

# Southeastern Wisconsin **Regional Planning Commission**



## Washington County Hazard Mitigation Plan Update:

**Public Meeting on Plan Progress**

March 2, 2023

**Megan Shedivy- Planner, SEWRPC**

**Laura Herrick, PE, CFM- Chief Environmental Engineer, SEWRPC**

## ➤ Discuss Purpose of Plan Update

## ➤ Review the Work Completed to Date

## ➤ Seek Information

- Problem Areas Related to Hazards
- Potential Mitigation Measures and Projects

## ➤ Answer Questions and Take Comments



# ●●●●● 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*

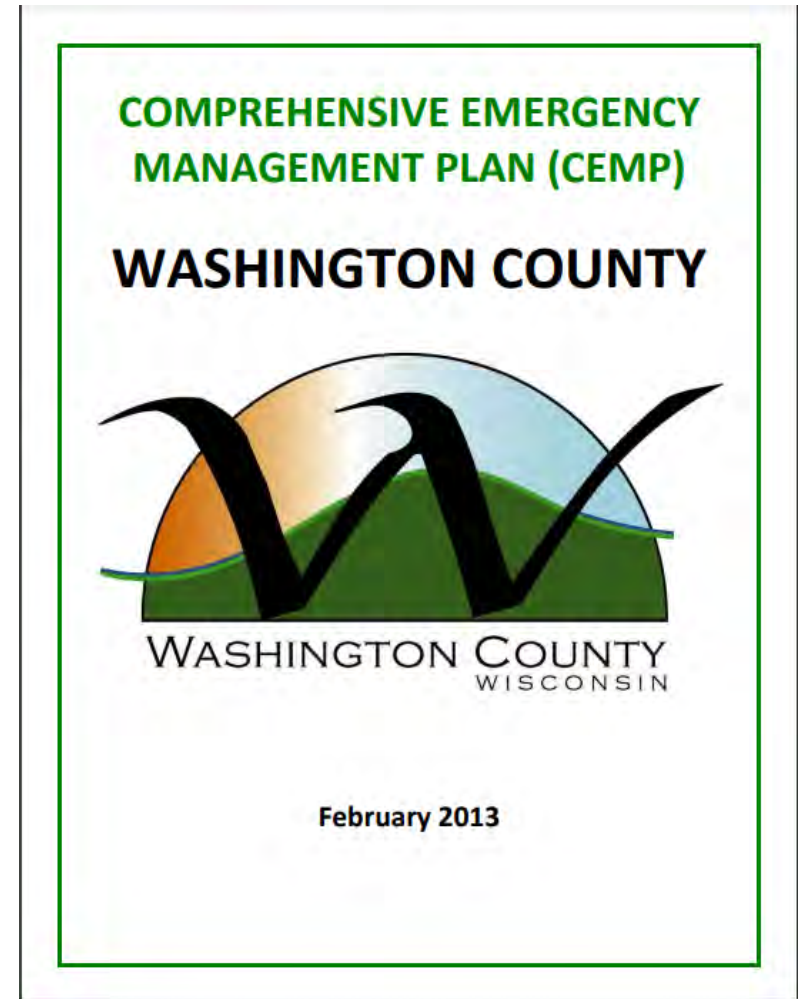
➤ Actions To **Reduce** The Damages That Result When Disasters Occur



# ●●●●● What is Mitigation?

## ➤ Mitigation is **Not**:

- Emergency Response
- Crisis Management
- Disaster Preparation and Recovery





# Why Do We Mitigate?



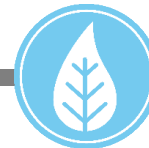
## Nationwide Trends:

- \$450 Billion Since 2005 (GAO) Responding to Disasters
- Costs Continue to Rise
- Extreme Weather More Frequent and Intense
- People Continue to Build and Live in High-Risk Areas



# Why Do We Mitigate?

- Disasters Cost Society too Much
- State and Federal Aid Insufficient
- Help Prevent Future Damage
- Promote More Disaster-Resilient and Sustainable Communities
- Reduce Response and Recovery Resource Requirements
- Fosters Partnerships Among All Levels of Government
- Develop and Strengthen Non-Governmental and Private Partnerships



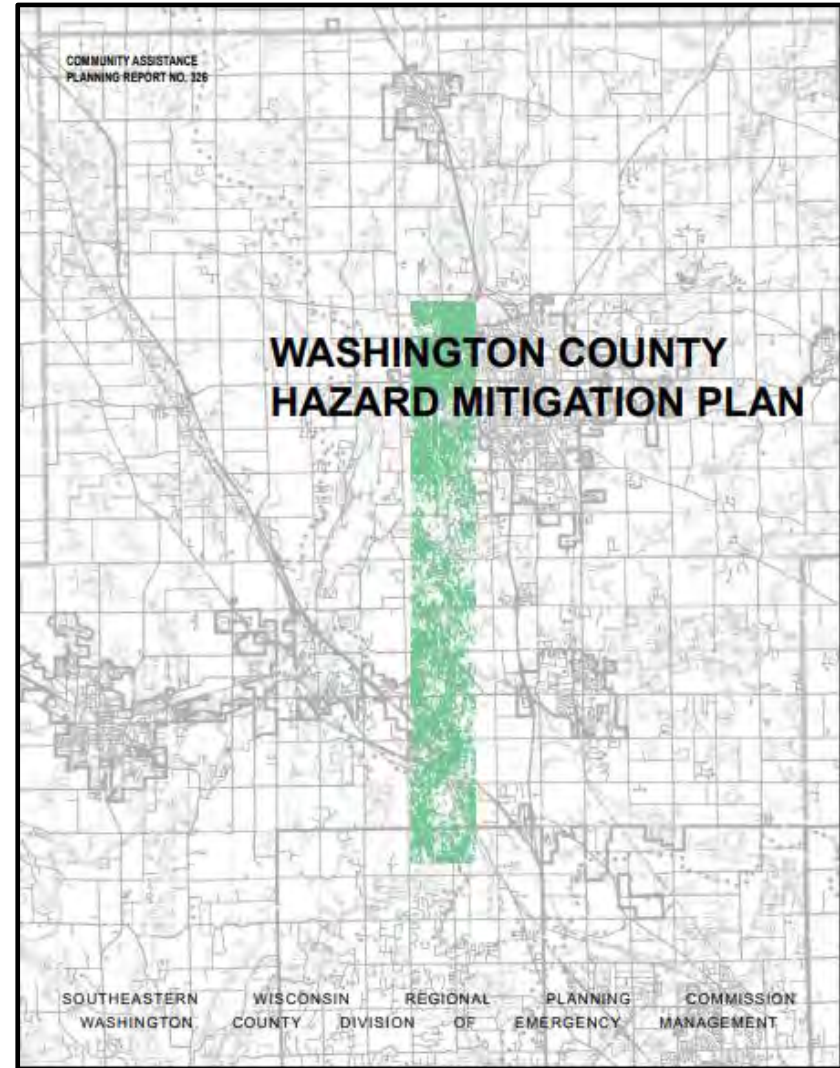


# ●●●●● Hazard Mitigation Planning

➤ FEMA Requires State, Tribal, and Local Governments Develop and Adopt a HMP to Receive **Non-Emergency Disaster Assistance**

- HMGP, FMA, and BRIC Programs

➤ Plans Must be Updated and Revised Every **Five** Years



# Washington County Hazard Mitigation Plan

- **2018**- First Disaster Hazard Mitigation Plan
  
- **2024** - (Current Plan)- First Hazard Disaster Mitigation Plan **Update**
  - Includes **All of the Municipalities** in the County
    - Multi-Jurisdictional
    - BRIC Program
  
  - Provides Strategies and Recommendations for Mitigating the Impacts of **Natural Weather** Hazards
  
  - **Plan Development and Updating** Overseen by a Local Planning Team (**LPT**) and Staff from **County EM** and **SEWRPC**





# ●●●●● Plan Components to Review and Revise

- Implementation and Outreach Activities (Ch. 1)
- County Natural and Built Features (Ch. 2)
- Reevaluate Identification of Hazards (Ch.3)
- Update and Reevaluate Risk Analysis (Ch.3)
- Revise Mitigation Goals (Ch.4)
- Mitigation Strategies (Ch.5)
- Update Plan Adoption, Implementation, and Maintenance Strategies (Ch.6)



## ➤ Demographic Characteristics

- Population, Household, and Employment Trends

## ➤ Existing and Planned Land Use

- 2015 and 2050 Urban and Nonurban Land Uses

## ➤ Natural Features

- Environmental Corridors, Wetlands, Watersheds, Major Lakes and Streams, and Floodplains

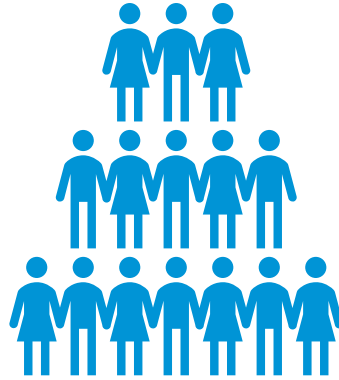
## ➤ Critical Community Facilities

## ➤ Climate Change Trends and Projections



## ➤ Population

- 2020: 136,761
- 2050: 180,500
- **32%** ↑



## ➤ Household

- 2020: 55,879
- 2050: 74,300
- **33%** ↑

## ➤ Employment

- 2020: 72,900
- 2050: 87,400
- **20%** ↑



## ➤ Land Use Development (Acres)

- 2015: 59,337 (Urban) 219,413 (Nonurban)
- 2050: 92,697 (Urban) 186,053 (Nonurban)





## Wisconsin Initiative on Climate Change Impacts

Nelson Institute for Environmental Studies | Wisconsin Department of Natural Resources

Working Groups

**Trends and Projections**

Impacts and Adaptation

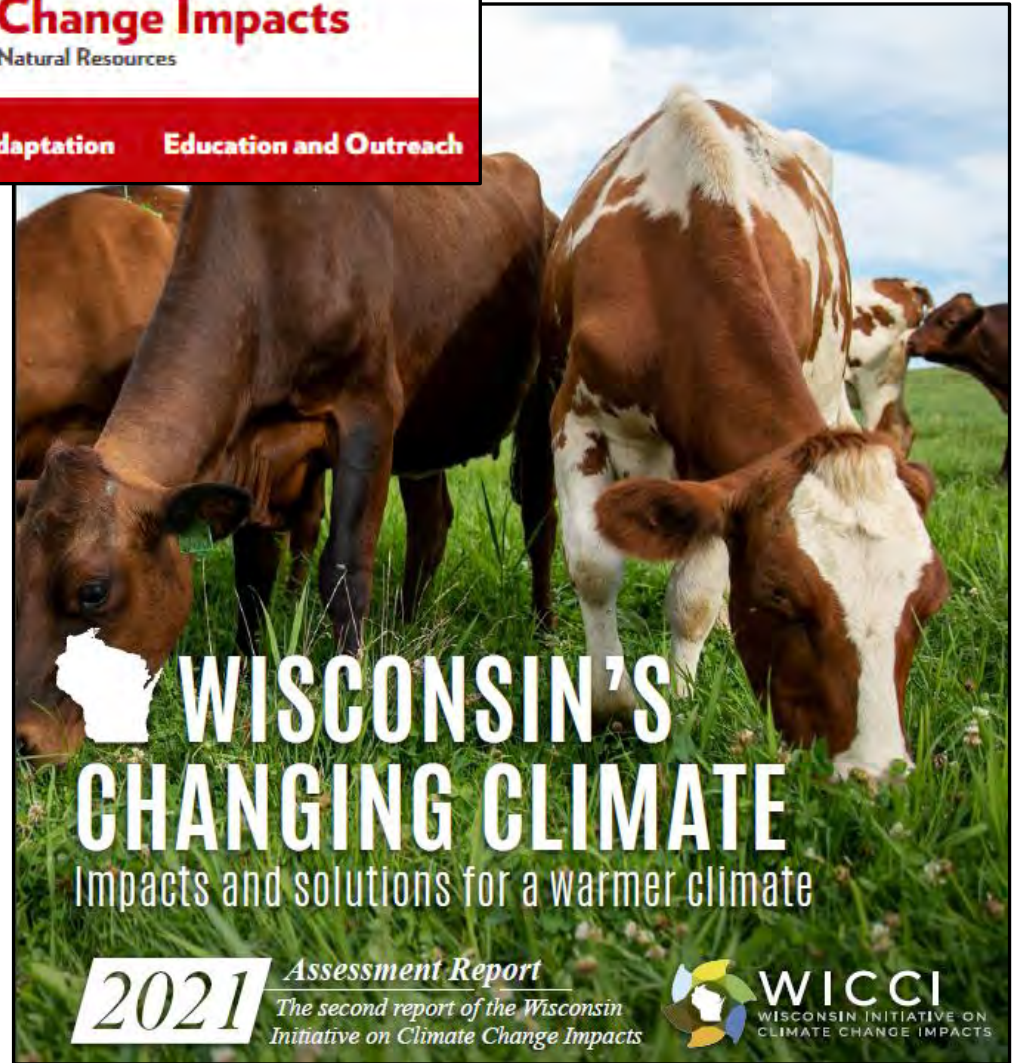
Education and Outreach

## ➤ Climate Change

- WICCI Data
- Trends and Projections
  - 1950-2018: Trends
  - 2041-2060: Projections
  - Fig's 2.1-2.4

## ➤ Impacts to Each Hazard

- Flooding and Extreme Temps



## ➤ Local Planning Team Input

- Hazard and Vulnerability Assessment Tool

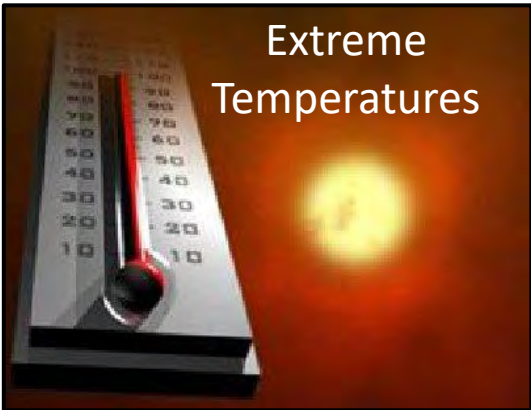
## ➤ Past Hazard Experiences

- Frequency of Occurrence
- Property and Crop Damages
- Fatalities and Injuries





# Natural Hazards Profiled in the Plan





## ➤ Most Profiles Follow A Similar Format:

- Definition and Description of the Hazard
- Description of Notable Events that Affected the County
- Assessment of Vulnerabilities to the Hazard and Community Impacts from the Hazard
  - **Vulnerability**- the likelihood/probability that a hazard event will occur
  - **Impact**- The consequences that the hazard would have
- Description of Potential Future Changes in Hazard Impacts
  - Potential Impacts related to **Climate Change**
- Discussion of Any Differences of Potential Risks to Hazards for Communities
  - **Risk**- Potential for Loss (property or life), due to a hard event



# Hazard Weather Events Reported

**Table 3.4**  
**Historical Hazard Events Recorded in Washington County**  
**(Sorted by Number of Events): 2001-2021**

Event	Number of Events	Deaths	Injuries	Property Damages (\$)	Crop Damages (\$)
Dust Storms	0	0	0	0	0
Wildfires/Forest Fires	0	0	0	0	0
Tornado	9	0	0	6,252,258	73,255
Flood	11	0	0	12,552,281	14,602,386
Lightning	16	0	0	3,306,445	1,130
Drought	18	0	0	0	5,438,873
Temperature Extremes	50	0	0	2,655	319,369
Fog	69	0	0	0	0
Hail	83	0	0	13,550,807	1,589,807
Thunderstorms/High Winds	152	0	1	1,970,767	3,278,770
Winter Storms, Snow, and Ice	164	0	0	39,798	443,699
<b>Total</b>	<b>572</b>	<b>0</b>	<b>1</b>	<b>37,675,011</b>	<b>25,747,289</b>

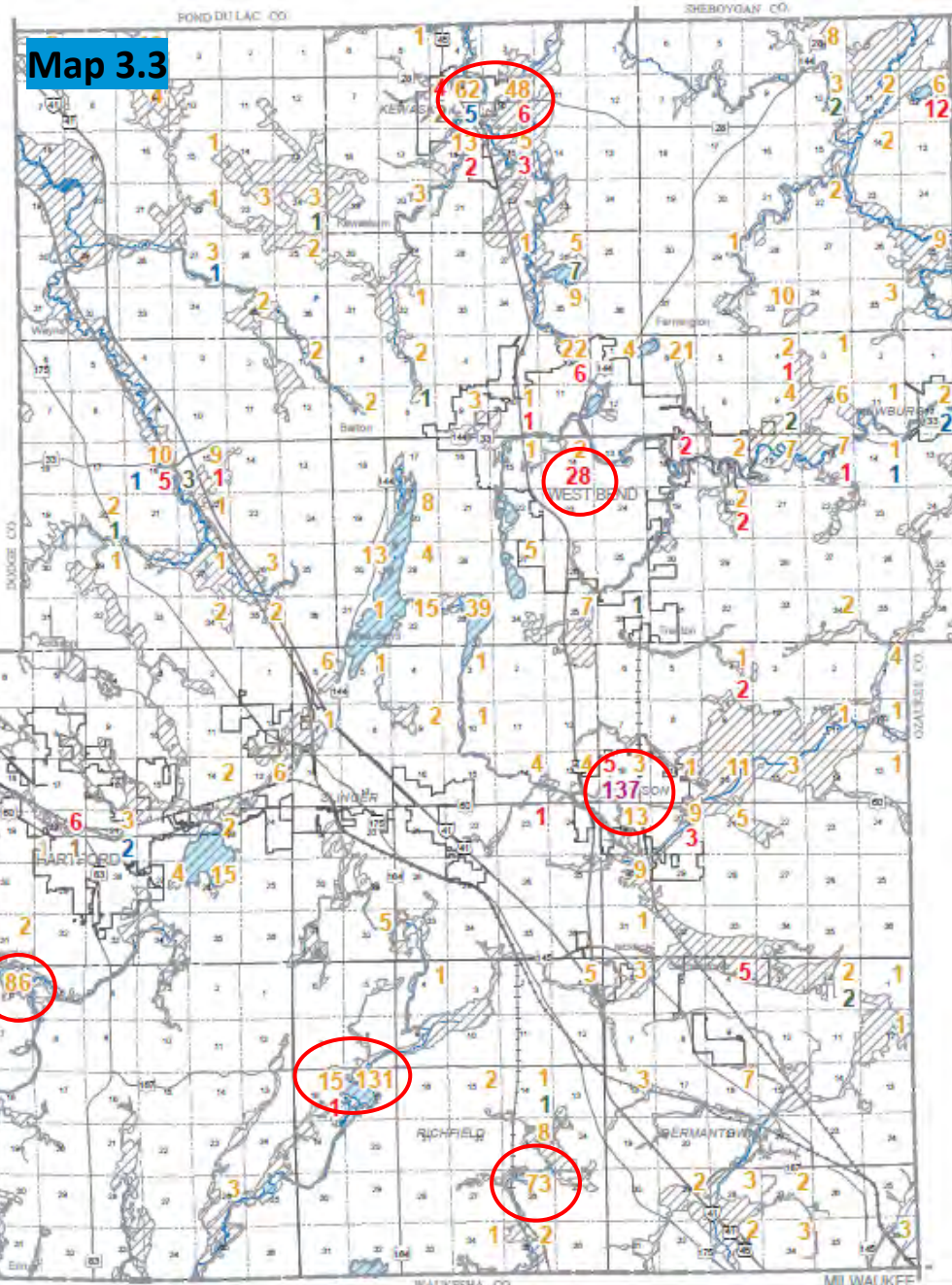
Note: Dollar Values were adjusted to year 2021 by the average annual Consumer Price Index (CPI) values from the U.S. Department of Labor, Bureau of Labor Statistics.

Source: National Centers for Environmental Information (NCEI), National Oceanic and Atmospheric Administration (NOAA), and the National Environmental Satellite, Data and Information Service (NESDIS), and the U.S. Department of Agriculture Risk Management Agency





Map 3.3



## Structures Located Within 100-Yr. Floodplain

### NUMBER OF STRUCTURES WITHIN U.S. PUBLIC LAND SURVEY

- 929 RESIDENTIAL STRUCTURES
- 97 COMMERCIAL STRUCTURES
- 21 AGRICULTURAL STRUCTURES
- 137 MANUFACTURED HOMES
- 12 GOVERNMENT STRUCTURES
- 1 INDUSTRIAL STRUCTURES
- 3 OTHER STRUCTURES



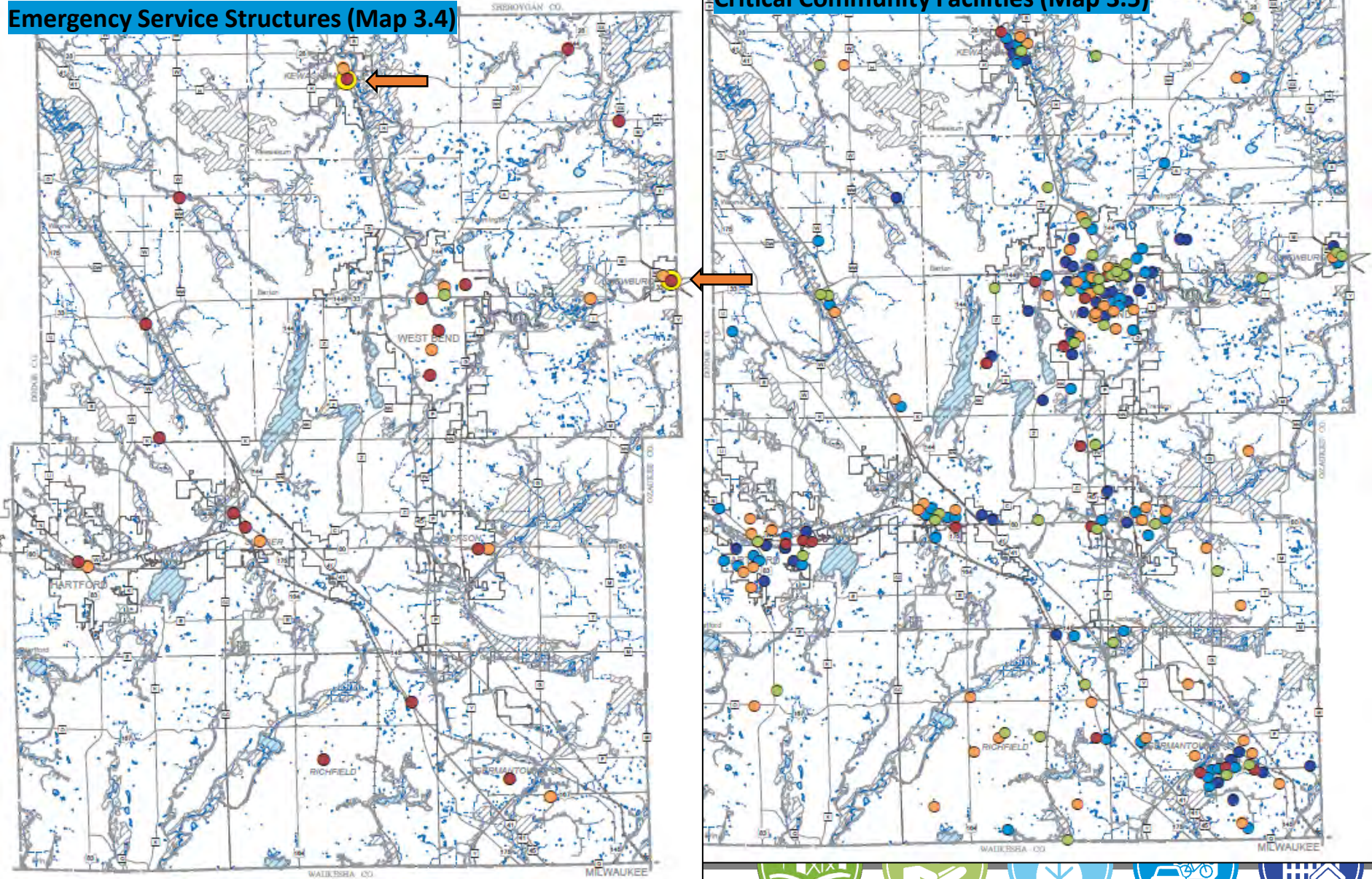




# Critical and Emergency Facilities Relative to the 100-Yr Floodplain

Emergency Service Structures (Map 3.4)

Critical Community Facilities (Map 3.5)





# Flooding Hazard (cont.)

**Table 3.9**  
**Estimated Flood Damages for a 1-Percent-Annual-Probability Flood in Washington County: 2022**

Municipality	Number of Structures in Floodplain	Flood Damages		
		Direct (\$)	Indirect (\$)	Total (\$)
<b>Cities</b>				
Hartford	13	908,070	348,240	1,256,310
Milwaukee	--	0	0	0
West Bend	41	2,912,370	1,148,380	4,060,750
<b>Villages</b>				
Germantown	29	149,550	22,850	172,400
Jackson	167	2,404,640	376,300	2,786,650
Kewaskum	135	1,549,340	287,920	1,837,260
Newburg	4	14,280	4,240	18,520
Richfield	236	4,782,230	729,400	5,511,630
Slinger	--	0	0	0
<b>Towns</b>				
Addison	44	874,490	182,080	1,072,010
Barton	58	670,720	109,110	770,500
Erin	89	1,244,180	186,830	1,431,010
Farmington	60	443,400	76,810	520,210
Germantown	11	13,600	5,440	19,040
Hartford	31	510,210	76,530	586,740
Jackson	47	190,270	28,540	218,810
Kewaskum	19	200,090	30,010	230,100
Polk	24	225,610	39,470	265,080
Trenton	63	795,940	145,750	941,690
Wayne	36	764,120	142,520	906,640
West Bend	93	745,660	111,890	857,550
<b>Total</b>	<b>1,200</b>	<b>1,998,770</b>	<b>4,052,310</b>	<b>23,451,080</b>

Note: Estimated damages are based on assessed improvement values in 2022.

Source: Federal Emergency Management Agency, Wisconsin Department of Natural Resources, Washington County, and SEWRPC





# Severe Weather (Thunderstorm-Related) Hazard

## ➤ Thunderstorm-Related Problems

- Thunderstorm Winds
- Non-Thunderstorm High Winds
- **Hail**
- Lightning





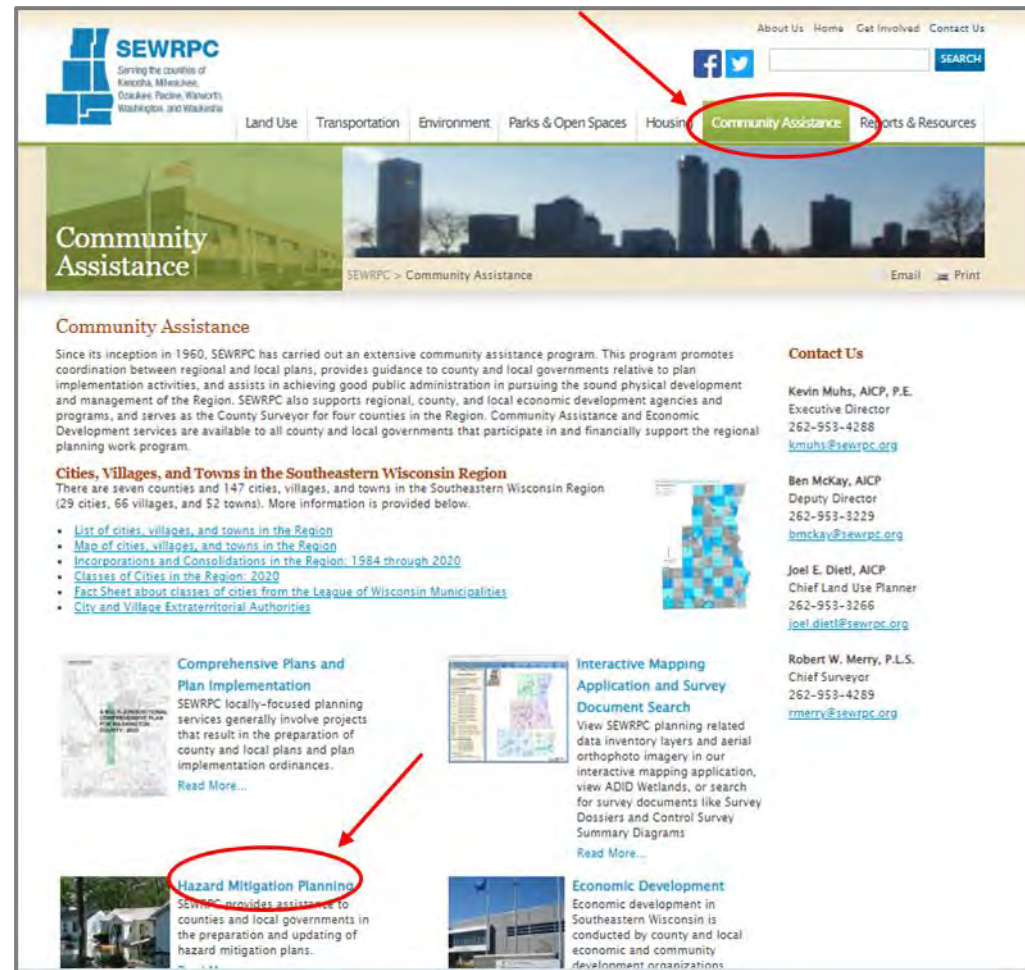
# ●●●●● Remaining Work to Review and Update:

- Hazard Mitigation **Goals and Objectives** (Ch.4)
- Recommended **Hazard Mitigation Strategies** (Ch.5)
- **Plan Adoption**, Implementation, and Maintenance Measures (Ch.6)



## ➤ [www.sewrpc.org/HMP](http://www.sewrpc.org/HMP)

- Agendas and other Meeting Materials
- Summary Notes from Meetings
- Presentations
- Draft Chapters as they are Completed
- Comment Screen
  - Or email [mshedivy@sewrpc.org](mailto:mshedivy@sewrpc.org)



# Thank You

**Megan Shedivy** | Planner

mshedivy@sewrpc.org | 262.953.4286

SEWRPC.org



/SEWRPC



@SEW\_RPC