

# Wexford County Natural Hazard Mitigation Plan – Input from WJPC

October 24, 2022



**Networks  
Northwest**

**Talent / Business / Community**

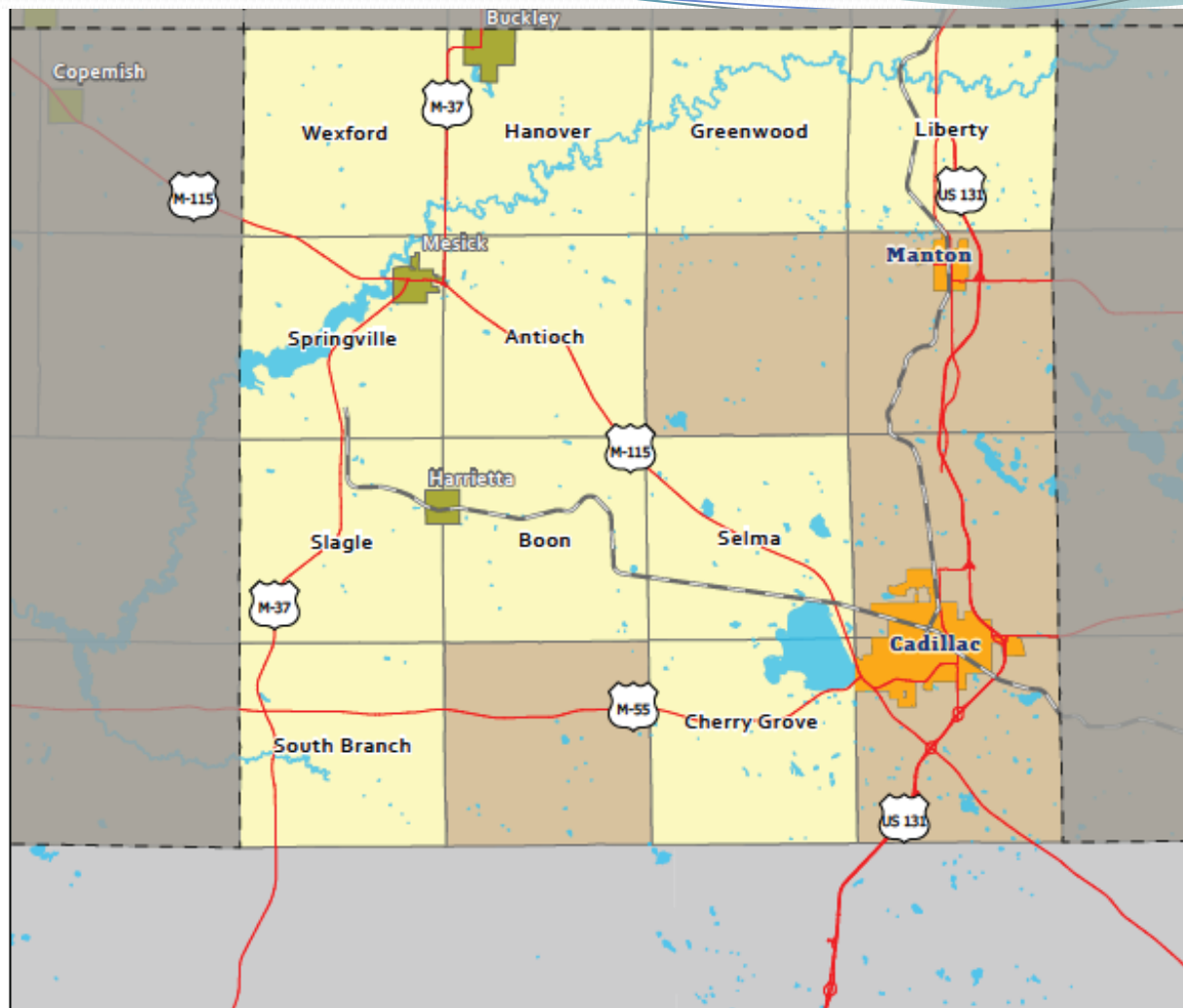


# Introductions

- Networks Northwest - Community Planners
  - Jennifer Neal, AICP (Project Mgr.)
  - Stephanie Marchbanks
  - Hannah Yurk
- Community Partners
  - Travis Baker, Wexford County Emergency Management Coordinator
  - Wexford County Emergency Mgmt. - Local Planning Team (LPT)

# Thank you for your participation!

- We will be discussing the following:
  - Purpose, scope and process of updating the Natural Hazard Mitigation Plan
  - Recap the Hazard Priority Areas from the 2015 Plan
  - Key community input received to-date
  - **Review and development of Hazard Mitigation Strategies**



## Joint PC Participating Townships in Wexford County

### Legend


- |             |                                  |                         |
|-------------|----------------------------------|-------------------------|
| Highways    | Joint PC Participating Townships | Other NW MI Counties    |
| Railroad    | Non-Participating Townships      | Counties Outside Region |
| Hydrology   | Cities                           |                         |
| Great Lakes | Villages                         |                         |





0 1.75 3.5 7 Miles

Map produced by Networks Northwest  
Community Development 4/29/2021

# Project Webpage [nwm.org/hazardplan](http://nwm.org/hazardplan)

**Networks Northwest**  
Talent / Business / Community

[TALENT](#)[BUSINESS](#)[COMMUNITY](#)[DATA](#)[ABOUT US](#)[NEWS & EVENTS](#)



**WEXFORD COUNTY**

## 2023 Hazard Mitigation Plan

Networks Northwest will assist the Wexford County Department of Emergency Management Director to update their plan.

### Community Survey

Thank you for your input! The [results of the community survey](#) will be utilized to inform the direction of the updated Natural Hazard Mitigation Plan.

### Meetings and Documentation

Natural Hazard Mitigation work meetings and documentation will be posted here as they become available. All meetings are open to the public.

Unless otherwise indicated, the Wexford County Local Planning Team (LPT) meets in person at the County Commissioners' Room, Historic Courthouse, 437 E. Division St., Cadillac, Michigan.

- [January 20, 2022 LPT at 10:00 am](#)
- [April 21, 2022 10:00 am at the Wexford County Sheriff's Office Training Room: Public Input Session/LPT on Hazard Identification](#)
  - [Presentation, Notes, and Hazard ID Mapping](#)
- [September 15, 2022 LPT at 10:00 am](#)
- [November 17, 2022 LPT at 10:00 am](#)
- [January 19, 2023 LPT at 10:00 am](#)

### Update Process

Phase I: Data collection and community survey

Phase II: Hazard identification and risk assessment

Phase III: Review and update hazard mitigation goals, priority areas, and implementation strategies.

Phase IV: Draft plan public comment period. Post the plan electronically and meet with the public for comments. Incorporate feedback from the public review period and make final edits to the plan.

Phase V: Plan Adoption. Facilitate the plan adoption process with the County Board of Commissioners and local officials.

### Drafts for Review:

[Partial Draft Wexford County Natural Hazard Mitigation Plan 9/15/2022](#)

## ABOUT US

## GOVERNMENTS

## FRAMEWORK FOR OUR FUTURE

## PROJECTS

## GROWTH & INVESTMENT

## TRANSPORTATION

## RECREATION

## NATURAL HAZARD MITIGATION

[Antrim County](#)[Benzie County](#)[Charlevoix County](#)[Emmet County](#)[Grand Traverse County](#)[Kalkaska County](#)[Leelanau County](#)[Manistee County](#)[Missaukee County](#)[Wexford County](#)

# Purpose

## Natural Hazard

**A natural hazard is the threat of an event that will likely have a negative impact.**

## Hazard Mitigation Planning

**“The effort to reduce loss of life and property by lessening the impact of disasters”**

Subscribe

Latest Issues

SCIENTIFIC  
AMERICAN

Cart 0 Sign In

## Billion-Dollar Disasters Shattered U.S. Record in 2020

The 22 events that each caused at least \$1 billion in damage show the increasing costs of climate change

By Thomas Frank, E&E News on January 11, 2021



An aerial view of flood waters from Hurricane Delta surrounding structures destroyed by Hurricane Laura on October 10, 2020 in Creole, Louisiana. Credit: Mario Tama Getty Images

# Purpose

1. Identify natural hazard risks and vulnerabilities.
  2. Develop long-term strategies for protecting people and property from natural hazard events.
  3. Establishes a coordinated process to implement the plan.
- **Government entities must have a current 5-year Hazard Mitigation Plan, adopted by their local government and approved by FEMA, to be eligible to apply (as the sub-applicant) for FEMA grants for future hazard mitigation projects, such as:**
    - Building Resilient Infrastructure & Communities (BRIC) Project grant
    - Hazard Mitigation Grant Program (HMGP) Project grant (and Post Fire grant if applicable)
    - Flood Mitigation Assistance Program (FMA) Project grant (Funds can be used for projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the [National Flood Insurance Program](#).)



# Hazard Mitigation Grant Program (HMGP)

- **Planning & Enforcement**
  - Developing and adopting [hazard mitigation plans](#), which are [required for state, local, tribal and territorial governments](#) to receive funding for their hazard mitigation projects.
  - Acquisition of hazard prone homes and businesses which enable owners to relocate to safer areas (acquisition).
  - Post-disaster code enforcement.
- **Flood Protection**
  - Protecting homes and businesses with permanent barriers to prevent floodwater from entering (levees, floodwalls, floodproofing).
  - Elevating structures above known flood levels to prevent and reduce losses (elevation).
  - Reconstructing a damaged dwelling on an elevated foundation to prevent and reduce future flood losses.
  - Drainage improvement projects to reduce flooding (flood risk reduction projects).
- **Retrofitting**
  - Structural retrofits to make a building more resistant to floods, wind, wildfire and other natural hazards.
  - Retrofits to utilities and other infrastructure to enhance resistance to natural hazards (utility retrofits).
- **Construction**
  - Construction of [safe rooms](#) for both communities and individual residences in areas prone to hurricane and tornado activity.
  - Slope stabilization projects to prevent and reduce losses to structures.



## Hazard Mitigation Assistance Guidance

Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program

*February 27, 2015*



**FEMA**

Federal Emergency Management Agency  
Department of Homeland Security  
500 C Street, S.W.  
Washington, DC 20472

[https://www.fema.gov/sites/default/files/2020-04/HMA\\_Guidance\\_FY15.pdf](https://www.fema.gov/sites/default/files/2020-04/HMA_Guidance_FY15.pdf)



# Building Resilient Infrastructure & Communities (BRIC) Grant Program

- BRIC funds may be used for:
  - Capability and capacity building (C&CB) activities
  - Mitigation projects
  - Management costs
  - Existing project types detailed in the Hazard Mitigation Assistance Guidance for the Pre-Disaster Mitigation grant program are eligible under the BRIC program.
- Projects must:
  - Be cost-effective
  - Reduce or eliminate risk and damage from future natural hazards
  - Meet either of the two latest published editions of relevant consensus-based codes, specifications and standards
  - Align with the applicable hazard mitigation plan (HMP)
  - Meet all Environmental and Historic Preservation (EHP) requirements



[https://www.fema.gov/sites/default/files/documents/fema\\_fy21-bric-mitigation-action-portfolio.pdf](https://www.fema.gov/sites/default/files/documents/fema_fy21-bric-mitigation-action-portfolio.pdf)

Provides a sampling of potential eligible project types and case studies in innovative mitigation projects:

- Inland flooding
- Wildfire
- Tornado
- Winter Storms
- Drought

# Project Timeline

- Now through December 2023



# Potential *Natural* Hazard Events

**Winter Storm** (*can produce ice, sleet, heavy snowfall, high winds...*)

**Severe Thunderstorms** (*can produce hail, lightning, high winds, flooding*)

**Extreme Temperatures**  
(*heat/cold*)

**High winds/Straight-line winds  
/Derecho**

**Tornado**

**Wildfire**

**Drought**

**Excessive Precipitation** (*may cause dam failure, erosion, flooding, contaminated water, etc.*)

**Public Health Emergency** (*i.e., pandemic; contaminated water supply*)

**Invasive Species** (*aquatic & terrestrial; can cause damage to native species, natural resource quality, recreation, etc.*)

**Wildlife or Zoonotic Diseases** (*i.e., Bovine TB, Avian Influenza, Swine Flu*)

# Progress to date

- Community Survey (12/1/2021- 03/03/2022)
- Public Engagement Session: Hazards Discussion & Mapping Exercise (04/21/22)
- Partial Draft Plan delivered to LPT (09/15/22)
  - Includes community profile (demographics, housing, income, economy, agriculture) and hazard analysis (location, extent, previous occurrences and probability of future events, vulnerability)
- Additional public engagement sessions to discuss hazards of concern and strategies:
  - Wexford JPC: 10/24/22
  - Remaining Communities: TBD Nov. 2022

# 2015 Wexford County Natural Hazard Mitigation Priority Areas

## Natural Hazards Mitigation Priority Areas

**Priority Area 1:** Extreme Winter Weather – Countywide heavy snow and extreme temperatures. Potential for ice damage specifically along lakeshores

Mitigation Strategies: ***Extreme Winter Weather***

**Priority Area 2:** Countywide potential wildfire/urban interface

Mitigation Strategies: ***Wildfire***

**Priority Area 3:** Countywide Severe Weather (Thunderstorms, High Winds, Tornadoes) – High damage potential affecting seasonal population influx and festivals held in various towns and villages throughout the County

Mitigation Strategies: ***Severe Weather***

**Priority Area 4:** Potential flash flooding in the Lake Mitchell, Muskegon River, and Manistee River watersheds

Mitigation Strategies: ***Flooding***



# Which Hazards are Most Concerning?

- April 2022 Public Input Session: What are your Top 3 Hazards of Concern?
- Survey: What type of natural hazards would have the largest impact on your community?

Electrical Grid Failure (6)

Snowstorm/Ice (5)

Pandemic (4)

High Winds/Tornado (4)

Bridge/Road Failure (3)

Fire (2)

Loss of Nature (1)

Wildfire (14)

High Winds/Tornado (13)

Flooding (12)

Illness Outbreak/Pandemic (11)

Extreme Winter Weather (blizzard, heavy snow, ice storm) (5)

Drought (3)

Power Outage (2)

Dam Failure (1)

# Infrastructure Concerns?

- Community Survey results:
  - Utility/Electrical Outage (7) (Lake Mitchell may overflow if electricity goes out)
  - Failing bridges/culverts/roads (7)
  - Failing dams (3)
  - Water contamination (1)
- April Public Meeting – Infrastructure concerns ranked from most concerning to least concerning:
  - Electrical grid failure
  - Communications failure
  - Loss of community facility (school, hospital, etc.)
  - Road closures
  - Loss of private homes/businesses
  - Bridge collapse
  - Water main break
  - Dam failure
  - Sewer failure

# Hazard Frequency and Location

Hazard Event Type	# of Events	Event Location	Time Interval/ Year Recorded
Wildfire	5 <sup>10</sup>	476 on MDNR land 34 on Federal land	1983-2018 1992-2018
Extreme Winter Weather	75	County/Region	1978*, 1997 - March 2022
Thunderstorm Wind/High Wind	62	County/Region	1990-2021 (* in 2008)
Hail	32	Countywide	1984-2021
Flood/Flash Flood	11	Countywide, City of Cadillac, City of Manton, Lake Cadillac, and areas along the Manistee River and its tributaries	2000-2014 (* in 2008 and 2014)
Tornado	8	Countywide	1963, 1968, 1974, 1976, 1980, 1989, 2006, 2010
Extreme Cold / Wind Chill	4	Region or Statewide	2007, 2014, 2015, 2019*
Drought	2	Region	1977*, 2001
Heat/Excessive Heat	2	Region	2001, 2018
Lightning	1	Countywide/Region	2000
Public Health Emergency (COVID-19 Pandemic)	1	Statewide/Nationwide	2020*

# Identifying Strategies for each Natural Hazard

- Review the draft hazard maps and strategy tables.
    - County-wide risks: Severe winter storms, high winds, tornadoes, severe thunderstorms, hail, extreme heat/cold, drought
    - Site-Specific risks: wildfire, flooding concerns, dams, invasive species, wildlife diseases, impacts to vulnerable populations (i.e., campgrounds, mobile homes, *Christmas tree farms*)
  - Provide input:
    - What are we missing for **your community**? **Mark it on the map and/or provide a strategy for a hazard.**
    - What should be **removed or corrected** on the map or tables?
- 
- *Later this fall/winter we will prioritize the strategies and develop implementation methods.*