

Missaukee County Hazard Mitigation Plan Update

October 20, 2021
(Edited 11/29/2021)



**Networks
Northwest**

Talent / Business / Community

Welcome

- Thank you for joining us!
- We will be discussing the following:
 - Missaukee County and local jurisdictions' Community Profile
 - Results of the Community Survey

Introductions

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

Purpose

Hazard Mitigation Planning

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

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Latest Issues

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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

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

Missaukee County LEPC/LPT Membership

Name	Organization
Ray Vasser	City of Lake City
Brent Rozeveld	Clam Union Fire Department
Jeremy Hamilton	Clam Union Fire Department
Daymion Martinez	Clam Union Fire Department
Jon Ouwinga	Clam Union Fire Department
Bret Haner	DHD#10
Karen Ripke	DHD#10
Rick Bradley	Lake City Area Fire Department
Fred West	Lake City Area Fire Department
Tim Hejnal	Lake City Area Schools
Jim Brown	Lake Missaukee Fire Department
David LaRoche	Lake Missaukee Fire Department
Craig Fisher	McBain Fire Department
Jay DeBoer	McBain Fire Department
Amy DeRuiter	MDNR Fire - East
Michael Carroll	MDNR Fire - West
Ed Nettle	Merritt Area Fire Department
Carl Hunt	Merritt Area Fire Department
F/Lt Scott McManus	Michigan State Police
Sherry Blaszak	Missaukee Conservation District
Jodi DeHate	Missaukee Conservation District
Linda Hartshorne-Shafer	Missaukee County Planning & Emergency Management
Dave Heuker	Missaukee County Road Commission
Sheriff Wil Yancer	Missaukee County Sheriff's Office
Undersheriff Aaron Kearns	Missaukee County Sheriff's Office
Aaron Sogge	Missaukee EMS
Brian Whipple	Norwich Township Fire Department
Michael Doan	Norwich Township Fire Department

Community Profile*

- Demographics
- Housing
- Income
- Economy
- Agriculture




*2019 ACS data unless otherwise specified



Home News ▾ Programs ▾ Music ▾ Schedule TV ▾ Events ▾ About Us ▾ Support ▾ Contact

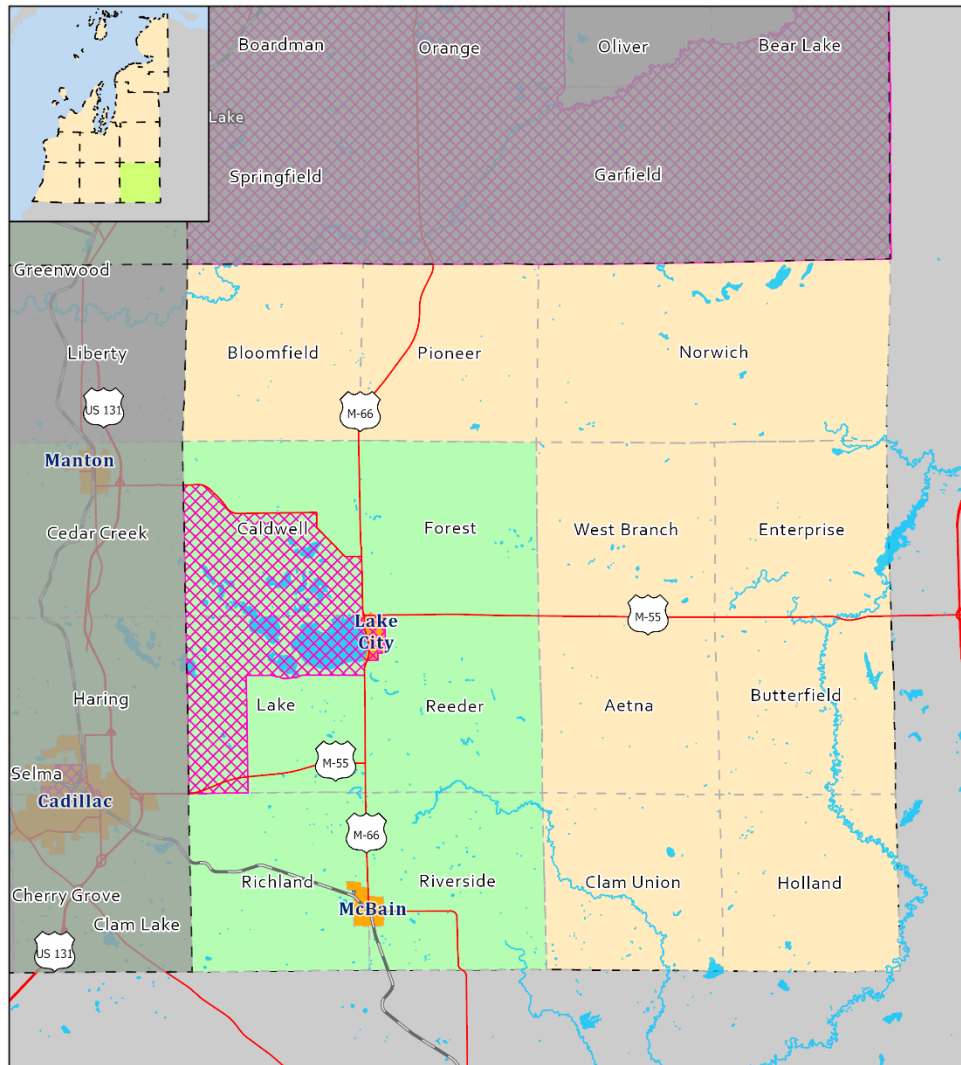
Great Lakes water levels surge, some record highs predicted

By ASSOCIATED PRESS • MAY 7, 2019

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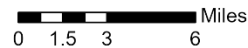
CREDIT ROBERT FRANKLIN / SOUTH BEND TRIBUNE VIA AP



Missaukee County & Local Units of Government

Legend

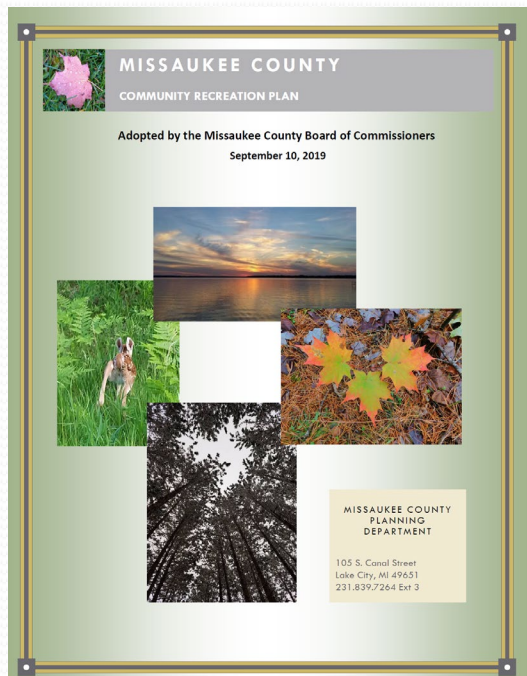
- Highways
- Railroad
- Hydrology
- Great Lakes
- Qualified Opportunity Zone
- G&I Areas Villages
- G&I Areas Cities
- Surrounding G&I Twps.
- All Townships
- All Villages
- Missaukee County
- Other NW MI Counties
- Counties Outside Region



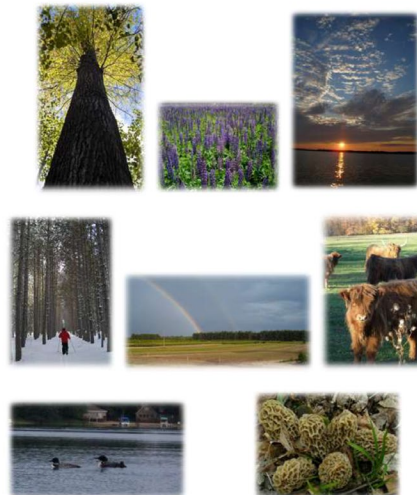
Map produced by Networks Northwest
Community Development 4/29/2021

Reference Documents

- Missaukee County Master Plan (2014)
- Missaukee County Rec Plan (2019)
- Missaukee County Strategic Plan (2018)
- Other regional reports



MISSAUKEE COUNTY COMMUNITY MASTER PLAN 2014



Demographics

● Population by local jurisdiction

// Search / Map / DP05

Legend

1,186—2,822	3
903—1,185	3
660—902	2
174—659	7
164—173	2
No Data	0

Italicized numbers indicate the number of geography areas in each data class.

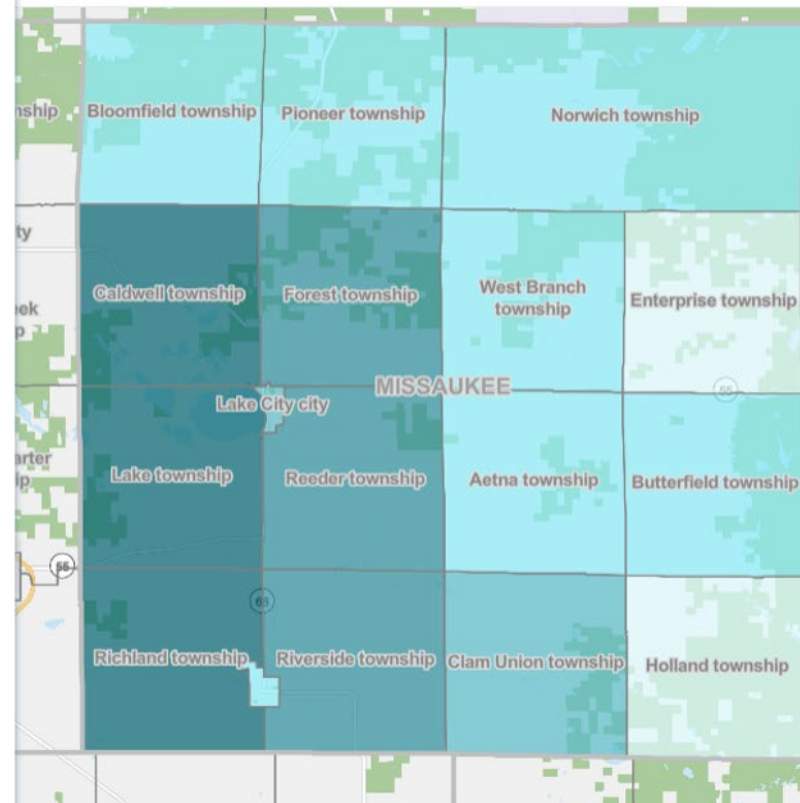
[VIEW TABLE](#)

SEX AND AGE—Total population—Estimate in **17 Geos**

Survey/Program: American Community Survey

Geographies: County Subdivision

Select Clear Geos Basemap Table Notes



Demographics

- Population by local jurisdiction

Missaukee County and Municipalities Population Estimates, 2010-2019				
Municipality	2010 Estimated Population	2019 Estimated Population	Numeric Change	Percent Change
Missaukee County	14,962	15,028	66	0.4%
Aetna Township	432	495	63	14.6%
Bloomfield Township	338	578	240	71.0%
Butterfield Township	677	449	-228	-33.7%
Caldwell Township	1,665	1,439	-226	-13.6%
Clam Union Township	972	902	-70	-7.2%
Enterprise Township	224	164	-60	-26.8%
Forest Township	1,100	1,124	24	2.2%
Holland Township	157	173	16	10.2%
Lake City, City	851	771	-80	-9.4%
Lake Township	2762	2,822	60	2.2%
McBain City, City	697	659	-38	-5.5%
Norwich Township	583	621	38	6.5%
Pioneer Township	375	516	141	37.6%
Reeder Township	1,124	1,120	-4	-0.4%
Richland Township	1,462	1,540	78	5.3%
Riverside Township	1,195	1,185	-10	-0.8%
West Branch Township	348	470	122	35.1%

Source: U.S. Census Bureau, ACS 5-Yr Estimates
 Note: Green text indicates an increase; Red text indicates decline

Demographics

- Age Groups and Median Age by local jurisdiction

Missaukee County Age Distribution by Municipality

Community	< 9 Year	Perce	10 to 19 Years	Percent	20 to 34 Years	Percent	35 to 54 Years	Percent	55 to 64 Years	Percent	65 to 74 Years	Percent	75 + Years	Percent	Median Age
Aetna Township	93	0.6%	66	0.4%	73	0.5%	104	0.7%	81	0.5%	54	0.4%	24	0.2%	37.4
Bloomfield Township	86	0.6%	85	0.6%	89	0.6%	114	0.8%	109	0.7%	55	0.4%	40	0.3%	38.5
Butterfield Township	30	0.2%	46	0.3%	70	0.5%	113	0.8%	88	0.6%	67	0.4%	35	0.2%	50.5
Caldwell Township	180	1.2%	153	1.0%	205	1.4%	416	2.8%	218	1.5%	162	1.1%	105	0.7%	45
Clam Union Township	176	1.2%	99	0.7%	209	1.4%	185	1.2%	102	0.7%	72	0.5%	59	0.4%	32.2
Enterprise Township	15	0.1%	11	0.1%	27	0.2%	44	0.3%	39	0.3%	17	0.1%	11	0.1%	49.5
Forest Township	151	1.0%	122	0.8%	220	1.5%	241	1.6%	173	1.2%	129	0.9%	88	0.6%	41.4
Holland Township	7	0.0%	17	0.1%	27	0.2%	30	0.2%	39	0.3%	24	0.2%	29	0.2%	56.3
Lake City, City	145	1.0%	104	0.7%	118	0.8%	173	1.2%	88	0.6%	73	0.5%	70	0.5%	37.9
Lake Township	217	1.4%	292	1.9%	341	2.3%	707	4.7%	437	2.9%	479	3.2%	349	2.3%	51
McBain City, City	56	0.4%	73	0.5%	106	0.7%	127	0.8%	87	0.6%	90	0.6%	120	0.8%	51.6
Norwich Township	62	0.4%	59	0.4%	100	0.7%	168	1.1%	92	0.6%	73	0.5%	67	0.4%	47.8
Pioneer Township	58	0.4%	69	0.5%	60	0.4%	129	0.9%	83	0.6%	51	0.3%	66	0.4%	45.6
Reeder Township	127	0.8%	136	0.9%	210	1.4%	193	1.3%	222	1.5%	172	1.1%	60	0.4%	44.3
Richland Township	288	1.9%	251	1.7%	269	1.8%	380	2.5%	217	1.4%	92	0.6%	43	0.3%	31.8
Riverside Township	198	1.3%	217	1.4%	202	1.3%	274	1.8%	139	0.9%	114	0.8%	41	0.3%	33.9
West Branch Township	50	0.3%	40	0.3%	74	0.5%	96	0.6%	84	0.6%	87	0.6%	39	0.3%	50.7
Missaukee County	1,939	12.9%	1,840	12.2%	2,400	16.0%	3,494	23.2%	2,298	15.3%	1,811	12.1%	1,246	8.3%	43.5
Michigan	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%	39.7

* Figure shows the percentage that each age group represents of the local community's total population.

Source: U.S. Bureau of the Census, 2019 ACS 5-Yr Data

Demographics

- Disability Status In Missaukee County

	Population	Percentage
2019 Estimate of Total Civilian Noninstitutionalized Population	14,924	
Estimated number of people with a disability	2,761	18.5%
With a hearing difficulty	932	6.2%
With a vision difficulty	541	3.6%
With a cognitive difficulty	1,083	7.8%
With an ambulatory difficulty	1,345	9.7%
With a self-care difficulty	430	3.1%
With an independent living difficulty	763	6.7%

Demographics

• How the US Census Bureau estimates Disability Status

Disability is defined as the product of interactions among individuals' bodies; their physical, emotional, and mental health; and the physical and social environment in which they live, work, or play. Disability exists where this interaction results in limitations of activities and restrictions to full participation at school, at work, at home, or in the community.

Disability status is determined from the answers from the following listed six types of difficulty. For children under 5 years old, hearing and vision difficulty are used to determine disability status. For children between the ages of 5 and 14, disability status is determined from hearing, vision, cognitive, ambulatory, and self-care difficulties. For people aged 15 years and older, they are considered to have a disability if they have difficulty with any one of the six difficulty types.

- 1) *Hearing difficulty* was derived from question 17a, which asked respondents if they were "deaf or ... [had] serious difficulty hearing."
- 2) *Vision difficulty* was derived from question 17b, which asked respondents if they were "blind or ... [had] serious difficulty seeing even when wearing glasses."
- 3) *Cognitive difficulty* was derived from question 18a, which asked respondents if due to physical, mental, or emotional condition, they had "serious difficulty concentrating, remembering, or making decisions."
- 4) *Ambulatory difficulty* was derived from question 18b, which asked respondents if they had "serious difficulty walking or climbing stairs."
- 5) *Self-care difficulty* was derived from question 18c, which asked respondents if they had "difficulty dressing or bathing." Difficulty with these activities are two of six specific Activities of Daily Living (ADLs) often used by health care providers to assess patients' self-care needs.
- 6) *Independent living difficulty* was derived from question 19, which asked respondents if due to a physical, mental, or emotional condition, they had difficulty "doing errands alone such as visiting a doctor's office or shopping." Difficulty with this activity is one of several Instrumental Activities of Daily Living (IADL) used by health care providers in making care decisions.

Demographics

- Population by Race

	Total	Percent of Total
Total Missaukee County Population	15,028	
White alone	14,121	94.0%
Hispanic or Latino	437	2.9%
Black or African American alone	89	0.6%
American Indian and Alaska Native alone	63	0.4%
Asian alone	29	0.2%
Native Hawaiian and Other Pacific Islander alone	0	0.0%
Some other race alone	2	0.0%
Two or more races	287	1.9%

Housing

- Units by local jurisdiction

Municipality	2010 Housing Units	2019 Housing Units	Percent Change	Percent of 2019 Total
Missaukee County	9,110	9,227	1.3%	
Aetna Township	280	302	7.9%	3.3%
Bloomfield Township	250	372	48.8%	4.0%
Butterfield Township	412	377	-8.5%	4.1%
Caldwell Township	871	860	-1.3%	9.3%
Clam Union Township	478	519	8.6%	5.6%
Enterprise Township	192	181	-5.7%	2.0%
Forest Township	658	757	15.0%	8.2%
Holland Township	288	226	-21.5%	2.4%
Lake City, City	619	431	-30.4%	4.7%
Lake Township	1,967	1,920	-2.4%	20.8%
McBain City, City	294	299	1.7%	3.2%
Norwich Township	587	507	-13.6%	5.5%
Pioneer Township	316	331	4.7%	3.6%
Reeder Township	566	707	24.9%	7.7%
Richland Township	584	596	2.1%	6.5%
Riverside Township	448	487	8.7%	5.3%
West Branch Township	300	355	18.3%	3.8%

Housing

- County Occupancy Status

2019 ACS 5-year Estimates

Total housing units	9,227	
Occupied housing units	6,055	65.60%
Owner-occupied	4,851	80.10%
Renter-occupied	1,204	19.90%
Vacant housing units	3,172	34.40%

10/27/2021 Missaukee County Equalization Report

Total residential real parcels	12,674	
Residential homestead parcels (includes contiguous properties people own)	6,299	49.7 % Year- Round Residents
Non-homestead/non PRE- parcels	6,375	50.3% Seasonal Residents

Housing – US Census Bureau Defs.

Housing Unit

A housing unit may be a house, an apartment, a mobile home, a group of rooms or a single room that is occupied (or, if vacant, intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall.

Occupied Housing Unit – A housing unit is classified as occupied if it is the current place of residence of the person or group of people living in it at the time of interview, or if the occupants are only temporarily absent from the residence for two months or less, that is, away on vacation or a business trip.

Occupied rooms or suites of rooms in hotels, motels, and similar places are classified as housing units only when occupied by permanent residents, that is, people who consider the hotel as their current place of residence or have no current place of residence elsewhere. If any of the occupants in rooming or boarding houses, congregate housing, or continuing care facilities live separately from others in the building and have direct access, their quarters are classified as separate housing units.

Vacant Housing Unit – A housing unit is vacant if no one is living in it at the time of interview. Units occupied at the time of interview entirely by persons who are staying two months or less and who have a more permanent residence elsewhere are considered to be temporarily occupied, and are classified as “vacant.”

The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated people who share living quarters. The living quarters occupied by staff personnel within any group quarters are separate housing units if they satisfy the housing unit criteria of separateness and direct access; otherwise, they are considered group quarters.

New housing units not yet occupied are classified as vacant housing units if construction has reached a point where all exterior windows and doors are installed and final usable floors are in place. Vacant units are excluded from the housing inventory if they are open to the elements, that is, the roof, walls, windows, and/or doors no longer protect the interior from the elements. Also excluded are vacant units with a sign that they are condemned or they are to be demolished.

Housing – US Census Bureau Defs.

- **Group Quarters:** The Census Bureau classifies all people not living in housing units (house, apartment, mobile home, rented rooms) as living in group quarters. There are two types of group quarters: Institutional, such as correctional facilities, nursing homes, or mental hospitals; and Non-Institutional, such as college dorms, military barracks, group homes, missions or shelters.

Missaukee County Group Quarters:

Whispering Pines Senior Living, 2353 S La Chance Rd, Lake City, MI 49651

Maple Ridge Living Center, 2575 W Houghton Lake Rd, Lake City, MI 49651

Autumnwood of McBain (Nursing Home), 220 S Hughston St, McBain, MI 49657

Friendship Family Homes (Assisted Living Facility), 215 S Hughston St, McBain, MI 49657

Quiet Creek AFC, 292 E Falmouth Rd, Falmouth, MI 49632

Missaukee Wilderness Youth Home, 5824 W Phelps Rd, Lake City, MI 49651

Seasons-Life Adult Foster Care, 2033 W Moorestown Rd, Lake City, MI 49651

Morning Glory Adult Foster Care, 1266 N Forward Rd, Moorestown, MI 49651

Magnolia Care AFC, 9200 Walker Rd, Manton, MI 49663

Shur Care Adult Foster Care, 3909 Mc Gee Rd, Lake City, MI 49651

Housing

- Units by Year Structure Built

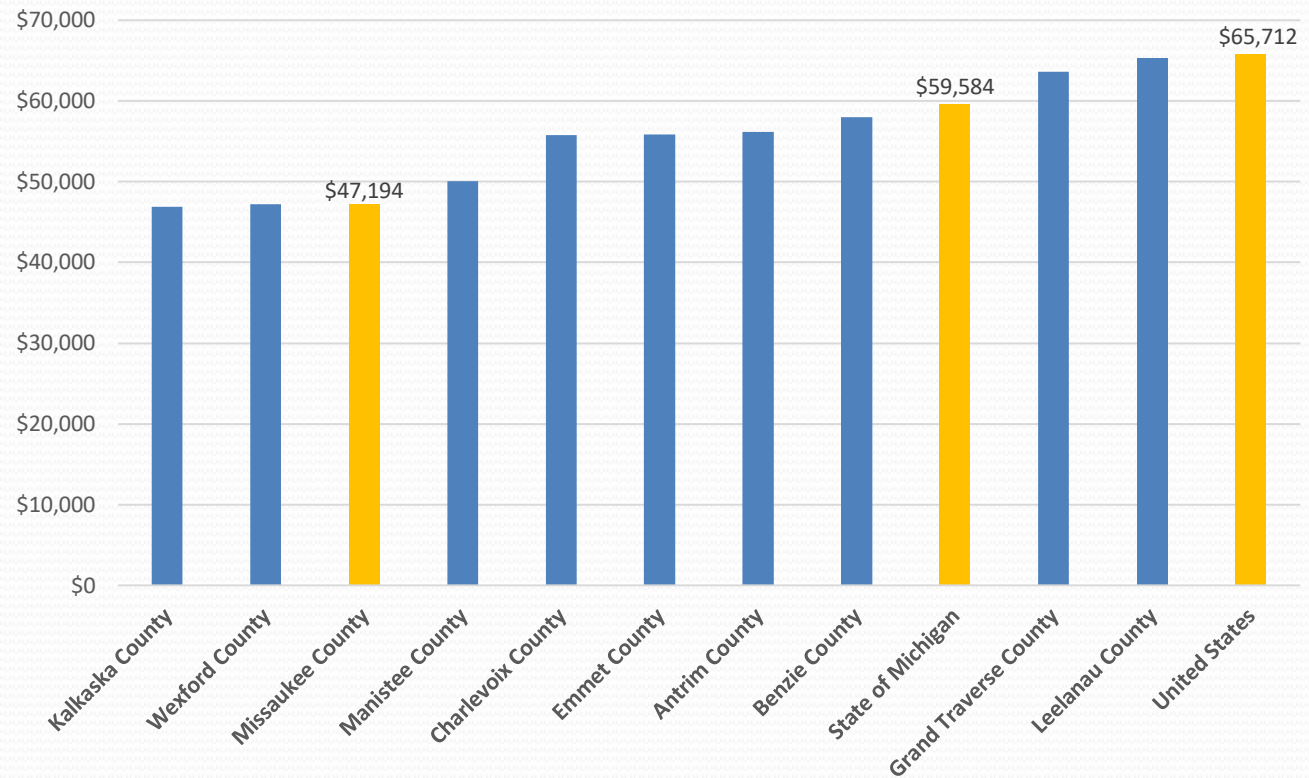
Year Built	Housing Units	Percentage of Units
Built 2000 or later	1,222	13.2%
Built 1990 to 1999	1,591	17.2%
Built 1980 to 1989	1,322	14.3%
Built 1960 to 1979	2,748	29.8%
Built 1940 to 1959	1,358	14.7%
Built 1939 or earlier	986	10.7%
Total Housing Units	9,227	

55.2% of the housing is 40 or more years old

Income

- Median Household Income by County

2019 Northwest Michigan Median Household Income



2019 Median Household 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 and ALICE (Asset Limited, Income Constrained, Employed) Rates

Missaukee County	Total	Below poverty level	Percent below poverty level
Population for whom poverty status is determined	14,837	2,111	14.2%
Under 18 years	3,393	679	20.0%
18 to 64 years	8,473	1,224	14.4%
65 years and over	2,971	208	7.0%

Source: US Census Bureau 2019 ACS Data

ALICE 2019 Data for Missaukee County

Population: 15,028

Number of Households: 6,055

Median Household Income: \$47,194 (state average: \$59,584)

Unemployment Rate: 6.4% (state average: 5.0%)

ALICE Households: 27% (state average: 25%)

Households in Poverty: 13% (state average: 13%)

Source: <https://www.unitedforalice.org/county-profiles/michigan>

Income

- US Census Bureau's Definition of a Household:

Household - A household includes all the people who occupy a housing unit. They are classified by type according to the sex of the householder and the presence of relatives. Two types of householders are distinguished: a family householder and a non-family householder. A family householder is a householder living with one or more individuals related to him or her by birth, marriage, or adoption. A nonfamily householder lives alone or with non-relatives only.

Income

- How the US Census Bureau Estimates Poverty Status

The data on poverty status of households were derived from answers to the income questions. Since poverty is defined at the family level and not the household level, the poverty status of the household is determined by the poverty status of the householder.

Households are classified as poor when the total income of the householder's family is below the appropriate poverty threshold. (For nonfamily householders, their own income is compared with the appropriate threshold.) The income of people living in the household who are unrelated to the householder is not considered when determining the poverty status of a household, nor does their presence affect the family size in determining the appropriate threshold.

The poverty thresholds vary depending on three criteria: size of family, number of related children, and, for 1- and 2-person families, age of householder.

Agriculture

- 2017 USDA Census of Agriculture – Missaukee County

** This is the most current Ag. Census data available, according to MSU Extension – Missaukee County. The next 2022 USDA Census of Agriculture data release date is February 22, 2024.*

Missaukee County	2017	% Change since 2012
Number of farms	406	-6
Land in farms (acres)	113,624	14
Average size of farm (acres)	280	22
Total market value of products sold	\$148,708,000	18
Market value of products sold (per farm avg.)	\$366,276	26
Total farm production expenses (per farm avg.)	\$315,167	61
Net cash farm income (per farm avg.)	\$59,255	-42
Percent of state agricultural sales	2%	



“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?

Market Value of Agricultural Products Sold

Item	Sales	Share of sales by type (%)	Rank in State	Rank in U.S.
Crops	\$22,013,000	15%	46 out of 83 counties	1,591 out of 3,073 counties producing item
Livestock, poultry and other animal products	\$126,695,000	85%	9 out of 82 counties	391 out of 3,073 counties producing item

Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

12 / 83 responses = 14% completion rate

Representation:

Townships	Cities	County	Other
Aetna Twp	McBain	Board of Commissioners	District Health Dept. #10
Holland Twp	Lake City	Clerk's Office	Lake City Area Fire Dept.
			Merritt Area Fire Department
			Missaukee Conservation District
			Missaukee County Farm Bureau

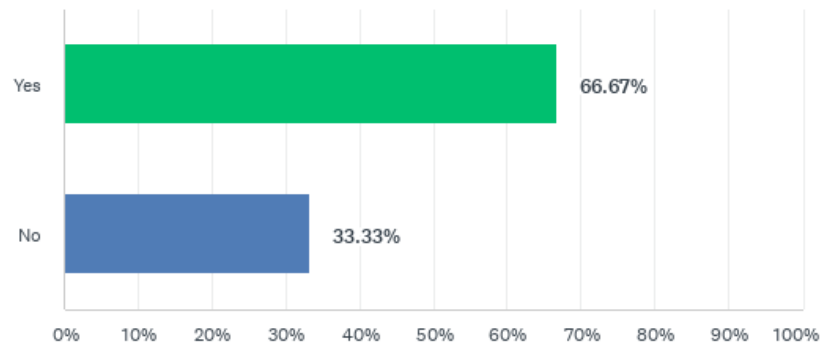
Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

Aim to get more responses from representatives of:

Townships		Others on the LEPC Contact List
Lake City	Lake	County Road Commission
Bloomfield	Norwich	Lake Area Schools
Butterfield	Pioneer	County Sherriff's Office
Caldwell	Reeder	Michigan State Police
Clam Union	Richland	Other Fire Depts (Lake Missaukee, McBain, Clam Union, Norwich Twp)
Enterprise	Riverside	Missaukee EMS
Forest	West Branch	OTHER SUGGESTIONS?

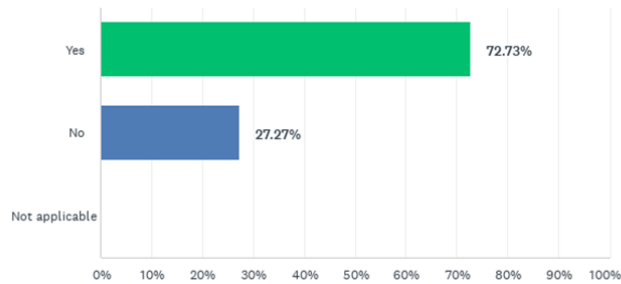
Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

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

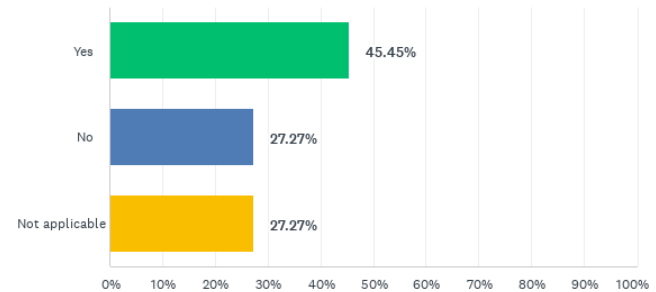


Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

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

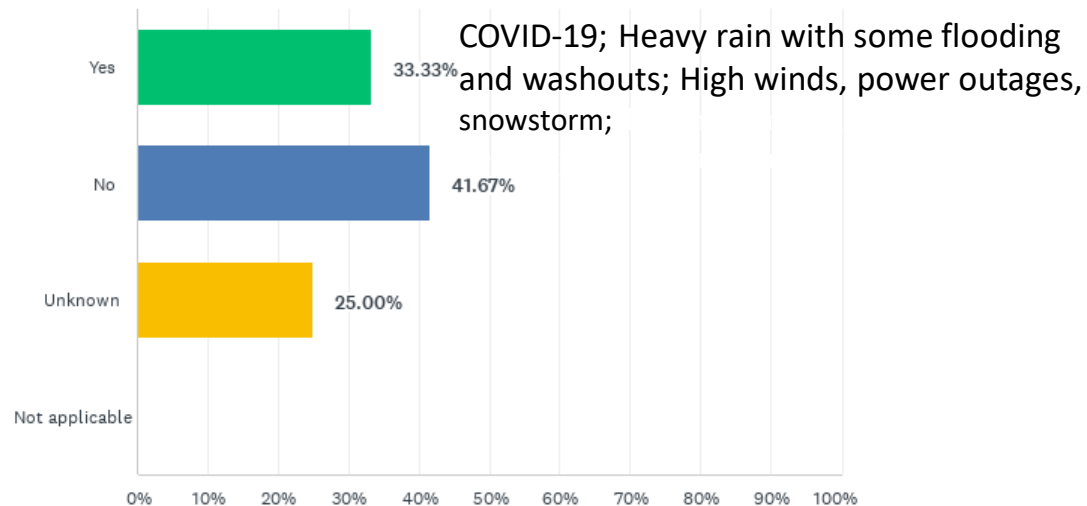


Q5 Does the community you represent have an adopted Capital Improvements Plan?



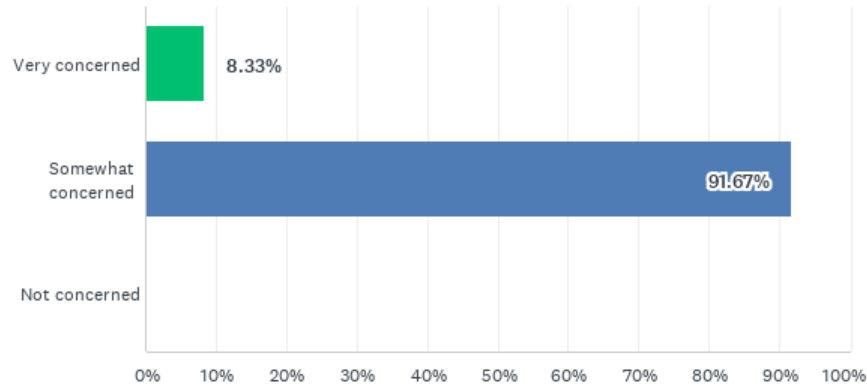
Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

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



Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

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



Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

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. Fire
2. Flooding
3. Illness Outbreak/Contagious Disease
4. Drought
5. Major Weather Emergency
6. Winter Storms
7. Power Outage/Utility Interruption
8. Tornado

Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

Q10. Concerns about infrastructure (dams, bridges, utilities, etc.) and the potential for a hazardous event in the future?

Bridges

- Aging bridges (at least one older bridge in a somewhat remote area due to being closed)
- Low bridges
- Road crossings over streams (Muskegon River flooding)

Dams

- Reedsburg Dam (flooding)

Utility Impacts

- Pipelines and oilfield pump locations (woodland fires)
- Above ground wiring in the majority of the area
- Internet connectivity

Missaukee County Hazard Mitigation Community Survey Responses from 10/4/21 to 10/19/21

Involved in a natural hazard mitigation planning process before? No: 75%

Requested assistance for mitigation projects before? Yes: 17% No: 33% Unkwn: 50%
- Project request granted? Unsure/not sure.

Considered mitigation strategies for potential hazards: Yes: 17% No/Unknown: 83%

Strategies you want to explore in the future:

- Identifying road stream crossings that have the most potential for failure and flooding.
- Wildland fires, traffic control for M-55 between Jeff Rd and East County Line.

Next Steps

- Identify potential Advisory Team members
- Solicit additional Community Survey responses
- Establish web presence
- Prepare hazard analysis
- Next group meeting



Thank you!

- Any questions??