

STRATEGY TYPES

1	Local Planning & Regulations
2	Building & Infrastructure Projects
3	Natural Systems Protection
4	Education & Awareness Efforts

PRIORITY LEVEL

High
Medium
Low

Goal 1: Increase local awareness and participation in natural hazards mitigation strategies

- a Encourage cooperation and communication between planning and emergency management officials
- b Encourage additional local governmental agencies to participate in the natural hazards mitigation process
- c Include Member of Understanding (MOUs) between local government and county agencies
- d Encourage public and private organizations to participate, including organizations who advocate for individuals with functional or access needs (vulnerable populations)

Goal 2: Integrate natural hazards mitigation considerations into the community's comprehensive planning process

- a Enforce and/or incorporate natural hazards mitigation provisions in building code standards, ordinances, and procedures
- b Create or update ordinances to reflect building codes, shoreline protection rules, etc.
- c Incorporate natural hazards mitigation into basic land use regulation mechanisms
- d Develop community education programs and public warning systems
- e Strengthen the role of the Local Emergency Planning Committee in the land development process
- f Integrate natural hazards mitigation into the capital improvement planning process so that public infrastructure does not lead to development in natural hazards areas
- g Encourage county agencies to assess local roads, bridges, dams, and related transportation infrastructure for natural hazards vulnerability

Goal 3: Utilize available resources and apply for additional funding for natural hazards mitigation

- a Provide a list of desired community mitigation measures to the State for possible future funding
- b Encourage the application for project funding from diverse entities

Goal 4: Develop and complete natural hazards mitigation projects in a timely manner

- a Encourage public and business involvement in natural hazards mitigation projects

WEXFORD COUNTY HAZARD MITIGATION STRATEGIES		HAZARD TYPE						WHERE - Affected Locations or Groups	WHO - Responsible Parties	HOW - Resources	WHEN - Timeframe	PRIORITY TYPE (High, Med, or Low)	STRATEGY TYPE			
		Severe Winter Weather	T-Storm, High Winds, Hail, Tornado, Lightning	Wildfire	Flooding and Erosion	Extreme Temperatures	Drought	Invasive Species					1	2	3	4
1	Continue to proactively inform the public about emergency events and available shelter sites via utilization and promotion of the Code Red mass notification system, NWS weather radios (as a good backup plan) and social media (Facebook).	X	X	X	X	X	X	X	Countywide; See Appx. for a map indicating locations of campgrounds and modular home/mobile home developments, which are vulnerable to impacts from severe storms, flooding, hail, wind, tornado and lightning.	County EM, NWS	Ongoing		X			X
2	Continue operation of local tornado siren(s) for notification of severe, non-winter storm events.	X							City of Cadillac	City of Cadillac	Ongoing		X			X
3	Continue the preparedness practice of conducting the annual statewide tornado drill.	X							Countywide	County EM	Annual		X			X
4	Continue to promote participation in Storm Spotter Training - preferably in person - via partnership with the NWS.	X							Countywide	County EM	Annual		X			X
5	Continue and strengthen partnerships with local government agencies and non-profits to provide education on individual emergency preparedness.	X	X	X	X	X	X	X	Countywide	Wexford County government, DHD #10, USFS, MDNR	Ongoing		X			X
6	Promote public awareness of the locations of emergency shelters.	X	X	X	X	X			Countywide	County EM			X			X
7	Ensure that communities have a good snow removal plan and share this with the County Road Commission	X							Villages of Mesick and Buckley (?); Cities of Manton and Cadillac	Villages of Mesick, Buckley; Cities of Manton and Cadillac; RC			X			X
8	Continue to offer Wexford County Council on Aging's reduced cost snow plow program and their "telephone reassurance" call service to check on homebound seniors regularly.	X	X	X	X	X		X	Countywide	Wexford County Council on Aging	Ongoing		X			X
9	Ensure that County residents, particularly vulnerable populations, have access to healthy, affordable food options.						X	X	Countywide				X	X	X	X
9a	Create community gardens in urban locations and/or school locations to promote learning about growing local food and native pollinating plants.						X	X	School Districts; Cities of Cadillac and Manton; Villages of Buckley, Mesick and Harrietta	MSU Extension programs, YMCA, local Churches				X	X	X
9b	Continue to provide and improve food assistance programs and emergency food programs to help communities prepare for unanticipated pandemics, but also increase food accessibility.							X	Countywide	NMCAA; local food pantries; School Districts (school meal programs)	Ongoing		X			X
9c	Food rescue programs, involving public/private partnerships between restaurants, hotels and other venues of large food production, can partner with local food pantries to make good food more widely available.							X	Countywide				X			X
10	Continue programs and services offered by the District Health Dept. #10 and MDHHS, such as: immunizations; community clinics; school health services; permitting processes for proper location and installation of water wells and septic systems; education about cleaning, monitoring and maintaining septic systems; septic or well repair financial assistance, and the inspection and licensing of food service establishments.			X				X	Countywide	DHD #10; MDHHS	Ongoing		X	X		X
11	Continue to coordinate with the MDHHS for guidance via their State Pandemic Plan and information about new or emerging disease threats.							X	Countywide	DHD #10; MDHHS; County EM; Munson Hospital	Ongoing		X			X
12	Improve communication amongst County Dispatch, Road Commission, law enforcement and EMS about road closures as quickly as possible to improve emergency response arrival time.	X	X	X	X	X	X	X	Countywide	RC, County EM, MSP, County Sheriff			X			X
13	Evaluate additional designated sites to utilize to temporarily store cleanup debris from downed trees after storm events.	X	X	X					Countywide	Community DPWs, EM, RC			X			
14	Provide outreach to all communities in the County that contain concentrations of people living in floodplain areas to participate in FEMA's Flood Insurance Program, and the benefits of doing so. (The NFIP provides flood insurance to property owners, renters and businesses, and having this coverage helps them recover faster when floodwaters recede. The NFIP also works with communities required to adopt and enforce floodplain management regulations that help mitigate flooding effects. There is no cost for communities to participate.)			X					(City of Cadillac, and the Townships of Cedar Creek, Cherry Grove, Selma and Greenwood.)	Drain Commissioner, EM, MI EGLE			X			X
15	Identify flood-prone areas and areas that have reported repetitive loss damages due to flooding on FIRMs and pursue FEMA hazard mitigation assistance grants related to flood mitigation, such as innovative stormwater management solutions, property acquisition, structure demolition or relocation, dry flood proofing, structure elevation, or project scoping (engineering, environmental, feasibility, and/or benefit-cost analysis)			X					Communities in the Muskegon River watershed (Lake Mitchell/Lake Cadillac/Clam River) and Manistee watershed, and the Pine River watershed; particularly areas with identified "Special Flood Hazard Areas" on FIRMS	Drain Commissioner, EM, MI EGLE			X	X	X	X
16	Continue notification of MDNR/NFS Fire Danger Status online and via Code RED.		X						Countywide	County EM, USFS, MDNR	Ongoing		X			X
17	Install a Fire Danger Level sign along a major road on the north end of Cadillac.		X						City of Cadillac, Haring Township	County EM, MDOT or RC, MDNR, City of Cadillac, Haring Twp.				X		X
18	Maintain proper levels of PPE for local first responders.							X	Countywide; Local fire stations and EMS services.	County EM; local fire/EMS	Ongoing		X			
19	Continue to pursue interdepartmental cooperation and coordination of police, fire, rescue and EMS services to achieve community-wide coverage availability.	X	X	X	X	X	X	X	Countywide	County Sheriff and EM	Ongoing		X			
20	Incorporate the County Hazard Mitigation Plan's strategies into elements of local community master plans.	X	X	X	X	X	X	X	Wexford Joint Planning Commission; Villages of Mesick and Buckley; Cities of Manton and Cadillac; Townships of Greenwood, Clam Lake, Haring, and Cedar Creek		Ongoing		X	X	X	X
21	Continue to regularly assess fire suppression access points and equipment and pursue improvements as needed.		X		X				Countywide	Local fire departments; MDNR Wildfire Mgmt; USFS;	Ongoing		X	X		
22	Annually update the County's basic Wildfire Operations Plan (coordinate with MDNR/USFS)		X						Countywide	County EM, Local Fire Depts/First Responders, MDNR, USFS	Annual review		X			
23	Identify communities with the county that have an interest in becoming a recognized Firewise USA® community. Each applicant must create a board/committee, complete a community wildfire risk assessment with a 3-year action plan to reduce ignition risk to homes, and complete annual educational and risk reduction actions identified in the plan.		X		X				Consider areas with Jack Pine forest (every community except City of Manton and Villages of Mesick and Buckley) particularly where it is near developed areas, tree farms, and campgrounds.	County EM, Local Fire Depts/First Responders, MDNR, USFS			X			X
24	Continue to promote (via social media, etc.) awareness of vegetation/fuel management for fire prevention around homes and other structures.		X						Countywide	County EM, County Building Dept., Local Fire Depts/First Responders, MDNR, USFS	Ongoing		X			X
25	Continue to provide campgrounds (Private, MDNR and USFS) with information on fire safety and establish evacuation routes.		X						Countywide	County EM	Ongoing		X			X
26	Consider developing a drought communication plan and early warning system to facilitate timely communication of local drought conditions/outlook to officials, decision makers, emergency responders, and the general public.					X			Countywide	County EM, WCD/USDA-NRCS			X			X
27	Support the Wexford Conservation District's provision of free technical assistance (in partnership with the USDA-NRCS and MAEAP) such as resource assessment, practice design, resource monitoring, and determination of financial assistance for local farmers, ranchers and forest managers after a natural disaster.					X			Countywide	WCD/USDA-NRCS	Ongoing		X			X

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			Severe Winter Weather	T-Storm, High Winds, Hail, Tornado, Lightning	Wildfire	Flooding and Erosion	Extreme Temperatures	Drought	Invasive Species						Public Health Emergency	1	2	3
Shelters	28	Maintain an accurate inventory of emergency shelter sites (overnight vs. daily use types) within the service area; review annually and update as needed.	X	X	X	X	X		X	Countywide	County EM; American Red Cross				X			
	29	Increase collaboration between the Wexford County Office of Emergency Management with local communities and non-profits to increase the number of emergency shelters available to the public for heating/cooling during extreme temperature days and when power outages occur.	X	X	X	X	X		X	Countywide	County EM; American Red Cross; Local Fire Depts.; Senior Centers; Municipal Offices				X	X		
	29a	Install a generator(s) to enable the facility's use as an emergency shelter.	X	X	X	X	X		X	Countywide	County EM; Local Fire Depts.; Senior Centers; Municipal Offices (Selma Twp., City of Manton)					X		
	30	Evaluate the feasibility of constructing additional community storm shelters, such as concrete "safe rooms", at campgrounds and mobile/modular home communities.	X	X	X	X	X			See hazard map for locations of campgrounds and mobile homes	County Building Dept., EM; local govts; private and public campground managers					X		
	31	Continue to establish areas of refuge and evacuation routes from campgrounds and other sites of large outdoor events.	X	X	X	X	X		X		County EM; private and public campground managers; local fire depts.	Ongoing			X		X	
	32	Create a communications plan, similar to Code Red and what Charlevoix County uses, to communicate to the public where shelters are during an emergency event.	X	X	X	X	X		X	Countywide	County EM				X		X	
	33	Maintain procedures to create quarantine areas in group living quarters, such as overnight shelters or assisted living facilities.							X		ARC, Munson Hospital, Health Dept.	Ongoing			X		X	
Building & Development	34	Continue enforcement of State building codes and soil erosion regulations (Soil Erosion and Sedimentation Code is applicable if the project involves earth change that disturbs one or more acre, or is within 500 feet of a lake, stream or wetland) with new construction through local permitting processes.				X				Countywide	County and Local Governments		Ongoing		X	X	X	
	35	Improve the ability of public buildings to shed or hold snow load.	X							County and Local Government Buildings	County and Local Governments				X			
	36	Investigate solutions to mitigate persistent flooding issues on property located northeast of Lake Cadillac. Properties located in the City of Cadillac, between Lake Street and the railroad, with Haynes St. bordering to the north and Pine St. to the south, have experienced seasonal flooding/ basement flooding. Activities from a former lumber mill northeast of Lake Cadillac resulted in sawdust/lumber waste deposited in the soil. This area includes property public and private commercial/office and residential property.				X				City of Cadillac, property owners	City of Cadillac, property owners				X	X	X	
	37	Consider revising building and zoning requirements to include wildland fire risk mitigation practices (i.e., a 25 foot cleared space/defensible space between houses and other structures.)			X					All township excluding the villages of Buckley, Mesick and Harietta	All township excluding the villages of Buckley, Mesick and Harietta				X		X	
	38	Improve ventilation techniques in areas, facilities, or vehicles that are prone to crowding or that may involve exposure to contagion or noxious atmospheres.							X	Gymnasiums, theatres, stadiums, public transportation, The Wex Civic Center.	Wexford County				X	X		
	39	Continue to pursue opportunities for brownfield and blight clean-up activities, including demolition and clearance of vacant, condemned structures, to remove actual and potential sources of land, water and air contamination.							X	City of Cadillac, City of Manton	City of Cadillac, City of Manton	City of Cadillac Brownfield Redevelopment Authority	Ongoing		X	X	X	X
	40	Continue to regularly clean up river debris and clean out plugged culverts (due to beaver activity, sediment deposits, invasive species, etc.) and/or upgrade to larger sized replacement culverts to better accommodate high volume streamflows.				X		X		Countywide	RCRC, MDOT, City of Cadillac, City of Manton, Villages of Buckley, Mesick and Harrietta		Ongoing		X	X	X	
	41	Consider the development of a reduced-cost program to install air conditioning in the homes of low-income senior citizens.		X		X				Countywide	Wexford County Council on Aging					X		
	42	Promote the availability of residential weatherization and home improvement programs.	X	X		X				Countywide	NMCAA, Habitat for Humanity					X		X
	Utilities & Technology	43	Continue work amongst the utility companies and the Wexford County Road Commission to clear vegetation (particularly diseased or dead trees, i.e., from Emerald Ash Borer infestations) along various road and utility right-of-ways to minimize power outages and road blockages from storms damage.	X	X						Countywide	RC, utility companies		Ongoing		X		
44		Continue to maintain effective communications practices between electric utility companies regarding power restoration after storms. (County EM to post and promote the electrical outage map on social media account.)	X	X						Countywide	Consumers E., Cherryland Electric, or Great Lakes Energy and the County Emergency Mgmt.	Outage map	Ongoing		X			
44a		A communications tower have been struck by lightning in the past; meet with the utility company to discuss backup power options		X						Wexford Township	Wexford Township; land lessee & lessor							
45		Investigate opportunities to bury overhead utilities, such as during new construction or in areas regularly prone to power outages.	X	X	X					Countywide	Electric utility providers					X		
46		Install electrical controls with a back-up generator system and plan for eventual replacement of the Clam River outlet control dam to ensure water levels on Lake Cadillac and Lake Mitchell remain at safe levels.	X	X	X				X	City of Cadillac, Clam Lake Twp., Haring Twp., Cherry Grove Twp., Selma Twp.	City of Cadillac; Wexford County Drain Commissioner	FEMA BRIC Grant; City of Cadillac funds; County Funds	0-5 years for generator; 5-10 for replacement of dam		X	X		
47		Identify the locations of where backup generators on sewer pump chambers are needed to alleviate manual pumping/hauling in the event of a power outage, and apply for funding.	X	X	X				X	Clam Lake, Haring, Cherry Grove and Selma Townships; Villages of Mesick and Buckley; Cities of Manton and Cadillac	Clam Lake, Haring, Cherry Grove and Selma Townships; Villages of Mesick and Buckley; Cities of Manton and Cadillac					X		
48		Install check valves on stormwater discharge locations as needed.	X		X				X								X	
49		Continue to maintain community water and/or sewer infrastructure at acceptable operating standards.			X				X				Ongoing			X		
49a		Continue efforts to secure funding for the sanitary sewer system replacement project along the shoreline of Lake Mitchell (sanitary sewer overflow incidents after high rainfall events; concern of backflow into water supply).				X			X	Selma Twp., Cherry Grove Twp., City of Cadillac	Lake Mitchell Property Owners Inc., Lake Mitchell Sewer Authority; County Drain Commissioner					X	X	
50		Maintain Continuity of Operations (COOP) plans and alternative "remote work" schedules.							X	County Government and Local Government Agencies; Public Schools	County Government and Local Government Agencies; Public Schools		Ongoing			X		
51	Expand availability of high-speed internet service to allow for widely available remote work/learning.							X	Countywide; Colfax Twp. has specifically expressed need	Local service providers; Connected Nation MI	https://connectednation.org/michigan/	Ongoing		X	X		X	

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	Severe Winter Weather	T-Storm, High Winds, Hail, Tornado, Lightning	Wildfire	Flooding and Erosion	Extreme Temperatures	Drought						1	2	3	4
52	Stay informed about future plans for the Hodenpyl Dam; participate in public input sessions provided by Consumers Energy.			X		X	County Government; Springville Township; Village of Mesick	County Government; Springville Township; Village of Mesick		0 - 10 years				X	X
53	Continue to utilize and promote the technical assistance, outreach and education pertaining to invasive species management provided by non-profit and government agencies.					X	Countywide	WCD, NC-CISMA, USDA-NRCS, MSUE, MDARD		Ongoing		X	X	X	X
53a	Support invasive species management services with a cost-share option between land owners and NC-CISMA.					X	Countywide	NC-CISMA, Wexford Conservation District		Ongoing				X	X
53b	Continue to conduct annual routine invasive species surveying and monitoring to identify new emergent invasive species before they get established and spread.					X	Countywide	NC-CISMA, Wexford Conservation District		Ongoing				X	X
53c	Utilize the Michigan Invasive Species Grant Program to submit proposals for projects that will: prevent the introduction or spread of invasive species by engaging the public in prevention practices and reducing the risk of moving invasive species into high-risk areas; or aid in early detection and response efforts for species on Michigan's Watch List; or increase regional or statewide response preparedness for new or emerging invasive species; or develop or improve tools, such as risk assessments and prioritization models, to inform management and control decisions.					X		NC-CISMA, Wexford Conservation District	https://www.michigan.gov/invasives/grants/misgp			X		X	X
53d	Utilize MSUE's "Clean Boats, Clean Waters" comprehensive aquatic invasive species boater outreach program resources; apply for grant funding to communicate aquatic invasive species prevention information through outreach materials and in-person educational events to boaters.					X		NC-CISMA, Wexford Conservation District	https://www.canr.msu.edu/clean_boats_clean_waters/index			X		X	X
53e	Utilize EGLE's "NotMiSpecies" webinars and resources on invasives control and management					X		NC-CISMA, Wexford Conservation District	https://www.michigan.gov/invasives/take-action					X	X
53f	Continue participation in the annual Great Lakes Aquatic Invasive Species "Landing Blitz" event, emphasizing the need to Clean, Drain, Dry boats whenever they come out of the water, and Dispose of any unwanted bait in the trash.					X		NC-CISMA, Wexford Conservation District		Ongoing				X	X
53g	Provide boat wash stations and signage at all public boat launch sites.					X	See appended list of boat launches	USFS, MDNR, local governments; see appended list of boat launch locations and owners				X		X	X
53h	Install boot-cleaning and/or equipment cleaning facilities at popular trailheads (non-motorized, equestrian, and ORV/Motorcycle) to reduce the spread of invasives species.					X	All communities except Slagle, Wexford, Cherry Grove, Cofax, and Selma Twp.; City of Cadillac, City of Manton, Village of Buckley and Village of Harrietta.	USFS, MDNR	https://wexfordcounty.org/wp-content/uploads/2019/10/Wexford-CO-Rec-Plan-2019-FINAL-with-appendices.pdf				X	X	X
54	Continue to manage inland lake aquatic invasive species with treatment programs and public awareness of invasive species management.					X	City of Cadillac, Clam Lake Twp., Cherry Grove Twp., Selma Twp.	Lake Cadillac Invasive Species Control Program - City of Cadillac; Lake Mitchell Improvement Board - City of Cadillac, Selma Twp., Cherry Grove Twp.; Pleasant Lake Association - Selma Twp.; Stone Ledge Lake Association - Clam Twp; County Drain Commissioner; County BOC				X		X	X
55	Consider adoption of local ordinances that regulate activities to prevent the introduction of or the contribution to the spread of invasive species, such as prohibiting the use of invasive species in landscaping and/or vegetative riparian buffers.					X	WJPC; Cities of Cadillac and Manton	WJPC; Cities of Cadillac and Manton	https://crystallakewatershed.org/ordinances/			X		X	X
56	Implement nature-based solutions to mitigate stormwater runoff in construction projects.			X		X	Countywide	Local governments				X	X	X	
57	Continue to identify and prioritize sites for open space protection/preservation, green infrastructure and/or stormwater management.			X		X	Countywide	Wexford Conservation District, Cadillac Area Land Conservancy, and the NC-CISMA				X		X	X
58	Support implementation of Forestry Management Plans that include mitigation efforts for invasive species.					X	Countywide	MDNR, USFS, County EM	MDNR or USFSI grants for ISM.			X		X	X
59	Continue to conduct wildfire management such as prescribed burns and surface fuels management projects on open space/public land (this also encourages regeneration of native plant species).		X			X	All townships in Wexford County	MDNR, USFS, Cadillac Regional Land Conservancy, Wexford Conservation District				X		X	
60	Continue efforts to regularly clean up river and lake debris.			X		X	Countywide	City of Manton (clean up of Manton Creek between the mill pond and the dam.) Pine River Association, Upper Manistee River Association, Cadillac Area Land Conservancy, Wexford Conservation District, Conservation Resource Alliance, Muskegon River Watershed Assembly, Pleasant Lake Association, Stoneledge Lake Property Owners Association, MDNR, USFS		Ongoing				X	
61	Implement soil erosion mitigation techniques along the shorelines of Lake Mitchell and Lake Cadillac.	X	X	X		X	City of Cadillac; Cherry Grove Twp., Selma Twp.	City of Cadillac; Cherry Grove Twp., Selma Twp.	WCD			X		X	

ID	Resource	Description	Hazard Type	Website
A	Wexford County staff	Wexford County staff as appropriate	All hazards	https://wexfordcounty.org/
B	Local government staff	All local units of government; Wexford Joint Planning Commission members: Antioch Township - Boon Township - Cherry Grove Township - Hanover Township - Liberty Township - Selma Township - Slagle Township - South Branch Township - Springville Township - Wexford Township	All hazards	http://www.wexfordjpc.org/
C	Local Emergency Services and Fire Departments	Boon; Buckley; Cedar Creek; Cherry Grove; Colfax-Greenwood; Haring; Mantion; Springville; Selma; Slagle-Harrietta; South Branch, USFS, MDNR	Severe winter weather; Thunderstorm, High Winds, Hail, Tornado, Lightning; Wildfire; Flooding; Extreme Temperatures; Public Health Emergency	
D	Wexford County Council on Aging	The Wexford County Council on Aging provides resources and support for residents aged 60 and older. Some services include homemaking services, personal care, adult day care and low-cost snow removal program. The COA RN Supervisor also calls to check in with clients on a regular basis.	Severe winter weather; Thunderstorm, High Winds, Hail, Tornado, Lightning; Flooding; Extreme Temperatures; Public Health Emergency	https://wexfordcoa.org/
E	District Health Department #10	DHD #10 serves 10 counties in Michigan; those in the NW MI region include Kalkaska, Manistee, Missaukee, and Wexford counties. Their mission is to promote and enhance the health of our communities and environment through protection, prevention, and intervention. DHD #10 provides programs and services such as: immunizations; communicable disease reporting; issuing public health notifications; school health services; permitting processes for proper location and installation of water wells and septic systems; education about cleaning, monitoring and maintaining septic systems; septic or well repair financial assistance, and the inspection and licensing of food service establishments.	Severe winter weather; Thunderstorm, High Winds, Hail, Tornado, Lightning; Flooding; Extreme Temperatures; Public Health Emergency	https://www.dhd10.org/
F	Northern Michigan Community Action Association (NMCAA)	NMCAA serves the counties of Antrim, Benzie, Charlevoix, Emmet, Grand Traverse, Kalkaska, Leelanau, Missaukee, Roscommon and Wexford. They provide the Weatherization Assistance Program and Emergency Home Repair Program for low- to moderate- income households. They also provide food distribution via the following USDA programs: monthly food package to low-income senior citizens via the Commodity Supplemental Food Program (CSFP), and The Emergency Food Assistance Program (TEFAP) to low-income persons through a quarterly distribution. NMCAA also operates the Meals on Wheels program for seniors.	Severe winter weather; Thunderstorm, High Winds, Hail, Tornado, Lightning; Flooding; Extreme Temperatures; Public Health Emergency	https://www.nmcaa.net
G	"MI HOPE" Grants (Michigan Housing Opportunities Promoting Energy Efficiency)	Program for up to \$25K to repair or replace roofs, doors, windows, insulation, heating/cooling systems, water heaters, security lighting, Energy Star appliances and electrical systems for eligible low-income residents.	Severe winter weather; Thunderstorm, High Winds, Hail, Tornado, Lightning; Flooding; Extreme Temperatures; Public Health Emergency	www.michigan.gov/mi-hope
H	Cadillac Area Community Foundation	The primary mission of the Cadillac Area Community Foundation is to develop a community-wide vehicle for permanent endowments to enhance the quality of life in the area and to establish and manage worthwhile endowed funds for the benefit of our community.	All hazards	https://cadillacfoundation.org/
I	Groundwork Center for Resilient Communities	With roots firmly embedded in the pro-health, pro-environment, and pro-economy principles of a local food system, the Groundwork Food and Farming team creates markets for local farmers, and helps connect locally grown food to school children, food pantry clients and families across the state.	Public Health Emergency	https://www.groundworkcenter.org/food-farming/
J	Midwest Agriculture Climate Team	MAC-T members are Extension specialists and state climatologists from many of the states represented in the Midwest Climate Hub, and NOAA NWS climate and weather specialists. The goal of this team is to share expertise regionally, discuss impacts and opportunities as it relates to agriculture and outlooks, and maintain an open line of communication so when weather/climate events do occur, the Midwest agriculture community is set to respond. The team meets monthly during the growing season regularly, and as needed during the winter season.	Drought, Extreme Temperatures, Flooding, Severe Winter Weather, High Winds, Hail	https://www.climatehubs.usda.gov/hubs/midwest/topic/midwest-agriculture-climate-team-mac-t
K	NWS Climate Prediction Center	The U.S. Drought Monitor is a map released every Thursday, showing parts of the U.S. that are in drought. The map uses five classifications: abnormally dry (D0), showing areas that may be going into or are coming out of drought, and four levels of drought: moderate (D1), severe (D2), extreme (D3) and exceptional (D4).	Drought	https://www.cpc.ncep.noaa.gov/products/Drought/
L	National Fire Protection Association Firewise USA Program	Firewise USA Program: Each applicant must create a board/committee, complete a community wildfire risk assessment with a 3-year action plan to reduce ignition risk to homes, and complete annual educational and risk reduction actions identified in the plan.	Wildfire, Drought	https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA
M	NFPA Community Wildfire Defense Grants	Communities can use these grants from the USFS in a variety of ways to reduce the wildfire risk to people and property. One key use is capacity building for wildfire mitigation. For example, communities can use the grants to support the implementation and enforcement of wildfire-related codes and standards; to train people to assess wildfire risk and implement effective mitigation measures; and to perform outreach to community members through programs like Firewise USA®. Communities that build these fundamentals—sound land use and building practices, a skilled workforce, and an educated public—will be better prepared for sustained and effective risk reduction and better equipped to take advantage of future federal grants that prioritize communities with codes in place.	Wildfire, Drought	https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire
N	Consumer's Energy Hydro Planning	Information on planning processes and documents related to the future of hydropower dams in Michigan.	Flooding	www.consumersenergy.com/hydrofuture
O	Consumer's Energy Utility Services	Consumers Energy provides electrical and natural gas utility services. Energy through renewable energy sources is available. A power outage map is available to track outage locations.	All hazards.	https://www.consumersenergy.com/outagemap
P	Great Lakes Energy Utility Services	GLE provides electric and high-speed fiber internet and voice services. GLE provides an online power outage map to track outage locations. Also, Trustream's Status Map indicates where fiber internet is available or is being explored in the region.	All hazards.	https://www.gtlakes.com/power-outages/ https://www.trustreamfiber.com/status-map/
Q	Connected Nation Michigan	Connected Nation develops and provides the tools, resources, and methods that help states and communities create and implement solutions to their broadband and digital technology gaps. They assess and plan for the expansion of broadband access, adoption, and use. They empower people with technology skills and resources to improve their quality of life, and we develop public-private partnerships to bring technology access to targeted geographies and population.	All hazards.	https://connectednation.org/michigan/
R	EGLE's Michigan Oil, and Gas and Minerals Division Data Explorer	Interactive mapping tool to search for oil and gas well facilities and associated records throughout Michigan; list of oil and gas well types and status codes.	Flooding, Lightning, Tornado, Severe Winter Weather, High Winds	https://www.egle.state.mi.us/daminerv/ https://www.michigan.gov/egle/about/organization/oil-gas-and-minerals/oil-and-gas/oil-and-gas-well-type-and-status
S	National Pipeline Mapping System - Public Map Viewer	The National Pipeline Mapping System (NPMS) Public Map Viewer is a web-based mapping application designed to assist the general public with displaying and querying data related to: gas transmission and hazardous liquid pipelines, liquefied natural gas plants, and breakout tanks under Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) jurisdiction. This application does not contain distribution or gas gathering pipelines. Basic information about gas or hazardous liquid pipeline incidents is also available.	Extreme temperatures, flooding, and soil erosion.	https://www.npms.phmsa.dot.gov/
T	EGLE's Wetlands Map Viewer	The WMV application was created for the Department of Environment, Great Lakes, and Energy to provide the public with quick and easy access to wetland spatial data.	Flooding, Drought, Extreme Temperatures	https://www.mcgi.state.mi.us/wetlands/mcgiMap.html
U	FEMA Floodplain Management Resources for Local Government Officials	How to participate with the NFIP and tools and resources to provide higher standards for floodplain management.	Flooding	https://www.fema.gov/floodplain-management/manage-risk/local

ID	Resource	Description	Hazard Type	Website
V	FEMA Flood Mitigation Assistance (FMA) Grant Program	FMA is a non-disaster, competitive grant program that provides funding to states, local communities, federally recognized tribes. 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. • \$800 million available in funding for FY22 • Application Period: September 30, 2022, to January 27, 2023 • Period of Performance: 3 Years • Cost-share: 25% non-federal • Severe Repetitive Loss (up to 100% federal) • Repetitive Loss (up to 90% federal) • Priorities are set each fiscal year	Flooding	https://www.fema.gov/grants/mitigation/floods
W	FEMA Building Resilient Infrastructure and Communities (BRIC) Grant Program	BRIC is a non-disaster grant program, which provides funds on an annual basis for hazard mitigation planning and the implementation of mitigation projects prior to a disaster. The BRIC program guiding principles are supporting communities through capability- and capacity-building; encouraging and enabling innovation; promoting partnerships; enabling large projects; maintaining flexibility; and providing consistency. Funding has doubled for BRIC to \$2.295 billion for FY21. • Caps: States/Territories Allocation and Activities: \$2 million; Tribal set-aside: \$2 million; National Competition: \$2.133 billion • Application Period: September 30, 2022 to January 27, 2023 • Period of Performance: 3 year from start date on Recipient's federal award • Cost-share: 25% non-federal • Economically disadvantaged rural communities are eligible for 10% non-federal • Priorities are set each fiscal year	All hazards	https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities
X	FEMA Hazard Mitigation Grant Program (HMGP)	HMGP is a post-disaster grant program, where funding is only made available under a Presidential major disaster declaration, in the areas of the State requested by the Governor. Federally-recognized tribes may also submit a request for a Presidential major disaster declaration within their impacted areas.	All hazards	https://www.fema.gov/grants/mitigation/hazard-mitigation
Y	HMGP Post-Fire Assistance (PFA) grant program	This grant funds projects that make a community more resilient after a designated wildfire disaster. States and federally-recognized tribes affected by fires resulting in a Fire Management Assistance Grant (FMAG) declaration on or after October 5, 2018, are eligible to apply.	Wildfire, Drought	https://www.fema.gov/grants/mitigation/post-fire
Z	State of MI: Resources and Best Practices to prevent and manage invasive species	Prevention tips and action steps to control or remove invasive species.	Invasive Species	https://www.michigan.gov/invasives/take-action
AA	Michigan Invasive Species Grant Program	The Departments of Natural Resources, Environmental Quality and Agriculture and Rural Development work together to address strategic issues of prevention, detection, eradication, and control for both terrestrial and aquatic invasive species in Michigan. This program is designed to address strategic issues of prevention, detection, eradication and control for both terrestrial invasive species (TIS) and aquatic invasive species (AIS) in Michigan.	Invasive Species	www.michigan.gov/invasives/grants/misgd
BB	EGLE's "NotMiSpecies" webinar series	This webinar series explores how agencies, universities and locally led organizations are working together to protect Michigan's natural resources through the Michigan Invasive Species Program. If you are concerned about the impacts of invasive species or interested in the techniques used to control them, join us as we examine species-specific actions, innovations in research and technology, and programs designed to help communities prevent and manage harmful invasive species.	Invasive Species	https://www.michigan.gov/invasives/take-action
CC	Clean Boats, Clean Waters Program	Funding from the Michigan Department of Environment, Great Lakes, and Energy and the Great Lakes Restoration Initiative has enabled Clean Boats, Clean Waters to grow into a comprehensive aquatic invasive species boater outreach program. The program's mission is to prevent new aquatic invasive species introductions and limit their dispersal from water recreation activities through outreach and engagement. The program promotes understanding of boat cleaning practices and regulations through the distribution of educational materials, an online resource library, boat washing demonstrations, grants and partnerships.	Invasive Species	www.canr.msu.edu/clean_boats_clean_waters/index
DD	Michigan State University Extension (MSUE)	Resources available for: training elected and appointed officials, agriculture and food support programs, and natural resources protections.	All hazards	https://www.canr.msu.edu/outreach/
EE	USDA Natural Resources Conservation Service (NRCS)	The NRCS helps America's farmers, ranchers, and landowners conserve our nation's resources through voluntary programs and science-based solutions.	Drought; Extreme Temperatures; Invasive Species; Public Health Emergency	https://www.nrcs.usda.gov/
FF	Wexford Conservation District (WCD)	The mission of the WRC is to enable the citizen of Wexford County to be stewards of their natural resources. By providing services such as tree sales, plant sales, workshops, and the Michigan Forestry Assistance Program (FAP). We also partner and work with USDA-NRCS, Missaukee Conservation District, and the North Country Cooperative Invasive Species Management Area (NCCISMA).	Flooding & Erosion; Invasive Species; Wildfire; Drought; Extreme Temperatures; Public Health Emergency	https://www.wexfordconservationdistrict.org/
GG	North Country Cooperative Invasive Species Management Association (NC-CISMA)	North Country Cooperative Invasive Species Management Area (NCCISMA) acts as an umbrella organization, bringing together a diverse group of partners to collaborate on programs and projects designed to combat invasive species. The organization serves in the counties of Missaukee, Wexford, Lake, Mason, Mecosta, and Osceola. NCCISMA empowers people to address invasive species on their own property through: - Assistance in identifying invasive species - Guidance on treating invasive species and buying herbicides - Invasive species treatment demonstrations - Strike Team for hire to control high priority invasive species on private property - Outreach and educational events	Invasive Species; Flooding and Erosion	https://www.northcountryinvasives.org/
HH	Conservation Resource Alliance	Current projects include: Wild Roots, a cost-share program offering native plants to property owners at a greatly reduced rate; and The River Care Program, which ensures that natural resource professionals maintain a consistent and prioritized action plan for each river in the organization's region. River Care professionals not only find and repair physical problems before they become worse, they also team with local agencies, residents, and interest group representatives for fact-based conversations. These cross-functional teams can speak openly and affect change in an agile, efficient and transparent way. CRA works in the 10-county northwest MI region, along with the southerly adjoining counties of Mason, Lake, Osceola, Oceana and Newaygo.	Flooding & Erosion; Invasive Species; Drought; Extreme Heat; Public Health Emergency	https://www.rivercare.org/
II	Muskegon River Watershed Assembly	The Muskegon River Watershed Assembly is dedicated to the preservation, protection, restoration, and sustainable use of the Muskegon River, the land it drains, and the life it supports, through educational, scientific and conservation initiatives. Projects have included watershed clean-up events; lake and river evaluation, monitoring and restoration; rain gardens; shoring/scaping workshops; and habitat improvement.	Flooding & Erosion; Invasive Species, Public Health Emergency, Drought, Extreme Heat	https://mrwa.org/
JJ	Upper Manistee River Association	The purpose of this Association is to preserve and protect for future generations the Upper Manistee River system and its drainage as a world class natural resource. MRA consists largely, but not exclusively, of riparian property owners who share river related interests on that part of the Manistee River system, reaching from its head waters in southern Antrim and Otsego Counties downstream, 147 river miles, through Crawford, Kalkaska and Missaukee counties to highway US-131 in Wexford County.	Flooding & Erosion; Extreme Heat; Invasive Species, Public Health Emergency, Drought	http://www.umrasite.org/
KK	MSUE's Michigan Inland Lakes Partnership	The purpose of the Michigan Inland Lakes Partnership (Partnership) is to engage state and local agencies, Native American Nations, outreach institutions (universities and other educational institutions), non-governmental organizations (NGOs), businesses, industries and citizens in a collaborative effort to ensure the quality, sustainability and ecological diversity of lakes, while considering society's needs. The Partnership will promote communication and cooperation between partners, communities and citizens interested in the management of Michigan's inland lakes, educating leaders, and strengthening stewardship efforts.	Inland flooding, shoreline erosion; Invasive Species	https://www.canr.msu.edu/michiganlakes/convention/
LL	Lake Mitchell Improvement Board	The Lake Mitchell Improvement Board collects special assessments from benefiting properties for approved lake improvements. Virtually all assessment monies are spent to control invasive and nuisance native vegetation as well as monitor water quality and protect the fishery. The lake board membership includes a riparian representative who is elected for a four-year term, appointed representatives from Selma Township, Cherry Grove Township, the city of Cadillac, a Wexford County Commissioner, and the Wexford County Drain Commissioner. Township, County Commission and City Commission representatives representatives are appointed for indefinite terms. The Drain Commissioner who is elected in a county election.	Flooding & Erosion; Extreme Heat; Invasive Species, Public Health Emergency, Drought	https://www.lakemitchell.org/lmib-duties/

ID	Resource	Description	Hazard Type	Website
MM	Lake Mitchell Property Owners Inc.	Efforts are focused on lake water quality, lake levels, dam management, sewer, the health of fish and wildlife, and all questions related to property owners on the lake.	Flooding & Erosion; Extreme Heat; Invasive Species, Public Health Emergency, Drought	https://lakemitchellpo.com/
NN	Lake Cadillac - City of Cadillac Milfoil Management Program	Since 2006, the City of Cadillac has administered a milfoil management program on Lake Cadillac. In 2010, voters approved a three-year citywide millage to fund the program, which is designed to help improve recreational use in the lake while preserving the fragile balance that is required to keep the lake healthy.	Invasive Species	https://www.cadillac-mi.net/383/Milfoil-Management-Program
OO	Cadillac Area Land Conservancy	The Cadillac Area Land Conservancy protects significant natural, scenic, and farm lands for current and future generations and fosters an appreciation for the environment in Missaukee, Osceola, Wexford, and northern Lake and Mason counties. Efforts include: - Working with property owners to protect natural, scenic and farm lands through conservation easements so they remain undeveloped forever. - Conducting annual monitoring and stewardship of easement properties. - Building coalitions with state and federal agencies to identify priority "wildlife corridors" for establishing future easements. - Conducting community outreach for education and advancing land stewardship now and for future generations.	Flooding & Erosion; Invasive Species; Public Health Emergency; Wildfire; Drought; Extreme Heat	https://calc-landtrust.org/
PP	Great Lakes Stream Crossing Inventory	Previously, individual inventories were conducted by partnership agencies, watershed organizations, and road agencies but were not readily accessible to stakeholders and did not contain comparable information. The newly developed protocol and datasheet are intended to promote consistent data collection, selection criteria for improvement projects, and selection of appropriate Best Management Practices for each project to benefit all stakeholders. Information gathered on the datasheet can and has been used to prioritize structure replacement and successfully seek funding.	Flooding & Erosion	https://great-lakes-stream-crossing-inventory-michigan.hub.arcgis.com/
QQ	Boat Launch Inventories for Wexford County	State of MI website and Wexford County 2019 Rec Plan	Invasive Species	https://www.mcgi.state.mi.us/mrbis/https://wexfordcounty.org/wp-content/uploads/2019/10/Wexford-CO-Rec-Plan-2019-FINAL-with-appendices.pdf