Manistee County Hazard Mitigation Plan Update December 20, 2021



Welcome

- Thank you for joining us!
- We will be discussing the following:
 - Manistee County and local jurisdiction's Community Profile
 - Results of the Community Survey to-date

Introductions

- Networks Northwest Staff
 - Jennifer Neal, AICP
 - Stephanie Loria
- Community Partners

Purpose

Hazard Mitigation Planning

"The effort to reduce loss of life and property by lessening the impact of disasters"





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*

Project Timeline

Now through December 2023



From Fishtown To State Theatre, High Waters Wreak Havoc - With Trend Likely To Continue

By Beth Milligan | Nov. 18, 2019

The impacts of near-record lake levels will continue to be felt this winter, with major repair projects needed at sites ranging from Fishtown to the State Theatre, planning

Manistee County LEPC/LPT Membership

Meghan Powers	American Red Cross
Glenn Zaring	City of Manistee, ZBA member
Andrew Bradford	CMS Energy - Senior Maintenance Supervisor
Todd Guenthardt	CMS Energy in Filer City - Maintenance Superintendent
M. Novak	Interstate Asphalt
Jon Adams	Interstate Asphalt Corp Terminal Manager
Breanna Knudsen	LRBOI Tribal Emergency Response Program Specialist
Brandy Martin	LRBOI Tribal Emergency Response Team
Robert Medacco	LRBOI Tribal Public Safety Director
Jim Espvik	Manistee County 911 Director
Lisa Sagala	Manistee County Administrator
Jeff Dontz	Manistee County Commission Chair
Mike Machen	Manistee County Emergency Management Coordinator/911 Deputy Director
Mike Szokola	Manistee County GIS Specialist / Planning Director
Joe Coleman	Manistee County Medical Care Facility, Administrator
John Taylor	Manistee County Medical Care Facility, Chief of Plant Operations
Josh Glass	Manistee County Police Chief
Mark Sohlden	Manistee County Road Commission Director
Brian Gutowski	Manistee County Sheriff
Jason Torrey	Manistee County Undersheriff
Tim Tritten	Martin Marietta in City of Manistee - Project Engineer
Jennifer Savage	MDHHS District 10, Director
Bret Haner	MDHHS District 10, EPC
Frank Keck	MSP District 7, Assistant Commander
Lt. Michael DeCastro	MSP District 7, District Coordinator
Fred Craigin	Munson Healthcare Manistee Hospital and Paul Oliver Memorial Hospital - Safety, Security and E. M. Manager
Pat Bak	National Weather Service Forecast Office, Gaylord, Regional Coordinator
Angela Wang	PCA Filer City Containerboard Mill
C. Brandt	PCA Filer City Containerboard Mill
J. Carpenter	PCA Filer City Containerboard Mill
Samantha Vanaelst	PCA Filer City Containerboard Mill
J. Kosmowski	PCA Filer City Containerboard Mill

Community Profile*

 Demographics Housing Income Economy

Agriculture

*2019 ACS 5-year data unless otherwise specified



Great Lakes water levels surge, some record highs predicted

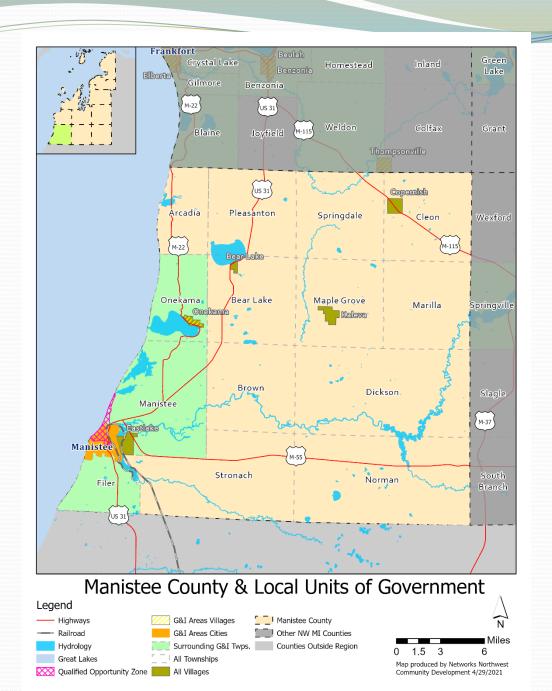
By ASSOCIATED PRESS + MAY 7, 2019

Twitter

Email



CREDIT ROBERT FRANKLIN / SOUTH BEND TRIBUNE VIA AP



Reference Documents

- Manistee County Master Plan
- Manistee County Strategic Plan
- Other local and regional reports



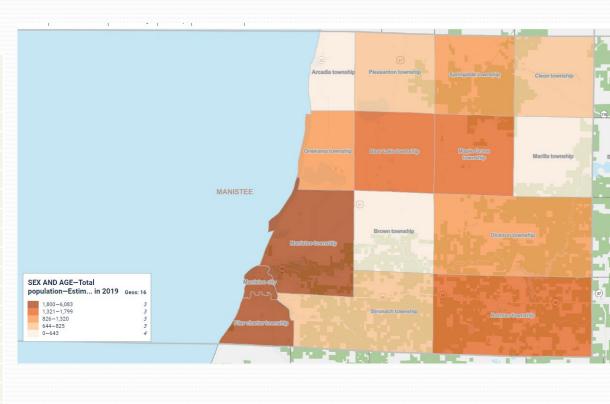






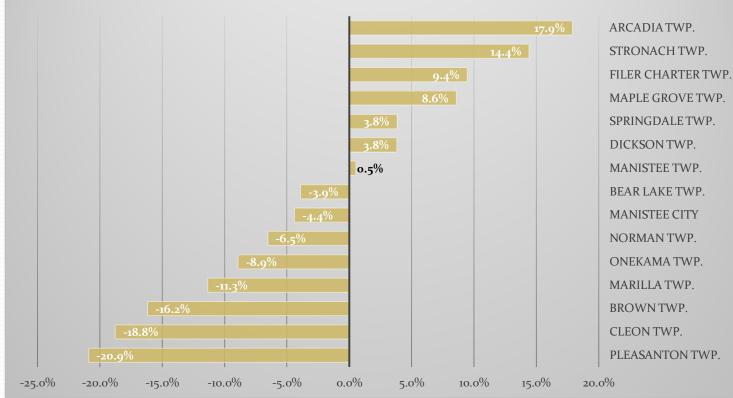
Population by local jurisdiction

2019 Estimated	<i></i>
Population	%
24,457	
6,083	24.9%
4,076	16.7%
2,641	10.8%
1,799	7.4%
1,390	5.7%
1,342	5.5%
1,320	5.4%
949	3.9%
899	3.7%
825	3.4%
788	3.2%
727	3.0%
643	2.6%
639	2.6%
336	1.4%
	Population 24,457 6,083 4,076 2,641 1,799 1,390 1,342 1,320 949 899 825 788 727 643 639



Population change

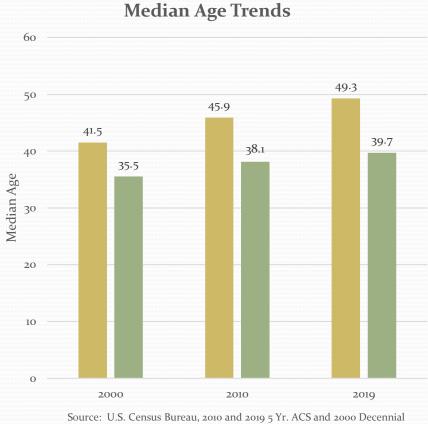
Percent Change in Estimated Population, Manistee County Jurisdictions, 2010-2019



Population change by local jurisdiction

	2010	2019		
Jurisdiction	Estimated	Estimated	Numeric	Percent
	Population	Population	Change	Change
Manistee County	24,951	24,457	-494	-2.0%
Pleasanton Twp.	919	727	-192	-20.9%
Cleon Twp.	970	788	-182	-18.8%
Brown Twp.	767	643	-124	-16.2%
Marilla Twp.	379	336	-43	-11.3%
Onekama Twp.	1,449	1,320	-129	-8.9%
Norman Twp.	1,487	1,390	-97	-6.5%
Manistee City	6,362	6,083	-279	-4.4%
Bear Lake Twp.	1,872	1,799	-73	-3.9%
Manistee Twp.	4,054	4,076	22	0.5%
Dickson Twp.	866	899	33	3.8%
Springdale Twp.	914	949	35	3.8%
Maple Grove Twp.	1,236	1,342	106	8.6%
Filer Charter Twp.	2,413	2,641	228	9.4%
Stronach Twp.	721	825	104	14.4%
Arcadia Twp.	542	639	97	17.9%

Median age



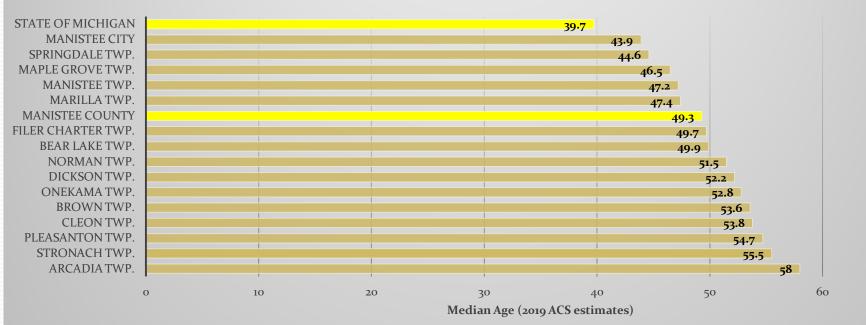
Census

Manistee County Michigan

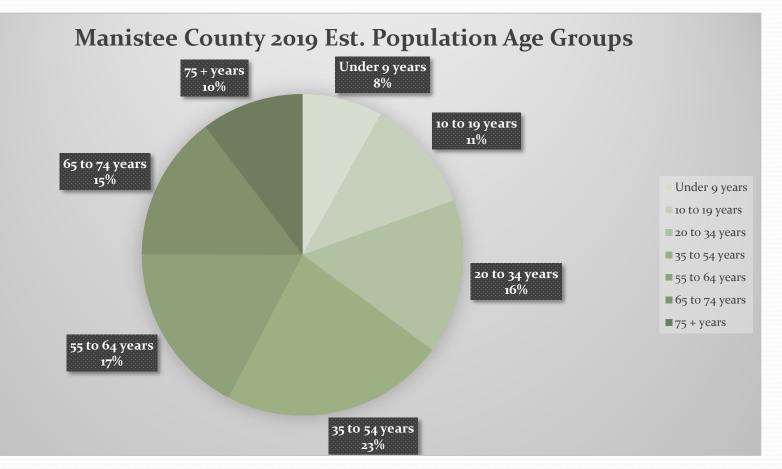
Median age

Median Age Comparison: Manistee County Jurisdictions and State of MI

70



Age Distribution



• Manistee County: Estimated 2019 Age Distribution by Municipality

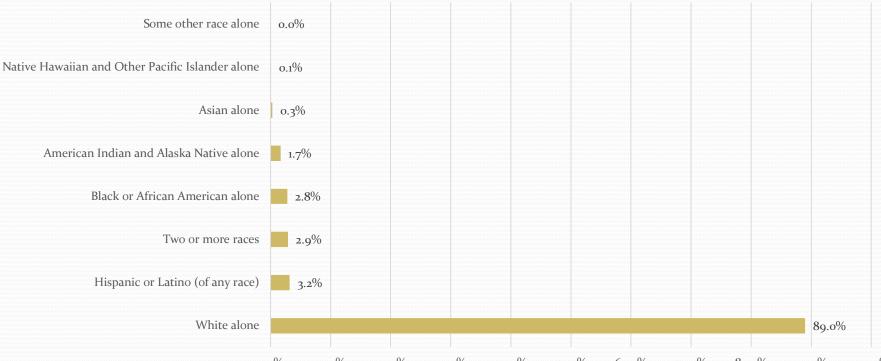
Jurisdiction	Median Age	Under 9 years	%	10 to 19 years	%	20 to 34 years	%	35 to 54 years	%	55 to 64 years	%	65 to 74 years	%	75 + years	%	Total Pop.
State of Michigan	39.7	1,162,159	11.7%	1,284,833	12.9%	1,972,568	19.8%	2,482,628	24.9%	1,396,734	14.0%	483,853	4.9%	690,926	6.9%	9,965,265
Manistee City	43.9	569	9.4%	875	14.4%	985	16.2%	1,358	22.3%	1,013	16.7%	807	13.3%	476	7.8%	6,083
Springdale Twp.	44.6	121	12.8%	127	13.4%	123	13.0%	207	21.8%	193	20.3%	118	12.4%	60	6.3%	949
Maple Grove Twp.	46.5	136	10.1%	127	9.5%	246	18.3%	347	25.9%	203	15.1%	159	11.8%	124	9.2%	1,342
Manistee Twp.	47.2	191	4.7%	332	8.1%	968	23.7%	918	22.5%	592	14.5%	621	15.2%	454	11.1%	4,076
Marilla Twp.	47.4	25	7.4%	30	8.9%	53	15.8%	85	25.3%	56	16.7%	72	21.4%	15	4.5%	336
Manistee County	49.3	1,974	8.1%	2,796	11.4%	3,804	15.6%	5,517	22.6%	4,256	17.4%	3,582	14.6%	2,528	10. <mark>3</mark> %	24,457
Filer Charter Twp.	49.7	232	8.8%	353	13.4%	346	13.1%	590	22.3%	424	16.1%	336	12.7%	360	13.6%	2,641
Bear Lake Twp.	49.9	168	9.3%	233	13.0%	201	11.2%	413	23.0%	325	18.1%	252	14.0%	207	11.5%	1,799
Norman Twp.	51.5	89	6.4%	125	9.0%	223	16.0%	307	22.1%	257	18.5%	229	16.5%	160	11.5%	1,390
Dickson Twp.	52.2	103	11.5%	78	8.7%	113	12.6%	194	21.6%	196	21.8%	103	11.5%	112	12.5%	899
Onekama Twp.	52.8	107	8.1%	143	10.8%	177	13.4%	270	20.5%	229	17.3%	234	17.7%	160	12.1%	1,320
Brown Twp.	53.6	53	8.2%	52	8.1%	118	18.4%	114	17.7%	140	21.8%	104	16.2%	62	9.6%	643
Cleon Twp.	53.8	65	8.2%	71	9.0%	82	10.4%	192	24.4%	195	24.7%	131	16.6%	52	6.6%	788
Pleasanton Twp.	54.7	28	3.9%	94	12.9%	78	10.7%	170	23.4%	131	18.0%	134	18.4%	92	12.7%	727
Stronach Twp.	55.5	58	7.0%	63	7.6%	64	7.8%	219	26.5%	186	22.5%	155	18.8%	80	9.7%	825
Arcadia Twp.	58	29	4.5%	93	14.6%	27	4.2%	133	20.8%	116	18.2%	127	19.9%	114	17.8%	639

• Disability Status In Manistee County

Manistee County	Total	With a disability	Percent with a disability					
Total civilian noninstitutionalized population	23,218	4,227	18.20%					
AGE								
Under 5 years	930	38	4.10%					
5 to 17 years	3,342	176	5.30%					
18 to 34 years	3,564	371	10.40%					
35 to 64 years	9,407	1,579	16.80%					
65 to 74 years	3,552	895	25.20%					
75 years and over	2,423	1,168	48.20%					
DISABILITY TYPE								
With a vision difficulty	(X)	581	2.50%					
With a self-care difficulty	(X)	790	3.50%					
With a hearing difficulty	(X)	1,604	6.90%					
With a cognitive difficulty	(X)	1,648	7.40%					
With an independent living difficulty	(X)	1,607	8.50%					
With an ambulatory difficulty	(X)	2,110	9.50%					
Note: An $ (X) $ more start the estimate is not employed as not excitable								

Note: An "(X)" means that the estimate is not applicable or not available.

Population by Race



Manistee County 2019 Population by Race

0.0% 10.0% 20.0% 30.0% 40.0% 50.0% 60.0% 70.0% 80.0% 90.0% 100.0%

Limited English-Speaking Households

Limited English-Speaking HH in Manistee County

Jurisdiction	Speaking Spanish	Speaking Other Indo-European languages	Speaking Asian and Pacific Island languages
Cleon Twp.	3		
Manistee City	9	10	7
Norman Twp.	2		
Springdale Twp.	2		

Housing

• Units by local jurisdiction

	2010 Housing Units	2019 Housing Units	Unit Change	% Change
Manistee County	15,650	15,848	198	1.3%
Stronach Twp.	550	672	122	22.2%
Springdale Twp.	619	725	106	17.1%
Arcadia Twp.	517	604	87	16.8%
Manistee Twp.	1,485	1,713	228	15.4%
Dickson Twp.	693	784	91	13.1%
Onekama Twp.	1,228	1,357	129	10.5%
Filer Charter Twp.	1,244	1,318	74	5.9%
Cleon Twp.	516	542	26	5.0%
Marilla Twp.	241	244	3	1.2%
Bear Lake Twp.	980	949	-31	-3.2%
Maple Grove Twp.	788	756	-32	-4.1%
Manistee City	3,778	3,618	-160	-4.2%
Norman Twp.	1,709	1,493	-216	-12.6%
Pleasanton Twp.	812	686	-126	-15.5%
Brown Twp.	490	387	-103	-21.0%

Housing

County Occupancy Status

Manistee County Housing Unit Occupancy

Total housing units	15,848	%
Occupied housing units	9,426	59.5%
Owner-occupied	7,861	83.4%
Renter-occupied	1,565	16.6%
Vacant housing units	6,422	40.5%
Average household size of owner-occupied unit	2.49 persons	
Average household size of renter-occupied unit	2.2 persons	

Housing

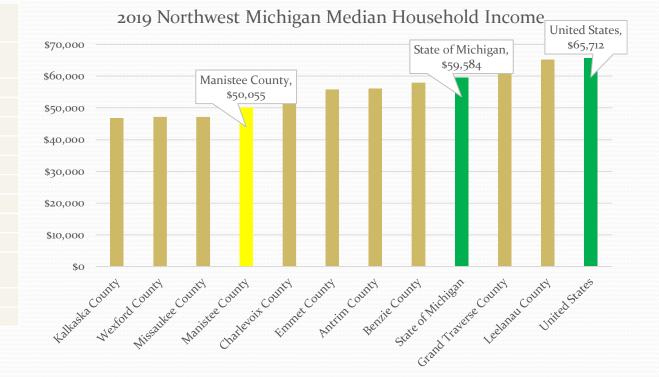
• Units by Year Structure Built

Year Structure Built	Estimated Percentage of Housing Units in 2019	
Built 2014 or later	0.6	
Built 2010 to 2013	0.6	
Built 2000 to 2009	10.2	
Built 1990 to 1999	14.1	
Built 1980 to 1989	11,1	
Built 1970 to 1979	15.2	62 all of the housing is to on
Built 1960 to 1969	13.6	63.3% of the housing is 40 or
Built 1950 to 1959	8.9	more years old
Built 1940 to 1949	6.4	more jeurs ora
Built 1939 or earlier	19.2	

Income

Median Household Income by County

2019 Median Household Income Median Location Income Kalkaska County \$46,898 Wexford County \$47,193 Missaukee County \$47,194 Manistee County \$50,055 Charlevoix County \$55,760 **Emmet County** \$55,829 Antrim County \$56,165 Benzie County \$57,974 State of Michigan \$59,584 **Grand Traverse** County \$63,575 Leelanau County \$65,249 United States \$65,712



Income

• Poverty Rates – Individuals and Households

Manistee County	Total	Below poverty level	% Below poverty level
Population for whom poverty status is determined	23,122	2,652	11.5
Individuals under 18 years	4,164	695	16.7
Individuals 18 to 64 years	12,983	1,502	11.6
Individuals 65 years and over	5,975	455	7.6
Total households in Manistee County	9,426	1,065	11.3
Family Households			433
In married-couple family:			192
In other family:			241
Male householder, no spouse present:			38
Female householder, no spouse present:			203
In Non-Family Households			632
Source: US Census Bureau 2019 ACS 5-Yr Estimates			

Income

• ALICE: Asset Limited, Income Constrained, Employed = households with income above the Federal Poverty Level, but below the basic cost of living.

ALICE and Poverty Households in Manistee County

Location	Total HH in Poverty and ALICE	% of HH in Poverty and ALICE	Poverty HH	ALICE HH	Total HH
Marilla Twp.	55	43.0%	14	41	128
Arcadia Twp.	88	33.2%	21	67	265
Brown Twp.	97	42.0%	21	76	231
Stronach Twp.	137	36.1%	39	98	380
Cleon Twp.	138	43.8%	50	88	315
Pleasanton Twp.	138	41.9%	48	90	329
Springdale Twp.	147	43.8%	58	89	336
Onekama Twp.	160	30.9%	20	140	518
Dickson Twp.	189	52.1%	61	128	363
Bear Lake Twp.	227	37.2%	67	160	611
Maple Grove Twp.	248	50.8%	77	171	488
Norman Twp.	275	49.0%	60	215	561
Filer Charter Twp.	404	38.7%	54	350	1,043
Manistee Twp.	502	39.1%	130	372	1,283
Manistee City	1,223	47.5%	345	878	2,575
MANISTEE COUNTY	4,028	42.7%	1,065	2,963	9,426

44 ALICE households are more likely to live in housing units and communities that are more vulnerable to flooding, fire, and other hazards, primarily because those areas are more affordable.

Data Sources: 2019 ACS 5-Yr Estimates and https://www.unitedforalice.org/state-overview/michigan

Agriculture



"WE ARE IN A WAR ZONE AGAINST THIS DISEASE." CLIMATE CHANGE IS FUELING FIRE BLIGHT, AND NORTHERN MICHIGAN'S APPLE ORCHARDS ARE AT RISK. BY TODD VANSICKLE | OCT. 5, 2019 What is this contagion? What does it mean for the future of our fruit and orchards? And what — if anything

- can we do about it?

Manistee County Profile, 2017 USDA Census of Agriculture

	Total	2017	% Change since 2012	Rank out of counties in MI producing item(s)	Rank out of counties in U.S. producing item(s)	
	Number of farms	274	-15%			
	Land in farms (acres)	41,371	-7%			
	Average size of farm (acres)	151	10%			
	Percent of state agricultural sales	<0.5%		60 out of 83	2,653 out of 3,077	
	Market value of products sold	\$10,325,000	35%			
	Crops	\$7,804,000		54 out of 83	2,157 out of 3,073	
	Livestock, poultry and other animal products	\$2,522,000		68 out of 82	6,670 out of 3,073	
	Government payments (avg per farm receiving)	\$246,000	2%			
	Farm-related income	\$1,343,000	-6%			
ng	Farm production expenses	\$11,398,000	13%			
	Net cash farm income	\$515,000	163%			
	Per Farm Average	2017	% Change since 2012			
	Market value of products sold	\$37,683,000	60%			
	Total farm production expenses	\$41,599,000	33%			
	Government payments (avg per farm receiving)	\$5,992,000	5%			
	Farm-related income	\$12,789,000	-30%			
	Net cash farm income https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Res	\$1,881,000	174%			

Manistee County Hazard Mitigation Community Survey Responses from 12/3/21 to 12/17/21

- 24 responded out of 124 invitations = 19.35 % response rate
- Received at least one response representing all communities, EXCEPT: Arcadia Twp., Bear Lake Twp., Dickson Twp., Pleasanton Twp., Stronach Twp., Village of Copemish, and Village of Onekama
- Representation:
 - Local governments (elected & appointed officials; planning commission members, public works)
 - Law enforcement
 - DHD #10
 - Blacker Airport
 - Munson Medical Care Facility
 - American Red Cross Disaster Program
 - Manistee Conservation District
 - TES Filer City Energy Plant
 - Local citizens

Manistee County Hazard Mitigation Community Survey Responses from 12/3/21 to 12/17/21

Aim to get more responses from:

Arcadia Twp., Bear Lake Twp., Dickson Twp.,
Pleasanton Twp., Stronach Twp., Village of
Copemish, and Village of Onekama

Manistee County Road Commission

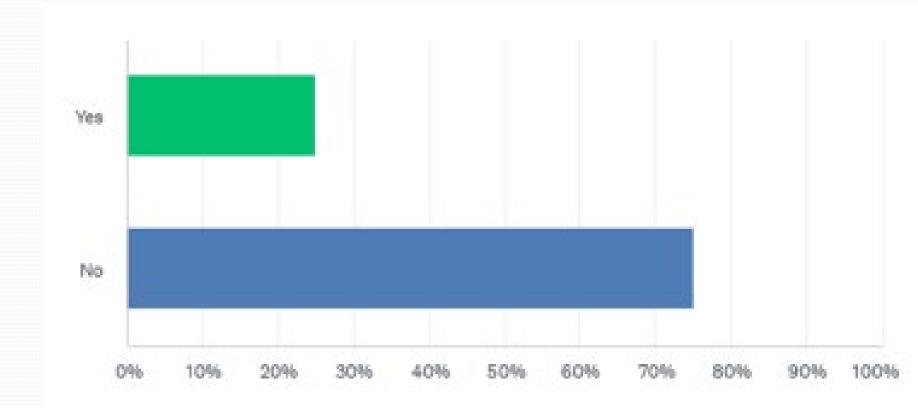
Manistee Public Schools

Fire Depts.

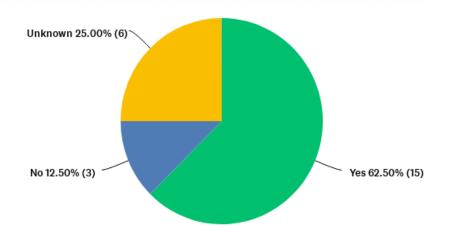
More LEPC/LPT members

???

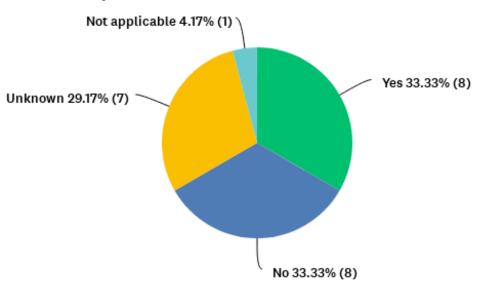
Q3: Are you familiar with the county's Natural Hazard Mitigation Plan?



Q4: Does the community you represent have an adopted Master Plan?



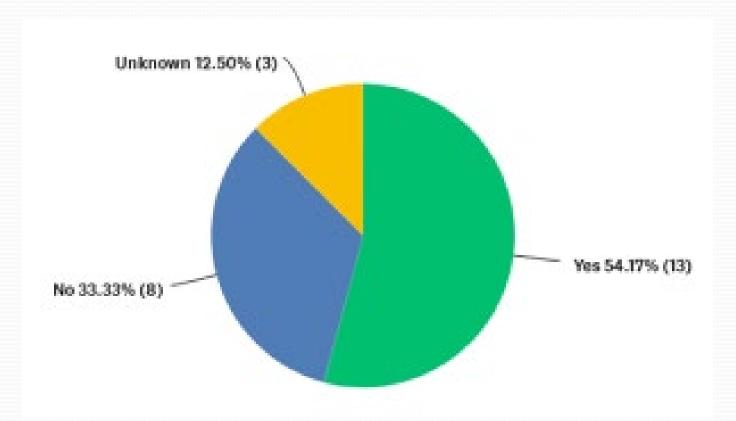
Q5: Does the community you represent have an adopted Capital Improvements Plan?



Yes: Manistee County, City of Manistee, Manistee Twp., Marilla Twp., Village of Bear Lake, Maple Grove Twp., Cleon Twp., Filer Twp., Onekama Twp.

Yes: Manistee County, City of Manistee, Village of Kaleva, Onekama Twp.

Q6: Has the community you represent experienced a significant natural hazard event within the last 10 years?



Q7:If so, what was the nature of the event?

Straight line wind storms (considered an abnormal weather event) took place in late summer 2021.

Erosion of dunes along Lake Michigan, while a normal part of the ecology of dune ecosystems, may be accelerated due to climate change impacts and has raised concerns in terms of being "hazardous" due to the proximity of structures being so close to eroding dunes along Lake Michigan.

Flooding and **high water levels on Lake MI and connecting water ways**. Flooding events partly tied to effects from climate change occurred in 2019 and 2020. Greater than 100 year flood event (Pine Creek). 7/21/2016 ~12" of rain caused localized flooding.

Winter storms; power outage due to snow

Wildfire

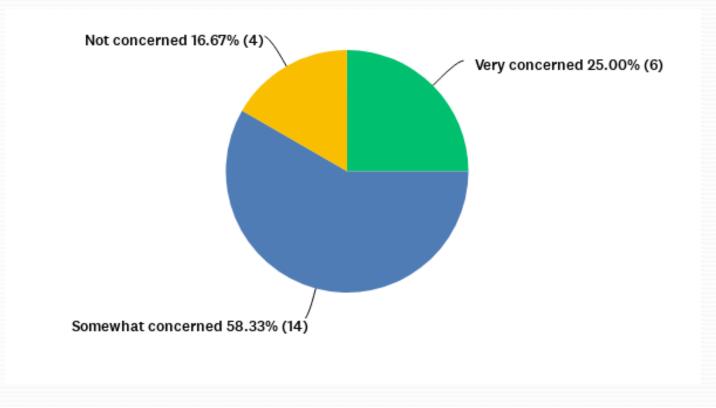
COVID-19

Other:

• Meteo Sunami (?)

• Multi-Family Fires, Chemical event, Active Shooter, other (*These are considered to be human-caused hazardous events and not considered to be "natural hazards*".)

Q8: How concerned are you about future natural hazard events impacting your community?



Q9. What type of natural hazard events are likely to have the largest impact on your community, for example fire, flood, drought, illness outbreak, etc.?

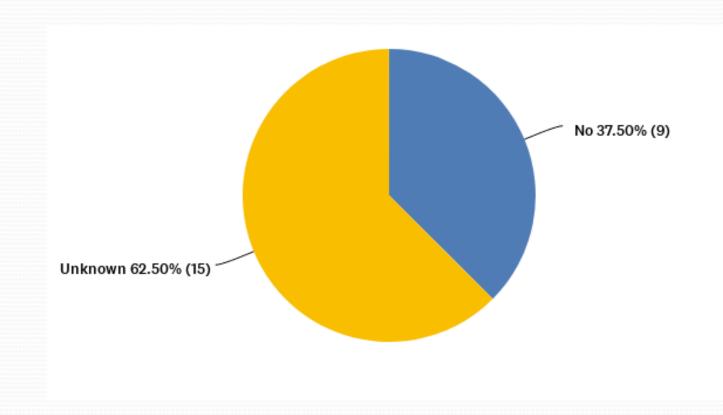
- 1. High Winds
- 2. Flooding/High Water Levels
- 3. Wildfire
- 4. Illness Outbreak
- 5. Winter Storms
- 6. Erosion
- 7. Power Outages
- 8. Drought
- 9. Dam Failure
- 10. High intensity storms/erratic weather patterns; extreme heat/cold events

Also mentioned:

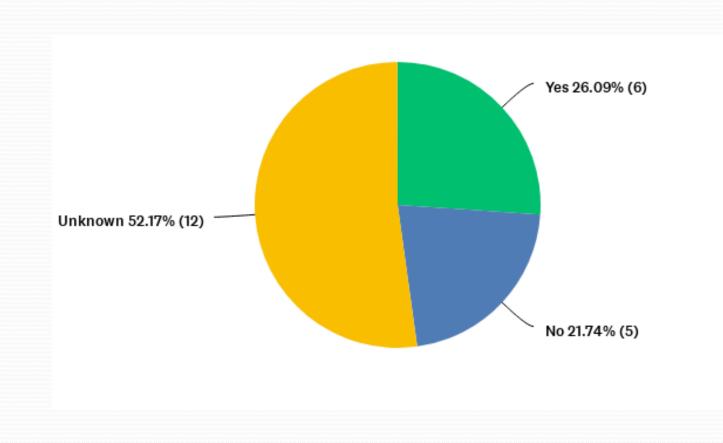
Loss of water to our wells; Pollution of waterways; Village storm water drain collapse; Lightning; Tornado Q10. Does your community have concerns about infrastructure (dams, bridges, utilities, etc.) and the potential for a hazardous event in the future? Please describe.

- Ensure reliable utility services: (electric, phone, increase broadband service)
- Update aging and outdated infrastructure: sewers, bridges, etc.
 - Fix improperly sized culverts.
 - Correct illicit connections of sanitary sewers to storm sewers
 - Bridges in the City of Manistee are likely out of date and due for improvement
- Excess dune/shoreline erosion impacting structures close to Lake MI
- Roads and boat ramp areas
- Airport relies on electric service to operate
- Dams: Thompsonville dam was privately owned and blew out many years ago. The Hodenpyle and Tippy dams are still in use.

Q11: Has your community requested assistance for mitigation projects in the past?



Q13: Has your community considered mitigation strategies for potential or current hazards?



Q13: Has your community considered mitigation strategies for potential or current hazards?

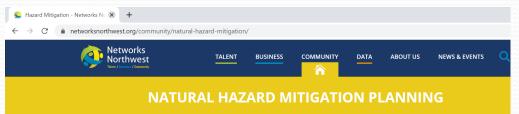
- Some landowners along Lake Michigan are hiring contractors to modify the slope of their dune, placing riprap, constructing sea walls, or taking other measures to address shoreline erosion on their specific parcel In the future we [Manistee Conservation District] would like to increase the frequency of educational events where the topic is the ecology and dynamics of the Great Lakes and shoreline ecosystems, as well as the importance of native plant communities, placement of structures, etc. We would also like to explore financial opportunities for landowners wanting to address shoreline erosion that is causing issues with their structures (such as homes collapsing into Lake Michigan). We would also like to explore and better understand options for landowners whose forests are leveled by abnormal windstorms this might include options such as disaster relief provided by Farm Service Agency.
- We [Marilla Twp.] do recognize and have discussed our lack of tech accessibility.
- **Flood mitigation projects** eliminating illicit connections and implementing a wet weather corrective action program **annual tree removal and trimming** [*City of Manistee*].
- More space to spread out people in a congregate setting [Manistee County Medical Care Facility]

Q15. Is there any additional information you would like us to consider as we update the county's Natural Hazard Mitigation Plan?

- Will each government entity be named? Is this just a blanket covering for the county?
- When working on the Hazard Mitigation plan in Genesee County, the COVID pandemic had just begun. I know that it was a **requirement to include pandemics/illness outbreak as a potential natural disaster** and include it in the rankings.
- If it is not already included, **specific plans for a dam breach**.
- How can the Corps of Engineers help control erosion problems along the Lake MI shore line and connecting water ways?

Next Steps

- Identify potential Advisory Team members
- Solicit additional Community Survey responses
- Update project information at: <u>nwm.org/HazardPlan</u>
- Prepare hazard analysis
- Next group meeting



What is Natural Hazard Mitigation?

Natural hazard mitigation is defined as any action taken before, during or after a disaster or emergency to eliminate or reduce the long-term risk to human life and property from natural hazards. It is an esential element of emergency management, along with preparedness, response and recovery. When successful, mitigation will lessen the need for a community to respond to succeeding natural hazard events; that is, incidents will remain incidents and not become disasters.



The implementation of natural hazard mitigation measures is a local government function, since that is the level at which development occurs, and most of the land user / development tools available to implement mitigation measures are applied at the local level. Therefore, successful implementation of a program to reduce or eliminate the negative consequences of Michigar's natural hazards will, out of necessity, be a joint cooperative effort between the State, local governments, and the private sector (since most land development is undertaken by private entities).

Creating and updating hazard mitigation plan every five (5) years follows a defined process of identifying hazards within the community. analyzing the risks posed by those hazards, establishing priorities for addressing those risks, and choosing specific actions that will mitigate those risks. Under the Disaster Mitigation Act (DMA) of 2000, which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, state and local governments are required to adopt a state or local hazard mitigation plan (LHMP) approved by FEMA in order to qualify for federal hazard mitigation project grants. Examples of non-emergency disaster assistance projects that may be funded range from flood suppression structures to drainage improvements to security and monitoring systems. ABOUT US
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Thank you!

• Any questions??