazmat Accidents	46	0.15	0.00	0.07	0.07
Transportation Hazmat Accidents	44	0.84	0.00	0.05	0.05
Temperature Extremes	33	1.73	0.00	0.02	0.02





# 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, and public facility systems**.
2. A spatial distribution of the **various land uses** that **maintains connectivity among and 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, 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 floodplain management system that reduces the exposure of people to drainage- and flooding-related inconvenience and to health and safety hazards and that reduces the exposure of real and personal property to damage through inundation resulting from flooding and inadequate stormwater drainage.
6. 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.

# Development of Hazard Mitigation Strategies

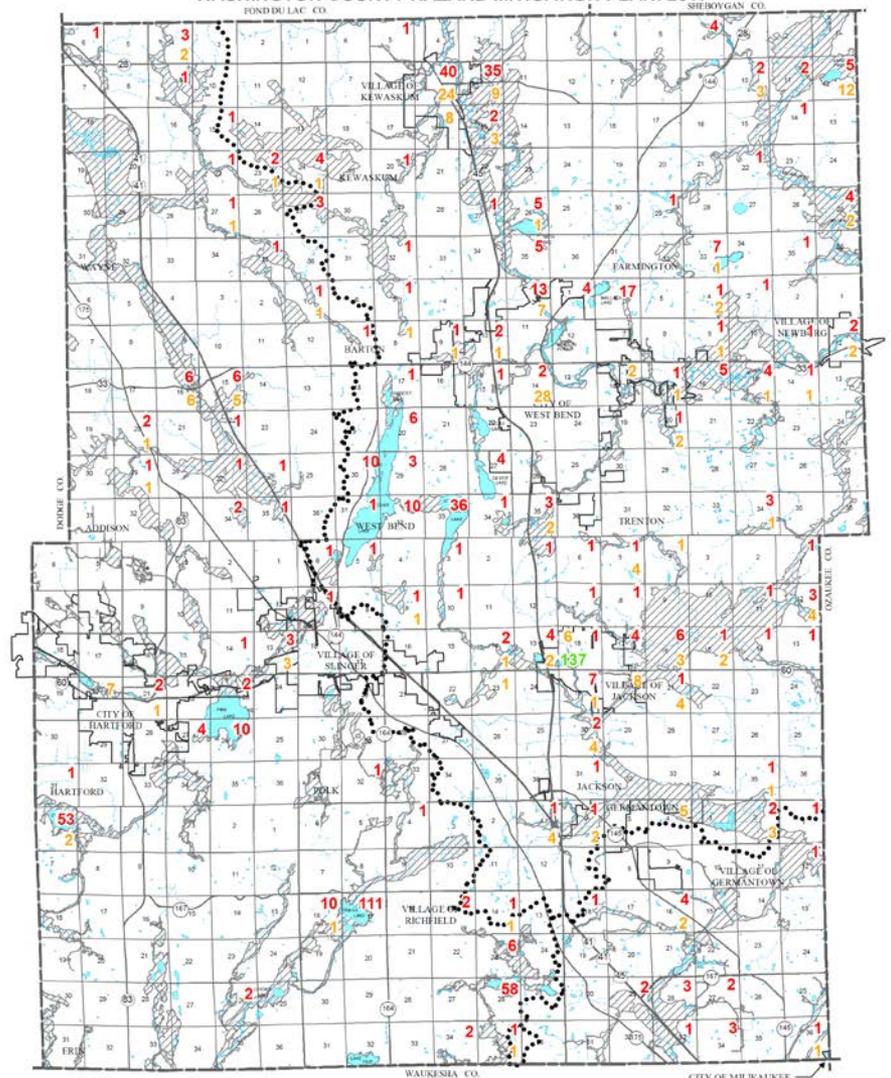
## (Chapter V)

- Identification of alternative hazard mitigation strategies
    - Structural—*e.g.* safe rooms, flood proofing
    - Nonstructural—*e.g.* ordinances, floodplain preservation
    - Public education
  - Review of current programs
    - Federal and State, local
  - Evaluation of alternatives
  - Examination of multi-jurisdictional considerations
  - Selection of a set of priority mitigation measures
- 

# Mitigation Strategies for Flooding

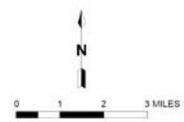
- Floodplain and Environmentally Sensitive Land Preservation
- Floodplain Management Element
  - Acquire and remove/demolish four repetitive loss properties
  - Complete ongoing floodplain mapping projects
  - Survey structures identified as potentially being located in the floodplain when mitigation projects are being considered
  - Consider floodproofing up to 211 structures identified as potentially being in floodplain
  - Consider acquiring and demolishing up to 635 structures identified as potentially being in floodplain
  - Consider removing up to 137 mobile homes identified as potentially being in floodplain

RECOMMENDED FLOODPLAIN MANAGEMENT MEASURES FOR THE WASHINGTON COUNTY HAZARD MITIGATION PLAN: 2017



- 639** STRUCTURES TO BE CONSIDERED FOR ACQUISITION AND DEMOLITION (NUMBER OF STRUCTURES IN U.S. PUBLIC LAND SURVEY SECTION)
- 211** STRUCTURES TO BE CONSIDERED FOR FLOODPROOFING (NUMBER OF STRUCTURES IN U.S. PUBLIC LAND SURVEY SECTION)
- 137** MOBILE HOMES TO BE CONSIDERED FOR REMOVAL FROM THE FLOODPLAIN (NUMBER OF STRUCTURES IN U.S. PUBLIC LAND SURVEY SECTION)

- ONE - PERCENT ANNUAL PROBABILITY (100 - YEAR RECURRENCE INTERVAL) FLOODPLAINS (2012)
- SURFACE WATER
- PERENNIAL STREAM
- INTERMITTENT STREAM
- MAJOR WATERSHED BOUNDARY



Source: SEWRPC.

# Mitigation Strategies for Flooding

- Stormwater Management
  - Stormwater management plans
  - Continue enforcing stormwater management ordinances
- Public Information and Education
- Document extent of future floods
- Consider participating in the National Flood Insurance Program's Community Rating System
  - Leads to discounts on flood insurance premiums

# Mitigation Strategies for Weather-Related Hazards

- Maintain, update, and upgrade early warning systems
- Encourage the provision of community storm shelters
  - Especially at mobile home parks
- Encourage agricultural producers to purchase crop insurance
- Public information and education
- Continue weather spotter training
- Water conservation planning
- Protect groundwater recharge areas



1971 Slinger Train Derailment

# Mitigation Strategies for Human-Induced Hazards

- Emergency operations planning
- Site emergency planning for critical facilities
- Continued training and preparedness for first responders
- Public information and education programming
- Provision of backup power for critical facilities
- Continued traffic-related law enforcement
- Provision of bicycle accommodation on arterial roads
- Purchase of cyber-insurance by local governments

# Implementation Strategies

- Develop estimates of mitigation measure costs
- Summarize benefits of implementing mitigation measures
- Designate lead management agencies
- Identify potential sources of funding and technical assistance



Crop Damage



Anhydrous Ammonia Spill

# Approval and Adoption

- When a draft plan is complete
  - Assemble a complete draft of the plan
  - Review by Wisconsin Division of Emergency Management → Incorporate comments
  - Review and approval by FEMA → Incorporate comments
  - The plan will need to be adopted by:
    - Washington County Board
      - Adoption by the County covers the Towns
    - Governing bodies of the Cities and Villages in the County

# Project Web Site

- <http://www.sewrpc.org/HMP>
  - Agendas and other meeting materials
  - Summary notes from meetings
  - Presentations
  - Draft chapters as they are completed
  - Comment screen
  - Other ways to send a comment
  - Comments will be accepted through August 4, 2017
- Email to [jboxhorn@sewrpc.org](mailto:jboxhorn@sewrpc.org)