

SECTION 6: COMPREHENSIVE STATE HAZARD MITIGATION PROGRAM

Wisconsin's demonstrated commitment to developing and implementing a comprehensive, effective, and integrated hazard mitigation program is evident in the interagency coordination at the state level. This section describes how the Wisconsin State Hazard Mitigation plan (WHMP) has been integrated with other planning initiatives and across programs. Further, it will provide documentation and describe how the State effectively utilizes available mitigation funding and can manage increased mitigation funding that will become available upon approval.

Overall, the statewide comprehensive mitigation program involves:

- Integrated planning and ongoing coordination with other state agencies, interagency groups, and statewide initiatives
- Integration with FEMA mitigation programs and initiatives
- State commitment to a comprehensive mitigation program
- Managing an effective HMA program
- Measuring success (loss avoidance, highlighting successes/best practices)

6.1 Integrated Planning and Ongoing Coordination

Although no single agency can be solely responsible for mitigation across all community sectors, the Mitigation staff in the Wisconsin Division of Emergency Management (WEM) is responsible for integrating, to the extent practicable, hazard mitigation planning and programs with other state, local, and interagency initiatives and programs. The goal is that through integrating with agencies and stakeholders, Wisconsin has an effective set of initiatives, programs and procedures that are carried out and coordinated by a variety of state agencies. Throughout the planning process, WEM coordinates and utilizes information provided by the other state agencies. Section 2 provides a thorough discussion of the state planning process and initiatives while Section 3 identifies the state's pre- and post-disaster policies, programs, and capabilities to mitigate the state's hazards. As planning efforts continue and mature, interaction among the various agencies will expand. Generally, the state agency members of the Wisconsin Silver Jackets Hazard Mitigation Team (WSJHMT) are the main conduit of these efforts; this group of state, federal, regional, and local partners helped create and implement the state's mitigation goals and action plan found in Section 3. As captured in detail in Section 2, the WSJHMT helps integrate with other planning initiatives and their corresponding sectors.

Section 3 discusses the related mitigation programs and projects that make up the state's overall mitigation capacity and contribute to the state's mitigation program. Table 6.1-1 summarizes the integration of hazard mitigation planning with other state planning initiatives. They are discussed in more detail in Section 3.

Overall, WEM oversees integrated planning and ongoing coordination with other state agencies, interagency groups, and statewide initiatives (e.g. state, regional and local planning initiatives).

These connections are documented well throughout Section 6 and throughout other sections of the plan.

Table 6.1-1: Interagency Planning Initiatives

Initiative	Description
Comprehensive Planning	<p>The state’s comprehensive law (s. 66.1001) required communities to develop a comprehensive plan by January 1, 2010, if they wish to make decisions to change and manage land use in their jurisdiction.</p> <p>The nine comprehensive planning elements and ideas for how to integrate mitigation planning are included in local hazard mitigation guidance, <i>Resource Guide to All-hazards Mitigation Planning in Wisconsin</i>. The nine planning elements include: Issues and Opportunities; Housing; Transportation; Utilities and Community Facilities; Agriculture, Natural and Cultural Resources; Economic Development; Intergovernmental Cooperation; Land Use; and Implementation.</p>
Wisconsin Coastal Management Program (WCMP)	<p>The WCMP provides technical assistance and coordinates state resources to support the management of Wisconsin’s Great Lakes coasts. The WCMP administers the Coastal Grant Program, which provides grants to communities for coastal resource protection and organizes the Wisconsin Coastal Hazards Work Group (CHWG), which includes representatives from the DNR, University of Wisconsin, UW Sea Grant, local and regional governments, and WEM. In turn, there is a WCMP representative on the WSJHMT.</p> <p>Program objectives, as described in the Wisconsin 2021-2025 Needs Assessment and Strategy, include:</p> <ul style="list-style-type: none"> • Assisting agencies and communities in developing and revising coastal hazards policies through outreach and data development and management • Developing new local regulations, reviewing local plans, maps, and ordinances, and generating documents for policy makers and homeowners • Working with partner agencies and local governments through the CHWG • Educating landowners and other stakeholders about coastal hazards, and supporting efforts to train government staff, coastal engineers, and real estate interests • Providing technical assistance in the form of reports, outreach documents, visualization tools and mapping to communicate conditions of the coastline in support of local decision making and policy development
Wisconsin Emergency Response Plan	<p>The State Hazard Mitigation Plan is an appendix to the 2019 Wisconsin Emergency Response Plan. Each ESF includes mitigation activities in support of the function.</p> <p>ESF-14 addresses Short Term Community Recovery and Mitigation; and roles and responsibilities for supporting agencies. It includes the Wisconsin Recovery Task Force (WRTF) and the WSJHMT. The WSJHMT is the Mitigation RSF Subcommittee of the WRTF.</p>
Wisconsin Recovery Plan	<p>Completed in 2016, the Wisconsin Recovery Plan is under a substantial update to reflect changes to the state's recovery structure, which provides a framework to support local and tribal governments recovering from a range of disaster events.</p>

Initiative	Description
Threat Hazard Identification and Risk Analysis (THIRA)	The THIRA is a process to identify risk, assess impacts, and define targets for measuring capability gaps and improvements. The THIRA sets capability baselines for the State Preparedness Report (SPR). The SPR is a self-assessment of the state’s current level of preparedness relative to the capability targets identified in the THIRA. For this plan update (and the previous update in 2016), the state risk assessment is combined with the THIRA in Appendix A. The THIRA describes the hazard and past history; probability, vulnerability, impact and potential losses; mitigation potential; catastrophic scenario; summary risk analysis; and sources.
Wisconsin Recovery Task Force (WRTF)	A key element of ESF-14 and the State Recovery Plan is the WRTF which is comprised of state and federal agencies and NGOs with recovery responsibilities. The WRTF is chaired by the WEM Administrator and consists of six Recovery Support Function (RSF) Subcommittees: agriculture, economic, housing, health and social services, infrastructure, and mitigation. The WRTF serves as the state-level organization responsible for pre-disaster recovery planning and coordination of state and federal recovery efforts. The WRTF can be activated in declared and non-declared disasters to assist county, local, and tribal jurisdictions in recovering from a disaster. The members of the WSJHMT make up the RSF Mitigation Subcommittee.
Homeland Security Council – Interagency Working Group	The Interagency Working Group is chaired by Wisconsin Emergency Management and comprised of representatives of the Departments of Administration; Agriculture, Trade and Consumer Protection; Health Services; Children and Family Services; Corrections; Justice; Natural Resources; and Transportation; as well as the Office of Energy Independence; the National Guard; and UW Police. Since the group was formed in the late 90’s, its mission has evolved to cover all hazards and all phases of emergency management. The Group meets monthly, or more often as directed in support of the Governor’s Homeland Security Council.
Wisconsin Comprehensive Response Group (WCRG)	The WCRG was formed in November 2013 by the WEM Administrator with a mission to address response in the first 72 hours of an event. The workgroup works to enable response, address survivor needs, and look at restoration needs. There are 11 committees. The Mitigation Section Supervisor chairs the Short- and Long-Term Recovery Committee. The workgroup meets quarterly.
Building Resilience Against Climate Change (BRACE)	The BRACE Workgroup was formed in 2013 and is located in the Wisconsin Department of Health Services, Bureau of Environmental and Occupational Health. The Wisconsin BRACE program seeks to develop climate adaptation strategies based on best practices and scientific knowledge to address health risks related to potential severe weather and climate-driven events. The Climate and Health Program explores the ability to predict the public health burden for the following climate-related risk factors: extreme heat, changing precipitation patterns and flooding, drought, impacts on ground water aquifers and surface waters, vector-borne diseases, and winter weather events. The BRACE program seeks to expand partnerships, provide expertise, foster collaboration and develop strategies that will address health risk factors related to severe weather event indicators. Members of the WEM Mitigation Team participate on the BRACE Workgroup and provided input into the BRACE Strategic Adaptation Plan.

Initiative	Description
Wisconsin Initiative on Climate Change Impacts (WICCI)	WICCI is a statewide collaboration of scientists and stakeholders formed as a partnership between the University of Wisconsin and DNR to evaluate climate change impacts on Wisconsin and foster solutions. WEM participates in several of the working groups sponsored by WICCI, including the Infrastructure Working Group.
Wisconsin Voluntary Organizations Active in Disasters (WIVOAD)	WI VOAD is an affiliate of the National VOAD, an association of organizations that mitigate and alleviate the impact of disasters, promote cooperation/communication/coordination/collaboration, and fosters more effective delivery of services to communities affected by disasters. Staff from WEM provides coordination and assistance to WIVOAD members. WIVOAD has taken a lead role in long-term recovery and sponsors Long Term Recovery Committees. These committees, using WIVOAD's 501(c)(3) tax exempt status, focus on fundraising, reaching out to individuals and families with unmet disaster needs, and providing services to them through a uniform case management process. The WIVOAD chair is on the WSJHMT and the WRTF.
Risk Assessment of State-Owned and Operated Buildings, Critical Facilities, and Infrastructure	There are 6,783 state facilities per the Department of Administration's database. The structures range from small storage sheds to large multi-story office buildings. WEM has identified 1,070 critical facilities including agency, location, and replacement cost. The total replacement cost is \$7.47 billion. The plan identifies the vulnerability from the hazards in the THIRA.

As stated above, the state agencies on the WSJHMT were integral in the creation of the WHMP through the development of the mitigation goals, capability assessment, and action plan found in Section 3. Table 6.1-2 lists the agencies that were active in the planning process and summarizes their contributions to the process and the state's overall mitigation program.

Table 6.1-2: Contributing Agencies

Agency	Contribution to Process
Department of Administration (DOA)	<ul style="list-style-type: none"> • Demographic Services Center supplies state and local agencies with population and housing estimates and projections. Information used in hazard mitigation planning. • Comprehensive Planning provides guidance and assistance to local governments in the development of comprehensive plans. Planning elements are included in hazard mitigation planning guidance. Hazard mitigation is identified in several planning elements. • The Wisconsin Land Information Program provides a data resource for state and local governments in the development of both comprehensive and hazard mitigation plans. • Wisconsin Coastal Management Program provides guidance and assistance to the 15 coastal counties on incorporating coastal hazards into comprehensive and hazard mitigation planning. • The Division of State Facilities provides WEM with a list of state-owned and -operated assets for assessing risks, vulnerability and potential damages from the hazards identified in the THIRA.

Agency	Contribution to Process
	<ul style="list-style-type: none"> • Manages and administers the state’s Community Development Block Grants for both housing and public facilities. Mitigation activities are encouraged, and costs are eligible within the programs. Coordinates closely with WEM to further mitigation and disaster recovery after an event and in many instances provides local match to FEMA mitigation grant programs.
Dept. of Agriculture, Trade and Consumer Protection (DATCP)	<ul style="list-style-type: none"> • Manages and administers several programs that reduce environmental damages from flooding. • Chairs the WRTF Agriculture Subcommittee.
Wisconsin Emergency Management (WEM)	<ul style="list-style-type: none"> • Responsible for the development, maintenance and implementation of the State Hazard Mitigation Plan. • Responsible for administration of HMGP, FMA, and PDM programs. • Provides guidance and assistance in the development and updates of local hazard mitigation plans. This includes plan review and providing comments. As plans are approved, local goals/objectives, capabilities, and mitigation actions are incorporated into updates of the State Plan. • Promotes hazard awareness and mitigation through awareness campaigns, newsletter, agency website, and workshops. • The State Hazard Mitigation Officer is chair of the RSF Mitigation Subgroup on the WRTF and also leads the WSJHMT. • Provides technical assistance to local and tribal jurisdictions by developing tools such as worksheets, and providing training through conducting workshops and webinars. • Provides support to the Wisconsin Association for Floodplain, Stormwater and Coastal Management.
Department of Health Services (DHS)	<ul style="list-style-type: none"> • Provides technical assistance and/or personnel to address special needs populations, environmental health issues, communicable or infectious disease, radiological/nuclear issues, and bio-terrorism preparedness. • Administers FEMA crisis counseling grants and case management for declared disasters. Works closely with the Long-Term Recovery Committees, Individual Assistance and Mitigation staff. • Chairs the WRTF RSF Health and Social Services Subcommittee. • The Bureau of Environmental and Occupational Health coordinates the BRACE (Building Resilience Against Climate Change) program that looks at health impacts as a result of climate change.
Wisconsin Historical Society (WHS)	<ul style="list-style-type: none"> • Provides historic preservation assistance. Reviews proposed mitigation projects to meet Section 106 requirements. Maintains inventory of historic structures. Provides technical assistance in projects involving historic and archaeological sites and structures.
Office of the Commissioner of Insurance (OCI)	<ul style="list-style-type: none"> • Responsible for the regulation of insurance carriers and agents. Provides public information on insurance issues. Provides CEU instruction to insurance industry.
Department of Natural Resources (DNR)	<ul style="list-style-type: none"> • DNR staff has provided text, review, and comment on this State Plan, previous plans, and Mitigation Strategies after each disaster event. • Floodplain management staff assists WEM Mitigation staff in reviewing proposed mitigation projects for engineering feasibility and provides

Agency	Contribution to Process
	<p>information from Flood Insurance Studies for conducting Benefit-Cost Analyses.</p> <ul style="list-style-type: none"> • Environmental staff provides review and input in the environmental review process on proposed mitigation projects. • Administers the state’s Shoreland Protection Program, Local Floodplain Management Standards, and State Wetland Standards. • Administers the Municipal Flood Control and Riparian Restoration program that provides grants to local governments for flood mitigation. Coordinates closely with WEM and in some cases provides local match to federal mitigation grants. • Administers the NFIP and provides information on flood insurance, floodplain management and flood hazard mapping. • Administers the Dam Safety Program which inspects dams and reviews repair plans and operation and maintenance plans. Provides grants to repair and remove dams. Ensures that high-hazard dams have the required emergency action plans. • Administers Chapter 30 which sets standards for placement of structures and material, diversion of water, and other activities in navigable waters. • Stormwater management requires erosion controls and stormwater management practices on construction sites. • Administers Non-point Targeted Runoff Management Program. • Manages and administers the provisions of the Managed Forest Law, and provides technical assistance to private forests statewide. • Administers Forest Fire Protection Grant Program, Healthy Forests Initiative, Single Engine Air Tanker Program, and the Wildland Urban Interface and Fire Wise Communities programs. • DNR representative co-chairs with WisDOT the WRTF RSF Infrastructure Subcommittee. • Provides support to the Wisconsin Association for Floodplain, Stormwater, and Coastal Management.
Department of Safety and Professional Services (DSPS)	<ul style="list-style-type: none"> • Administers the State’s Building Codes. This includes training, inspection licensing, plan reviews, and enforcement. Coordinating with WEM and DNR on the development of response teams that would assist local governments after a disaster in inspection of damaged structures.
Public Service Commission (PSC)	<ul style="list-style-type: none"> • Regulates construction, service, and operations of electric, natural gas, telecommunications, and water utilities.
Department of Transportation (WisDOT)	<ul style="list-style-type: none"> • Administers the Disaster Damage Aids Program that provides grants to local governments for flood-damaged roads. Allows improvements to prevent future damages. • In highway and bridge improvement projects, strives to eliminate or reduce potential damages from hazards. • Identifies mitigation opportunities as part of project developments. • Transportation Security identifies measures to reduce damages to critical infrastructure, airports, rail, and maritime assets. • DOT representative co-chairs with DNR the WRTF RSF Infrastructure Subcommittee.

Agency	Contribution to Process
University of Wisconsin Extension (UWEX)	<ul style="list-style-type: none"> • Provides community education and public information programs promoting hazard awareness and mitigation concepts.
Wisconsin Economic Development Corporation (WEDC)	<ul style="list-style-type: none"> • Coordinates with the business community to address impacts from disasters and develop an economic recovery framework incorporating mitigation. • Chairs the WRTF RSF Economic Subcommittee.

6.1.1 Wisconsin Silver Jackets Hazard Mitigation Team

A significant development for the state following the record-breaking 1993 floods was the creation of Wisconsin’s Interagency Disaster Recovery Group (IDRG). The mission of the IDRG was “to develop a cooperative federal and state disaster recovery effort that can assist communities and regional agencies in utilizing all available funding sources to recover from and mitigate the future effects associated with the damages from natural hazards.”

The success of the IDRG during the recovery from the Great Flood of 1993 demonstrated the value of the group to communities around the state. Therefore, the IDRG remained in place to coordinate long-term recovery efforts following every disaster declaration. In 2003, the IDRG merged with the State Hazard Mitigation Team to form the Wisconsin Hazard Mitigation Team.

Agencies with responsibilities in the areas of natural resources, environmental regulation, planning, zoning, building codes, infrastructure regulation and construction, insurance, public information/education, economic development, and historic preservation were included on the State Hazard Mitigation Team (SHMT). Several agencies that had multiple facets that needed to be included in the plan had more than one representative on the Team. Many of the members of the IDRG were also members of the SHMT.

In December 2003, the IDRG and the SHMT merged to form the Wisconsin Hazard Mitigation Team (WHMT). Additional members from state agencies were added to the team. The WHMT played an integral role in establishing the Wisconsin Recovery Task Force after the devastating floods of 2008. Appendix E includes the members of the team. The team consists of 52 members representing 12 state agencies and 8 federal agencies along with WAFSCM, Association of Wisconsin Regional Planning Commissions, WEMA, Cooperative Network, and VOAD.

In January 2016, the Wisconsin Silver Jackets Hazard Mitigation Team Charter was signed by core agencies of the Wisconsin Hazard Mitigation Team. The core agencies are:

- U. S. Army Corps of Engineers
- Federal Emergency Management Agency
- Wisconsin Emergency Management
- Wisconsin Department of Natural Resources

- US Geological Survey
- National Weather Service

The Charter also identifies the rest of the Team members as supporting agencies. The Charter does not change how the WHMT operates as a team but formalizes what the team had been doing for the past fifteen plus years. As a result of the Charter, the state team changed its name to the Wisconsin Silver Jackets Hazard Mitigation Team (WSJHMT).

The WHMT is active in updating the State Plan, but also assists in disaster recovery activities.

Throughout the various planning processes, the WHMT has established the State Hazard Mitigation Goals:

1. Minimize human, economic, and environmental disruption and reduce the potential for injury and loss of life from natural, technological, and manmade hazards.
2. Enhance public education about disaster preparedness and resilience, and expand public awareness of natural, technological, and manmade hazards.
3. Encourage and promote continued comprehensive hazard mitigation planning and implementation of the plan.
4. Support coordination and collaboration among federal, state, and local authorities, and non-governmental organizations regarding hazard mitigation activities.
5. Improve the disaster resistance of buildings, structures, and infrastructure whether new construction, expansion, or renovation.

Although the goals were updated in the 2016 planning process to include technological and manmade hazards, they have remained the same in 2021. The WHMT feels that these goals continue to represent the statewide mitigation goals across agencies and initiatives.

6.1.2 Comprehensive Planning

Wisconsin's Comprehensive Planning Law was enacted in 1999 and is often referred to the "smart growth law." It requires all local governments to develop and adopt a comprehensive plan. Beginning January 1, 2010, if a town, village, city, or county enacts or amends an official mapping, subdivision regulation, or zoning ordinance, the enactment or amendment ordinance must be consistent with the community's comprehensive plan. There are nine planning elements:

- Issues and Opportunities
- Housing
- Transportation
- Utilities and Community Facilities
- Agricultural, Natural, and Cultural Resources
- Economic Development

- Intergovernmental Cooperation
- Land Use
- Implementation

Although there is no required element for hazard mitigation, the importance of comprehensive planning is discussed and stressed at the annual Hazard Mitigation Planning Workshops held by Wisconsin Emergency Management. It is imperative future development plans identify and locate hazards to assist policymakers in making the best and safest decisions for their residents. In turn, hazard mitigation planning needs to be cognizant of future development plans. Local all-hazards mitigation plans can be integrated into the comprehensive plan as long as all of the required elements are included, and vice versa. Communities wanting to incorporate mitigation planning better into comprehensive or other planning mechanisms can apply for Hazard Mitigation Assistance planning and planning-related activity grants, however, only those portions directly related to the mitigation requirements would be eligible for funding.

6.1.3 Regional Planning

The Association of Wisconsin Regional Planning Commissions (AWRPC) represents the nine Regional Planning Commissions (RPCs) in Wisconsin. For most communities in Wisconsin, RPCs serve as the only affordable local planning body available and are a source of planning expertise in the development of comprehensive plans and special purpose plans including all-hazards and flood mitigation plans. The RPCs provide the mechanism by which multiple jurisdictions within a region may coordinate their plans. Most of Wisconsin's RPCs assist communities in developing their comprehensive plans as required by state law.

The RPCs are one of WEM's strongest partners in mitigation planning. They provide services to many of the counties and tribes in the development and update of all-hazards mitigation plans. In addition, the RPCs prepare grant applications for local governments to obtain federal and state assistance for many types of activities including mitigation grant subapplications for both plans and projects.

6.2 Integration with FEMA Programs and Initiatives

There are several federal programs that the state utilizes, which include regulations that provide local communities with guidance for state and regional agencies. Figures 3.2-1 and 3.2-2 provides information on additional capabilities.

6.2.1 Public Assistance (PA) Program

Mitigation measures can be implemented through FEMA's Public Assistance (PA) program after a disaster declaration (under Section 406 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5172). PA funds allow an existing damaged facility to incorporate mitigation measures during repairs if the measures are cost-effective or are required by code.

WEM PA staff strongly supports mitigation. The Mitigation and PA staffs coordinate closely to ensure that Section 406 mitigation opportunities are included wherever possible during post-disaster operations, during discussions with potential subapplicants during damage assessments in the field, at applicant briefings following a Major Disaster Declaration, and during Recovery Scoping Meetings with FEMA, WEM and subapplicants. Historically, WEM Mitigation staff supports PA subapplicants by completing benefit-cost analyses to support Section 406 projects. Following the declarations in 2017, 2018, 2019, and 2020, WEM developed strategic objectives and listed them in the Mitigation Strategy to coordinate with PA to better identify 406 mitigation projects in the state and to highlight success stories. WEM mitigation staff consults with State PA staff on any Hazard Mitigation Grant Program pre-applications that have potential for Section 406 funding.

WEM worked closely with a new 406 Mitigation Team based in FEMA Region V. This new team attended various Recovery Scoping Meetings for all subapplicants in DR_4477 to help identify opportunities for Section 406 mitigation.

WEM Mitigation staff also requested specific BCA training in 2020 and 2021 that was targeted toward the influx of new WEM PA staff. The State Hazard Mitigation Officer helped add perspective and share Wisconsin-specific examples during the FEMA-led training. The SHMO has since worked one-on-one with WEM PA staff to do additional training and follow-up to further the BCA knowledge in the state across the two programs.

6.2.2 Individual Assistance (IA) Program

Following DR-4402, WEM and FEMA opened Disaster Recovery Centers (DRC) to disseminate information about recovery from the flooding event. WEM Mitigation staff went to the various DRCs in the impacted areas to share resources about the Hazard Mitigation Grant Program (HMGP) for eligible subapplicants and their representatives, as well as share resources for individual homeowners to implement residential mitigation measures during their flood cleanup and recovery. At the DRCs, WEM staff tracked potential participants in communities' acquisition/demolition grants and connected them back to their communities' points of contact.

Information about elevating utilities and flood cleanup was shared, so that residents could help reduce future damages if their structures were not substantially damaged.

6.2.3 National Flood Insurance Program (NFIP)

In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the nation’s floodplains. Mapping flood hazards creates the broad-based awareness of the flood hazards and provides the data needed for floodplain management programs to actuarially rate new construction for flood insurance.

Floodplain maps and Flood Insurance Studies (FIS) provide critical flood hazard information needed to develop effective planning focusing on the areas with the greatest flood risk. In addition, WEM utilizes this flood hazard information in evaluating proposed hazard mitigation projects and conducting benefit-cost analyses.

**Table 6.2.3-1: NFIP Statistics for Wisconsin
(*includes all 72 counties)**

Participating communities - regular program	558
Participating communities - emergency program	3
Total participating communities	561
Participating communities with no SFHA identified	20
Non-participating communities with SFHAs identified	60
Total communities with SFHAs identified	601*
Suspended communities	13
Withdrawn communities	2

Source: FEMA

Table 6.2.3-1 shows NFIP participation statistics for Wisconsin as of July 8, 2021 (this is the date that the Community Status Book for the NFIP was last updated at the writing of the plan). There are 14 additional communities in the NFIP, including 5 that were not formally in the NFIP during the previous plan update. There are serious consequences for communities that elect not to participate in the NFIP: flood insurance is not available to individuals or businesses (lending institutions cannot approve mortgages for properties located in a SFHA without the purchase of flood insurance); certain disaster assistance and other federal grants are not available to individuals, businesses, or local governments.

The NFIP is administered by the Wisconsin DNR Floodplain Management Program (FMP). Each participating community must adopt the state’s model floodplain ordinance (or a stricter ordinance). Wisconsin’s model floodplain ordinance contains higher standards than FEMA’s, including requiring two feet of freeboard for elevations in the flood fringe, and no new development in the floodway.

WEM works closely with the DNR on NFIP issues because community eligibility for pre- and post-disaster mitigation programs relies on NFIP participation. The FMP plays an important role

in state mitigation efforts. The responsibilities of FMP staff members include, but are not limited to, the following:

- Help communities administer local floodplain management programs
- Provide technical assistance to local floodplain managers in making substantial damage determinations after a flood
- Ensure that communities are compliant with local ordinances
- Assist non-participating communities in enrolling in the NFIP
- Assist NFIP-participating communities in enrolling in the CRS
- Represent the FMP on the Wisconsin Silver Jackets Hazard Mitigation Team
- Represent the FMP on the Wisconsin Recovery Task Force RSF Mitigation Subcommittee
- Work with WEM Mitigation staff to administer mitigation programs and develop a repetitive loss strategy for the state
- Provide training to local government and emergency management officials on floodplain management and mitigation

After flooding events, local officials are responsible for inspecting flood damaged structures in the special flood hazard area (SFHA) to determine if they are substantially damaged (50% or more damaged). If so, the property owner is required to bring a non-conforming structure into compliance with the local floodplain ordinance. After each major flooding disaster declaration at annually, the DNR conducts Substantial Damage Determination workshops in impacted communities. During the COVID-19 pandemic, these workshops were given in an online format, making it easier for officials to receive the training without attending a workshop in person.

To further support floodplain management in the state, the DNR conducted floodplain development and permitting workshops, and with WEM, performs outreach to the following organizations about floodplain issues: Wisconsin County Code Administrators, Wisconsin Building Inspectors Association, Wisconsin Realtors Association, Wisconsin Lakes Association, Wisconsin League of Municipalities, Wisconsin Counties Association, American Society of Civil Engineers, Wisconsin Bar Association, Wisconsin Surveyors Association, and Wisconsin Counties Highways Association as well as to Wisconsin's tribal nations.

6.2.4 Community Rating System (CRS)

There are 10 CRS classes (categories). Class 1 requires the most credit points and results in the largest premium reduction; class 10 receives no premium reduction. Only one community in the nation has achieved a class 1 rating: Roseville, California. Table 6.2.4-1 shows the credit points earned, classification awarded, and premium reductions given for Wisconsin communities in the CRS as of October 2021. No new communities joined the NFIP since the last plan update.

Notably, the Cities of Green Bay and New Berlin increased their class (and the flood insurance premium discount available to residents) and 3 communities (Adams County, City of Eau Claire, and City of La Crosse) went down in class since the previous update. The most current listing is available on the FEMA website. When scoring project applications for the FEMA HMA programs, WEM assigns additional points to communities that participate in the CRS.

Table 6.2.4-1: Wisconsin CRS Communities as of July 2021

Community Number	Community Name	CRS Entry Date	Current Effective Date	Current Class	% Discount SFHA	% Discount Non-SFHA
550001	Adams County	10/1/1991	5/1/2019	8	10	5
550612	Allouez, Village of	10/1/1992	5/1/2012	6	20	10
550128	Eau Claire, City of	10/1/1991	5/1/2020	9	5	5
550578	Elm Grove, Village of	5/1/2001	5/1/2012	5	25	10
550366	Evansville, City of	5/1/2010	5/1/2010	7	15	5
550136	Fond du Lac, City of	5/1/2013	5/1/2013	7	15	5
550022	Green Bay, City of	10/1/1991	5/1/2019	6	20	10
550523	Kenosha County	5/1/2013	5/1/2013	5	25	10
555562	La Crosse, City of	10/1/1991	4/1/2021	10	0	0
550085	Mazomanie, Village of	10/1/1991	5/1/2012	8	10	5
550487	New Berlin, City of	10/1/2005	10/1/2021	6	20	10
550310	Ozaukee County	10/1/1991	10/1/2007	8	10	5
550402	Reedsburg, City of	5/1/2013	5/1/2013	6	20	10
550660	Suamico, Village of	5/1/2008	5/1/2013	7	15	5
550107	Watertown, City of	10/1/1991	10/1/2007	7	15	5
550108	Waupun, City of	10/1/1991	10/1/2001	8	10	5
550537	Winnebago County	10/1/1991	10/1/2001	8	10	5

Source: FEMA

6.2.5 RiskMAP

DNR started working with FEMA as a Cooperating Technical Partner (CTP) in 2001. DNR's priorities for watershed selection were based on flood risk, recent flood events, and availability of digital floodplain and high-quality elevation data. Risk MAP activities include efforts to update and digitize flood maps; to conduct "discovery meetings" focusing on riverine mapping needs; "discovery meetings" focusing on potential local mitigation actions, and discovery meetings focused on coastal mapping needs. Community officials will have the opportunity to

share their local knowledge and concerns on which streams warranted new floodplain map engineering and other related topics. State Mitigation staff attended the discovery meetings, open houses, and resiliency and community outreach meetings. Staff discussed the status of the communities' hazard mitigation plans and how Risk MAP products might assist in making the plans more comprehensive; previous mitigation projects in the area; and hazard mitigation funding opportunities.

Table 6.2.6-1: Wisconsin RiskMAP Activities in 2016-2021 Planning Cycle

Watershed/Region	Discovery	Flood Risk Review	Resilience	Open House	Community Outreach
Bayfield County					03/19/2020
Castle Rock Watershed	In Progress (July 2022)				05/25/2021
Cedar Creek PMR (Washington County)				01/90/2021	11/21/2019
Cedar Creek/Milwaukee River FIM					08/31/2017 12/12/2019
Douglas County					03/20/2020
Florence County		02/05/2020	02/05/2020	02/17/2021	02/05/2020 02/17/2021
Great Lakes Coastal Flood Study		06/04/2018 06/05/2018		11/16/2020 11/17/2020 02/22/2021 02/24, 2021	07/26/2017 08/08/2017 08/21/2017 08/22/2017 01/14/2021 09/24/2020
Iron County				11/04/2020	11/04/2020
Kickapoo Watershed	03/26/2018				03/21/2018
Lafayette County				04/11/2019	02/16/2017
Langlade County					04/29/2020
Milwaukee River Watershed	05/16/2013 02/11/2014 02/18/2014	08/28/2019	08/28/2019	11/17/2021	11/17/2021
Monroe County					10/05/2021
Sawyer County					05/20/2021
Shawano County		12/16/2020	12/16/2020		03/02/2021
Taylor County		09/16/2020		11/09/2021	12/02/2020 11/09/2021
Upper Fox Watershed	11/13/2012 02/11/2014 02/18/2014	05/18/2016	05/18/2016	11/21/2019 3/ 4/2020	11/21/2019 3/4/2020 06/15/2021
Upper Fox FIM					12/18/2015 08/31/2017
Wisconsin River FIM					05/21/2020

***FIM = Flood Inundation Mapping**

Source: Wisconsin DNR

Since the last plan update (2016), RiskMAP efforts have focused on the following areas, detailed in Table 6.2.6-1:

- Cedar Creek Watershed (Washington County)
- Upper (Illinois) Fox River Watershed
- Milwaukee River Watershed
- Kickapoo Watershed
- Shawano County
- Taylor County
- Bayfield County
- Douglas County
- Florence County
- Langlade County
- Sawyer County
- Wolf River Watershed

6.2.6 National Dam Safety Program

The National Dam Safety Program is a national program that targets the improvement of dams and safety of surrounding communities. Dams are generally regulated at either the federal or state level in Wisconsin. Approximately 150 large hydroelectric dams are federally regulated, while most of the remaining 3,850 dams are regulated at the state level by the Department of Natural Resources (DNR). Section 3.4 of the Appendix A outlines dam regulation and dam grant programs in Wisconsin. This section also includes the Municipal Dam Grant Program, the Dam Removal Grant and the High Hazard Potential Dam (HHPD) Rehabilitation Grant Program. The HHPD program was added as a new grant program under the National Dam Safety Program after the signing of the Water Infrastructure Improvements for the Nation Act in December 2016. WEM is working with the Wisconsin DNR to meet the requirements for this state plan for the HHPD so that eligible dams and communities can seek funding and technical assistance support to mitigate the risk associated with high hazard dams in Wisconsin.

6.2.7 Severe Repetitive Loss (SRL) and Repetitive Loss (RL) Programs

A summary of repetitive loss (RL) properties in Wisconsin can be found in Appendix D, which is used as a resource to prioritize mitigation projects for mitigation grants. The Report provides the state with a resource to identify the properties with the most repetitive losses and to prioritize specific mitigation recommendations for those properties. The state utilizes the Repetitive Loss Report statistics from past and current mitigation projects to provide guidance for future mitigation projects and to reduce future flood losses. Repetitive loss information is a criteria in selecting mitigation projects for funding. RLP information is also provided to local governments to address and include in development and update of their all-hazards mitigation plans.

As of November 2021, there were 791 statewide RL properties that meet the **NFIP** definition (those properties that have had two or more flood insurance claims of at least \$1,000 each within a rolling ten-year period since 1978). Of that number, 111 (14%) have been mitigated

through acquisition/demolition or elevation. The NFIP database lists 18 (2.3%) as mitigated due to a lack of recent, accurate data. The report identifies 144 communities with RL properties (including mitigated properties). Over 81% of Wisconsin communities with RL properties have five or fewer, as displayed in Table 2 of the report.

The City of Milwaukee, which has 236 repetitive loss properties, is the only community with more than 50 such properties. The City of Milwaukee and the Milwaukee Metropolitan Sewage District (MMSD) actively undertake mitigation projects. In most cases, they are not funded with federal mitigation grants; therefore, WEM is not aware of all of the activities undertaken. As such, it can be difficult to track the status of those repetitive loss properties. The same is true for other communities around the state that engage in locally-funded mitigation activities.

FEMA Region V provides an annual report for SRL and RL properties that meet the **FMA** definition (see Appendix D), which is also accessible in the NFIP PIVOT database. It is important to note that the FMA definition of RLP and SRL is different than the NFIP definition. The reports provide the state with a resource to identify the properties with the most repetitive losses and to prioritize specific mitigation recommendations for those properties. The state utilizes the reports to reach out to the communities and provide guidance for future mitigation of the properties to reduce future flood losses. Since 2010, the state through the HMA programs has mitigated seven SRL and seven RL properties. The tables in Appendix D identify those communities with SRL and RL properties remaining.

Repetitive loss information is a consideration in the funding criteria for mitigation projects. When a community submits an application for mitigation funding, the state refers to the SRL and RLP reports as well as the State's Repetitive Loss Report to determine if there are any repetitive loss properties identified in the application. If they are not identified and the properties fit within the original scope of the project, the state recommends that the repetitive loss properties become part of the project. SRL and RLP information is also provided to local governments to address and include in development or update of local all-hazards mitigation plans.

One of the challenges in addressing SRL and RL properties is that as flood claims are processed, data constantly changes. As the state works to mitigate repetitive loss properties, additional properties are identified in subsequent flooding events. In addition, some of the repetitive loss properties are impossible to identify due to poor location information.

As stated previously, mitigating SRL and RL properties is high state priority. WEM strongly encourages local governments to mitigate such properties; however, it cannot force local governments or property owners to do so.

The State of Wisconsin supports, through funding and technical assistance, the development of local mitigation plans in counties with SRL and RL properties. In addition, WEM will work with the county to assist in the plan, and with the community to assist in the project application for such properties. All of the communities with an identified SRL or RL property either have an approved all-hazards mitigation plan or are in the process of updating the plan with one

exception. Washington County contains two SRL properties. The County is presently developing their first all-hazards mitigation plan.

WEM reaches out to those communities with identified SRL and RL properties annually as part of the HMA non-disaster grant application period as well as after disasters when HMGP funds are available.

6.2.8 Flood Mitigation Assistance (FMA) Program

FMA, an annual competitive grant program, is one of the programs overseen by the WEM Mitigation program. In addition to reaching out to communities with SRL and RL properties, WEM solicits applications for general FMA projects that are eligible as outlined in the Notice of Funding Opportunity on an annual basis each fall. Historically, SRL properties can be eligible for 100% federal funding and RL properties for 90% federal funds with a 10% local match. Properties with a current flood insurance policy, but that do not meet the SRL or RL definition are eligible for funding of 75% federal funds with a 25% local match. FEMA and the state have identified the highest priority for funding is SRL properties followed by RLPs.

Appendix C contains detailed tables describing the FMA projects and plans that have been funded in Wisconsin.

6.2.9 Pre-Disaster Mitigation (PDM) Program

The PDM Program was authorized through the Disaster Mitigation Act of 2000 (DMA2K), PL 106-390 and established a national program for pre-disaster hazard mitigation. The PDM made funding available through the 2019 Federal Fiscal Year to state, local, and tribal governments to implement cost-effective hazard mitigation activities that complement a comprehensive mitigation program. The grant program was formally ended after the completion of the 2019 FFY and replaced with the Building Resilient Infrastructure and Communities (BRIC) Program (see Section 6.2.10).

Along with the other national, annual competitive grant programs, WEM solicited applications for projects and reached out to counties, regional planning commissions, and Tribal Nations about planning grants, focusing most efforts on using the State Set-aside allocation, Tribal Set-aside allocation, and priorities identified in the Notice of Funding Opportunity. Successful grants received 75% federal funding of total project costs. The subapplicant was responsible for 25%. Small, impoverished communities were eligible to receive higher cost-share percentages of federal funding, depending on the year.

Appendix C contains detailed tables describing the PDM projects and plans that have been funded in Wisconsin. Notably, in recent years, WEM was particularly successful at receiving funding for a high percentage of applications it submitted to the national competition.

6.2.10: Building Resilient Infrastructure and Communities (BRIC) Program

After the passing of the Disaster Recovery Reform Act on 2018, which amended the Stafford Act, the BRIC program was created to replace the PDM program. Rather than relying on Congress to allocate funding every budget cycle to fund the PDM program, BRIC uses a 6% allocation of all expenditures in the previous year in the Disaster Relief Fund (DRF). Eligible subrecipients in states and Tribal Nations that received a Major Disaster Declaration in the previous 7 years are eligible to apply for funding in the State Set-aside allocation, Tribal Set-aside allocation, and national competition each year.

Appendix C contains detailed tables describing the BRIC grants that have been funded in Wisconsin.

6.2.11: Hazard Mitigation Grant Program (HMGP)

The Section 404 HMGP is a critical component of the state's mitigation efforts. The program is authorized through the Robert T. Stafford Disaster Relief and Emergency Assistance Act that amended PL 93-288. The HMGP is administered by WEM and makes grants available to state and local governments as well as eligible private, non-profit organizations and Wisconsin Tribal Nations to implement long-term mitigation measures following a major disaster declaration.

WEM Mitigation staff solicits, reviews, evaluates, and ranks HMGP subapplications (as outlined in the State Administrative Plan for the HMGP, in Appendix F) before presenting to the Wisconsin Silver Jackets Hazard Mitigation Team for discussion. Based on those discussions, funding recommendations are made to the Division Administrator for a final decision on which applications are forwarded to FEMA for approval. The HMGP is the primary funding component for implementing mitigation actions identified in state and local hazard mitigation plans. As of November 2021, WEM has applied for \$3.3 million in 83 HMGP planning grants and \$132.4 million in 207 HMGP project grants. This includes amounts cited in previous versions of the WHMP, and the six federal declarations were declared since the last plan update (DR-4343, DR-4383, DR-4402, DR-4459, DR-4477, DR-4520). Appendix B provides a detailed history of the disaster declarations and the HMGP for each declaration. Appendix C identifies mitigation projects implemented statewide.

In August 2021, Wisconsin was allocated its largest HMGP funding opportunity through the ongoing COVID-19 pandemic disaster declaration DR-4520. With this funding, Wisconsin will be able to fund a historic \$36 million in mitigation projects connected to one single disaster declaration, the biggest in the program's history.

WEM Mitigation staff makes every attempt to fully utilize all available funding. Applications are submitted in the amount of or exceeding all available funding for the declaration within the required timeframe (i.e. 12 months from the declaration, 18 months with approved time extensions). In addition, eligible projects over above the allocation are submitted in the event funds become available as a result of cost underruns (these projects are often called "Zero Dollar" or "Alternate Projects"). As projects are completed, any unspent funds in projects are

reobligated to projects that have cost overruns or to obligate/award Alternate/Zero Dollar Projects. The goal is to spend as much funds as possible and returning as little as possible at the end of the performance period.

The program does have some challenges which are not unique to HMGP, but impact all of the FEMA mitigation programs. The requirement for the project to be cost-effective, meaning that the benefits must outweigh the costs, is the largest challenge that faces projects submitted for funding. In some cases, viable mitigation projects are not funded as they cannot meet FEMA's strict BCA requirements. In most situations the required backup documentation cannot be obtained. This is particularly frustrating when repetitive loss or severe repetitive loss properties are involved. The planning requirements can be another challenge. In order for a community to be eligible for funding, they must have a FEMA-approved all-hazards mitigation plan. This requirement in limited instances may delay funding of mitigation projects because either the community does not have an approved all-hazards mitigation plan or the plan has expired. In most instances the plan is in the update process, but not yet completed. WEM diligently works with counties and Tribal Nations to ensure that the plans remain current and do not expire. WEM annually notifies those with plans expiring within two years to start their update process and provides information on available grant funding. If there is a county, Tribal Nation, or municipal government that does not have a plan or if it is expired, those subrecipients would be the highest priority to receive HMGP planning grant funds.

Under the HMGP program, the BCA requirement is waived for properties located in the special flood hazard area (SFHA) that are determined by the authorized local official to be substantially damaged under the local floodplain ordinance. This greatly expedites project approval for acquiring flood-damaged properties. However, a challenge is getting the community to complete the substantial damage determinations. After a declaration, DNR contacts all impacted communities to remind them of their responsibility to complete substantial damage determinations. WEM continues to work with those communities that have substantially damaged structures to apply for HMGP funding to mitigate those structures. In addition, DNR and WEM conduct substantial damage workshops for local officials. DNR also provides technical assistance to communities if requested.

In August 2013 FEMA issued a memo on pre-calculated benefits for acquisition and elevation projects located in the SFHA; the memo was updated in September 2021 to reflect adjustments for the Consumer Price Index FEMA determined that acquisition and demolition of properties located in the SFHA for which costs are equal to or less than \$323,000 is cost-effective. Further, FEMA determined that elevation of structures located in the SFHA for which costs are equal to or less than \$205,000 is cost-effective. For projects that include multiple properties, the average cost of all structures in the project must meet the stated criterion. This has greatly expedited and increased the number of acquisition and elevation projects.

Further, FEMA has identified and quantified environmental benefits that can be incorporated into the overall benefits for acquisition-related activities. Initially, FEMA developed economic values for green open space and riparian areas into the BCA toolkit for acquisition projects that could only be incorporated when the benefit cost ratio (BCR) was at least 0.75 before

incorporating the value of the environmental benefits. Since then, FEMA has allowed inclusion of environmental benefits to be applied to a wider variety of projects and included at BCR, thus removing the requirement that the BCR reach a certain value before incorporating environmental benefits.

In October 2000, Wisconsin was recognized as a Managing State for the HMGP. This means that FEMA recognized the state is capable of performing benefit-cost analyses and environmental reviews for proposed projects. Based on a Memorandum of Understanding signed by FEMA and WEM, the state prepared a project summary sheet for all HMGP applications submitted to FEMA. Program changes between 2002 and 2006 led to streamlining of the application and environmental review process, therefore there are no longer any "managing states" in the HMGP. However, after the Sandy Recovery Improvement Act (SRIA) provided FEMA entered into a Program Administration by States (PAS) agreement with WEM. WEM agreed to take on additional managing responsibilities defined by FEMA based on its staffing plan, grants management and hazard mitigation experience, and demonstrated past performance. In return, WEM has increased control and oversight to implement the HMGP. FEMA approved PAS for WEM in administering declaration 4141-DR and has renewed these agreements with each subsequent Major Presidential Disaster Declaration since. Under the PAS agreement, WEM received an expedited application approval process by FEMA, delegated authority to approve extensions for performance periods, approved post-award scope of work changes with no change in activity and no need for additional funds such as extensions for demolition, and approved post-award budget revisions using available funds as a result of cost underruns.

6.2.12: Hazus

Hazus is extremely helpful for governments in conducting risk assessment and vulnerability analysis for mitigation planning, developing mitigation policies, developing and improving emergency operations plans, generating scenarios for exercises and training purposes, and quickly estimating losses after a disaster and what resources will be required for response and recovery.

As a result, WEM has had a strong history in completing statewide analyses in 2008, 2011, 2015, and again in 2021 for this state plan update. WEM has directly contracted with the University of Wisconsin and Polis Center at Indiana-Purdue University at Indianapolis for a Hazus flood risk assessment for all 72 counties. The most recent update is included in this plan in the THIRA, located in Appendix A.

To build off this, since the last plan update, WEM has hired multiple Mitigation-specific GIS employees to focus on flood modeling through Hazus, paid for staff training in the software, and supported additional work with partners on the WSJHMT, including the U.S. Army Corps of Engineers, Wisconsin DNR, and University of Wisconsin. Furthermore, two Regional Planning Commissions (RPCs) in the state have also conducted separate Hazus analyses for the units of governments they serve, including the Southeastern Wisconsin RPC and Northwest Wisconsin RPC.

6.2.13 Emergency Management Performance Grant (EMPG)

WEM uses the Emergency Management Performance Grant (EMPG) as the default funding source for all permanent, full time hazard mitigation staff. When working on assignments related to specific FEMA Hazard Mitigation Assistance grants, the Mitigation Staff charges their time to recipient management costs for those grants. Other work time and all leave time for the mitigation staff is charged to EMPG. EMPG also provides funding for other WEM staff that may engage occasionally in mitigation activities, like attending a mitigation training or Silver Jackets team meeting; working on the Threat Hazard Identification and Risk Assessment which is incorporated into the State Hazard Mitigation Plan; or assisting with damage assessments to support a federal disaster declaration request. Finally, EMPG funding pays for office space and incidentals necessary for the Mitigation Staff to do their jobs and administer a successful statewide all-hazards mitigation program.

6.3: State Commitment to a Comprehensive Mitigation Program

WEM is the lead agency for the development of and promotion of a statewide comprehensive mitigation program. In doing so, WEM works with other state, federal, and local agencies and other organizations in implementing the goals and mitigation strategy of the State of Wisconsin Hazard Mitigation Plan. The Wisconsin Silver Jackets Hazard Mitigation Team (WSJHMT) led by WEM is made up of representatives from state and federal agencies, as well as several other interested groups. Key elements of the state's comprehensive mitigation program include the development of the State of Wisconsin Hazard Mitigation Plan, financial and technical assistance to local governments as they develop their hazard mitigation plans and implement their projects (including evenly splitting the non-federal cost-share of all HMGP grants), implementation of mitigation measures, and conducting trainings and workshops for state and local officials. Wisconsin has numerous legislative rules, administrative codes, and executive orders that support the mitigation process statewide, which is covered in more detail in Section 3, Mitigation Strategy.

The following provides examples of the state's ongoing commitment to a comprehensive mitigation program.

6.3.1: Local Mitigation Planning Support

Both FEMA and the state agree that to be truly effective in mitigation at the local level, communities need to have engaged local mitigation planning processes. Wisconsin generally has no challenges getting communities to participate in the local planning process. Out of 72 counties and 11 federally recognized tribes, all but 8 jurisdictions either meet requirements or are approved. All but two of the tribal nations in Wisconsin are actively updating their plans. The federal, state, local, and tribal investment in this planning effort is over \$11.1 million. Several countywide, local, and tribal plans have been developed or updated without HMA funding. WEM still provides the same level of technical assistance. Local plans are required to be updated every five years. For more information about local hazard mitigation planning efforts in Wisconsin, see Section 4.

Local hazard mitigation plans are required to be updated and reapproved by FEMA every five years in order for the community to remain eligible for FEMA mitigation funds. If a community's plan lapses, they are no longer eligible for mitigation funds until the plan is updated and approved by FEMA. This presents another challenge for WEM Mitigation staff. The majority of approved plans statewide are countywide, multi-jurisdictional plans. To ensure that plans do not expire, state Mitigation staff have closely monitored expiration dates of local mitigation plans and notify the counties with plans due to expire within two years of the requirement to update the plan and inform them of the availability of planning grant funds.

The WEM Mitigation staff has worked with counties, tribes, and local jurisdictions to encourage and support hazard mitigation planning prior to and since publication of the federal planning regulations. (Section 4 describes in more detail the coordination of local mitigation planning.) Some of the activities that support mitigation planning are summarized below.

- To date WEM Mitigation staff has conducted over twenty All-Hazards Mitigation Planning Workshops to communities and consultants developing hazard mitigation plans as well as for those interested in finding out more regarding the overall planning process. Until the COVID-19 pandemic, at a minimum, one planning workshop is held annually in the spring. WEM is in the process of transforming the curriculum to support virtual/online training for more extensive ability to offer training and keep costs to attend the training at a minimum to any attendee who is interested.
- WEM Mitigation Staff also teach the G393-Introduction to Hazard Mitigation for Emergency Managers twice a year. Until the COVID-19 pandemic, at a minimum, one session of this course is held annually; however, WEM worked with the training and exercise section to offer additional sections once in-person training was allowed. Multiple offerings are already full in the winter of 2021-2022.
- Provide technical assistance through reviewing sections of plans under development and providing feedback.
- Identifying information sources with web links available through state and federal agencies, locally and nationally.
- Providing information via WEM's website. The website provides a "Local Hazard Mitigation Planning" link where local governments can find the resource guides and tools for developing local all-hazards mitigation plans. In addition, there is a link to the State Hazard Mitigation Plan
- Provides information on SRL and RL properties and NFIP claim information as well as other disaster payments to those developing and/or updating their local plans.
- Reviews draft plans utilizing the FEMA Local Mitigation Plan Review Tool/FEMA Tribal Mitigation Plan Review Crosswalk, provides comments on required and recommended revisions, and determines when the plans meet FEMA's requirements. Per the Program Administration by States (PAS) agreements, FEMA only reviews one of every five plans WEM has determined approvable pending option.
- Information on all-hazards mitigation planning is provided at other WEM training such as the Introduction to WEM (twice a year), Disaster Response and Recovery Operations Workshop (annually), Public Assistance Applicant Briefings, Substantial Damage Workshops, and other workshops when the opportunity presents itself.
- Information on the all-hazards mitigation program and planning is provided to the Wisconsin Association of Floodplain, Stormwater, and Coastal Management through their newsletter and annual conference.
- The All-Hazards Mitigation Planning Workshop and the G-393-Introduction to Hazard Mitigation for Emergency Managers are part of WEM's Certified Emergency Manager (CEM) Program.

6.3.2: Public Education and Outreach

One of the challenges that WEM has faced has been keeping citizens, local officials, and emergency management staff informed about the importance of and need for hazard mitigation. Educating the public and local governments on topics like household preparedness, flood insurance, and federal assistance opportunities is an ongoing process.

WEM uses numerous strategies to disseminate mitigation information:

- Incorporating mitigation information in annual winter weather, tornado and severe weather, and flood awareness campaigns
- Publishing mitigation information on the WEM website
- Writing articles in state and regional level publications and newsletters for organizations like ASFPM and its Wisconsin chapter (WAFSCM)
- Writing and teaching mitigation-related curriculum in several courses that are part of the Wisconsin Certified Emergency Manager program. These courses educate local officials, emergency managers, planners, consultants, and others about how to develop local mitigation programs and are offered annually:
 - Introduction to WEM
 - Disaster Response and Recovery Operations Workshop
 - All-Hazards Mitigation Planning Workshop
 - G-393: Introduction to Mitigation for Emergency Managers
- Sponsoring additional training focused on application development for specific project types, like the Acquisition/Demolition and Safe Room Application Development workshops, offered in 2018 and 2019, respectively, and others for communities in need of training following a disaster event. WEM Mitigation Staff has executed and documented these efforts from previous planning cycles in previous state planning processes
- Offering cross-training opportunities for Public Assistance Staff at WEM to understand the EHP and BCA process with FEMA Region V and state agency staff
- Participating in Risk MAP discovery, open houses, community outreach, and resilience meetings to communicate about mitigation opportunities with local officials and residents who attend various meetings and workshops during the process.

In addition, when a disaster strikes, WEM educates local governments and the public about their options and what help is being offered by different agencies, including FEMA. Mitigation staff attends the Public Assistance Applicant Briefings and presents information regarding mitigation opportunities and funding. WEM participates in Substantial Damage Workshops conducted by FEMA and DNR providing information on the mitigation programs and how they can provide assistance to property owners whose properties are determined substantially damaged. Both WEM and DNR staff attend community meetings throughout the declared area. Their focus is to

discuss the National Floodplain Insurance Program (NFIP), the Hazard Mitigation Grant Program (HMGP) and other recovery issues.

State Mitigation staff take every opportunity given to spread the word about mitigation and disaster resilience. This is demonstrated by some of the numerous outreach activities identified below for this five-year plan update. Additionally, WEM comments on federal and state legislation to advocate for mitigation. In 2019, WEM recommended and drafted language for a legislative initiative to expand Wisconsin Disaster Fund from only allowing road and bridge repairs to including mitigation options.

6.3.3: Coordination with other State Programs

In order to ensure that all funding is maximized across all programs in the State, WEM Mitigation Staff work closely with the various state and federal agencies to leverage grant opportunities and technical assistance offered to Wisconsin communities and tribal nations.

6.3.3-1: Municipal Flood Control Program

The DNR administers the Municipal Flood Control program as defined by Ch. NR 199, Wisconsin Administrative Code. The program helps local governments minimize flooding and flood-related damages through various types of projects. Projects shall minimize harm to existing beneficial functions of water bodies and wetlands, maintain natural aquatic and riparian environments, use stormwater detention and retention structures and natural storage to the greatest extent possible, and provide opportunities for public access to water bodies and to the floodplain. The program provides grants to cities, villages, towns, tribes and metropolitan sewerage districts for projects such as property acquisition and removal of structures for permanent open space or flood water storage; acquisition of vacant land or flood water flowage easements to facilitate more efficient flood flows to the water body; floodproofing and elevation of public and private structures; flood water control detention ponds; riparian restoration projects on a watercourse; and flood mapping. The grants are offered every other year with the application date usually in the spring of even years. The state share may not be greater than 50% of the eligible project cost and no single recipient can receive more than 20% of the funding available.

The program priorities are:

1. Acquisition and removal of structures which, due to zoning restrictions, cannot be rebuilt or repaired.
2. Acquisition and removal of structures in the 100-year floodplain.
3. Acquisition and removal of repetitive loss or substantially damaged structures.
4. Acquisition and removal of other flood damaged structures.
5. Floodproofing and elevation of structures.
6. Riparian restoration projects, including removal of dams and artificial obstructions, restoration of fish and native plant habitat, erosion control and stream bank restoration projects.

7. Acquisition of vacant land, or perpetual conservation or flowage easements to provide additional flood storage or to facilitate natural or more efficient flood flows.
8. Construction of structures for the collection, detention, retention, storage and transmission of stormwater and groundwater for flood control and riparian restoration projects.
9. Preparation of flood insurance studies and other flood mapping projects.

Similar to the HMA acquisition/demolition requirements, the Municipal Flood Control grant program requires the removal of a structure on the property to be acquired for the development of permanent open space for flood storage or flood water flowage to a watercourse. Since the goals of the program are very similar to the HMA programs, DNR and WEM work closely together in funding mitigation projects, particularly acquisition and demolition of floodplain properties. Since the program is state funds, it can be used as local match to the HMA programs, and vice versa. The two agencies coordinate together to stretch the limited available dollars to fund as many eligible projects as possible.

6.3.3-2: Community Development Block Grant-Emergency Assistance Program

The Community Development Block Grant-Emergency Assistance Program (CDBG-EAP) is administered by the Wisconsin Department of Administration. CDBG-EAP funds are used to assist local units of government in addressing emergency housing, public facility, infrastructure, and business assistance needs that occur as a result of natural or manmade disasters. Such assistance may include, but is not limited to, housing rehabilitation, acquisition/demolition, housing replacement, road repairs, stormwater drainage, and public facilities. A local unit of government interested in applying for CDBG-EAP funds must do so within 90 days of the disaster event.

CDBG-EAP funds may be used to address damage caused by the disaster, including repair of disaster-related damage to the dwelling unit, including repair or replacement of plumbing, heating, and electrical systems; acquisition and demolition of dwellings unable to be repaired; down payment and closing cost assistance for the purchase of replacement dwellings (assistance is limited to 50% of the pre-disaster equalized assessed value); publicly-owned utility system repairs; streets and sidewalks; and community centers.

The CDBG-EAP programs can assist in mitigating damages after a disaster and work closely with WEM through the WSJHMT and the WRTF. The funds can be used to acquire and demolish damaged structures as well as elevate those that have been damaged by floods. CDBG has provided the local match on many HMA projects. Without those funds, communities would not have been able to implement their mitigation projects. After the 2008 floods, CDBG-EAP funds provided the local match on all the HMGP grants and provided additional funds to assist communities in their recovery efforts. They are especially instrumental in non-declared events, as they may be the only source of funding for recovery activities after an event.

There are challenges of working with the CDBG program. Because they are block grants, often CDBG funds are available much more quickly after a disaster than HMA grants and eligible homeowners do not want to wait for a FEMA grant to be awarded years later to receive the relief they need. Additionally, CDBG funds are targeted at low-to-moderate income households which may not provide enough match for a larger project. However, as stated above, in some circumstances they can work very well and provide a great option for communities.

6.3.3-3: Disaster Damage Aids Program

The Department of Transportation's Disaster Damage Aids (DDA) program provides financial assistance to local governments to repair any highway under its jurisdiction which is not part of the State Trunk Highway system and that has had significant damage caused by a disaster event. The program is governed by §86.34, Wisconsin Statutes. Funds may be used to repair a highway to match its pre-disaster condition (replacement) and to make changes to a highway, its drainage facilities, etc., to prevent similar damage from occurring in the future (improvements). The applicant pays a share of these replacement and improvement costs. DDA is a biennial program with annual appropriation levels. It is categorized as a sum-sufficient appropriation which means if further funding is needed it can be allocated in the amounts necessary. The DDA becomes the primary source of funding for road repair improvements (mitigation) after a disaster when there is no federal declaration.

6.3.3-4: EDA Disaster Recovery Collaboration

As discussed in 6.1.2, as a result of the 2008 flood disaster, the Economic Development Administration (EDA) provided grants to the Regional Planning Commissions in the disaster area for the development of Flood Recovery Strategies. To accomplish the tasks assigned, the Department of Commerce took the lead to coordinate the effort that was referred to as the EDA Disaster Recovery Collaboration. This group met monthly up through August 2011. WEM Mitigation staff participated in the collaboration by attending meetings and providing input. One of the outcomes of the group, again with the Department of Commerce as the lead, was the development of a Community Economic Recovery Guidebook to assist economic development organizations, businesses, and community leaders in preparation of economic recovery from a disaster. EDA is a member of the WSJHMT as well as the WRTF RSF Mitigation Subcommittee.

6.3.3-5: Wisconsin Coastal Management Program

Housed within the Department of Administration, the Wisconsin Coastal Management Program (WCMP) provides technical assistance and coordinates state resources to support the management of Wisconsin's Great Lakes coasts. The WCMP's duties include administering the Coastal Grant Program, which provides grants to communities for coastal resource protection, and overseeing initiatives on beach management, marina pollution reduction, and coastal natural hazards.

Three of the WCMP's main objectives are to provide technical assistance, support education and public outreach, and foster coordination between local governments and state agencies with respect to coastal issues. The Coastal Hazards Strategy, part of the WCMP's larger Wisconsin 2021-2026 Needs Assessment and Strategy, focuses on developing and/or enhancing government hazard policies through targeted outreach and technical assistance. Implementing this strategy includes reviewing and revising regulations and guidance relevant to coastal hazards at the state, regional, and local level, including state statutes, zoning ordinances, comprehensive plans, and informational documents. The WCMP also helps with the development and expansion of technical tools, including mapping and other visualization tools, to further support decision making and policy development.

WEM participates on the Coastal Hazards Work Group (CHWG) chaired by the WCMP. This group was formed to provide a forum for sharing information and opportunities related to coastal hazards. Members of the group work to formulate goals, strategies, and policies for managing coastal hazards, in addition to furthering the WCMP's goals of providing technical expertise, education and outreach, and planning support to Wisconsin's coastal communities. The CHWG meets bimonthly or as needed. The group also meets with representatives of the three coastal regional planning commissions and representatives of local governments as needed.

Examples of technical projects completed by CHWG members:

- The CHWG has helped to develop a number of online resources to help communities understand coastal processes. For example, CHWG partners used WCMP funds to collect oblique photographs of the Great Lakes shoreline in 1976-1978, 2007-2008, 2018-2019, and 2020-2021 and created the Wisconsin Shoreline Inventory and Oblique Photo Viewer, an interactive web-based map. The project has been helpful to communities as they scope mitigation projects in the FEMA HMA and Public Assistance programs to establish pre-disaster condition, validate routine maintenance, and calculate recession rates.
- The WCMP funded a study on changes in bluff profiles conducted by UW-Madison researchers. The study compared 2012 LiDAR data to manual measurements taken in the 1970s in order to characterize changes over time. It has been since updated to include 2018 data as well. The bluff profile data as well as a Coastal Recession Analysis have both been included in the Wisconsin Shoreline Inventory tool.
- Beginning in 2016, the WCMP and the UW Sea Grant Institute have hosted an annual a Coastal Fellowship that focuses on science and policy challenges to increase coastal resilience. One of the main products they work on is updating the *Great Lakes Coastal Processes Manual*, a document that provides important information and recommendations for coastal engineering. The comprehensive manual was initially developed in 1998, with a final update coming in the next WHMP update period.
- The UW Sea Grant Institute, Department of Civil and Environmental Engineering, NOAA, Southeast Wisconsin Regional Planning Commission and WCMP received a NOAA

Coastal Resilience Grant to create the Southeast Wisconsin Coastal Resilience community of practice, study shoreline recession, create guidance on risk-reduction practices, and identify local opportunities to enhance resilience.

The CHWG contribute to and author numerous local guidance for community officials and residents, such as:

- *Collaborating to Improve Local Wetland Policies and Practices*, which developed and implemented an outreach plan to promote key findings to coastal audiences and to explore how findings from this and similar analyses can be leveraged to influence coastal land use and hazard mitigation policies and projects
- *Accelerating Natural Flood Management in the Lake Superior Basin*, which expands on prior efforts in the region. Expected outcomes include extensive community engagement, including outreach to Ashland County leaders and collaborators, to facilitate community resiliency planning and risk-informed decision making, which has even led to a HMA grant project through PDM program in 2018
- “Combining a mapping community of practice with an innovative digital collaborative environment to improve coastal hazard planning and policy development,” a project focused on addressing the data and mapping needs of Wisconsin’s Lake Superior communities, specifically to understand the impact culverts have on the watershed

Examples of CHWG coordination with municipalities and governmental agencies:

- CHWG members are currently supporting the local response to severe Lake Michigan bluff erosion in the Village of Mount Pleasant (Racine County) by providing technical advice, program coordination, information on funding opportunities, and outreach to coastal property owners.
- Members of the CHWG are contributing to the University of Michigan-funded *Integrated Assessment for Water Level Variability and Coastal Bluff Erosion in Northern Milwaukee County and Southern Ozaukee County*, led by the UW Sea Grant Institute. The study area ranges from the Shorewood/Milwaukee area (Milwaukee County) to Port Washington (Ozaukee County), including Whitefish Bay, Bayside, Mequon, and Grafton. During Phase 3 of this project, policy options, adaptive actions, and decision tools were created to lead a measurable increase in the resilience of bluffs in the study area to coastal erosion. The project contributed to 3 different publications: *Adapting to a Changing Coast: Options and Resources for Lake Michigan Property Owners*, *Adapting to a Changing Coast: Options and Resources for Local Officials in SE Wisconsin Coastal Communities*, and *Great Lakes Water Levels – Integrated Assessment Report*.
- CHWG members have been working to develop guidance for coastal communities impacted by recent changes to statewide shoreland zoning regulations. As part of this effort, a CHWG member recently updated a document titled *Managing Coastal Hazard Risks on Wisconsin’s Dynamic Great Lakes Shoreline*, as well as supporting documents such as *Coastal Ordinance Provisions in Wisconsin Communities* and the *Coastal Erosion Model Ordinance*.

Agencies represented on the group include UW-Madison, UW Sea Grant Institute, the DNR, the WCMP, and WEM. The WCMP representative also serves on the Wisconsin Silver Jackets Hazard Mitigation Team. A link to the WEM Hazard Mitigation website is provided on the Wisconsin Coastal Management Program website.

6.3.3-6: Building Resilience Against Climate Effects (BRACE)

The Bureau of Environmental and Occupational Health in the Wisconsin Department of Health Services has managed the Building Resilience Against Climate Effects (BRACE) program since the workgroup formed in 2012. The Wisconsin BRACE program studies and prepares for anticipated climatic effects on the public's health. The BRACE program seeks to expand partnerships, provide expertise, foster collaboration, and develop strategies that will address health risk factors related to severe weather event indicators. The BRACE program aims to develop climate adaptation strategies based on best practices and scientific knowledge to address health risks related to potential severe weather and climate-driven events.

Some of the biggest projects that the Wisconsin BRACE program have undertaken include:

- Outreach to local public health and emergency management about vector borne diseases, flooding vulnerability, and heat/pollen/respiratory health
- Co-facilitation and implementation of a Community Assessment for Public Health Emergency Response (CASPER) for a heat event
- Facilitation and growth of the external Health Equity Action Team (HEAT)
- Development of Climate and Health Toolkits for Severe Thunderstorms and Tornados, Flood, Winter Weather, Extreme Heat, Drought, Wildfire, Harmful Algal Blooms, and Chemical Release and are posted on the DHS and the Ready Wisconsin websites.
- Conducting a geospatial analysis of heat-related morbidity and mortality of the state and the greater Milwaukee urban area. This analysis resulted in a heat vulnerability index (HVI) based on existing population and census data, GIS environmental data layers, climate and weather data, and disease prevalence rates to identify areas of greatest risk for negative health impacts due to extreme heat. The countywide and tribal HVIs were shared with the counties and tribes to include in their preparedness and mitigation planning efforts
- Development of a report on reducing risk of environmental impact from releases of hazardous materials from manufacturing facilities during extreme floods. In partnership with the UW Solid Waste and Hazardous Waste Education Center and the Space Science and Engineering Center, BRACE utilized several databases to identify manufacturing facilities located in 100-year floodplains; identified facilities likely to have hazardous materials or waste onsite; and provided targeted technical assistance to those companies at risk from spills or discharge from extreme flood events.

The HMSS and SHMO participate on the BRACE Workgroup and provided input into the BRACE Strategic Adaptation Plan and members of the BRACE Workgroup are also embedded into the WSJHMT.

6.3.3-7: Homeland Security Council

In March 2003, the Wisconsin Homeland Security Council was created by executive order to address the state's ability to prepare for and respond to threats to Wisconsin's homeland security. Every non-statutory committee or council created by executive order of the governor expires at the end of each gubernatorial term of office unless the new governor, by executive order, provides for its continued existence. Thus, the Wisconsin Homeland Security Council was re-created by Governor Scott Walker's Executive Order #6 in January 2011. New members were appointed to fill vacancies; however, the structure – consisting of 13 members and chaired by the Wisconsin Homeland Security Adviser – remains the same. In May 2013, Governor Walker expanded the membership of the Wisconsin Homeland Security Council to 16 members with Executive Order #101 to better protect the citizens and critical infrastructure of the state.

The Adjutant General of the Wisconsin National Guard is the Governor's Homeland Security Adviser. The Adviser and sixteen-member council is responsible for advising the Governor, coordinating state and local prevention and response efforts and producing periodic reports on the state of homeland security in Wisconsin. The Council works with local, state, federal, and tribal agencies; non-governmental organizations; and private industry to improve citizen and community preparedness. Other agencies on the Council are WEM; Department of Justice, Division of Criminal Investigation; Department of Health Services, Division of Public Health; Department of Administration, Divisions of Enterprise Technology and Capitol Police; Wisconsin Chiefs of Police Association; Badger State Sheriffs Association; DNR; Department of Agriculture, Trade and Consumer Protection; Department of Corrections; Public Service Commission of Wisconsin; City of Milwaukee Police Department; Wisconsin State Fire Chiefs Association; Department of Transportation, Wisconsin State Patrol; and the Wisconsin Chapter of the American Public Works Association. There are nine working groups.

The Interagency Working Group is chaired by WEM and comprised of representatives of the Departments of Administration; Agriculture, Trade and Consumer Protection; Corrections; Health Services; Children and Families; Justice; Natural Resources; and Transportation; the National Guard; and the UW Police. The Group was formed in the late 90's with its original focus on terrorism preparedness. Since that time, its mission has evolved to cover all hazards and all phases of emergency management. The Group meets monthly or more often if dictated by current events and acts as a support group to the Governor's Homeland Security Council.

6.3.3-8: Wisconsin Voluntary Organizations Active in Disasters

Wisconsin Voluntary Organizations Active in Disasters (WIVOAD) is a humanitarian association of independent voluntary organizations who may be active in all phases of disaster. Its mission is to foster efficient, streamlined service delivery to people affected by disaster, while eliminating unnecessary duplication of effort, through cooperation in the four phases of disaster: preparation, response, recovery, and mitigation. Staff from WEM provides coordination and assistance to WIVOAD members. WIVOAD has taken a lead role in long-term recovery and sponsors Long-Term Recovery Committees. These committees, using WIVOAD's 501(c)(3) tax

exempt status, focus on fundraising, reaching out to individuals and families with unmet disaster needs, and providing services to them through a uniform case management process.

6.3.3-9: Public-Private Partnerships

In addition to working with the agencies on the WSJHMT, WEM staff provide information on hazard mitigation programs and the planning process to groups and individuals through a variety of means. During this plan update cycle, WEM Mitigation Staff has presented or provided information/technical assistance to: Wisconsin Emergency Management Association, Wisconsin Land Information Association, American Planning Association, Association of Wisconsin Regional Planning Commissions, Great Lakes Inter-Tribal Council, University of Wisconsin-Madison Student Planning Association, Wisconsin Association for Floodplain, Stormwater, and Coastal Managers, the LaFollette School of Public Affairs, Association of State Floodplain Managers, Wisconsin Counties Association, Wisconsin Towns Association, and numerous individual Regional Planning Commissions. In addition, information was provided to communities receiving Community Development Block Grants on how they can incorporate mitigation into rehabilitation of housing stock. WEM Mitigation staff continues its efforts to partner with and educate a variety of organizations.

WEM has been working with the Wisconsin Chapter of the American Institute of Architects (AIA) since 2014 in development of rapid damage assessment teams that would assist local governments assess the damages to structures during a disaster. WEM Mitigation and Recovery have participated in training sponsored by AIA in July 2014, 2015, 2016 and 2018. The training provided is based on the California Safety Assessment Program (SAP), which utilizes volunteers and mutual aid resources to provide professional engineers, architects, and certified building inspectors to assist local governments in safety evaluation of their built environment in the aftermath of a disaster. The Wisconsin AIA Chapter piloted a Rapid Assessment Strike Team (RAST) following flooding disaster DR-4402 in 2018.

WEM is also a member of the national Association of State Floodplain Managers (ASFPM). The Mitigation staff participates in the quarterly mitigation calls and attends the annual conference where staff has presented on numerous occasions. In addition, they provide input on positions papers when requested. The former HMSS served on the ASFPM Board during this plan update process, through 2021, as a regional representative. The HMSS and SHMO participate in the Planning Information Exchange regarding mitigation planning that ASFPM and the American Planning Association (APA) sponsors.

Mitigation staff has provided support to the Wisconsin Association for Floodplain, Stormwater, and Coastal Management (WAFSCM) since its inception in 2000. The SHMO in partner with a representative from the Milwaukee Metropolitan Sewage District were instrumental in the formation of the WAFSCM. In 2004, WAFSCM became a Chapter of ASFPM. WEM Staff has served in positions as Treasurer, Secretary, Chair of the Scholarship Committee, and Chair of the Membership Committee, as well as coordinated and published the newsletter. Staff attends the annual conference providing support and equipment and making presentations. WAFSCM sponsors training throughout the year. Most recently WAFSCM, in partner with ASFPM,

sponsored E-273 Managing Floodplain Development through the NFIP, a four-day class. WEM Mitigation Staff received awards for her efforts in supporting the organization including Chapter Service Award and Lifetime Achievement Award.

The Regional Planning Commissions are one of WEM's strongest partners in mitigation planning. The RPCs have provided planning services to many of the counties in the development and update of all-hazards mitigation plans. In addition, the RPCs prepare grant applications for local governments to obtain federal and state assistance for many types of activities including mitigation grant applications for both planning and projects. With the involvement of the RPCs in the state and local planning process, they are knowledgeable on both state and local mitigation priorities and program requirements. Since there is a close relationship between the RPCs and the local governments, and a link between comprehensive and hazard mitigation planning, a representative from the Association of Wisconsin Regional Planning Commissions (AWRPC; formerly Council of Regional Planning Organizations) joined the WSJHMT in 2003.

6.3.4 – Full Use of Funding

The mitigation programs utilized in implementing mitigation measures throughout the state are primarily federally funded, however, are state administered. These include the HMA programs (HMGP, FMA, BRIC, and PDM). The projects that have been approved and funded through these programs support the state's hazard mitigation goals (Section 3) as well as meet the priorities and criteria as outlined in Section 6.4. This section describes the history of the State's mitigation programs and demonstrates the state's ability to effectively use and administer all available mitigation funding through both federal and state mitigation programs. Appendix B provides information on the history of the state's federal declarations including the HMGP. Appendix C identifies mitigation projects funded and completed to date throughout the state.

In addition to the three HMA programs, there are several programs at the state level that support the goals and are utilized in advancing mitigation statewide:

- NR 116 Local and State Floodplain Standards prohibits construction in floodways and requires elevation and dry-land access in flood fringe areas. Limits improvements to non-conforming structures and requires compensatory storage in flood storage areas.
- Comprehensive Planning requires local governments to have a comprehensive plan for making good land use decisions. It is a synergetic companion to mitigation planning and has added momentum to the mitigation movement by incorporating mitigation into the comprehensive plans.
- The Home Safety Act requires the state's Uniform Dwelling Code (UDC) be enforced throughout the state. This includes the necessity to have all new construction inspected for compliance with the UDC. The law will improve the construction of homes, by requiring implementation of safety standards. The effect is a reduction in loss of property and injury from all types of natural hazards.

- NR 199 the Municipal Flood Control and Riparian Restoration program provides grants for the mitigation of flood-prone property, restoration of riparian areas, and the construction of flood control projects.
- Community Development Block Grant, Housing and Public Facilities programs can provide grants to communities for implementing mitigation activities such as acquisition, demolition, relocation, and elevation.
- The Disaster Damage Aids (DDA) program provides financial assistance to local governments to repair any highway under its jurisdiction which is not part of the State Trunk Highway system and that has had significant damage caused by a disaster event including making changes to prevent similar damage from occurring in the future.

6.4 Managing an Effective HMA Program

WEM is responsible for the management and administration of the federal hazard mitigation assistance programs. The responsibility for program coordination, implementation, and administration is delegated to the Hazard Mitigation Section Supervisor (HMSS) and State Hazard Mitigation Officer (SHMO) who oversee compliance with federal, state and local requirements. Close coordination is maintained with the agencies on the Wisconsin Silver Jackets Hazard Mitigation Team (WSJHMT) and Wisconsin Recovery Task Force (WRTF) who provide financial and technical assistance during disaster recovery and implementation of the mitigation strategy of the State Hazard Mitigation Plan.

6.4.1 - Background Information

October 2000 through February 2006, a Memorandum of Understanding existed between FEMA and WEM recognizing the state as a Hazard Mitigation Grant Program Managing State. The MOU was developed to build a FEMA-State collaborative partnership for the implementation of the HMGP. The agreement defined the roles and responsibilities of each agency. The changes in the roles and responsibilities resulted in a faster approval of projects, in most cases less than 30 days after submittal from the state to FEMA. Per the MOU WEM agreed to:

- Perform eligibility reviews for full project applications;
- Apply streamlined procedures for certain project types as identified in the MOU;
- Determine cost-effectiveness for all projects using standard benefit-cost methodology and provide documentation;
- Undertake environmental review tasks and complete the Record of Environmental Review (RER) for FEMA's signature; and
- Provide complete project applications to FEMA within 18 months (now one year) for each project that WEM selects for funding and submit through NEMIS.

The MOU was terminated in a letter from FEMA, Region V, dated February 15, 2006, as 44 CFR 201 states; "Management State means a State to which FEMA has delegated the authority to administer and manage the HMGP under the criteria established by FEMA. . . ." Since FEMA had not yet developed the "managing state" criteria, the MOU was terminated by the Region. However, WEM continued to perform the state's roles and responsibilities identified in the MOU.

As a result of the Sandy Recovery Improvement Act of 2013, Program Administration by States (PAS) was established to create a more streamlined subgrant approval process allowing communities to get the hazard mitigation funds they need faster. States may participate in the PAS initiative and be delegated additional defined responsibilities by FEMA based on an analysis of state staffing plan, award management and hazard mitigation experience, and demonstrated past performance. In return for assuming additional responsibilities, the state will have increased control and oversight in implementing the HMGP. If the Region determines the state meets the criteria, they will work with the state on drafting an operational agreement. The operational agreement outlines the agreed-upon delegations.

As a result of declaration 4141-DR declared August 8, 2013, the state entered into a PAS Operational Agreement for the HMGP to implement the pilot program. Under the agreement WEM was delegated the following activities:

1. Review and approve HMGP subapplicant application requests submitted prior to expiration of the application period, by using expedited application approval process and project summaries for FEMA's use in obligating funds. (The expedited application approval process would be the submission of a completed eligibility and completeness checklist with an attached project summary. Once FEMA receives these completed items, FEMA would award and obligate funds.)
 - a. Project Applications and Amendments limited to Acquisitions, Elevations, and Safe Room Projects
 - b. Planning Applications
2. Approve Period of Performance extensions for subgrants with no impact to the grant Period of Performance. The state would submit an updated Eligibility and Completeness Checklist and Project Summary. The changes would be documented in the quarterly report.
3. Approve post-award scope of work modifications with no change to the project activity and no resulting need for additional federal funds.
 - a. Without prior approval from FEMA, approve demolition time limit extension requests with no impact to the grant Period of Performance. The changes would be documented in the quarterly report.
4. Without prior approval from FEMA, approve post-award budget revisions using funds available as a result of cost underruns from other approved subgrants. These funds can be moved to approve subgrants with cost overruns. Funds will only be used within the same HMGP grant.

Updated operational agreements have been developed for each declared disaster after which the state requests delegation of some elements of HMGP administration. In addition, the state continues to update the HMGP Administrative Plan to include an addendum outlining the components the state will administer for each disaster.

The State Administrative Plan for the Hazard Mitigation Grant Program (Appendix F) details how state Mitigation staff administers the HMGP. Although there is not a specific administrative plan for the FMA, BRIC, and PDM programs, the same basic procedures are used for these programs as for the HMGP. How the Mitigation staff handles the notification of hazard mitigation grant funding availability and the application process is detailed in the Administrative Plan document in Appendix F. Mitigation staff thoroughly reviews each application for completeness and eligibility and obtains all information to conduct a Benefit-Cost Analysis and complete a relevant environmental review. The HMSS and SHMO make a recommendation to the WEM Administrator for final selections and submit all subapplications to FEMA Region V (via NEMIS

and electronic submissions) no later than 12 months after the date of declaration (or 18 months with approved time extensions).

For the HMA program, complete applications that meet the minimum program requirements will be prioritized and forwarded to FEMA for funding consideration. Complete applications that exceed available funding are submitted as backup applications in the event additional funds do become available (e.g. "Alternate Projects" or "Zero Dollar Projects"). WEM will submit the application and subapplications within the allotted timeframe established by FEMA.

6.4.2 - Project Implementation

Since 1993, WEM and the WHMT (now WSJHMT) have established the top priority of acquisition, demolition, relocation, and/or elevation of flood-prone properties, and have approved projects for these activities. Over time, FEMA and the WSJHMT have placed increased emphasis on grants that take into climate change/changing conditions and resiliency, such that projects can withstand a wider range of conditions and increased precipitation in areas forecasted to have additional heavy precipitation events. Climate change and resiliency have become important areas of focus in local planning processes, as outlined in the local plan analysis in Section 4.

During DR-4402 in 2018, WEM synthesized some of the changes in FEMA's and the State of Wisconsin's priorities, and presented an updated scoring/ranking point system to the WSJHMT. This new point allocation was approved by the WSJHMT and has been implemented since. These changes reflect FEMA and the State's commitment to climate change, green infrastructure, community resiliency, and desire to distribute resources with equity in mind. As such, the new scoring system prioritizes grants based on funding availability and provided the projects meet all of the program criteria:

- Acquisition and demolition of properties that are deed-restricted as open space in perpetuity – since this achieves permanent risk reduction, allows the floodplain to function naturally, and reduces community resources for recovery.
 - Substantially damaged properties (properties in the floodplain where losses are greater than 50% of equalized assessed value);
 - Severe repetitive loss (SRL) properties and repetitive loss properties (RLPs);
 - Damaged properties in the floodplain;
 - Floodplain properties;
 - Damaged properties outside of the floodplain
 - Non-floodplain properties
- Climate resilient mitigation activities
- Advance Assistance, project scoping, and capability & capacity building grants – these grants help a community gather data and analyze a situation to apply for an eligible mitigation measure in the future

- Community safe rooms – structures engineered to provide near-perfect life protection to 16 or more people, as detailed in the FEMA P-361 publication
- Localized flood reduction/drainage improvement projects
- Floodproofing or elevation of structures that cannot be acquired/demolished
- Utility projects
- Education or public awareness, purchase and distribution of NOAA weather radios, and river gauge projects are funded under the 5% Initiative in the Hazard Mitigation Grant Program (HMGP) when it is felt there will be a positive outcome from the project.

In addition, the state has utilized 7% of the HMGP funds available since 2001 to award planning subgrants to communities for the development and update of all-hazards mitigation plans. The above priorities can also be found in this Plan in Section 3 as well as the State Administrative Plan for the HMGP, Appendix F.

To be eligible for the federal hazard mitigation programs, a project must meet the federal minimum project criteria listed below.

1. Be in conformance with the goals and priorities of the State Hazard Mitigation Plan and a FEMA-approved local hazard mitigation plan.
1. Have a beneficial impact upon the project area.
2. Be in conformance with 44 CFR Part 9, Floodplain Management and Protection of Wetlands and 44 CFR Part 10, Environmental Considerations.
3. Solve a problem independently or constitute a functional portion of a solution where there is assurance that the project as a whole will be completed. (Projects that merely identify or analyze hazards or problems without a funded, scheduled implementation program are not eligible.)
4. Be both feasible and effective at mitigating the risks of the hazard for which the project is designed. A project's feasibility is demonstrated through conformance with accepted engineering practices, established codes, standards, modeling techniques, or best practices. Engineering designs are accepted if a registered professional engineer (or other design professional) certifies that the design meets the appropriate code or industry design.
5. Be cost-effective. Both costs and benefits will be computed on a net present value basis (i.e., obtaining expected damage estimates as a function of hazard intensity).
 - a. Address a problem that has been repetitive, or a problem that poses a significant risk if left unsolved (i.e., evaluating the hazard in terms of the frequency and intensity of expected occurrences).
 - b. Cost no more than the anticipated value of the reduction in both direct damages (property) and subsequent negative impacts (loss of function, death, injuries) to the area if future disasters were to occur.
6. Be the most practical, effective, and environmentally sound alternative after

consideration of a range of options, including the “no action” alternative.

7. Contribute, to the extent practicable, to a long-term solution to the problem it is intended to address.
8. Consider long-term changes to the areas and entities it protects and have manageable future maintenance and modification requirements.
9. Have an approved hazard mitigation plan. If not (for HMGP), must have the capability and desire to complete within twelve months.

In addition, WEM also considers the following criteria in evaluating proposed mitigation projects:

1. Mitigation activities that fit within an overall plan for development in the community, disaster area, or state.
2. Mitigation activities that if not taken will have a severe detrimental impact on the community such as the loss of life, loss of essential services, damage to critical facilities, or economic hardship.
3. Mitigation activities that have the greatest potential for reducing future disaster losses.
4. Mitigation activities that are designed to accomplish multiple objectives, including damage reduction, environmental enhancement, historical preservation, tourism/recreation, economic recovery/development, and building community resilience to climate change.
5. The community’s level of interest and demonstrated degree of commitment to mitigation programs and activities.
6. Community’s participation in and compliance with the National Flood Insurance Program. WEM coordinates closely with the Wisconsin Department of Natural Resources in determining a community’s compliance with the NFIP.
7. The proposed project does not encourage development in the Special Flood Hazard Area.
8. The proposed project is in conformance with the community’s comprehensive land use plan, hazard mitigation plan, and capital improvements program where such plans and programs exist.

WEM reviews all proposed mitigation measures to ensure that the proposed projects are eligible and meet minimum criteria as outlined above. In evaluating proposed projects, WEM reviews, scores, and ranks proposed projects based on certain criteria (see Appendix F). Based on the evaluation and funding availability, a list of recommended projects will be submitted to the WEM Administrator for further consideration. Based on state priorities, applications that receive the highest ranking and the greatest consideration for funding. Some projects may be referred to other agencies through the WSJHMT for appropriate funding. In addition, WEM will work with the WSJHMT, and where applicable, the WRTF, to “package” funding for projects, where

possible, to maximize the funding that is available. Proposed projects are evaluated based on project type, site vulnerability, project benefits, and other considerations.

The following additional criteria is considered on projects that meet state priorities, particularly when there is insufficient funding and there is a need to prioritize projects among multiple jurisdictions:

- In a declared disaster area
- Status of mitigation plan
- Involves use of innovative approaches to mitigation
- Project submitted previously
- Other agencies willing to provide funds towards the proposed project
- Community willing to put funds towards the project over and above the required local match
- Funds available to fund the entire project
- Future maintenance requirements for the project
- Community has successfully implemented previous mitigation grants
- Community participates in the Community Rating System

For the Flood Mitigation Assistance program, the proposed project must address mitigating an NFIP-insured property with repetitive loss or severe repetitive loss properties receiving priority.

6.4.3 Preparing and Submitting Accurate Benefit-Cost Analyses

All grants submitted must meet FEMA's requirement to be cost-effective. Benefit-Cost Analysis (BCA) is a method that determines the future risk reduction benefits of hazard mitigation projects and compares them the costs. Only projects with a Benefit-Cost Ratio (BCR) of at least 1.0, meaning that benefits equal costs, are forwarded to FEMA for approval. WEM Mitigation staff has been performing and completing benefit-cost analyses since 1997 for the federal Hazard Mitigation Assistance programs and has developed expertise in performing this function.

Mitigation staff uses the FEMA BCA Toolkit, which helps calculate the BCR of all proposed mitigation projects using a FEMA-developed and -approved calculator (Version 6) to analyze costs and benefits. BCA Toolkit Version 6.0 is based on criteria established in OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs. The type of project and information provided in the application, will determine which benefit-cost analysis module will be used to determine the project's cost-effectiveness.

There are several types of projects that meet cost-effectiveness requirements from alternate methodologies, including some of WEM's highest priority types of projects:

1. The acquisition of structures identified in a riverine floodway or Special Flood Hazard

Area on a current-effective Flood Insurance Rate Map and declared substantially damaged due to impacts of flooding, acquisition and demolition or relocation is considered cost-effective.

2. The acquisition of structures located in an SFHA on the FIRM where the total project cost averages \$323,000 or less per structure is considered cost-effective.
3. The elevation of structures located in an SFHA on the FIRM where the total project cost averages \$205,000 or less per structure is considered cost-effective.
4. 5% Initiative projects, with a narrative that indicates there is a reasonable expectation that future damage or loss of life or injury will be reduced or prevented by the activity, are considered cost effective.

To help communities develop mitigation projects that are as cost-effective as possible, WEM Mitigation Staff developed checklists and worksheets for acquisition/demolition, elevation, safe room, localized flood reduction, and generator projects. The use of the Checklists has resulted in more complete and accurate applications. The information requested on the worksheets, found in the Administrative plan in the appendices, provides staff with the data necessary for an accurate and complete benefit-cost analysis.

The results of the BCA will determine if the project is cost-effective. If the project is cost-effective, it is still under consideration by WEM for further funding. At this step in the review process, WEM would start the environmental review process for the project. If the project was not cost-effective, mitigation staff would attempt to obtain additional information from the applicant to arrive at a positive BCR. If there is no additional credible data available or all available data has been utilized, and the project is still not cost-effective, the project is rejected.

6.4.4 Preparing and Submitting Accurate Environmental Reviews

WEM:

1. Coordinates with the FEMA Regional Environmental Officer (REO), Project Officer and other state and federal agencies during the project development process to address environmental issues.
2. Completes formal consultation required specifically of federal agencies under federal environmental laws and NEPA (National Environmental Protection Act).
3. Undertakes environmental review tasks (including tasks related to the National Historic Preservation Act); gathers necessary environmental data through the applicant, past studies, and informal consultation with state and other federal agencies; recommends level of review under the NEPA.
4. Completes and submits the Record of Environmental Consideration (REC) and all supporting documentation with submission of the project application.
5. Ensures that the required public notices are completed.

FEMA:

1. Provides WEM with the current REC.
2. Reviews WEM's REC, supporting documentation and recommendation for level of review and makes a final decision on level of NEPA review.
3. Coordinates with WEM to complete the preparation of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) for projects that do not clearly fall under the categorical exclusion (CATEX) category.
4. Prepares and/or reviews appropriate NEPA and other environmental documents. Approve or request additional information with 30 business days of receipt of a project summary from WEM.
5. Coordinates with WEM if there is a need to utilize a technical contractor.

Below is a list of regulations that WEM reviews to ensure compliance with applicable historic and environmental protections laws and regulations:

- Historic and Archaeological Resources (PL 96-515, Section 106)
- Floodplain Management - Presidential Executive Order 11988 (44 CFR Part 9)
- Protection of Wetlands – Executive Order 11990 (44 CFR Part 9)
- Environmental Justice - Presidential Executive Order 12898 (59 Fed. Reg. 7629-7633)
- Endangered Species Act (16 USC Section 1531)
- Fish and Wildlife Coordination Act (16 USC Section 661)
- Wild and Scenic Rivers Act (16 USC Section 271)
- Rivers and Harbors Act (Section 10)
- Wilderness Act (16 USC)
- Farmlands Protection Policy Act (16 USC)
- Coastal Zone Management Act (16 USC, Section 1451)
- Coastal Barrier Resources Act (16 USC)
- Clean Air Act (16 USC)
- Clean Water Act (Section 404) (16 USC)
- Hazardous Material and Hazardous Waste (determine if project site involved is a Superfund site, has above or underground storage tanks, or other potential contaminants)

The Wisconsin Administrative Plan (located in Appendix F) includes the procedures for preparing and completing accurate environmental reviews. The same procedures apply for the other HMA programs.

6.4.5 Technical Assistance to Develop Applications and Complete RFIs

The procedures used by WEM Mitigation Staff to develop applications are outlined in the Wisconsin Administrative Plan. When responding to a Request for Information (RFI) issued by FEMA Region V, WEM uses the memorandum format sent from FEMA and works with the subrecipient to fulfill all details by the deadline specified. In the event additional time as required, WEM seeks request for an extension allowable under HMA program guidance prior to the deadline.

6.4.6 Submitting Complete and Accurate Quarterly Progress and Financial Reports

WEM Mitigation staff has an excellent record of submitting timely, complete, accurate, and comprehensive quarterly progress and financial reports for the HMA programs. The following summarizes the process that the Mitigation staff follows in meeting quarterly reporting requirements. This information can also be found in the HMGP Administrative Plan; although WEM does not have a separate administrative plan for the non-disaster HMA programs, WEM follows the same procedures as for the HMGP are adhered to.

Upon project approval, a State/Local Hazard Mitigation Assistance Agreement is signed by both WEM and the subrecipient. The agreement requires the subrecipient to submit quarterly status reports within 15 days of the end of the quarter. Due dates are January 15, April 15, July 15, and October 15. Quarterly reports contain information such as project identification information and significant activities and developments since the previous report, including a comparison of accomplishments against the work schedule; percent completion and whether the project is on schedule; a discussion of any problems, delays, or adverse conditions that impair the ability to meet the scheduled completion date

Approximately two weeks before the end of the quarter, WEM sends out a reminder to all subrecipients that the quarterly report is due on the 15th of the following month. Second and third reminders are sent prior to the due date. If no report is submitted a notice is sent advising the subrecipient that the quarterly report is overdue, that per the Agreement they are required to submit a quarterly report, and that their funding may be jeopardized if they fail to submit a report.

Using the subrecipient quarterly reports, WEM Mitigation staff prepares its quarterly report for the mitigation program and submits the update to FEMA Region V

The WEM Financial Management Officer (FMO) prepares and submits timely, accurate financial reports. Both the financial and progress reports are submitted within 30 days of the end of the quarter (January 30, April 30, July 30, October 30). On rare occasions, an extension may be requested in submitting the reports due to extensive workload and/or disaster operations, and the reports are always submitted within two weeks of the due date. WEM Mitigation staff has been praised by FEMA Region V for their comprehensive quarterly reports.

6.4.7 Completing Projects

WEM Mitigation staff has a good record of closing out hazard mitigation grants and HMGP programs within required timeframes. The following summarizes the process that the Mitigation staff follows in monitoring approved grants and completing project and declaration closeouts within established performance periods including financial reconciliation. This information can also be found in the Administrative Plan. WEM uses the same procedures for non-disaster HMA programs, although a separate administrative plan does not exist.

The State/Local Hazard Mitigation Assistance Agreement that is signed by both WEM and the subrecipient and requires the subrecipient to begin the project within 90 days of subaward approval and complete the project per the schedule submitted with the subapplication (not to exceed three years from project obligation date). In addition, they are required to submit a final report covering all aspects of the project within 30 days after project completion. If the subrecipient cannot complete the project within the identified performance period per the grant agreement, a request for a time extension must be submitted to WEM 60 days prior to the end of the performance period. Requests for time extensions need to explain why the completion date cannot be met, how much of the project work remains, and a revised work schedule. If an extension request for any project means that the activity period will go beyond the state's performance period (or close date for disasters), the SHMO will request up to a one-year time performance extension. This request will be submitted to the Region 60 days prior to the end of the performance period.

Upon completion of all work on a project, the SHMO will certify to FEMA that costs incurred in the performance of eligible work are allowable, that the approved work was completed, and that the mitigation measure is in compliance with the Federal-State Agreement (for the HMGP) and the State/Local Assistance Agreement. WEM Mitigation staff will prepare a project closeout worksheet providing a complete assessment of the project, which is submitted to FEMA Region V along with a request to close the grant (see Appendix F, Attachment L). The Environmental Closeout Declaration (Appendix F, Attachment E, page E-14) is included with the project closeout worksheet.

When all projects are completed within the disaster declaration, the SHMO will prepare the Declaration Closeout Letter and Worksheet for the HMGP and forward to FEMA along with the request to close the declaration (see Appendix F, Attachment M). The FMO will close out the HMGP financially by submitting a final SF-425, certifying project completion. All valid expenditures for the declaration will be liquidated within 90 days of the end of the performance period. There are cases where unspent funds from one project will need to be deobligated so they can be reobligated to another project with a cost overrun. In some cases, this causes the declaration closeout to go beyond the 90 days. However, state staff works closely with FEMA Region V staff to close the declarations as soon as possible. The SHMO also prepares a final report for completed projects for the FMA and PDM program and submits to FEMA along with a request to close the project. Again, the FMO is responsible for submitting the final financial

reports. All expenditures are liquidated within 90 days of the end of the performance periods for each program.

The subrecipient and recipient closeout reports are valuable for not only historical purposes and in monitoring projects for adherence to certain grant agreements such as open space deed restrictions, but they are also valuable in documenting loss avoidance and developing success stories. The closeout reports including any properties that have been acquired are shared with the Department of Natural Resources Floodplain Management staff. This information is useful for floodplain management staff during community assistance contacts and visits. In addition, during these visits floodplain management staff can monitor the acquired sites to ensure that the subgrants have adhered to the required deed restrictions.

6.5 Measuring Success

An important component of mitigation is to celebrate our successes. In 2019, the National Institute of Building Sciences updated its 2005 "Mitigation Saves" report to reflect analysis of additional data. The 2019 version highlights that for every \$1 spent on mitigation in federal grant programs, \$6 is saved in future disaster losses; the benefit cost ratio is \$7 in benefits to \$1 in costs for riverine flood hazards. Over time, the return on investment for long-term mitigation measures will continue to increase. To demonstrate this, WEM Mitigation staff document the success and economic benefits of the mitigation measures implemented through the mitigation programs.

Since 1990, \$132.4 million in HMGP project funds have been or are currently being administered in Wisconsin. In addition to the HMGP, FMA funds of \$3.1 million and PDM project funds of \$23.4 million have been or are currently being administered. In total, more than \$158.9 million in mitigation grant funds awarded to the state for mitigation projects. The funding for each grant program is broken down by project in Appendix C.

Through the HMGP, FMA, and PDM programs, FEMA has awarded funding to mitigate 941 structures through 2021 (See Appendix C for project descriptions by grant program and community).

Loss avoidance studies are one type of activity that WEM and FEMA undertake to document their successes and quantify the economic benefits of mitigation measures implemented through the mitigation programs. These studies use a methodology developed by FEMA to quantitatively evaluate the effectiveness of mitigation projects using actual post-mitigation hazard events in the calculation. The loss avoidance studies can be found on the WEM website.

Many mitigation projects in Wisconsin have been profiled by FEMA as "best practices." The full-length best practices articles can be found on WEM's and FEMA's websites. Success stories will continue to be developed for future events to demonstrate the success and economic benefits of effective mitigation measures. Additional best practices in this area can be found in Appendix K.