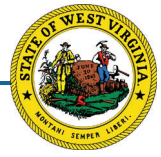


Part IV. Capabilities and Coordination





SECTION 6. STATE CAPABILITY ASSESSMENT

2023 SHMP UPDATE CHANGES

- ❖ Discussion of the administration of hazard mitigation capabilities and programs has been revised and updated to reflect significant changes in the structure of emergency management since the 2018 State Hazard Mitigation Plan (SHMP).
- ❖ State capabilities have been comprehensively reviewed, updated, and reformatted.
- ❖ The capabilities part has been broken out into three separate sections.

6.1 Administration of Hazard Mitigation Programs in the State

The purpose of this section is to provide a comprehensive review and evaluation of the State of West Virginia's (the State) capabilities to support and facilitate mitigation activities and to describe the process utilized by the State to support, promote, coordinate, and implement mitigation planning, policies, programs, and projects at the regional, county, and local levels.

The West Virginia Emergency Management Division (WVEMD) coordinates emergency management activities support the State's mission of ensuring protection of life and property by providing coordination, guidance, support, and assistance to local emergency managers and first responders. Established by West Virginia State Code and operating under the West Virginia Emergency Operations Plan, the WVEMD manages disaster preparedness, mitigation, and response and recovery efforts throughout the state by coordinating with all responsible government agencies. Within WVEMD, there are multiple branches that work together to achieve the overall mission of the division.

West Virginia is a part of Federal Emergency Management Agency's (FEMA) Region 3 along with Delaware, Maryland, Pennsylvania, the District of Columbia, and Virginia. Region 3 identifies four primary steps to developing a plan:

1. Organizing the planning process and resources
2. Assess risks and capabilities
3. Develop a mitigation strategy
4. Adopt, maintain, and implement the plan (FEMA 2021)

Capabilities provide the means to accomplish a desired outcome. In the context of mitigation planning, the State capability assessment identifies the State's abilities to reduce risk and increase resilience from hazards. It addresses how the State's existing capabilities can aid the mitigation effort and areas where the State needs to strengthen its mitigation capabilities.



6.2 Identification and Evaluation of State Pre- and Post-Disaster Capabilities

44 C.F.R. §201.4(c)(3)(ii): [The State Plan must include] ...a discussion of the State’s pre- and post-disaster hazard management policies, programs, and capabilities to mitigate the hazards in the areas, including: an evaluation of State laws, regulations, policies, and programs related to hazard mitigation as well as to development in hazard-prone areas; a discussion of State funding capabilities for hazard mitigation projects

This section identifies and evaluates the State’s pre- and post-disaster capabilities, including legal, regulatory, and programmatic capabilities, participation in national programs, and funding capabilities. Regional, county, and local capabilities are discussed in Section 7 (Local Capability Assessment).

6.2.1 State Pre- and Post-Disaster Capabilities and Core Mitigation Capabilities

The National Preparedness Goal defines what it means for the whole community to be prepared for all types of disasters and emergencies, identifying five mission areas – prevention, protection, mitigation, response and recovery. Under the mitigation mission area there are seven core capabilities identified (FEMA 2020):

- **Threats & Hazard Identification** — Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude; and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity.
- **Risk & Disaster-Resilient Assessment** — Assess risk and disaster resilience so that decision-makers, responders, and community members can take informed action to reduce their entity’s risk and increase their resilience.
- **Planning** — Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or tactical-level approaches to meet defined objectives.
- **Community Resilience** — Enable the recognition, understanding, communication of, and planning for risk and empower individuals and communities to make informed risk management decisions necessary to adapt to, withstand, and quickly recover from future incidents.
- **Public Information & Warning** — Deliver coordinated, prompt, reliable, and actionable information to the whole community through the use of clear, consistent, accessible, and culturally and linguistically appropriate methods to effectively relay information regarding any threat or hazard and, as appropriate, the actions being taken, and the assistance being made available.
- **Long-term Vulnerability Reduction** — Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused threats and hazards by lessening the likelihood, severity, and duration of the adverse consequences.
- **Operational Coordination** — Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.

The following sections include reviews of pre- and post-disaster hazard management capabilities (e.g., responsibilities, programs, and initiatives) and development of guidance offered through agencies and programs



that directly support WVEMD’s and FEMA’s hazard mitigation efforts. A more detailed discussion on WVEMD’s pre- and post-disaster programs and capabilities is presented following this summary.

6.2.2 Legal, Regulatory, Planning, and Programmatic Capabilities

An evaluation of State laws, regulations, policies, and programs related to hazard mitigation that improve or impede resilience to future hazard events, including the potential effects of future hazard conditions is provided in this capability section.

In coordination with the WVEMD, state departments and agencies conducted a thorough review of laws, rules, plans and programs to identify and evaluate their hazard mitigation-related capabilities, including those related to development in hazard-prone areas. Each identified capability was described, significant changes that occurred during the performance period of the 2018 SHMP were noted, and opportunities or challenges to enhance capability effectiveness or minimize conflicts with mitigation goals were discussed. In addition, reviewers identified the hazard(s) of concern that each capability helps to mitigate, the type of hazard management capability (pre-and/or post-disaster), and the effect on loss reduction. While some funding capabilities were identified in this discussion, funding is discussed in more detail in Section 6.2.4.

Key Term

Mitigation Capabilities provide the means to accomplish desired mitigation outcomes. Capabilities include laws, regulations, policies, programs, administrative and technical staffing and resources, funding, and people-powered capabilities, such as volunteer groups.

In order to support program and plan integration, each capability was also assessed to determine the mitigation mission area core capabilities that it supports. Core capabilities are identified in the National Preparedness Goal and are used in other emergency management programs, including the Threat and Hazard Identification and Risk Assessment (THIRA) and the State Preparedness Report.

Table 6-1 identifies the state agencies and programs with capabilities to reduce vulnerability to the hazards of concern described in Section 5 (Hazard Profiles).

Table 6-1. State Agencies and Programs with Hazard Mitigation Capabilities by Hazard of Concern

Agency	Hazards of Concern													
	Dam Failure	Drought	Earthquake	Extreme Temperature	Flood	Hazardous Materials	Landslide	Levee Failure	Pandemic	Radiological Incidents	Radon Exposure	Severe Storm	Subsidence	Utility Failure
WV Department of Agriculture	X	X		X	X							X		
WV Conservation Agency	X	X			X	X	X					X	X	
WV Emergency Management Division	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Department of Environmental Protection	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Office of Environmental Health Services	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV State Fire Commission			X	X	X		X				X	X	X	X
WV Board of Registration for Foresters														
WV Division of Forestry														
WV Geological and Economic Survey			X				X						X	
WV Division of Highways	X		X		X		X	X				X	X	X
WV Office of Miners' Health, Safety and Training													X	
WV Division of Natural Resources	X	X	X	X	X	X	X	X				X	X	X
WV Division of Water and Waste Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Water Development Authority	X	X			X			X		X				
WV State Resiliency Office	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Office of Emergency Medical Services									X					
WV University National Environmental Services Center	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Department of Education	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Flood Protection Task Force	X				X			X				X		

Agency	Hazards of Concern													
	Dam Failure	Drought	Earthquake	Extreme Temperature	Flood	Hazardous Materials	Landslide	Levee Failure	Pandemic	Radiological Incidents	Radon Exposure	Severe Storm	Subsidence	Utility Failure
WV Flood Tool	X				X			X				X		
WV GIS Technical Center	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV and Virginia Water Science Center	X	X			X		X	X				X	X	X
WV Board of Risk & Insurance Management	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Public Service Commission	X	X	X	X	X	X	X	X				X	X	X
WV Silver Jackets	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Hazard Mitigation Joint Planning Committee	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Emerging Response Commission	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Office of Abandoned Mine Lands and Reclamation							X					X	X	
WV Office of Environmental Remediation	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Office of Special Reclamation					X		X						X	
WV Division of Land Restoration										X				
WV Office of Environmental Advocate	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Rehabilitation Environmental Action Plan	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WV Environmental Equity Policy	X	X	X	X	X	X	X	X	X	X	X	X	X	X



LAND USE AND DEVELOPMENT

State Building Code

The purpose of the building code is to establish the minimum requirements to provide a level of safety, public health, and general welfare through structural strength, stability, ventilation, and safety of life and property from hazards, as well as a reasonable level of safety to firefighters and emergency responders during emergency operations. The Department of Building Safety is created, and a building official is appointed by each jurisdiction in which the building code has been adopted who is authorized to enforce the building code through policies and procedures to carry out the intent and purpose of the regulation (West Virginia 2019).

While West Virginia does not have statewide building code requirements, the adoption and implementation of building codes is strongly encouraged. Any community that wishes to adopt and enforce a building code is required to use the State Building Code.

State regulations that affect the ability of buildings to withstand hazard events are included in the codes summarized in the table below.

Table 6-2. State Building Regulations

Code	Code Description
West Virginia Building Code	The West Virginia Building Code establishes the regulations applied to building and construction within the State
West Virginia Water Laws	Establishes regulations applied to water resources and water service providers within the State
West Virginia Public Health and Safety Code	Establishes regulations applied to public health and safety resources and services within the State

The Building Code Effectiveness Grading Schedule (BCEGS), administered by the Insurance Services Office (ISO), assesses community building codes and their enforcement with a focus on mitigating losses from hazards (Verisk Analytics 2023). It is graded on a scale of 1–10. Municipalities with effective and well-enforced codes should have less loss experience by continuing to lessen their hazard-related damage, which lowers their insurance costs and incentivizes states and communities to enforce their building codes. BCEGS helps communities (Verisk 2023) by:

- Improving building codes (by encouraging the adoption of the most current regulations), building departments, and code enforcement
- Promoting the construction of better, more catastrophe-resistant buildings
- Reducing property losses from catastrophes
- Reducing the economic and social disruption that results from catastrophes’ severe and widespread destruction

State Fire Code

The West Virginia State Fire Code is established and gives authority to any fire department recognized by West Virginia for the safeguarding of life and property from fire and explosive hazards through West Virginia Code of State Rules, Title 87, and WV Code Chapter 15A, Article 11, Section 3 which was adopted July 1, 2010. The State



Fire Code requires fire extinguisher systems, fire alarm systems, emergency power, smoke management, and sprinkler protection systems for buildings of various building types as a form of fire protection and mitigation. Adoption and enforcement of the State Fire Code is mandatory across the state, but it excludes one- and two-family residential structures. Wildfires are an area of focus of mitigation efforts through support of wildfire preparedness and prevention, response, suppression, coordination, and management. The Office of the State Fire Marshal supports mitigation efforts through training, fire safety inspections, wildfire response, and providing firefighting resources.

National Flood Insurance Program and Community Rating System

The National Flood Insurance Program (NFIP), established in 1968 by the National Flood Insurance Act, is a voluntary program intended to provide affordable flood insurance to residents and encourage floodplain management. Communities participating in the NFIP, and their residents and businesses, are eligible for federally backed flood insurance coverage, specific federal grants and loans, and disaster assistance. The goals of the NFIP include (Wetmore, et al. 2006):

- Decreasing the risk of flood losses
- Reducing the costs and consequences of flooding
- Reducing the demand for Federal assistance
- Preserving and restoring the natural beneficial floodplain functions

To receive these benefits, communities must adopt and enforce floodplain management regulations. Within the State, there is a 98% participation rate among communities, with only 5 communities out of 283 not currently participating in the NFIP as of May 31, 2023 (FEMA 2023). The following non-participating communities have identified special flood hazard areas, but do not have NFIP benefits available:

- Town of Brandonville
- Town of Carpendale
- Town of North Hills
- Town of Thurmond
- Town of White Hall

WVEMD is responsible for statewide flood forecasting, flood operations, and other essential flood emergency response and management activities. The State’s NFIP coordination element is also housed within WVEMD. The Floodplain Management Section is composed of a State NFIP Coordinator, who manages the Community Assistance Program – State Support Services Element (CAP-SSSE) Grant and Cooperating Technical Partners (CTP) program, and two support positions.

A summary description of how state agencies work together to administer the NFIP pre- and post-disaster, including:

- Changes in participation, insurance coverage and trends
- Substantial damage administration
- Support for communities participating in or interested in the Community Rating System (CRS)
- A summary of structures at high risk of flooding, including repetitive and severe repetitive loss structures and any action taken to reduce the number of these structures
- Any other NFIP challenges that may be identified during regular coordination between the State and FEMA



The WVEMD Floodplain Management Section, on behalf of FEMA, conducts Community Assistance Visits (CAVs) and Community Assistance Contacts (CACs) to NFIP communities to provide individual technical assistance. WVEMD provides statewide NFIP workshops designed to interpret and explain the NFIP regulations and give an overview of the need for community-based floodplain management.

WVEMD and FEMA conduct workshops for floodplain management agencies, including State and local officials. The workshops allow floodplain management officials to better understand FEMA’s minimum regulatory requirements and how to meet them. The workshops also provide opportunities to fulfill the requirement set forth through the 2012 Congressional 1st Special Session’s update to § 15-5-20a of the WV Code to include Floodplain Manager Training. The update to this section requires local floodplain managers within the state to complete six hours of training in floodplain management annually to maintain good standing with WVEMD. Failure to meet this requirement results in suspending the floodplain manager from their responsibilities until the training requirement has been fulfilled. Communities with floodplain managers who are suspended of their duties are then required to transfer floodplain management responsibilities and fees to another jurisdiction with a floodplain manager in good standing. This requirement became effective July 1, 2012.

To assist communities in meeting this training requirement and help local floodplain managers further augment their skill sets, WVEMD’s Floodplain Management Section annually offers many training topics. WVEMD regularly schedules workshops and provides on-demand as an addition to the existing schedule. Workshop topics include:

- FEMA’s Elevation Certificate
- Floodplain Management and Duties of the Local Administrator
- Floodplain Management Review Course
- Substantial Damage/Substantial Improvement
- Ordinance Administration

In addition to these in-person visits and training, the Floodplain Management Section, in coordination with West Virginia University, provides support through the West Virginia Flood Tool (WVU 2015), which offers GIS-based maps and data to all communities to be utilized in the day-to-day floodplain management operations. The West Virginia Flood Tool can be found at www.mapwv.gov/flood.

The State’s floodplain management law (West Virginia Legislature’s Office of Reference & Information n.d.) allows local governments to adopt and exceed floodplain management regulations outlined in Title 44 of the Code of Federal Regulations (44 C.F.R.) to reduce risk and seek premium discounts. By permitting the enforcement of higher regulatory standards, communities in the state are provided the opportunity to participate in the FEMA’s CRS program, which offers insurance premium discounts of up to 45% based on the community’s enforcement of higher regulatory standards.

The Model Ordinance implemented by the State is inclusive of many higher regulatory standards which provide both opportunity for resilience in practice and opportunity for credit in the CRS program, as described in Table 6-3.



Table 6-3. West Virginia Model Ordinance Provisions Creditable in the CRS Program

Topic Area	NFIP Minimum	WV Model
Elevation	44 C.F.R. §60.3I: At or above BFE	Section 5.6: BFE + 2ft
Floodplain Administrator Requirements	None	Article II, Section 2.1: Completion of NFIP Course 273 within one year of the position being secured and complete 6 hours of continuing education per year as required by WV State Code §15-5-20(a)
Finished Construction Elevation Certificate Requirement	None	Article V, Section 5.3A(f): A finished construction elevation certificate must be prepared by licensed professional surveyor...must confirm the structure in question together with attendant utilities are elevated in compliance with permit conditions
Non-Conversion Agreement	None	Article V, Section 5.3A(g): A non-conversion agreement shall be signed by the applicant whenever the Floodplain Administrator determines that the area below the first floor could be converted to a non-conforming use
Subdivisions	44 C.F.R. §60.3(a)(4): Must minimize flood damage through clustering and adequate drainage	Article 5.5: All lots shall have a buildable area outside the special flood hazard area (SFHA)
Manufactured Homes	44 C.F.R. §60.3(c)(6): Manufactured homes built in the floodplain must be anchored and built to BFE	Article 6.1B: Manufactured homes shall not be sited within the SFHA
Manufactured Homes	44 C.F.R. §60.3(c)(12): Excludes existing manufactured home parks from requiring new manufactured homes from elevating to BFE	Article 6.1B: Removes 44 C.F.R. §60.3(c)(12) exclusion of existing manufactured home parks from meeting minimum BFE
Foundation Protection	None	Article 6.1E: Requires for buildings on compacted fill protection from erosion and scour

The CRS is a voluntary incentive program implemented in 1990 that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. As a result, flood insurance premium rates are discounted to reflect the reduced risk. For participation in the program communities must apply, annually recertify after entry is granted and participate in full verification assessment every 3 or 5 years.

The CRS is an extension of the NFIP, and as a result, the goals of the CRS support those of the NFIP and the advancement of community resilience:

- Reduce flood damage to insurable property.
- Strengthen and support the insurance aspects of the NFIP.
- Encourage a comprehensive approach to floodplain management.

WVEMD’s Floodplain Management Section’s CRS strategy has two main goals:

- Enroll more communities in the CRS program.
- For participating communities, improve their CRS classification.



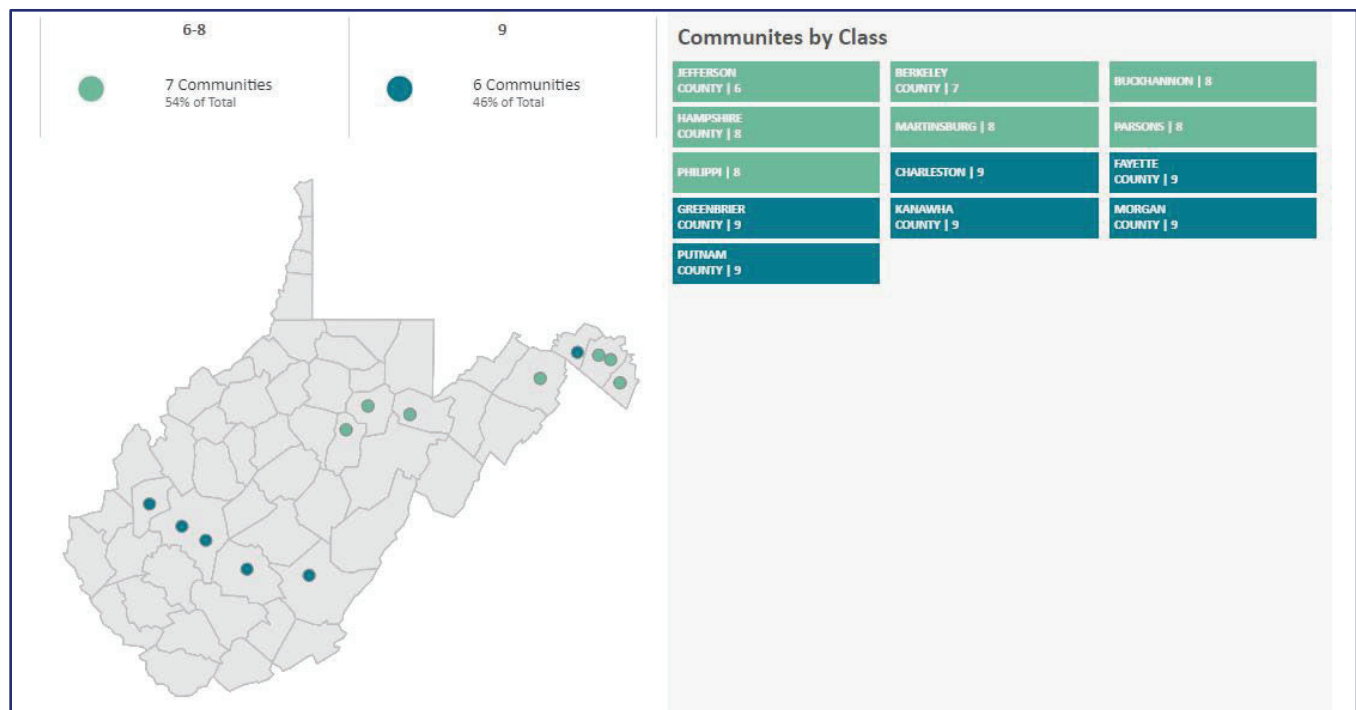
The strategy has four main elements and a series of projects associated with them:

- **Encourage Participation:** State staff promote the CRS and help communities join the program. WVEMD explains the benefits of the CRS to elected officials and other local decision-makers so they will encourage their staff to devote the resources needed to join the CRS or improve their classification.
- **Facilitate Credits:** WVEMD and other state agencies help communities receive credit for state programs.
- **Improve Local Programs:** Training, templates, models, and examples help communities improve their floodplain management activities and receive CRS credit for them.
- **Track Progress:** WVEMD can see where improvements are made, make adjustments, and measure the worth of its efforts.

The CRS program uses a Class rating system to determine flood insurance premium reductions for policyholders. Participating communities are rated from 9 to 1. Each class achieves an additional 5% discount to applicable NFIP policies in the community (minus rated, severe repetitive loss, and/or structures with violations may not receive the discount). A Class 9 community receives a 5% discount. A Class 1 community receives a 45% discount.

As of April 2023, there are 1,504 communities nationwide participating in the CRS, including 13 in West Virginia. Most participating West Virginia communities are where the highest concentrations of NFIP policies in force can be found. The area’s concentration of coverage is likely due to the concerns of riverine flooding, which can be widespread. The 13 participating communities in West Virginia allow for discounted premiums for 2,377 policies, translating to \$190,180 saved on the total premiums of \$2,608,346 annually by state residents (Verisk Analytics, Inc. 2023). Figure 6-1 below summarizes the distribution of communities by CRS class rating.

Figure 6-1. West Virginia CRS Communities



Source: Verisk Analytics, Inc. 2023



CRS participation and interest in West Virginia is also supported by the West Virginia Floodplain Management Association. This group is formed to represent municipal, county, regional, and state networks that collaborate to meet local flood mitigation goals and support one another overall floodplain management, mitigation, and the CRS. While this group does not earn credit in the CRS program itself, it does provide a platform for learning and an opportunity to discuss changes, obstacles, and successes.

Risk Mapping, Assessment and Planning Program (Risk MAP)

Risk Mapping, Assessment, and Planning (Risk MAP) is the FEMA program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. FEMA is responsible for mapping our country's flood risk. The agency and its partners do this by making Flood Insurance Rate Maps, or flood maps. Risk MAP is the process used to make these maps. However, it creates much more than flood maps. It leads to more datasets, hazard mitigation analysis, and communication tools. Each supports communities as they work to be resilient. Each Risk MAP flood risk project is tailored to the needs of each community and may involve different products and services. FEMA coordinates and works directly with county floodplain managers during the Risk MAP project process.

The State's participation in and capabilities related to FEMA's flood hazard mapping program (i.e., Risk MAP), including how the State shares flood risk data for use in mitigation and community planning and mitigation action development, identifies areas that need to be studied or restudied, and builds partnerships.

Geographic Information System (GIS) funding from FEMA led to a comprehensive map modernization program that continued through 2018. The program then transitioned into Risk MAP. The WVEMD, through FEMA's Cooperating Technical Partners Grant Program, partners with the West Virginia University GIS Technical Center. The partnership worked to overcome the limited number of West Virginia flood studies by implementing the State's Map Modernization Business Plan. This West Virginia Flood Tool incorporates data such as Hazus risk assessment outputs, NFIP FIRMs, locations of mitigated structures, and other available data which required digitization of revised FIRMs. In July 2011, this online tool launched. It is currently maintained by the WVU GIS Technical Center (WVU GISTC), housed in the Department of Geology and Geography at WVU.

FEMA Region 3 has a separate section called Mit Maps (<https://fema.maps.arcgis.com/apps/MapSeries/index.html>) which encompasses all the Region's Mitigation Mapping and Data. This data includes FIRMs, flood hazard data, Risk Rating 2.0 information, changes in the SFHA since the last FIRM, climate mapping, the National Risk Index (NRI), WV Flood Tool, building code adoption, economically disadvantaged communities, dam inventory, National Levee Database information, and elevation and topography information (FEMA 2022).

The West Virginia Floodplain Management program continues to work with partners to improve the West Virginia Flood Tool, including developing LiDAR data, bridge and culvert data, and information that will enhance the analysis of approximate Zone A flood elevations.

WV State Resiliency Office (SRO)

West Virginia Code §29-31-2 establishes the WVSRO organized within the Office of the Governor to serve as the recipient of disaster recovery and resiliency funds, excluding federal Stafford Act funds, and to serve as the coordinating agency of recovery and resiliency efforts. This includes matching funds for the other disaster recovery



programs. The WVSRO's mission is to minimize the loss of life and property, maintain economic stability, and improve recovery time by coordinating with stakeholders to implement disaster-resilient strategies. The WVSRO coordinates government agencies, first responders and stakeholders for emergency, disaster, response, recovery, and resiliency planning by coordinating mitigation actions. The WVSRO works closely with other groups such as the West Virginia Silver Jackets, FEMA, U.S. Department of Housing and Urban Development (HUD), debris management staff, the Hazard Mitigation State Planning Team (SPT), and the State Flood Protection Plan Update group to ensure necessary mitigation actions are being carried out. The WVSRO hosts the West Virginia Flood Symposium that is designed to analyze the root causes of flooding within the state and come up with potential solutions of its impacts. The WVSRO website provides lifeline contact information in the event of an emergency as well as resources that could be needed and used in the event of a flood (WV State Resiliency Office 2023).

West Virginia University

WVU assists the State in hazard mitigation development by educating students using tools and information created by staff and students. Students have contributed data to the National Environmental Services Center, composed of four national programs, which assists small and rural communities with their utility management needs and offers solutions to any problems they may have regarding environmental issues (WVU 2023).

West Virginia GIS Technical Center

West Virginia University created a technical center designed to educate students and provide technical support services to enhance the continuous development and operation of GIS in West Virginia. Many datasets and analyses include locations in West Virginia prone to various hazard events. Some of the technical center's objectives include (WVU GISTC 2022):

- Reduce the duplication of data development efforts across multiple organizations
- Catalog and distribute accurate GIS spatial data and information free of charge through the Internet
- Coordinate acquisition of new data additions to the West Virginia Spatial Data Infrastructure
- Assist with strategic planning, development, and implementation of statewide mapping guidelines
- Provide advisory services and training programs in the field of geographic information science
- Conduct research and provide education toward improvement of geographic information technologies

EMERGENCY MANAGEMENT

State Emergency Operations Plan

WVEMD has the legal authority to implement emergency management plans to deal with disasters and emergencies relating to the State and entities that are a part of it. West Virginia Code Chapter 15, Article 5 (West Virginia Legislature n.d.) requires that West Virginia entities develop and maintain an updated emergency operations plan so that the State and local jurisdictions are prepared for natural and human-caused hazard events. The most recent West Virginia Emergency Operations Plan is dated January 2016. The plan also bestows the responsibility for preserving life and property upon the governor of West Virginia. It analyzes existing resources to obtain relief and recovery assistance promptly in the event of an emergency or hazard. The governor further bestows emergency functions/management responsibilities to the appropriate state agencies and entities.



The plan is prepared in three main parts: the Emergency Support Function Annexes, the Support Annexes, and the Incident-Specific Annexes. There are 14 Emergency Support Function Annexes that identify the structure for State-coordinated emergency operations and identify primary and supporting agencies. Seven Support Annexes analyze State agency coordination and execution and ensure efficient incident management. Six Incident-Specific Annexes address specialized response and recovery procedures that can be contingent on the specific hazard impacting the state (WVEMD 2016).

Integrated Flood Observation and Warning System (IFLOWS)

In West Virginia, the National Weather Service (NWS) issues flood warnings and watches from information collected by installed rain and stream gauges scattered throughout the state. Rain gauges cover 47 counties throughout the state, and the WVEMD conducts monitoring. The information collected is also documented in a database to review rain patterns and amounts. The goal of IFLOWS is to protect life and property from flash floods, as well as to serve as a precipitation database. The database can provide precipitation data that can calculate the increase in river/stream level rise, which can further predict flooding based on the flow and topography of areas that may be of concern (WVCA n.d.).

State Flood Protection Plan

The State Code establishes the State Conservation Committee and Conservation District, and is responsible for conserving natural resources and protecting wildlife. This committee prepared a West Virginia Flood Protection Plan to address numerous goals, including reducing loss of life due to flooding; reducing property damages; developing programs and tools that will assist in implementing a sound program of flood damage reduction and floodplain management; reducing economic losses while supporting a viable economy; and protecting the floodplain environment. In conjunction with IFLOWS, the State Flood Protection Plan is geared toward discovering potential problem areas and mitigating that risk before they become a problem. The plan is divided into six sections: Introduction, Issues Identification and Assessment, Identification of Existing Roles, Present Activities and Roles, and Proposed Projects and Needs and Recommendations (WVCA n.d.).

ECONOMIC DEVELOPMENT

WV Department of Economic Development

The West Virginia Department of Economic Development provides information on available sites and buildings, incentives, and other programs. The department's website offers interactive mapping tools so that people can evaluate companies and demographics in West Virginia. The State makes a significant amount of money on tourism and usage of the natural environment (e.g., camping) of West Virginia; therefore, ensuring proper mitigation for hazards to prevent loss of money flow is crucial to ensure the stability and continuation of this economic sector. The Department of Economic Development contains six divisions supporting West Virginia's businesses and economy: the Small Business Development Center, Community Advancement and Development, Office of Energy, International Development, Business and Industrial Development, and the Broadband Enhancement Council. Six regional economic development offices work with the State to ensure the entire state is being fully served (WV Economic Development n.d.).

West Virginia Department of Economic Development received an allocation of \$106,494,000 for resiliency measures to decrease the impact of natural hazard events and promote the protection of life and property. A



grant requirement is that half of the money earmarked be spent in Kanawha, Greenbrier, Nicholas, and Clay Counties, the most impacted and distressed counties in West Virginia (WVCAD n.d.).

WV Department of Commerce

The West Virginia Department of Commerce’s mission is to promote and preserve the well-being of the citizens of West Virginia by providing a cooperative, interagency system that stimulates diverse economic growth, encourages the appropriate use of the state’s abundant natural resources, improves the safety and productivity of the workforce, and promotes the beauty and desirability of the State as a world-class tourism destination. The Department of Commerce includes the West Virginia Division of Forestry (WVDFO), Division of Labor, Division of Natural Resources, Geological and Economic Survey, Office of Miners’ Health, Safety and Training, Workforce WV, and the Division of Rehabilitation Services. The Department of Commerce administers some conservation funds to prioritize the natural environment and focuses on ensuring people’s and property’s health and safety, including hazard mitigation. This includes proper training for miners, limiting flooding and fires in naturally prone areas, and ensuring that residents of West Virginia have clean air and water in their communities (WV Department of Commerce 2023).

WV Economic Development Authority

The West Virginia Economic Development Authority (WVEDA) was formed in 1962 under Chapter 31, Article 15 of the West Virginia Code (West Virginia Legislature n.d.). WVEDA oversees developing and advancing business prosperity and economic welfare in West Virginia by providing loans, financing, and leasing opportunities to promote the retention and creation of new and old commercial and industrial development. WVEDA offers loans and bonds to promote economic growth and development. These bonds and loans can also be used to hazard-proof a commercial or industrial building to limit the effects of hazards on these buildings, which may lead to a continuity of operations in the event of a potentially damaging risk (WVEDA 2023).

HOUSING

CDBG-MIT

U.S. HUD initiated the Community Development Block Grant Mitigation (CDBG-MIT) program on August 30, 2019. The program allows eligible applicants to use this assistance in areas impacted by recent disasters to mitigate disaster risks and reduce future losses. CDBG-MIT defines mitigation as projects and activities that increase resilience to disasters and emergencies and reduce/eliminate the long-term risk of loss of life and properties, injuries, damages to properties, and suffering and hardship by lessening the impact of future disasters. The goals of CDBG-MIT funds include (U.S. HUD 2021):

- Support data-informed investments, focusing on the repetitive loss of property and critical infrastructure.
- Build capacity to analyze disaster risks and update hazard mitigation plans comprehensively.
- Support the adoption of policies that reflect local and regional priorities that will have long-lasting effects on community risk reduction, including risk reduction to community lifelines and decreasing future disaster costs.



- Maximize the impact of funds by encouraging leverage, private/public partnerships, and coordination with other federal dollars.

CDBG-DR

The Community Development Block Grant Disaster Recovery (CDBG-DR) grant helps states, specifically in low-income areas, to recover from presidentially declared disasters. CDBG-DR funds are for disaster relief, long-term recovery, restoration of infrastructure, housing, and economic revitalization. These grants help to rebuild affected areas, with most of the funding going to HUD-determined most impacted and distressed counties, including Clay, Greenbrier, Kanawha, and Nicholas Counties. Grant requirements for West Virginia emphasize that 80 percent of funds must benefit low- and moderate-income persons (WVCAD n.d.).

CDBG-RISE

The RISE program is partnered with WV Housing Development Fund. Created on February 12, 2018, in response to a flood in June of 2016, to help communities rebuild above pre-flood levels. The program removes structures beyond repair and allows developers to build multifamily structures in the most impacted and distressed counties in West Virginia. All funds in the RISE program must be expended by September of 2023 (RISE WV n.d.).

HEALTH AND SOCIAL SERVICES

WV Department of Health & Human Resources (DHHR)

The WVDHHR provides a wide range of life-saving resources to the residents of West Virginia, including socially vulnerable populations. The department encompasses the Bureau for Behavioral Health; Bureau for Child Support Enforcement; Bureau for Family Assistance; Bureau for Medical Services; Bureau for Public Health; Bureau for Social Services; Office of Inspector General; and West Virginia Children’s Health Insurance Program (WVCHIP). The department also contains boards and commissions that advocate for vulnerable populations, such as a Women’s Commission, Commission for the Deaf and Hard-of-Hearing, Developmental Disabilities Council, Human Rights Commission, and Commission to Study Residential Placement of Children. The DHHR also offers many programs and services such as AIDS/STD Program, Children and Adult Services, Electronic Benefits Transfer (EBT), Family Planning Services, Infectious Disease Epidemiology, Tobacco Prevention, and Breast and Cervical Screening Program. They also offer online services allowing Child Abuse reports, Welfare Fraud reports, and Healthcare Crime to be reported. WVDHHR is also concerned with threat preparedness for hazards and has a Center for Threat Preparedness that provides information relating to alerts and advisories to keep residents safe. This Center also provides public health training and how to prepare for various hazards such as earthquakes, hurricanes, wildfires, and winter weather (WV Department of Health & Human Resources 2023).

The WVDHHR provides a COVID-19 dashboard that displays the updated total number of cases, deaths, active cases, and vaccine administration. A daily COVID-19 update is posted which documents the number of deaths, how old the people were who passed, and the current number of active cases per county. This department also provides information on quarantining and isolation tactics.

WV Office of Miners’ Health, Safety & Training

The West Virginia Office of Miners’ Health, Safety & Training has existed since 1883. It is responsible for enforcing the State’s mining laws, rules, and regulations, and its prime focus is on the health and safety of miners employed



in West Virginia. The office inspects, enforces, and investigated all mining activity and conducts continuous training on the mining industry. There are four regional offices and a headquarters office with inspectors and administrative support in each office responsible for inspecting over 616 mines/quarries and ensuring that all independent contracting companies are supporting safety instructions. This office is also concerned with monitoring mining-related hazards, such as landslides and subsidence for the public’s safety. The agency issues permits and approvals, and maintains statistics, while publishing training materials for businesses and employees (WV Office of Miners Health Safety & Training n.d.).

INFRASTRUCTURE

U.S. Department of Agriculture (USDA) Rural Development

The U.S. Department of Agriculture (USDA) Rural Development in West Virginia supports rural prosperity by emphasizing the implementation of modern infrastructure, including high-speed internet and water and waste treatment systems. USDA Rural Development also promotes affordable housing and community infrastructure by funding technical assistance. Businesses and manufacturers are encouraged to improve and expand with business plans and promote relevant goods and services. USDA Rural Development also supports renewable systems for the agricultural industry.

USDA Rural Development contains many vital programs and grants supporting rural development in West Virginia. The Single-Family Housing Direct Home Loans assist low-income applicants to obtain housing in eligible rural areas by providing payment assistance. The Single-Family Housing Repair Loans and Grants provide loans to low-income homeowners so that they may repair and improve their homes to ensure safety. The Rural Energy for American Program Energy Audit and Renewable Energy Development Assistance Grant assist small rural businesses and agricultural businesses by promoting energy audits and providing renewable energy development assistance. The Water and Waste Disposal Loan and Grant Program includes funding for reliable and clean water systems, sewage disposal, solid waste disposal, and stormwater drainage for businesses and homes in eligible rural locations. The Community Facilities Direct Loan and Grant Program provides affordable funding to continue to develop essential community facilities in rural areas. The Business and Industry Loan Guarantees offer loan guarantees to lenders to provide loans to rural businesses (USDA n.d.).

DOT Statewide Transportation Improvement Plan

Transportation is an essential aspect of hazard mitigation because the size and location of the roads determine the efficiency of evacuation in the event of a hazard. The Statewide Transportation Improvement Plan is a federally required document that provides the Federal Highway Administration and the Federal Transit Administration a master list of all projects that are candidates for federal aid, including regionally-significant projects. The plan addresses transportation improvements over the next six years and is updated every three years. The current plan encompasses 2020-2025, and the 2023-2028 plan is underway (WVDOT n.d.).

Dam Safety Program

The West Virginia Department of Environmental Protection (WVDEP) is responsible for protecting lives and property from the risk of a dam failure (dams and the risk from dam failures are described in Section 5.1: Dam Failure). WVDEP’s Dam Safety Section within the Division of Water and Waste Management oversees dams that are not related to the coal industry (“non-coal dams”), while the Division of Mining and Reclamation (DMR)



oversees and regulates dams related to the coal industry (“coal dams”) in conjunction with the Mine Safety and Health Administration. Of the dams in the State, the WV Conservation Agency is responsible for 170 high hazard potential dams. The agency works closely with the Dam Safety Section.

The Dam Safety Section (WVDEP 2023) has jurisdiction over non-coal dams that are also not federally owned and are not used to generate hydroelectric power. Those are the jurisdiction of the U.S. Army Corps of Engineers (USACE) and the Federal Energy Regulatory Commission, respectively. Dam Safety maintains an inventory of dams in its jurisdiction, conducts inspections, issues certificates of approval, responds to emergency calls, and reviews and approves monitoring and emergency action plans (MEAP) required for high hazard and some significant hazard potential dams. Maintenance inspections are required once every one to two years. If the Dam Safety Section identifies any problems with a dam, the section requires a Plan of Corrective Action from the dam owner to address the problems.

MEAPs are required to be updated on a regular basis. During the MEAP development and update processes, the dam owner typically works with the county’s emergency manager. The county emergency manager reviews and signs off on the MEAP. MEAPs include maps delineating the expected inundation area resulting from a dam failure and evacuation routes. MEAPs are also distributed to any organization that has a response role identified in the plan. The Dam Safety Section receives a copy of the maps (typically in pdf format) but not the underlying GIS data. The Dam Safety Section is developing an online application for dam safety for the emergency management community; it is expected to be released in 2024.

While the Dam Safety Section and the WV Conservation Agency work closely together, the coal dam program operates separately due to having unique regulatory requirements as opposed to the non-coal program. The State does not have an overall strategic plan for dam safety as a whole. State officials identified the 2004 Flood Protection Plan (WVCA n.d.) as the closest thing to a strategic plan, as it also addresses high hazard potential dams within the state.

The State faces a funding challenge in its dam safety program. There are many non-compliant dams in the state, and owners do not have the money to conduct the regular inspections let alone the rehabilitation work. Officials reported that, after federal agencies construct dams, the State is required to maintain it, and it can be a struggle to fund that maintenance. The WV Conservation Agency reported that it spends over \$1 million each year just to mow the grass at agency dams.

For coal dams, the dams are maintained by a private entity. If they cannot afford to maintain the dams, they may find another company to take over the site. The coal dam program is currently working on digitizing dam locations.

NATURAL AND CULTURAL RESOURCES

WV Division of Natural Resources (DNR)

Broken into six districts, West Virginia DNR is responsible for administering a comprehensive program for the conservation, exploration, protection, and use of natural resources within the state. The DNR releases annual reports that cover programs, budgets and funding, licenses distributed, training programs, and updated project statuses. The DNR’s Wildlife Resources Section conserves, manages, and protects fish and wildlife resources in the State. The West Virginia State Parks Section focuses on preserving natural areas that have scenic, scientific, or



historical significance. The Law Enforcement Section protects the state’s natural resources through enforcement, education, and ensuring that all state laws are complied with. The Office of Land and Streams monitors the management and acquisition of recreational property owned or leased by the State. The program also manages rivers and streams the DNR owns. West Virginia Mineral Development administers and manages land and mineral resources in the state. The sections of the DNR actively engage in developing, enforcing, and applying for grants related to hazard mitigation projects/plans (WVDNR 2023).

WV Department of Environmental Protection (DEP)

The West Virginia DEP enforces state and federal environmental laws to protect land, water, and air to promote a healthy environment. The DEP was established in 1991 and elevated to a state-level agency in 2001. This agency is significant in implementing and enforcing hazard mitigation practices and plans because of its involvement in the natural environment. The DEP contains the Division of Air Quality, whose primary goal is to protect and improve air quality to preserve it for future generations; the Division of Land Restoration, whose goal is to remediate contaminated land for reuse to safeguard the health and safety of the public; the Division of Mining and Reclamation, whose goal is to ensure compliance with the Surface Mining and Reclamation Act; the Division of Water and Waste Management, whose focus is to protect the state’s watersheds by controlling waste management; and the Office of Oil and Gas, which is responsible for regulating production and storage of oil and natural gas. The DEP also contains a GIS unit that creates additional data and maps for the divisions and the public (WVDEP 2023).

6.2.3 Participation in National Mitigation-Related Programs

U.S. ARMY CORPS OF ENGINEERS (USACE)

The USACE uses environmental sustainability as a guiding principle in strengthening the nation's security by maintaining the nation's infrastructure and technology. The USACE devises hurricane and storm damage reduction infrastructure and reduces risks from other disasters, such as cleaning contaminated sites to sustain the environment. They also work with other federal and state agencies to construct sustainable facilities, regulate waterways, and manage natural resources to address sustainability, changing future conditions, endangered species, environmental cleanup, and ecosystem restoration.

U.S. FISH AND WILDLIFE SERVICES

The West Virginia sector of the U.S. Fish and Wildlife Services is located in the Northeastern region, and the office headquarters is located in Massachusetts. However, there are seven Fish and Wildlife facilities throughout West Virginia. The goal of the offices is to recover endangered species as well as to work to conserve and protect fish, wildlife, and their habitats. The Northeast region’s goal is to avoid, minimize and mitigate threats to the natural resources in the Northeast area.



6.2.4 State Pre- and Post-Disaster Funding Capabilities

44 C.F.R. §201.4(c)(3)(iv): [The State Plan must include an] ...Identification of current and potential sources of Federal, State, local, or private funding to implement mitigation activities.

This section discusses and evaluates the State’s funding capabilities, including a summary of funding resources that the State has access to or is eligible to use, a description of how the State has used its funding for hazard mitigation, and the use of FEMA funds.

USE OF STATE FUNDING FOR MITIGATION ACTIVITIES

The State uses its funding for a variety of mitigation activities. This use of funds includes earmarking resources for mitigation projects, providing grant monies to the counties and non-governmental organizations, supporting ongoing programs that further mitigation goals, and using state or in-kind contributions as matching funds for federal grants. Table 6-4 below describes a selection of the grants and programs administered by West Virginia agencies.

Table 6-4. Funding Streams Administered by the State

Funding Program	Description	Eligible Applicants
Land and Water Conservation Fund	This program provides supplemental funding for acquiring and developing public outdoor recreational areas throughout West Virginia. This grant is a 50/50 reimbursable matching grant. Proposed projects must be consistent with the Statewide Comprehensive Outdoor Recreation Plan.	Funds are provided to local government units, park boards, commissions, and district and state governments.
Abandoned Mine Lands Economic Revitalization (AMLER) Program	The WVDEP Office of Abandoned Mine Lands and Reclamation administers funding for economic development projects on abandoned mine lands through the AMLER program.	Funds are provided to projects on or adjacent to mine sites that ceased operations. Projects must receive approval from the U.S. Department of Interior’s Office of Surface Mining, Reclamation, and Enforcement.
Watershed Project Grants	The Non-point Source (NPS) Program emphasizes management strategies and programs to address nonpoint pollution problems. WV’s NPS administers the §319 grants. Before project grants can be approved, a watershed-based plan (WBP) must be developed through local stakeholder involvement. Projects within a watershed must be designed to implement the plan.	Eligible applicants are state agencies, cities, counties, and local governments and must support the NPS Program in accomplishing its goals and objectives as stated in the Management Plan.
Rehabilitation Environmental Action Plan (REAP) Grants	REAP focuses on cleanup efforts from both program staff and volunteers statewide. In a unique partnership, the program empowers citizens to take ownership of their communities by providing technical, financial, and resource assistance in cleanup efforts. REAP contains various grant opportunities.	Various eligible applicants are available depending on the grant.



Funding Program	Description	Eligible Applicants
	<ul style="list-style-type: none"> • Recycling Assistance Grant Program: the funds are available to any county, municipality, public or private entity in West Virginia interested in planning and implementing recycling programs, related public educational programs, or need assistance in recycling market efforts. • Litter Control Grant Program: The Litter Control Grant is a matching fund that assists municipalities and county government agencies with community cleanup and litter enforcement projects. • Covered Electronic Devices Grant Program: Expenditures from the fund shall be for grants for recycling or other programs that divert hidden electronic devices from the waste stream. • E-Cycling Contractors: Grantees should confirm that the contractors providing recycling services are making a good faith attempt to adhere to one of the two accredited certification standards for electronic recyclers - Responsible Recycling (R2) or Standard for Responsible Recycling and Reuse of Electronic Equipment (e-Stewards). 	
<p>Transportation Alternatives Program</p>	<p>Congress initiated several reimbursable grant programs, including TAP, designed to enhance America's "Livable Communities" through the Intermodal Surface Transportation Efficiency Act (ISTEA) and continued by the Transportation Equity Act for the 21st Century To be eligible, a project must: (1) have a relationship to surface transportation; and (2) must be one of the qualifying activities set by law.</p>	<p>Eligible applicants are local Governments, Regional transportation authorities, education agencies, and transit agencies.</p>
<p>Recreational Trails Fund Program (RTP)</p>	<p>Congress initiated several reimbursable grant programs, including the RTP, designed to enhance America's "Livable Communities" through the ISTEA. West Virginia Transportation Alternatives and Recreational Trails Program (TARTP) grants help towns and cities build and improve sidewalks, lighting, trails, and more. The West Virginia Department of Transportation administers the program and is funded by the Federal Highway Administration.</p>	<p>Nonprofits, local/regional governments, transit agencies, public land agencies, and school districts may be eligible applicants.</p>
<p>Community Participation Grant Program</p>	<p>The Governor's Community Partnership program provides state grant funds for community and economic development projects throughout West Virginia. The program enables communities to expand, build, and improve various public facilities and services in true community partnerships.</p>	<p>Eligible applicants include any public infrastructure improvement in West Virginia.</p>
<p>Rural Health Infrastructure Loan Program</p>	<p>The Center for Rural Health Development, Inc. (Center), a West Virginia not-for-profit corporation, operates the West Virginia Rural Health Infrastructure Loan Fund (Loan Fund) to make affordable and flexible loans available to West Virginia's health care providers. Its objective is to strengthen West Virginia's rural health infrastructure.</p>	<p>Eligible applicants include health institutions that are licensed health care providers operating in West Virginia.</p>



Funding Program	Description	Eligible Applicants
In Lieu Fee (ILF) Program	West Virginia's ILF Program aims to achieve no net loss of existing stream and wetland acreage and functions in West Virginia through effective restoration, enhancement, replacement, and preservation of aquatic resources. The program utilizes watershed and landscape-based planning to identify and assess potential mitigation opportunities that maximize the ecological benefits of marine resources within the same geographic service areas as the impacts.	Eligible applicants include any for-profit, nonprofit and government agency.
Appalachian Regional Commission (ARC) Federal Grant Program	Applicants must meet the federal financial management requirements outlined in 2 C.F.R. §200. Construction projects must comply with federal regulations for environmental review and Davis-Bacon labor standards. ARC funds can match any other funding source, including federal, state, and local. The highest priority for the West Virginia ARC program is infrastructure projects (water, sewer, broadband), particularly projects in ARC-designated distressed counties.	Eligible applicants include local governments, state governments, and nonprofit organizations.
Weatherization Assistance Program	Weatherization has operated for over 40 years and is the nation's most extensive single "whole-house" energy efficiency program. The program's primary purpose, established by law, is "...to increase the energy efficiency of dwellings owned or occupied by low-income persons, reduce their total residential energy expenditures, and improve their health and safety, particularly vulnerable and predominantly low-income persons, such as the elderly, the disabled, and children. The West Virginia Department of Economic Development (WVDED) administers this program.	Eligible applicants include community action agencies.
Land and Water Conservation Fund	LWCF provides matching grants to assist in the planning, acquiring, and developing of state and local parks and is administered by WVCAD.	Eligible applicants include property acquisition and development of outdoor recreation facilities to state agencies, local governments, and park boards.
Chesapeake Bay Implementation Grant and Chesapeake Bay Regulatory/Accountability	Project funds are available to implement projects that reduce the area's nitrogen, phosphorous, and sediment pollution.	Eligible applicants include state governments in the Chesapeake Bay watershed.
Clean Water State Revolving Fund Assistance	The Clean Water State Revolving Fund program is a funding program to address water quality problems through wastewater facility construction, upgrades, or expansions. When a community has been recommended by the West Virginia Infrastructure and Jobs Development Council to seek the Clean Water State Revolving Fund program for financial assistance, that community will be contacted by one of the financial managers.	Eligible applicants include local governments and public service districts.



USE OF FEDERAL FUNDING FOR MITIGATION ACTIVITIES

Four main FEMA grant funding opportunities support the State’s mitigation activities. Two of these are available pre-disaster (Building Resilient Infrastructure and Communities [BRIC] and Flood Mitigation Assistance [FMA]), and two are available post-disaster (Hazard Mitigation Grant Program [HMGP] and Section 406 funds). The State has historically utilized HMGP and the former Pre-Disaster Mitigation (PDM) grant to the most significant degree of FEMA’s mitigation programs. HMGP funds are typically used for project implementation, while BRIC is and PDM was typically used to support mitigation planning activities at the state and county level.

It is important to note that HMGP funding is determined as a percentage of the funds spent on public and individual assistance for a presidentially declared disaster.

Table 6-5. Evaluation of Funding Resources for Mitigation Efforts

Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Building Resilient Infrastructure and Communities	FEMA	◆	
	<p>Description: BRIC was developed by FEMA after the Disaster Recovery Reform Act of 2018 was signed into law to address public infrastructure in relation to pre-disaster hazard mitigation and was designed to initially replace FEMA’s Pre-Disaster Mitigation Grant Program.</p> <p>Funding is aimed towards capability and capacity building, encouraging innovation, promoting partnership, enabling larger projects, maintain flexibility and providing consistency. The goal of the grant is to reduce overall risk from upcoming hazard events and to promote future self-reliance at state and local levels. The grant is open to any state, local and tribal governments to apply.</p>		
Flood Mitigation Assistance Grant (FMA)	FEMA	◆	
	<p>Description: To implement cost-effective measures that reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insured under the National Flood Insurance Program (NFIP).</p>		
Hazard Mitigation Grant Program (HMGP)	FEMA		◆
	<p>Description: To provide funds to states, territories, Indian tribal governments, and communities to significantly reduce or permanently eliminate future risks to lives and property from natural hazards. HMGP funds projects by priorities identified in the state or local hazard mitigation plans and enables mitigation measures to be implemented during the recovery from a disaster. West Virginia has traditionally funded the 25 percent match required for pre- and post-disaster FEMA mitigation grant projects. Typically, in other states, the local community must contribute between five and ten percent of the state’s share. However, this is difficult for most of West Virginia’s impoverished communities. By picking up the local share of the match, the State has demonstrated its commitment to its citizens.</p>		
Pre-Disaster Mitigation Grant (PDM)	FEMA	◆	
	<p>Description: To provide funds to states, territories, tribal governments, and communities for hazard mitigation planning and implementing mitigation projects before a disaster event. Funding these plans and projects reduces overall risks to the population and structures while reducing reliance on funding from disaster declarations.</p> <ul style="list-style-type: none"> City of Huntington grant for Fourpole Creek Pump Station Design and Engineering project valued at \$2,925,000 		



Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
	<ul style="list-style-type: none"> West Virginia Division of Emergency Management grant for West Virginia Water Treatment Plan Auxiliary Power Project valued at \$708,000 		
Assistance to Firefighters Grant Program	FEMA	◆	
	<i>Description: Grants to local fire departments to protect citizens and firefighters against the effects of fire and fire-related incidents</i>		
Cooperating Technical Partners (CTP) Program	FEMA	◆	
	<i>Description: With over 20,000 communities in the NFIP, there is a significant challenge keeping flood hazard maps current. The CTP Program is an innovative approach to creating partnerships between FEMA and participating NFIP communities, regional agencies, state agencies, tribes and universities that have the interest and capability to become more active participants in the FEMA flood hazard mapping program. Each fiscal year, the Federal Emergency Management Agency (FEMA) issues a Notice of Funding Opportunity (NOFO) document to announce the availability of the CTP cooperative agreement funding opportunity. The NOFO describes the available funding, priorities, requirements and process for eligible applicants to request funding for program activities.</i>		
Earthquake Hazards Reduction State Assistance Program	FEMA, National Earthquake Hazards Reduction Program (NEHRP)	◆	
	<i>Description: The Earthquake Hazards Reduction State Assistance Program is one part of FEMA's activities under the NEHRP Reauthorization Act of 2004, which directs the agency to support State efforts to mitigate seismic risks and thereby reduce future losses from earthquakes. FEMA provides program funds annually to states and U.S. territories that face serious earthquake hazards and that develop ways to effectively reduce risks posed by these hazards.</i>		
Fire Management Assistance Grant Program	FEMA		◆
	<i>Description: Grants for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, which threaten such destruction as would constitute a major disaster.</i>		
Fire Prevention and Safety Grant Program	FEMA	◆	
	<i>Description: Grants for projects that enhance the safety of the public and firefighters from fire and related hazards. The primary goal is to target high-risk populations and mitigate high incidences of death and injury.</i>		
High Hazard Potential Dam Grants	FEMA	◆	
	<i>Description: Funding is for states or territories with a dam classified as a high hazard dam. These grants provide technical, planning and construction assistance for rehabilitation of eligible dams. The last year West Virginia received HHPD funding was in 2019 for \$277,019, through their Department of Environmental Protection.</i>		
Homeland Security Grant Program	FEMA	◆	
	<i>Description: Grants to enhance the ability of states, territories, and urban areas to prepare for, prevent, and respond to terrorist attacks and other major disasters. Includes State Homeland Security Program, Urban Areas Security Initiative, Law Enforcement Terrorism Prevention Program, Metropolitan Medical Response System, and Citizen Corps Program grant programs.</i>		
Infrastructure Protection Program	FEMA	◆	
	<i>Description: Grants to strengthen the nation's ability to protect critical infrastructure facilities and systems. Includes Transit Security Grant Program, Port Security Grant Program, Intercity Bus Security Grant Program, Trucking Security Program, and Buffer Zone Protection Program grant programs.</i>		
National Dam Safety	FEMA	◆	



Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Program	<i>Description: National Dam Safety Program (NDSP). The NDSP, which is led by FEMA, is a partnership of the states, federal agencies, and other stakeholders to encourage individual and community responsibility for dam safety. Grant assistance to the states: Provides vital support for the improvement of the state dam safety programs that regulate most of the dams in the United States.</i>		
Public Assistance Grants	FEMA		◆
	<i>Description: Grants for the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain private nonprofit organizations. Mitigation funding is available for work related to damaged components of eligible buildings/structures.</i>		
Transportation Trust Fund	Federal Highway Administration	◆	
	<i>Description: Transportation Trust Fund funds grants through a competitive application-based process administered by the Local Aid District Offices. County Aid Program- Administer the County Aid Program for road and bridge infrastructure improvements under county jurisdiction. Each county receives an annual formula based allotment that takes into consideration county road lane mileage and population. The County Aid Program is funded through the Transportation Trust Fund and provides funding for eligible costs of projects included in the county’s approved Annual Transportation Program.</i>		
Land and Water Conservation Fund	Land and Water Conservation Fund	◆	
	<i>Description: Funding to states for outdoor recreational development, renovation, land acquisition, and planning. Funding: The fund is authorized at \$900 million annually, a level that has been met only twice during the program’s 40-year history. The program is divided into two distinct funding pots: state grants and federal acquisition funds.</i>		
Nonstructural Alternatives to Structural Rehabilitation of Damaged Flood Control Works	U.S. Army Corps of Engineers		◆
	<i>Description: Direct planning and construction grants for nonstructural alternatives to the structural rehabilitation of flood control works damaged in floods or coastal storms.</i>		
Small Civil Works Projects; Continuing Authorities Program (CAP)	U.S. Army Corps of Engineers	◆	
	<i>Description: The Secretary of the Army has been delegated the authority to plan, design, and construct certain types of water resource and environmental restoration projects without specific Congressional authorization. Each authority has its own requirements and strict limits on responsibilities and financial contributions of the federal partners: (Section 14—Emergency Streambank and Shoreline Erosion; (2) Section 103—Hurricane and Storm Damage Reduction; (3) Section 107—Small Navigation Improvements; (4) Section 111—Shore Damage Attributable to Federal Navigation Projects; (5) Section 204—Regional Sediment Management & Beneficial Uses of Dredges Materials; (6) Section 205—Small Flood Damage Reduction Projects; (7) Section 206—Aquatic Ecosystem Restoration; (8) Section 208—Snagging and Clearing for Flood Control; (9) Section 1135—Project Modification for Improvement of the Environment (USACE no date). Submittal deadlines are typically in May-June. Cost shares are typically 50% for feasibility and 65% for construction. Most projects are less than \$15,000,000.</i>		
Assistance—Community Facility Direct Loans/Grants	U.S. Department of Agriculture	◆	
	<i>Description: Grants, direct and guaranteed loans, and technical assistance to construct, enlarge, or improve community facilities for healthcare, public safety, and public services in primarily low-income rural areas.</i>		
Farm Ownership Loans	U.S. Department of Agriculture	◆	



Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
	<i>Description: Direct loans, guaranteed/insured loans, and technical assistance to farmers to develop, construct, improve, or repair farm homes, farms, and service buildings and to make other necessary improvements.</i>		
Guaranteed Single-Family Housing Loans (Section 502 Rural Housing Loans)	U.S. Department of Agriculture	◆	
	<i>Description: Also known as the Section 502 Direct Loan Program, this program assists low- and very-low-income applicants obtain decent, safe and sanitary housing in eligible rural areas by providing payment assistance to increase an applicant's repayment ability.</i>		
Rural Development Assistance—Housing	U.S. Department of Agriculture		◆
	<i>Description: Grants, loans, and technical assistance for addressing rehabilitation and health and safety needs in primarily low-income rural areas. Declaration of major disaster necessary.</i>		
Rural Development Assistance—Utilities	U.S. Department of Agriculture	◆	
	<i>Description: Direct and guaranteed rural economic loans and business enterprise grants to address utility issues and development needs.</i>		
Single-Family Housing Repair Loans and Grants (Section 504 Rural Housing Loans and Grants)	U.S. Department of Agriculture	◆	◆
	<i>Description: Repair loans, grants, and technical assistance for very low-income homeowners living in rural areas to repair their homes and remove health and safety hazards.</i>		
Post-Disaster Economic Recovery Grants and Assistance	U.S. Economic Development Administration		◆
	<i>Description: Grant funding to assist with the long-term economic recovery of communities, industries, and firms adversely impacted by disasters.</i>		
Emergency Management Performance Grand Program (EMPG)	U.S. Department of Homeland Security	◆	
	<i>Description: Grants are available to state, local, territorial, and tribal governments in preparing for all hazards. The Federal Government, through the EMPG Program, provides necessary direction, coordination and guidance, and provides necessary assistance, as authorized so that a comprehensive emergency preparedness system exists at all levels for all hazards.</i>		
Homeland Security Grant Program (HSGP)	U.S. Department of Homeland Security	◆	
	<i>Description: The Homeland Security Grant Program (HSGP) plays an important role in the implementation of the National Preparedness System by supporting the building, sustainment, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation. HSGP is composed of three interconnected grant programs including the State Homeland Security Program (SHSP), Urban Areas Security Initiative (UASI), and the Operation Stonegarden (OPSG). Together, these grant programs fund a range of preparedness activities, including planning, organization, equipment purchase, training, exercises, and management and administration. The State is only eligible for the SHSP components of the HSGP funding.</i>		
Community Development Block Grants Program (Non-entitled Communities) (WV Community Advancement and Development 2022)	U.S. HUD	◆	
	<i>Description: In the State, all counties and non-entitlement cities qualify for this program. The goals of the CDBG Program are to provide decent affordable housing, create suitable living environments, and create economic opportunities. Within the state, activities and projects funded by the program focus on the following objectives:</i>		
	<ul style="list-style-type: none"> • Increase multifamily rental housing for extremely low to moderate-income persons. • Support housing stability efforts by providers in the Continuum of Cares to ensure special needs persons can access services and housing. • Support the development of viable infrastructure systems (such as water, sewer, and storm water) and the development of improved sidewalks and streets to enhance living conditions and bolster economic development. 		



Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
	<ul style="list-style-type: none"> Improve quality of life by enhancing public facilities and eliminating factors that affect environmental quality or public health. Improve quality of life by enhancing public facilities and eliminating factors that affect environmental quality or public health through activities such as mitigating blighted and abandoned properties, supporting the remediation of brownfield sites, and enhancing parks and recreational facilities. Develop local strategies through community planning to support improved living environments and strengthen economic and community development. Promote fair housing to educate low to moderate-income citizens about their rights to available and accessible housing. 		
Community Development Block Grants/ Entitlement Grants	U.S. HUD <i>Description: The Cities of Beckley, Charleston, Huntington, Martinsburg, Morgantown, Parkersburg, Vienna, Weirton, and Wheeling qualify for this program. Grants to entitled cities to develop viable communities (e.g., decent housing, suitable living environments, expanded economic opportunities), principally for low- and moderate-income persons. Activities as the same as for the non-entitled counties.</i>	◆	
Community Development Block Grant Disaster Recovery Program	U.S. HUD <i>Description: HUD provides flexible grants to help cities, counties, and states recover from presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. In response to presidentially declared disasters, Congress may appropriate additional funding for the Community Development Block Grant (CDBG) Program as Disaster Recovery grants to rebuild the affected areas and provide crucial seed money to start the recovery process.</i>		◆
Community Development Block Grant—Section 108 Loan Guarantees	U.S. HUD <i>Description: Loan guarantees to public entities for economic development, housing rehabilitation, public facilities, and large-scale physical development projects (including mitigation measures).</i>	◆	
HOME Investment Partnerships Program	U.S. HUD <i>Description: Grants to states, local government, and consortia for permanent and transitional housing (including support for property acquisition, improvements, demolition, and relocation) for very low- and low-income persons.</i>	◆	
Public Housing Capital Fund Emergency/Natural Disaster Funding	U.S. HUD <i>Description: Funding to public housing agencies that confront an emergency situation or a natural disaster.</i>		◆
SBA Loan Programs	U.S. Small Business Administration <i>Description: Small Business Administration (SBA) provides low-interest disaster loans to homeowners, renters, businesses of all sizes, and most private nonprofit organizations. SBA disaster loans can be used to repair or replace the items damaged or destroyed in a declared disaster: real estate, personal property, economic injury, machinery and equipment, and inventory and business assets. Funding: Homeowners may apply for up to \$200,000 to replace or repair their primary residence. Renters and homeowners may borrow up to \$40,000 to replace or repair personal property—such as clothing, furniture, cars, and appliances – damaged or destroyed in a disaster. Physical disaster loans of up to \$2 million are available to qualified businesses or most private nonprofit organizations.</i>		◆
Hazardous Materials Emergency Preparedness Program	U.S. Department of Transportation <i>Description: Project grants and technical assistance to enhance hazardous materials emergency planning and training</i>	◆	



Funding Program	Funding Agency	Pre-Disaster	Post-Disaster
Reimbursement for Firefighting on Federal Property	U.S. Fish and Wildlife Service		◆
	<i>Description: Provides reimbursement only for direct costs and losses over and above normal operating costs.</i>		
Cooperative Forestry State Fire Assistance	U.S. Forest Service	◆	
	<i>Description: The Cooperative Forestry program manages a number of programs including The Forest Stewardship Program, The Forest Legacy Program, The Community Forest Program, The Urban and Community Forestry Program, Ecosystem Services and Markets, and Wood Innovations</i>		
The Forest Legacy Program	U.S. Forest Service	◆	
	<i>Description: Federal program in partnership with states supports efforts to protect environmentally sensitive forest lands. Designed to encourage the protection of privately owned forest lands, Forest Legacy is an entirely voluntary program. To maximize the public benefits it achieves, the program focuses on the acquisition of partial interests in privately owned forest lands. Forest Legacy helps states develop and carry out their forest conservation plans. It encourages and supports acquisition of conservation easements, legally binding agreements transferring a negotiated set of property rights from one party to another, without removing the property from private ownership. Most Forest Legacy Program conservation easements restrict development, require sustainable forestry practices, and protect other values. Funding: To qualify, landowners are required to prepare a multiple resource management plan as part of the conservation easement acquisition. The federal government may fund up to 75% of project costs, with at least 25% coming from private, state, or local sources. In addition to gains associated with the sale or donation of property rights, many landowners also benefit from reduced taxes associated with limits placed on land use.</i>		

FEMA STORM Act

The Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM) Act was signed into law on January 1, 2021 and gave FEMA the authority to provide capitalization grants to states, tribes, Puerto Rico, and the District of Columbia to establish loan funding that includes hazard mitigation assistance to local governments to help reduce risks from natural hazards. This Act is unique because FEMA allows entities to make the funding decisions and award loans directly and allows entities to use loans as a cost match for another HMA grant. In addition, FEMA does not require a benefit-cost analysis to be submitted, nor do they limit project types beyond the limitations in the statute (FEMA 2022).

Small Business Administration (SBA)

The SBA was created in 1953 and was designed to aid and assist the interests of small business concerns to strengthen the overall economy by promoting resilient businesses. SBA consists of the State Trade Expansion Program (STEP), which provides financial awards to states and territories to assist with export development and supports globalization. SBA services include funding programs, loans, surety bonds, counseling, federal contracting certifications, and disaster recovery. West Virginia has two district offices to more efficiently assist residents of West Virginia, one located in Clarksburg and one located in Charleston (SBA n.d.).



Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act is a piece of legislation introduced in 2021 designed to create millions of good-paying jobs by adding around 2 million jobs per year to achieve full employment. This act also is designed to protect critical labor standards on construction projects, grow wages in the clean energy industry, replace water pipes, ensure that more materials are made in America, support auto workers, invest in shifting energy markets, and authorize funds to highways and other transportation infrastructure (The White House n.d.).

Projects Submitted for FEMA Funding

During the performance period of the 2018 SHMP, West Virginia's total project costs on hazard mitigation projects were \$8,506,268, as shown in Table 6-6.

Table 6-6. FEMA Hazard Mitigation Assistance Projects Submitted for Funding During Performance Period

Grant	DR# or Fiscal Year	Project Type	Subrecipient	Project County	Status
LPDM	LPDM-PJ-03-WV-2022-002	601.2: Generators	WVEMD	McDowell; Morgan	Obliga
BRIC	PDMC-PL-03-WV-2019-002	700.1: Management Costs – Salaries;	Eastern Panhandle Planning and Development Council	Berkeley; Morgan	Obliga
HMGP	4359	91.5: Local Multijurisdictional Multihazard Mitigation Plan – UPDATE	Nicholas (County)	Nicholas	Appro
HMGP	4517	601.2: Generators	Statewide	Kanawha	Appro
BRIC	PDMC-PL-03-WV-2019-001	602.1: Other Equipment Purchase and Installation	Belomar regional council	Marshall; Ohio; Wetzel	Obliga
HMGP	4359	904.1: Advanced Assistance	St. Albans	Kanawha	Appro
HMGP	4359	91.5: Local Multijurisdictional Multihazard Mitigation Plan – UPDATE	Kanawha (County)	Kanawha	Appro
HMGP	4359	601.2: Generators	Kanawha (County)	Kanawha	Appro
HMGP	4455	200.1: Acquisition of Private Real Property (Structures and Land) – Riverine	Nitro	Kanawha	Appro
HMGP	4603	200.1: Acquisition of Private Real Property (Structures and Land) – Riverine	St. Albans	Kanawha	Appro
HMGP	4517	200.6: Acquisition of Private Real Property (Structures and Land) – Landslide	Statewide	Brooke; Hancock	Appro
HMGP	4603	601.1: Generators	Statewide	Statewide	Appro
HMGP	4455	91.3: Local Multihazard Mitigation Plan – UPDATE	Statewide	Statewide	Appro
HMGP	4517	700.1: Management Costs – Salaries	Statewide	Statewide	Appro
HMGP	4359	700.4: Management Costs – Supplies	Statewide	Statewide	Appro
HMGP	4378	700.1: Management Costs – Salaries	Statewide	Statewide	Appro
HMGP	4359	700.2: Management Costs – Equipment;	Winfield	Putnam	Closed
HMGP	4359	700.4: Management Costs – Supplies	Buffalo	Putnam	Closed
BRIC	PDMC-PL-03-WV-2019-003	700.1: Management Costs – Salaries	B-C-K-P Regional Intergovernmental Council	Boone; Clay; Kanawha; Putnam	Obliga
HMGP	4359	700.2: Management Costs – Equipment	Putnam (County)	Putnam	Appro
HMGP	4517	700.3: Management Costs – Office Space Rental	Statewide	Grant; Hampshire; Hardy; Mineral; Pendleton	Appro

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Grant	DR# or Fiscal Year	Project Type	Subrecipient	Project County	Status
HMGP	4517	700.4: Management Costs – Supplies	Statewide	Barbour; Braxton; Gilmer; Lewis; Randolph; Tucker; Upshur	Appro
HMGP	4359	700.1: Management Costs – Salaries	Rainelle	Greenbrier	Appro
HMGP	4455	700.2: Management Costs – Equipment	Greenbrier (County)	Greenbrier	Appro
HMGP	4359	700.4: Management Costs – Supplies	Statewide	McDowell; Mercer; Monroe; Raleigh; Summers; Wyoming	Appro
HMGP	4455	700.1: Management Costs – Salaries;	Mullens	Wyoming	Appro
HMGP	4359	700.2: Management Costs – Equipment	Ohio (County)	Ohio	Appro
HMGP	4359	700.4: Management Costs – Supplies	Statewide	Fayette; Greenbrier; Nicholas; Pocahontas; Webster	Appro
LPDM	LPDM-PL-03-WV-2022-001	601.2: Generators – Regular	City of Huntington WV	Cabell	Obliga
HMGP	4517	601.2: Generators – Regular	Statewide	Jefferson	Appro
HMGP	4359	700.4: Management Costs – Supplies	Preston (County)	Preston	Appro
HMGP	4378	91.5: Local Multijurisdictional Multihazard Mitigation Plan – UPDATE	Matewan	Mingo	Appro



OTHER STATE FUNDING FOR MITIGATION ACTIVITIES

Stream Partners Program

Stream Partners Program is supported by the WV Conservation Agency, WVDEP, WV Division of Natural Resources, and WVDOF. They grant up to \$5,000 to organizations wishing to follow the program’s purpose (WVDEP 2023). The program encourages citizens to work with state agencies to determine river/stream safety for recreational activities, if they can support commercial or public purposes, and if they are habitable for plants and animals (WVDEP 2023).

Green Streets, Green Jobs, Green Towns (G3) Grant Program

The G3 Grant Program is a collaborative grant program designed to address the Chesapeake Bay Protection and Restoration Executive Order on Green Streets, Jobs, and Towns. This grant program is funded by the United States Environmental Protection Agency Region III, WVDEP, and the Chesapeake Bay Trust to support the design and implementation of green streets, community greening, and urban tree canopy projects, in addition to white papers that address these topics. The program aims to support green infrastructure by creating local and county-level capacities to implement cost-effective projects. All communities located throughout the Chesapeake Bay watershed in West Virginia are eligible to apply (U.S. EPA 2022).

CRITERIA FOR PRIORITIZING PLANNING AND PROJECT GRANTS

The State can use the following criteria to rank planning and project proposals for FEMA mitigation grant funding programs. Past practices of the State have been to give the highest priority for funding for HMGP opportunities to the county where the event occurred and to give additional weight to those projects that propose a higher cost-share contribution. All counties are considered equal priorities for other mitigation grant programs, and projects are evaluated based on these criteria:

- **Environmental/Historic Preservation** — Must be environmentally sound and conform to Floodplain Management, Historical Preservation, and Protection of Wetlands and Endangered Species laws and regulations.
- **Resolve Significant Problems** — Addresses a problem that has been repetitive or a problem that poses a significant risk to public health and safety if left unresolved.
- **Long-Range** — The solution should be long-range.
- **Cost-Effective** — Cost-effective and substantially reduce the risk of future damage, loss, hardship, or suffering from a major disaster.
- **Priority in State Plan** — Types of projects which have been determined high priority for the State.
 - Hardening or retrofitting essential facilities such as fire stations, EOCs, communications facilities, schools, shelters, hospitals, etc.
 - Public awareness/education
 - Flood control and floodplain management to include the reduction of repetitive and severe repetitive loss properties
 - Development and/or improvement of warning systems



6.2.5 Summary of Changes in State Capabilities and Progress on Integration

West Virginia experiences challenges in enforcing and implementing capabilities. Not all communities have adopted the State Building Code. In addition, many communities do not have any zoning code, and enforcement is variable among communities that do. Lack of enforcement can lead to buildings in hazard areas that cannot withstand the impacts of those hazards.

The State has strengthened and enhanced its capabilities (as described below) over the performance period of the 2018 SHMP and has continued to progress on integration.

SUMMARY OF CHANGES IN STATE CAPABILITIES

The following descriptions are a sample of notable changes that have influenced or impacted the State's capabilities over the performance period of the 2018 SHMP:

- **Funding**
 - Completing projects at the state and local levels can be challenging due to issues with staffing and funding needed to apply for, monitor, and complete projects, and to conduct the required long-term maintenance.
- **Public Education and Information**
 - Agencies in the local sector lack information and education on how to create websites and how to maintain them to be of use to jurisdictions/counties and the public. Local jurisdictions also have expressed a need for more education opportunities so staff can provide a consistent message.
- **Staffing and Technical Resources**
 - Staffing is a significant contributor to challenges relating to the State's capabilities. Lack of staffing makes enforcing the building code and zoning regulations extremely difficult. In addition, lack of staffing puts more work onto the limited staff working on local and state levels. There has been a lack of enforcement of education requirements among staff. Some positions require a certain number of hours of continuing education and instruction to stay in good standing with the State. However, until recently, there has been no enforcement that these hours are being met.
 - There is a need for social media training because some communities and jurisdictions want to create a website with useful information.

PROGRESS ON INTEGRATION INTO STATE PROGRAMS

The success of the SHMP and the strategies presented rely on the continued support and effort of a wide range of stakeholders. Stakeholders were invited to participate in the mitigation planning process. Few of the 2018 SHMP mitigation actions were implemented over the performance period and are currently being carried over into the 2023 SHMP.

The State has used the 2023 SHMP Update as an opportunity to promote integration further:

- **Resource for County Local Hazard Mitigation Plans (LHMP)** — The WVEMD envisions the 2023 SHMP will serve as a reference for LHMPs to integrate risk assessment results to reduce work and focus on strengthening other areas of plans.



- **Goal Development** — Goals identified in LHMPs were used to inform the development of goals for the 2023 SHMP. Regional and county leaders worked with the State in goal development and plan development.
- **THIRA** — The THIRA is a three-step risk assessment process that helps communities understand their risks and what they need to do to address those risks by answering the following questions:
 - What threats and hazards can affect our community?
 - If they occurred, what impacts would those threats and hazards have on our community?
 - Based on those impacts, what capabilities should our community have?
- **State Preparedness Report** — The WVEMD will more fully integrate the updated mitigation goals into the 2023 State Preparedness Report.
- **West Virginia Mitigation Program Consultation** — The results of the mitigation program consultation conducted with FEMA Region 3 mitigation staff and WVEMD were used to identify challenges and opportunities to mitigation within the state and will be used in the future to help monitor progress on addressing challenges and identifying emerging issues.

Implementation of the 2018 SHMP mitigation strategies may be hampered for several reasons. Labor resources and funds are always in short supply and create temporary barriers to success. Lead agencies could experience a shift in priorities, fiscal constraints, or personnel changes due to unforeseen circumstances or leadership changes.

Several challenges to the State’s capability arose during the implementation period of the 2018 SHMP. These challenges were related to shifting agency staffing, proposed projects, and scarcity of resources, especially concerning the COVID-19 pandemic. Mitigation projects cannot be implemented without sufficient human and financial resources. Through its advisory committees, WVEMD and involved stakeholders attempted to ensure adequate resources to support the State’s mitigation initiatives. However, many activities were put on hold or delayed during an economic downturn when state and local financial resources were tight. Financial help can come from federal, state, or private entities.

6.2.6 Potential Improvements

Due to the lack of attendance for yearly required floodplain trainings, West Virginia would benefit from improved documentation and enforcement of required floodplain training. West Virginia would also benefit by regulating to higher floodplain standards to limit the effects of intense storms/flooding. There is also a desire for more integrated planning among local, county, regions, and state entities so that staff can be shared, and potential funding opportunities and grants can also be shared. The State wishes to focus on educating dam owners on risk potential; however, the DEP does not currently have the staffing and capacity to do so. There is also a desire to have real estate agents disclose to potential property buyers that a particular property is located in an inundation area.



SECTION 7 LOCAL CAPABILITY ASSESSMENT

2023 SHMP UPDATE CHANGES

- ❖ The Local Capability Assessment section was added to the State Hazard Mitigation Plan (SHMP).
- ❖ The section includes an assessment of planning and legal, administrative and technical, financial, and education and outreach capabilities for local jurisdictions.

7.1 Local Capabilities

Hazard mitigation efforts begin at the local level, and the State of West Virginia (the State) is responsible for supporting local governments with their mitigation planning activities. This ensures that local communities are aware of hazard data, planning resources, and the State's priorities for mitigation. In addition, local mitigation capabilities increase the State's awareness of local priorities and data. A mutual understanding between states and local governments better aligns mitigation strategies and directs available resources toward effective mitigation planning at both the State and local levels.

Capability assessments generally include but are not limited to the following categories: Planning and Regulatory (federal/State/local statutes; land use, building codes, etc.); Administrative and Technical (organization, roles and responsibilities, technical resources); Financial (internal and external funding sources); and Education and Outreach (training). For those communities that participate in the National Flood Insurance Program (NFIP), an assessment of the jurisdiction's capacity and capability to implement the program's requirements is also required.

The *West Virginia Regional Planning and Development Act of 1971* divided the State into 11 Regional Planning and Development Councils (RPDCs), with Jefferson County remaining as a stand-alone region, to maximize the use of funding and support small communities (WVARC 2023). The RPDCs provide a variety of services to local communities, including developing each region's local hazard mitigation plan (LHMP). The responsibility for enforcement activities and implementation of the LHMP lies with the individual jurisdictions within the region; however, the RPDCs provide support for expansion and improvement of water and sewer facilities, infrastructure, transportation, employment, industry, small business development, housing, health care, education, and recreation (WVARC 2023).

The ability to effectively meet the goals of the SHMP and LHMPs is dependent upon the capabilities at the State and local levels. The following sections summarize capabilities and resources existing at the local level that aid in implementing mitigation actions and achieving the goals stated in the SHMP.



7.2 Summary of Effectiveness of Local Mitigation Capabilities

44 C.F.R. §201.4(c)(3)(ii): The State plan must include a general description and analysis of the effectiveness of local government mitigation policies, programs, and capabilities including a summary of current local government policies, programs, and capabilities. The plan must describe the effectiveness of local government migration policies, programs, and capabilities including challenges to implementing these mitigation policies, programs, and capabilities.

All counties and a majority of the eligible local governments within the State have identified, leveraged, and developed capabilities that are effective in mitigating risk from hazards and support the development of LHMPs. These capabilities are discussed in LHMPs and serve as the basis for the implementation of mitigation actions.

Disasters are inherently local events; therefore, the assessment of the State's capabilities would not be complete without an examination of local capabilities. This review and examination was used to inform and influence the State's mitigation priorities, as discussed in Section 6 (Mitigation Strategy). The review was conducted by examining the LHMPs. This review focused on the following aspects of LHMPs:

- **Foundational Capabilities** — Such as planning and legal, financial, and education and outreach capabilities that are relevant to implementing hazard mitigation actions in West Virginia.
- **Floodplain Management Capabilities** — Such as staff capacity, enforcement, adoption of higher standards, general information on effectiveness and process, and efforts to address repetitive loss and severe repetitive loss properties.
- **Land Use Planning** — Integration of hazard mitigation into local comprehensive land use plans.
- **Evaluation and Effectiveness** — Identification of challenges and opportunities, unique sources of funding, mitigation successes, and determinations on effectiveness of mitigation actions.

Like SHMPs, the Federal Emergency Management Agency (FEMA) requires LHMPs to be updated every 5 years. The 2023 SHMP includes discussion on emerging capabilities that have arisen in the regions and local jurisdictions during their performance period that are not reflected in those plans.

7.2.1 Local Foundational Capabilities for Hazard Mitigation

County policies, programs, funding, and other capabilities are used to support and accomplish hazard mitigation goals and objectives. The LHMPs identify and evaluate regional capabilities for implementing hazard mitigation. In order to summarize these capabilities for the 2023 SHMP, a list of foundational capabilities for accomplishing hazard mitigation was developed based on FEMA local mitigation planning guidance, subject matter expertise, and suggestions from the State Planning Team. This list was not intended to be inclusive of every capability discussed in the LHMPs or every capability that may be used to support hazard mitigation at the local level.



PLANNING AND LEGAL CAPABILITIES

Comprehensive Plans

Comprehensive plans are plans that establish objectives and guide the future growth and physical development of a local jurisdiction. The comprehensive plan is a blueprint for housing, transportation, community facilities, utilities, and land use. It examines how the past led to the present and charts the community's future path.

Chapter 8A of the West Virginia Code establishes the scope and requirements of comprehensive plans. A comprehensive plan is required if a governing body wants to enact a zoning ordinance, enact a subdivision and land development ordinance, require plans and plats for land development, or issue improvement location permits for construction.

With regard to hazard mitigation planning, Section 8A-3-4 of the West Virginia Code requires comprehensive plans to include a plan for future land use, which, among other provisions, suggests that the comprehensive plan consider flood-prone and subsidence areas during development. The code also requires comprehensive plans to include a plan for community facilities and services and recommends considering storm drainage and floodplain management.

Zoning Ordinances

Zoning ordinances allow for local communities to regulate the use of land in order to protect the interests and safety of the general public. Zoning ordinances can be designed to address unique conditions or concerns within a given community. They may be used to create buffers between structures and high-risk areas, limit the type or density of development, and/or require land development to consider specific hazard vulnerabilities. Zoning ordinances include both a map that delineates zoning districts and text documenting the regulations that apply in each zoning district.

Section 8A-7-1 of the West Virginia Code permits the governing body of a municipality or a county to regulate land within its jurisdiction through a zoning ordinance; the zoning ordinance may include identifying flood-prone areas and establishing regulatory controls regarding the permitted uses, type of construction, and height of the flood levels in these areas. The State does not require each local jurisdiction to adopt a zoning ordinance.

Building Codes

Building codes are important in mitigation because codes are developed for regions of the country in consideration of the hazards present within that region. Structures that are built to applicable codes are inherently resistant to many hazards, such as strong winds, floods, and earthquakes, and can help mitigate regional hazards like wildfires. In 1990, West Virginia adopted the West Virginia State Building Code. The code protects public health and promotes the safety, protection, and sanitation of new and existing buildings and structures. It also protects financial investments and property values. If construction does not comply with the current recommended code, the structure may be at greater risk for damage and loss.

The code is not required to be adopted by local jurisdictions. However, if a jurisdiction decides to adopt the code, it must be adopted in one of the following methods: (1) adopt the code in its entirety, (2) adopt



only the International Property Maintenance Code (IPMC), or (3) adopt all parts of the code except the IPMC (WVU College of Law 2023).

Floodplain Management Ordinance

Through administration of floodplain ordinances, municipalities can ensure that all new construction or substantial improvements to existing structures located in the floodplain are flood-proofed, dry-proofed, or built above anticipated flood elevations. Floodplain ordinances may also prohibit development in certain areas altogether. The NFIP establishes minimum ordinance requirements which must be met in order for that community to participate in the program. However, a community is permitted and encouraged to adopt standards that exceed NFIP requirements.

Section 7-1-3 of the West Virginia Code authorizes local jurisdictions to adopt and enforce floodplain regulations. Within West Virginia, 55 counties and 214 of the 231 incorporated communities have voluntarily adopted and are enforcing local floodplain management ordinances (WVEMD 2023).

Subdivision and Land Development

West Virginia Code Section 8A-4 outlines guidance for creation and enactment of subdivision and land development ordinances (SALDOs). Relating to hazard mitigation, the code states SALDOs must include standards for flood-prone and subsidence areas and standards for setback requirements, lot sizes, streets, sidewalks, walkways, parking, easements, rights-of-way, drainage, utilities, infrastructure, curbs, gutters, streetlights, fire hydrants, stormwater management, and water and wastewater facilities. SALDOs are intended to regulate the development of housing, commercial, industrial, or other uses, including associated public infrastructure, as land is subdivided into buildable lots for sale or future development. Within these ordinances, guidelines on how land will be divided, the placement and size of roads, and the location of infrastructure can reduce exposure of development and infrastructure to hazard events.

Emergency Management

An Emergency Operations Plan (EOP) is a document upon which the disaster operations of a county are formulated. It is concerned with all types of emergency situations and how they may develop, be prevented, and resolved. Consequently, these plans also account for activities before, during, and after emergency operations.

Stormwater Management

The proper management of stormwater runoff can improve conditions and decrease the chance of flooding. Proper stormwater management planning results in sound engineering standards and criteria being incorporated into local codes and ordinances to manage stormwater runoff from new development in a coordinated, watershed-wide approach. Without such planning, stormwater is either not controlled by municipal or county ordinances or is addressed on a site-to-site or municipal boundary basis. Municipalities within the same watershed may require different levels of control of stormwater. The result is often the total disregard of downstream impacts or the compounding of existing flooding problems. Stormwater management plans are adopted in order to mitigate potential negative impacts from future land uses, improve the condition of impaired waterways, and address flooding associated with stormwater runoff.



Other Plans

Numerous other plans and resources are also in place at the municipal and county level for topics such as economic development, snow removal, stream restoration, and green infrastructure. These types of plans can be implemented, amended, or repurposed to target hazard mitigation as well. For example, Section 7-1-3U of the WV Code authorizes counties and municipalities to rechannel and dredge streams and remove accumulated debris, snags, sandbars, rocks, and other kinds of obstructions to protect people and property from floods. Examples of further plan integration with the SHMP are provided in Table 7-1.

Table 7-1 Opportunities for Plan Integration with SHMP

Plan	Integration with SHMP
<p>Comprehensive Plans: <i>Community-wide plans that outline strategies for community development, to include housing, recreation, etc. Typically coordinated by a planning commission.</i></p>	<ul style="list-style-type: none"> • Hazard mapping comparison with maps of targeted development areas • Hazard profiles inform risks at development areas • Plan development outside high-risk hazard areas and redirect to low-risk hazard areas • Support mitigation strategies for assets and events
<p>Emergency Operations Plans: <i>Jurisdictional operating manual to guide emergency response activities to identified risks and threats.</i></p>	<ul style="list-style-type: none"> • Identify and plan for operations in hazard areas • Hazard mapping informs high-risk areas
<p>Transportation Planning: <i>Planning effort that describes transportation infrastructure needs, to include new construction and upgrades.</i></p>	<ul style="list-style-type: none"> • Identification of high-risk hazard areas that affect transportation • Encourage sustainable and resilient construction
<p>Floodplain Management: <i>Regulations and outreach materials related to management of the National Flood Insurance Program (NFIP).</i></p>	<ul style="list-style-type: none"> • Identification of floodplains and at-risk buildings • Directing development to non-flood hazard areas • Encouraging protection of green spaces • Minimize impacts of flooding from rivers and streams
<p>Infrastructure Development Plans: <i>Similar to transportation plans, documents that describe water, sewer, electric, gas/propane, broadband, etc. needs in a community. Documents typically identify underserved areas and specify an action plan for strengthening access to services in those areas.</i></p>	<ul style="list-style-type: none"> • Guide development away from hazard areas • Improve infrastructure affected by hazards • Encourage sustainable and resilient construction
<p>Commercial and Economic Development: <i>Plans and project lists that specific targeted types of development in specific areas. Typically maintained by economic development authorities and may be presented as lists of available properties.</i></p>	<ul style="list-style-type: none"> • Identify suitable development or redevelopment areas • Encourage responsible land use according to area hazards
<p>Stormwater Management: <i>Plans for updating and upgrading stormwater infrastructure. Examples include separating combined sewer overflow (CSO) systems or increasing the capacities of those systems. Green infrastructure and low-impact development solutions may also be examples.</i></p>	<ul style="list-style-type: none"> • Identify hazards relating to stormwater management • Minimize impacts of flooding due to stormwater

ADMINISTRATIVE AND TECHNICAL CAPABILITIES

Administrative capability is described by the adequacy of departmental and personnel resources for the implementation of mitigation-related activities. Technical capability relates to the adequacy of knowledge



and technical expertise of local government employees or the ability to contract outside resources for this expertise in order to effectively execute mitigation activities. Common examples of skillsets and technical personnel needed for hazard mitigation include planners with knowledge of land development/management practices, engineers or professionals trained in construction, and emergency management professionals.

Engineers

Engineers perform duties as directed in the areas of construction, reconstruction, maintenance, and repair of streets, roads, pavements, sanitary sewers, bridges, culverts, dams, and other engineering work. The municipal engineer reviews and/or prepares plans, specifications, and estimates of the work undertaken within the jurisdiction. These staff members will design the communities and structures with hazard impacts in mind, resulting in more sustainable communities and stronger structures.

Floodplain Administrators

Floodplain administrators are experts in the rules and regulations of development in a floodplain and can provide vast amounts of information on the risks and impacts of building within those hazard areas. They are an integral part of the mitigation planning team and can make recommendations based on the needs and conditions of the community.

Office of Emergency Management

Offices of Emergency Management coordinate countywide emergency management efforts. They are responsible for managing activities that aim to reduce the loss of lives and property and protect the environment from the effects of natural or man-made disasters, catastrophes, or terrorist threats through prevention, mitigation, preparedness, response, and recovery efforts.

Planning and Zoning Department

The Planning Commission acts as an advisory group to the municipal governing body on issues and policies related to planning, land use regulation, and community development and performs other duties as outlined in the West Virginia Code Section 8A-2-3. The Zoning and Planning Department is responsible for administering the City's Comprehensive Plan, Stormwater Ordinance, Zoning Ordinance, and Subdivision Ordinance.

Emergency Communications

Emergency Communications serve residents and businesses across the region with various types of emergency and non-emergency situations. This office is the primary contact for those needing police, ambulance, or fire assistance.

FINANCIAL CAPABILITIES

Financial capability is important to the implementation of hazard mitigation activities. Every jurisdiction must operate within the constraints of limited financial resources. There are also numerous partnering opportunities and grant programs available to assist in offsetting the expenses of local hazard mitigation efforts. While some mitigation actions are less costly than others, it is important that money is available locally to implement policies and projects. Financial resources are particularly important if communities



are trying to take advantage of State or federal mitigation grant funding opportunities that require local-match contributions. After the COVID-19 pandemic, communities across the country faced new challenges in balancing community economic recovery while also implementing hazard mitigation.

Capital Improvement Program

The most common fiscal tool available to communities is the Capital Improvement Program (CIP). A CIP is a community planning and fiscal management tool used to coordinate the timing and financing of capital improvements over a multi-year period. A CIP includes a prioritized list of improvements to roads, parks, and other facilities that the community plans to undertake in a given period.

Community Development Block Grants

The Community Development Block Grant (CDBG) program is designed to assist vulnerable populations within the community by ensuring affordable housing, creating jobs, and providing direct services. The amount of each grant is determined by a formula that accounts for the community's need, poverty, population, housing, and comparison to other areas. The annual appropriation is divided among the states and local jurisdictions. The majority of CDBG funds are required to be spent to benefit low- and moderate-income citizens.

EDUCATION AND OUTREACH

Education and outreach programs and methods are used to implement mitigation activities and communicate hazard-related information. These methods provide an opportunity to inform the public about the risk present within the community and measures that may be taken to reduce or eliminate the risk.

Firewise® USA Program

The National Fire Protection Association (NFPA) administers the Firewise USA® Program to encourage local solutions for safety by involving homeowners in taking individual responsibility for protecting their homes against the risk of wildfire. The program provides resources to help homeowners learn how to adapt to living with wildfire and encourages neighbors to work together to take action to prevent losses. The program, aimed at homeowners, provides specific criteria for communities regarding wildfire preparedness and offers national recognition for their work.

StormReady®

StormReady® is an education and outreach program that helps arm communities with the communication and safety skills needed to save lives and property before, during, and after an event. The program encourages communities to take a new, proactive approach to improving local hazardous weather operations by providing guidelines on improving hazardous weather operations. To be an official StormReady® community, a community must meet the following criteria:

- Establish a 24-hour warning point and emergency operations center;
- Have more than one way to receive severe weather warnings and forecasts and to alert the public;
- Create a system that monitors weather conditions locally;
- Promote the importance of public readiness through community seminars; and



- Develop a formal hazardous weather plan, which includes training severe weather spotters and holding emergency exercises.

National Oceanic and Atmospheric Administration (NOAA) Weather-Ready Nation Ambassador

NOAA WRN Ambassador is a designation that recognizes NOAA partners that are improving resilience against extreme weather events. Partners help unify efforts across government, non-profits, academia, and private industry toward making the community and the nation more weather-ready. NOAA WRN Ambassadors carry out the following activities:

- Promote Weather-Ready Nation messages and themes to their stakeholders;
- Engage with NOAA personnel on potential collaboration opportunities;
- Share their success stories of preparedness and resiliency; and
- Serve as an example by educating employees on workplace preparedness.

NOAA supports NOAA WRN Ambassadors by:

- Providing outreach content about creating a Weather-Ready Nation;
- Exploring innovative approaches for collaboration; and
- Assisting with StormReady opportunities.

Table 7-2 includes a summary of local foundational capabilities relevant to hazard mitigation identified and discussed in LHMPs. It is important to note that the absence of a capability does not mean that the capability does not exist in the local jurisdiction. It simply means that no discussion was found describing or identifying the capability in the LHMPs. This suggests that the capability may not be used to its full potential to support mitigation within the county, or it may suggest that the department or agency responsible for implementing the capability may not have been fully involved in the LHMP planning process.

In addition, it is important to note that codes, regulations, and/or plans may have been updated or developed since the time of the LHMP publication. In addition, please note that some of the capabilities included are local-level capabilities, while others are State programs and/or regulations. In addition, many aspects of these foundational capabilities and changes that may have occurred over the last several years are discussed in the detailed tables supporting the State Capability Assessment described above (see Section 6 [State Capabilities]).

Table 7-2 Foundational Capabilities as Identified in Local Hazard Mitigation Plans

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigation Project
Region 1						
McDowell County	X	X	-	X	-	-
Anawalt (T)	X	X	-	X	-	-
Bradshaw (T)	X	X	-	-	-	-
Davy (T)	X	-	-	-	-	-
Gary (C)	X	-	-	-	-	-
laeger (T)	X	-	-	-	-	-
Keystone (C)	X	-	-	-	-	-
Kimball (T)	X	-	-	-	-	-
Northfork (T)	X	-	-	-	-	-
War (C)	X	X	-	-	X	-
Welch (C)	X	-	-	X	-	-
Mercer County	X	-	-	-	-	-
Athens (T)	X	-	-	-	X	-
Bluefield (C)	X	X	-	X	X	-
Bramwell (T)	X	-	-	-	-	-
Oakvale (T)	X	-	-	-	-	-
Princeton (C)	X	X	-	X	X	-
Monroe County	X	-	-	-	-	-
Peterstown (T)	X	-	-	-	-	-
Union (T)	X	-	-	-	-	-
Raleigh County	X	-	-	-	-	-
Beckley (C)	X	-	-	-	-	-
Lester (T)	-	-	-	-	-	-
Mabscott (T)	-	-	-	-	-	-
Sophia (T)	X	X	-	-	X	-
Summers County	X	X	-	-	X	-
Hinton (C)	X	-	-	-	-	-
Wyoming County	X	-	-	-	-	-
Mullens (C)	X	-	-	-	-	-
Oceana (T)	X	-	-	-	-	-
Pineville (T)	X	-	-	-	-	-
Region 2						

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigation Project
Cabell County	X	X	X	-	-	-
Huntington (C)	X	X	X	X	X	-
Lincoln County	X	-	X	-	-	-
Logan County	X	-	X	-	-	X
Mason County	X	X	X	-	-	-
Wayne County	X	-	X	-	-	-
Region 3						
Boone County	-	X	X	-	-	-
Danville (T)	-	-	X	-	-	-
Madison (C)	-	X	X	-	X	-
Sylvester (T)	-	-	X	-	-	-
Whitesville (T)	-	X	X	-	-	-
Clay County	-	X	X	-	-	-
Clay (T)	-	-	X	-	-	-
Kanawha County	-	X	X	-	-	-
Belle (T)	-	X	X	-	-	-
Cedar Grove (T)	X	-	X	-	-	-
Charleston (C)	X	-	X	-	-	-
Chesapeake (T)	-	-	X	-	-	-
Clendenin (T)	-	-	X	-	-	-
Dunbar (C)	-	X	X	-	-	-
East Bank (T)	X	X	X	-	-	-
Glasgow (T)	-	-	-	-	-	-
Handley (T)	-	X	X	-	-	-
Marmet (C)	X	-	X	-	-	-
Nitro (C)	X	-	X	-	-	-
South Charleston (C)	-	X	X	-	-	-
St. Albans (C)	X	X	X	-	-	-
Putnam County	X	X	X	-	-	-
Bancroft (T)	-	-	X	-	X	-
Buffalo (T)	-	-	X	-	X	-
Eleanor (T)	-	-	X	-	-	-
Hurricane (C)	-	X	X	-	X	-
Poca (T)	X	X	X	-	X	-
Pratt (T)	-	X	X	-	-	-

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigation Project
Winfield (T)	-	X	X	-	-	-
Region 4						
Fayette County	X	X	X	-	-	-
Ansted (T)	-	-	X	-	X	-
Fayetteville (T)	X	-	X	-	-	-
Gauley Bridge (T)	-	-	X	-	-	-
Meadow Bridge (T)	-	-	X	-	-	-
Montgomery (C)	-	-	X	-	X	-
Mount Hope (C)	-	-	X	-	X	-
Oak Hill (C)	X	-	X	-	X	-
Pax (T)	-	-	X	-	X	-
Smithers (C)	-	-	X	-	X	-
Thurmond (T)	-	-	-	-	-	-
Greenbrier County	X	-	X	X	X	-
Alderson (T)	-	-	X	-	X	-
Lewisburg (C)	X	-	X	-	X	-
Quinwood (T)	-	-	X	-	-	-
Rainelle (T)	-	-	X	-	X	-
Renick (C)	X	-	X	-	-	-
Ronceverte (C)	-	-	X	-	X	-
Rupert (T)	-	-	X	-	X	-
White Sulphur Springs (C)	-	-	X	-	X	-
Nicholas County	-	-	X	-	-	-
Richwood (C)	-	-	X	-	X	-
Summersville (T)	X	-	X	-	X	-
Pocahontas County	-	-	X	-	-	-
Durbin (T)	-	-	X	-	-	-
Hillsboro (T)	-	-	X	-	-	-
Marlinton (T)	-	-	X	-	X	-
Webster County	X	-	X	-	-	-
Camden-on-Gauley (T)	-	-	X	-	-	-
Cowen (T)	-	-	X	-	-	-
Webster Springs (T)	-	-	X	-	X	-
Region 5						
Calhoun County	X	X	X	-	-	-

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigation Project
Grantsville (T)	X	X	X	-	-	-
Jackson County	-	X	X	-	-	-
Ravenswood (C)	X	X	X	-	X	X
Ripley (C)	-	X	X	-	X	-
Pleasants County	-	X	X	-	-	-
Belmont (C)	-	X	X	-	-	-
St. Mary's (C)	-	X	X	-	X	-
Ritchie County	-	X	X	-	-	-
Auburn (T)	-	X	X	-	-	-
Cairo (T)	-	X	X	-	-	-
Ellenboro (T)	-	X	X	-	-	-
Harrisville (T)	-	X	X	-	-	-
Pennsboro (C)	-	X	X	-	X	-
Pullman (T)	-	X	X	-	-	-
Roane County	-	X	X	-	-	-
Reedy (T)	-	X	X	-	-	-
Spencer (C)	X	X	X	-	X	-
Tyler County	-	X	X	-	-	-
Friendly (T)	-	X	X	-	-	-
Middlebourne (T)	-	X	X	-	-	-
Paden (C)	-	X	X	-	X	-
Sistersville (C)	-	X	X	-	-	-
Wirt County	-	X	X	-	-	-
Wood County	X	X	X	-	-	-
North Hills (T)	-	X	-	-	-	-
Parkersburg (C)	X	X	X	-	X	X
Vienna (C)	X	X	X	-	X	-
Williamstown (C)	-	X	X	-	X	-
Region 6						
N/A						
Region 7						
Barbour County	X	-	-	-	-	-
Belington (T)	-	-	-	-	X	-
Junior (T)	-	-	-	-	-	-
Philippi (C)	X	X	-	-	X	-

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigat Projects
Braxton County	X	-	-	-	-	-
Burnsville (T)	-	-	-	-	-	-
Flatwoods (T)	-	-	-	-	-	-
Gassaway (T)	-	-	-	-	-	-
Sutton (T)	-	-	-	-	-	-
Gilmer County	X	X	-	-	-	-
Glennville (T)	-	-	-	-	-	-
Sand Fork (T)	-	-	-	-	-	-
Lewis County	X	-	-	-	-	-
Jane Lew (T)	-	X	-	-	-	-
Weston (C)	-	X	-	-	-	-
Randolph County	X	-	-	-	-	-
Beverly (T)	X	-	-	-	-	-
Coalton (T)	-	-	-	-	-	-
Elkins (C)	-	X	-	-	X	-
Harman (T)	X	X	-	-	-	-
Huttonsville (T)	-	-	-	-	-	-
Mill Creek (T)	-	-	-	-	-	-
Montrose (T)	-	-	-	-	-	-
Tucker County	X	-	-	-	-	-
Davis (T)	-	-	-	-	-	-
Hambleton (T)	-	-	-	-	-	-
Hendricks (T)	-	-	-	-	-	-
Parsons (C)	X	X	-	-	-	X
Thomas (C)	X	-	-	-	-	-
Upshur County	-	X	-	-	-	-
Buckhannon (C)	X	X	-	-	X	X
Region 8						
Grant County	X	-	X	X	-	-
Bayard (T)	-	X	X	-	-	-
Hampshire County	X	X	X	X	-	-
Romney (C)	-	-	X	-	X	-
Hardy County	X	-	X	X	X	-
Moorefield (C)	X	X	X	X	X	-

Jurisdiction	Comprehensive Plan	Building Codes	Participation in NFIP	Subdivision Ordinance	Zoning Ordinance	Capital B funds Mitigation Project
Wardensville (T)	X	-	X	-	X	-
Mineral County	X	-		X	-	-
Keyser (C)	-	-	X	-	-	-
Piedmont (C)	-	X	X	-	-	-
Pendleton County	-	-	X	-	-	-
Franklin (T)	X	X	X	-	-	-
Region 9						
Berkeley County	X	X	X	X	X	-
Hedgesville (T)	-	X	-	-	-	-
Martinsburg (C)	X	X	X	X	X	-
Morgan County	X	X	X	X	-	-
Bath (T)	X	X	X	X	-	-
Paw Paw (T)	-	-	X	-	X	-
Region 10						
N/A						
Region 11						
Brooke County	X	X	-	-	X	-
Beech Bottom (V)	-	X	-	-	-	-
Bethany (T)	-	X	-	-	-	-
Follansbee (C)	X	X	-	-	X	-
Wellsburg (C)	-	X	-	-	-	-
Windsor Heights (V)	-	X	-	-	-	-
Hancock County	-	X	-	-	X	-
Chester (C)	-	X	-	-	-	-
New Cumberland (C)	-	X	-	-	-	-
Wierton (C)	X	X	-	-	X	-
Jefferson County						
Jefferson County	X	X	X	X	X	-
Bolivar (T)	X	X	-	X	X	-
Charles Town (C)	X	X	X	X	X	-
Harpers Ferry (T)	X	X	X	X	X	-
Ranson (C)	X	X	X	X	X	X
Shepherdstown (T)	X	X	X	X	X	X

Note: X = Capability discussed in hazard mitigation plan; information presented in this table reflects information as it is presented in the County Hazard Mitigation Plan, unless otherwise noted. Codes, regulations, and/or plans may have been updated since the time of their publication.

“ – “ = *Capability not discussed or identified in hazard mitigation plan.*

T = Town

C = City



7.2.2 County Floodplain Management

Community participation in the NFIP allows for property owners to obtain flood insurance providing a means for homeowners, renters, and business owners to financially protect themselves. This capability greatly improves resilience after a flood hazard event by allowing residents to repair and rebuild. For a community to participate in the NFIP, it must adopt and enforce floodplain management regulations that meet or exceed the minimum NFIP standards and requirements. These standards are intended to prevent loss of life and property as well as economic and social hardships that result from flooding. Once FEMA provides communities with flood hazard information upon which floodplain management regulations are based, the community is required to adopt a floodplain ordinance that meets or exceeds the minimum NFIP requirements. All NFIP participating communities in the region have either adopted a stand-alone ordinance or have arranged for county administration of floodplain regulations.

The NFIP's Community Rating System (CRS) provides discounts on flood insurance premiums in those communities that establish floodplain management programs that go beyond NFIP minimum requirements. Under the CRS, communities receive credit for higher regulatory standards; acquisition, relocation, or flood-proofing of flood-prone buildings; preservation of open space; and other measures that reduce flood damage or protect the natural resources and functions of floodplains. Local NFIP and CRS participation is documented in detail in the LHMPs. Within West Virginia, 13 communities participate in CRS, as shown in Table 7-3.

Under the CRS, flood insurance premium rates are adjusted to reflect the reduced flood risk resulting from community activities that meet a minimum of three of the following CRS goals:

- Reduce flood losses
- Reduce damage to property
- Protect public health and safety
- Prevent increases in flood damage from new construction
- Reduce the risk of erosion damage
- Protect natural and beneficial floodplain functions
- Facilitate accurate insurance rating
- Promote awareness of flood insurance

There are 10 CRS classes that provide varied reduction in insurance premiums for property owners in both the Special Flood Hazard Area (SFHA) and non-SFHA. Class 1 requires the most credit points and gives the largest premium reduction; Class 10 receives no premium reduction. CRS premium discounts on flood insurance range from 5 percent for Class 9 communities up to 45 percent for Class 1 communities. The CRS recognizes 19 creditable activities that are organized under four categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness.



Table 7-3 CRS Community Rating

Jurisdiction	CRS Class	Jurisdiction	CRS Class	Jurisdiction	CRS Class
Berkeley County	7	Hampshire County	8	Morgan County	9
Buckhannon	8	Jefferson County	7	Parsons	8
Charleston	9	Kanawha	9	Philippi	8
Fayette County	9	Martinsburg	8	Putnam County	9
Greenbrier County	9				

Source: CRSVIZ 2023

7.2.3 Evaluation of Local Hazard Mitigation Plans

Counties have identified, evaluated, and developed capabilities to mitigate risk from natural hazards. These capabilities are discussed in LHMPs and serve as the basis for the implementation of many actions. A review of the LHMPs was conducted to:

- Determine how counties are evaluating the effectiveness of their plans;
- Determine challenges, barriers, and unmet needs the counties have identified in reaching their mitigation goals; and
- Identify opportunities to address challenges and leverage existing capabilities.

A review of the LHMPs reveals that there is limited discussion of the effectiveness of the overall plan; however, localities do evaluate the effectiveness of past mitigation actions. A summary of the results of the review is provided in the sections that follow. The results of this assessment were used by the State to develop its mitigation strategy for the 2023 SHMP.

CHALLENGES AND BARRIERS TO EFFECTIVE LOCAL HAZARD MITIGATION

A number of challenges and barriers to implementing effective mitigation programs were identified in LHMPs. A summary of these challenges and barriers follows. These challenges and barriers apply to reducing vulnerability to natural and non-natural hazards, including the vulnerability of from failure of high hazard potential dams (HHPD) and the vulnerability of HHPDs to other hazards. It is noted that the following section (Emerging Local Capabilities) discusses progress on how some of these challenges are currently being addressed:

- **Sources of Funding for Cost-Share** — Projects and actions that receive grants that require a cost-share were less likely to be implemented in counties and regions due to lack of funding from localities.
- **Coordination and Collaboration** — Coordination and collaboration among county, region, and State agencies are needed to implement large-scale projects successfully. Keeping shared information updated, such as a Floodplain Manager List is important in maintaining effective communication to provide consistent policy enforcement.



- **Downturn of the Manufacturing Industry** — Various factors contribute to unemployment as well as limited growth and use of manufacturing infrastructure, which is contributing to outmigration and an increase in vacant properties. Increasing vacant properties presents a challenge to code enforcement.
- **Frequent Floodplain Manager Turnover** — Local and regional floodplain managers are consistently changing, making it extremely difficult to successfully complete projects and carry out proper code enforcement and documentation of infrastructure located in the floodplain. Additionally, this makes it difficult for the State to stay current with documented floodplain manager training hours.
- **Fast-Track Hazard Mitigation Plans** — A few regional plans have had to be fast-tracked in order to prevent a region from having a plan expire. Fast-tracking these plans has limited the number of opportunities for broader participation throughout the region.
- **Vulnerable Structures** — Many structures across the West Virginia were constructed without an enforced building code. Many of these buildings are currently located in a floodplain, and mechanisms/enforcement for making these structures less vulnerable are limited and may be cost-prohibitive to owners.
- **Educational Outreach and Technical Trainings** — Many people who work at the local level do not have full training on how to create a website or send out emergency warnings through an alert system. There is a desire to have a full statewide training where members of counties and regions are invited to learn how to coordinate and collaborate these tasks.

OPPORTUNITIES TO ADDRESS LOCAL CHALLENGES AND LEVERAGE CAPABILITIES

The following are some of the opportunities identified in local hazard mitigation plans to address challenges and leverage capabilities. It should be noted that the following section (Emerging Local Capabilities) discusses the status of some efforts to capture these opportunities:

- **Evaluating Potential Future Conditions** — Discussing the future of the economy, environment, demographics, and built environment help communities prepare for future hazard events through calculated projections.
- **State Resources and Assistance Support County Efforts** — The State provides a number of technical resources and programs that support counties in their hazard mitigation efforts, including the well-known West Virginia Geographic Information Systems (GIS) Technical Center (WVU GISTC).
- **Successful Outreach Efforts** — Local planning efforts have created programs to provide data and information that improves residents’ preparation against certain hazards of concern. Some communities have started connecting with repetitive loss property owners to create plans of action of how to mitigate their properties.
- **RPDC Projects** — Regional projects offer opportunities to support mitigation efforts at the community level. Region-wide projects that support communication/broadband development reinforce connectivity to critical facilities. Hazard mitigation benefits are considered when looking at criteria for projects.
- **Opportunities for Partnerships** — Forming partnerships with stakeholders, community organizations, and non-profit organizations can maximize limited financial resources. Most counties already work together to have a shared LHMP and can work together to further share funding and staffing in order to complete more projects and be better prepared against hazards.



7.2.4 Emerging Local Capabilities

In the years since the counties' local hazard mitigation plans have been developed, there have been advances in the understanding and development of strategies to address community resilience and future conditions. A few emerging capabilities in these areas include:

- **Disaster Mass Notification System** — Region 9 opted into a mass notification system that warns residents of potential incoming weather events so that they may be better prepared and equipped to handle the event. This notification system also sends communities information on how to prepare for other potential threats.
- **Floodplain Ordinances** — Region 4 revised and adopted all floodplain ordinances. The purpose of updating the ordinances was to ensure that development was regulated within the 100-year floodplain. All ordinances have been posted to their respective websites, and the public was notified of the requirements.
- **Emergency Shelters** — Ohio County, in the Region 10 RPDC, has secured adequate emergency power resources for all emergency shelters.
- **Stormwater Programs** — Region 6 started an ongoing action of re-vegetation in bare ground areas that are susceptible to erosion to stabilize the area. The region was able to secure funding for the re-vegetation.
- **CERT Team** — Region 11 was able to establish a Community Emergency Response Team as well as increase the number of citizen emergency responders that are trained.
- **Landslide Maps** — Region 7 undertook efforts to map areas of subsidence and landslides in order to distribute information to the public. Digital interactive maps were established, and links were distributed to the public.



SECTION 8. LOCAL GOVERNMENT PLANNING COORDINATION

2023 SHMP UPDATE CHANGES

- ❖ Discussion of the local and regional government planning coordination in the State of West Virginia (the State) has been revised and updated to reflect significant changes in the structure of emergency management since the 2018 SHMP.
- ❖ The Local Government Planning Coordination section has been reviewed, updated, and reformatted.
- ❖ The Capabilities section is broken out into three separate sections (Sections 6, 7, and 8 of this plan), rather than one section and one appendix as structured in the 2018 SHMP.

8.1 Resources for Local Hazard Mitigation Planning

44 C.F.R. §201.3(c)(5) and §201.4(c)(4)(i): The State must describe the process to support the development of approvable local government mitigation plans including how the state supports developing or updating FEMA-approvable mitigation plans, including the process used to provide training, technical assistance, and funding. The plan must include a brief summary of barriers to developing or updating, adopting, and implementing FEMA-approved local government mitigation plans and steps to remove barriers.

Mitigation plans form the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. Requirements for local jurisdiction hazard mitigation plans are established in 44 Code of Federal Regulations (C.F.R.) §201.6, which states that local jurisdictions must demonstrate that proposed mitigation actions are based on a sound planning process that is inclusive of the whole community and accounts for the inherent risk and capabilities of the communities.

Within West Virginia, local jurisdictions address hazards and risk that could affect their area in local hazard mitigation plans (LHMP). These LHMPs serve to align the jurisdictions' planning efforts to be in concert with the SHMP. Jurisdictions are encouraged to address the hazards unique to their community and ensure that any State planning requirements associated with the SHMP are included.

The West Virginia Emergency Management Division (WVEMD) provides support, training, and technical assistance to local jurisdictions throughout the planning and adoption process. In addition to support from WVEMD, there are multiple resources available at the federal level and from academic and non-governmental organizations. Due to the history of disasters throughout West Virginia, encouraging communities to assess their risk and adopt LHMPs is a priority. The following sections describe the support available for local hazard mitigation planning.



STATE SUPPORT FOR THE UPDATE OF LOCAL HAZARD MITIGATION PLANS

The WVEMD is committed to a comprehensive mitigation program that actively supports local mitigation planning by providing technical assistance such as workshops and training for both planning and post-disaster activities. The following sections describe how the State supports the development and update of FEMA-approvable local mitigation plans that ideally meet the requirements of FEMA’s Rehabilitation of High Hazard Potential Dams (HHPD) Grant Program in addition to the requirements of the Disaster Mitigation Act of 2000 and FEMA’s Local Mitigation Planning Policy Guide through planning support, funding opportunity education and outreach, training programs, and technical assistance.

Planning Support and Technical Assistance

The WVEMD provides guidance and technical assistance to local jurisdictions upon request to support the update of LHMPs through the assistance of State planners, as needed and as resources are available. This includes coordination with WVDEP to gather data related to dams (including HHPDs), the jurisdictions’ vulnerability to dam failures, and the vulnerability of dams in the jurisdiction to the impacts of other hazards. Generally, the WVEMD notifies each region of their upcoming plan expiration and works with them to identify a funding source for the plan update. The Division is committed to the continued funding of LHMPs through its State allocation of FEMA’s Hazard Mitigation Assistance (HMA) grant programs, such as the Hazard Mitigation Grant Program (HMGP), Building Resilient Infrastructure and Communities (BRIC), Flood Mitigation Assistance (FMA), and Pre-Disaster Mitigation (PDM) Congressionally Directed monies. Local plan status is also regularly discussed at Emergency Management meetings. The type of technical assistance is flexible and is based on the particular needs and resources available to the local jurisdiction requesting the assistance.

The WVEMD is committed to this close level of support for local plan development and intends to continue to participate in local plan development over the performance period of the 2023 SHMP. WVEMD will continue to coordinate with FEMA Region III mitigation staff to encourage federal participation in plan development whenever possible.

Funding Opportunity Education and Outreach

WVEMD participates in local meetings to share information with state-level entities so that they know what is taking place at the jurisdictional levels in order to provide support to localities for consultation and troubleshooting as well as create local training workshops as they see fit. The State also compiles hazard data at the state level so that distribution is uniform and consistent for local use. In addition, state-level entities provide support during plan implementation, monitoring, and evaluation to alleviate the burden to local entities.

The WVEMD ensures that local jurisdictions are educated on grant availability, developing grant applications, and managing mitigation funds. When funding opportunities (including FEMA’s Rehabilitation of HHPDs Grant Program) become available, WVEMD notifies appropriate state and local agencies via email and other means and communicates opportunities and provides the support identified above. In addition, WVEMD has provided informative training in groups and online on benefit-cost analysis (BCA), the E-Grants system, the environmental and historic preservation (EHP) review process, the HMA program, and applicant briefings and trainings for the HMGP after FEMA disaster and emergency



declarations. Over the performance period of the 2018 SHMP, education related to funding has been focused on the FEMA mitigation grant programs. Over the performance period of the 2023 SHMP, WVEMD will work to expand discussion and outreach for other programs that provide funds for mitigation activities.

Training Offerings

The West Virginia State Code Section 15-5-20a: Floodplain Manager Training requires all local floodplain managers to complete 6 hours of training in floodplain management annually to maintain good standing with the State. In order to provide assistance for communities to meet this training requirement and to help local floodplain managers further augment their skill sets, WVEMD’s Floodplain Management Section annually offers a multitude of training opportunities. Other trainings that the State and various state-level entities offer to assist local jurisdictions in hazard mitigation planning include natural disaster response and recovery trainings, dam seminars, flood response preparations, evacuation planning, threat and hazard identification and risk assessment (THIRA) workshops, Community Rating System (CRS) trainings, substantial damage estimation workshops, and homeland security workshops.

FEDERAL SUPPORT FOR THE UPDATE OF LOCAL HAZARD MITIGATION PLANS

Federal support is available to assist with local mitigation planning by providing planning support documents and training for both planning and post-disaster activities. The following sections describe how the federal government supports the development and update of FEMA-approvable local mitigation plans through planning support, funding opportunity education and outreach, training programs, and technical assistance.

Planning Support and Technical Assistance

FEMA has developed many tools to support hazard mitigation planning for local jurisdictions. Jurisdictions are encouraged to tailor the planning process to the needs and concerns of their community while using FEMA resources as guidance. In addition to guidance materials, the requirements for local hazard mitigation planning are established in 44 C.F.R. §201.6, and officially interpreted in the *FEMA Local Mitigation Planning Policy Guide* (effective April 19, 2023). FEMA’s core guidance document is the *Local Mitigation Planning Handbook* (published March 2013), which provides a walkthrough of the planning process for local jurisdictions.

The *FEMA Local Mitigation Planning Policy Guide* is the official interpretation of federal regulations and statutes relevant to local mitigation planning. This guide replaces previous FEMA guidance from 2011, although the C.F.R. provisions relating to local planning requirements have not changed. The guide focuses on using local mitigation planning to assist local jurisdictions in whole community planning to build resilience through climate adaptation, land use, and economic development. The guiding principles informing this guidance are planning and investing in the future, collaborating and engaging all stakeholders and community members, and carrying out community planning based on local capabilities. LHMPs are required to include the following elements, each of which have certain requirements that must be met (FEMA 2022):

- Element A: Planning Process
- Element B: Hazard Identification and Risk Assessment



- Element C: Mitigation Strategy
- Element D: Plan Maintenance
- Element E: Plan Update
- Element F: Plan Adoption
- Element G: High Hazard Potential Dam (HHPD) (required for Rehabilitation of HHPD Grant Program)
- Element H: Additional State Requirements

The primary federal guidance tool for local jurisdictions to use in developing or updating LHMPs is the *FEMA Local Mitigation Planning Handbook*. The handbook assists local jurisdictions in meeting the requirements of 44 C.F.R. §201.6 by offering tools, worksheets, and real-world examples. Included in this publication are detailed descriptions and examples of how to meet each required planning element successfully in the LHMP.

Funding Opportunity Education Outreach

Grants and funding are available for pre- and post-emergency or disaster-related projects. The funding is designed to support and enhance recovery, innovation, and mitigation to eligible communities, individuals, and institutions. Additionally, FEMA offers virtual webinars designed to help communities understand grant applications and federal regulations and how to build a successful planning grant application with information and resources related to obtaining planning grants. FEMA also provides a wealth of grant information on its website and organizes the information by types of grants and programs to make it easier for state and local entities to find funding that they are eligible for (FEMA 2023).

Training Offerings

The Emergency Management Institute serves as the center of development and implementation of emergency management training and is designed to enhance the capabilities of federal, state, local, tribal, and territorial sectors to minimize the impacts of disasters. FEMA offers additional Independent Study training courses and programs, which can be taken online at little to no cost to state and governmental entities (FEMA 2023). Many of these training programs include numerous training modules designed to educate entities on a wealth of information, from introduction to hazard mitigation to application review and evaluation. Additional training modules are discussed in Table 8-1.

SUMMARY OF ADDITIONAL RESOURCES FOR LOCAL HAZARD MITIGATION PLANNING

Table 8-1 lists federal, state, and regional resources that may be useful to developing LHMPs. Not all resources listed are applicable to all jurisdictions. New resources continue to be developed, so local planning teams should review FEMA, WVEMD, and other agency websites for additional resources during the hazard mitigation planning process.

Table 8-1: Other Resources Supporting Local Hazard Mitigation

Agency	Guidance/Tool	Resource Web
General		
Regional Planning and Development Councils (RPDCs)	Jurisdictions should review their current or previous LHMP at the beginning of the LHMP update process for background on previous goals and priorities, and to assess implementation of previous planned mitigation actions	https://emd.wv.gov/MitigationRecovery/Pages/
FEMA	Local Mitigation Planning Handbook	https://www.fema.gov/sites/default/files/2020/handbook_03-2013.pdf
FEMA	Local Mitigation Plan Review Guide	https://www.fema.gov/sites/default/files/2020/review-guide_09_30_2011.pdf
FEMA	Mitigation Ideas	https://www.fema.gov/emergency-managers/rplanning/implementing
FEMA	Training Modules: <ul style="list-style-type: none"> • IS-318: Mitigation Planning for Local and Tribal Communities • IS-393 Introduction to Hazard Mitigation • G-318 Preparing and Reviewing Local Plans • G-393 Mitigation for Emergency Managers 	https://training.fema.gov/is/crslist.aspx?lang=en
Office of the Federal Register	Code of Federal Regulations (CFR), Title 44: Emergency Management and Assistance, Part 201 (44 C.F.R. §201)	https://www.ecfr.gov/current/title-44/part-201
Beyond the Basics	A website designed to help guide the process of developing or updating an LHMP	http://mitigationguide.org/
American Planning Association (APA)/FEMA	Planning Information Exchange	https://www.planning.org/nationalcenters/haz
Element A—Planning Process/Element C—Mitigation Strategy/Element E—Plan Adoption		
FEMA	Plan Integration: Linking Local Planning Efforts	https://www.fema.gov/sites/default/files/2020/2015.pdf
FEMA	Workshop: Planning for a Resilient Community	https://www.fema.gov/sites/default/files/document/communities_fact-sheet.pdf
FEMA	Integrating Historic Property and Cultural Resource Considerations into Hazard Mitigation Planning	https://www.fema.gov/pdf/fima/386-6_Book.p
National Institute of Standards and Technology (NIST), U.S. Department of Commerce	NIST Community Resilience Planning Guide	https://www.nist.gov/community-resilience/pl
APA	Hazard Mitigation: Integration Best Practices into Planning	https://www.planning.org/publications/report/
APA	Policy Guide on Hazard Mitigation	https://www.planning.org/publications/report/

Agency	Guidance/Tool	Resource Web
APA	Planning for Post-Disaster Recovery: Next Generation	https://www.planning.org/research/postdisaster
Plan Review, Evaluation, and Implementation		
FEMA	2015 Hazard Mitigation Assistance Guidance	https://www.fema.gov/sites/default/files/2020
FEMA	Grants Visualization Tool	https://www.fema.gov/about/reports-and-data
FEMA	Mitigating Flood and Drought Conditions Under Hazard Mitigation Assistance	https://www.fema.gov/grants/mitigation/hazard
FEMA	Training Modules: <ul style="list-style-type: none"> • IS-277 Benefit-Cost Analysis Entry Level • IS-212.b Introduction to Unified HMA • E-212 HMA: Developing Quality Application Elements • E-213 HMA: Application Review and Evaluation • E-276 Benefit-Cost Analysis Entry Level 	https://training.fema.gov/is/crslist.aspx?lang=en https://training.fema.gov/emi.aspx



8.2 Resources For Hazard Information and Assessment

There are numerous resources available at the state and federal levels to ensure that hazard information may be properly assessed and documented in order to supplement LHMPs. Hazard event records are documented at the federal level and can be used in conjunction with state resources to help supplement state-collected data and technology resources. As regions and counties notify WVEMD that they will be pursuing HMA funding to update their LHMPs, WVEMD will provide a list of data sources for the regions/counties to cite in their statements of work as data that will be used in the LHMP update. Also at this time, WVEMD will provide guidance on requirements and best practices for stakeholder and public outreach messages and media for the regions/counties to leverage in their planning processes. WVEMD will again provide this information with the HMA grant contract.

STATE HAZARD ASSESSMENT RESOURCES

A local jurisdiction's initial hazard assessment should begin with a review of West Virginia's SHMP risk assessment chapters to determine which hazards are considered a priority for the State. The SHMP offers detailed descriptions of hazards impacting West Virginia as well as information on actions being taken by state-level agencies to address the identified hazards and additional planning and GIS resources available to assist local jurisdictions in strengthening their hazard mitigation efforts.

West Virginia and West Virginia University GIS Technical Center (WVU GISTC) continues to develop tools to support risk and vulnerability assessment and hazard mitigation planning using the most current technology and best-available data. These tools include guidance for GIS, toolkits to guide local vulnerability assessments, and hazard mapping tools. These resources allow users to easily begin to understand hazards in their community. They are designed to be user-friendly and do not require specialized training to use. Jurisdictions are encouraged to review the resources available and spend time exploring those that may assist their LHMP preparation efforts. WVU GISTC manages a data clearinghouse (<https://wvgis.wvu.edu/data/data.php>) that hosts open-source geospatial data that can be utilized for LHMPs. In addition, the West Virginia Flood Tool (<https://www.mapwv.gov/flood/>) is available to provide floodplain managers, insurance agents, developers, real estate agents, local planners, and citizens with an effective means by which to make informed decisions about the degree of flood risk for a specific area or property.

FEDERAL HAZARD ASSESSMENT RESOURCES

FEMA, the U.S. Geological Survey (USGS), NOAA, and other federal agencies have developed many powerful tools that can be used to identify and assess hazards. These resources can be used independently or in coordination with state resources to assist local jurisdictions in identifying hazards that may affect their communities and to develop the basis for assessing the vulnerability of their communities. Many of these tools use GIS to determine the physical extents of hazards or estimate potential impacts.

SUMMARY OF ADDITIONAL HAZARD INFORMATION AND ASSESSMENT RESOURCES

Table 8-2 lists federal, state, and regional resources that may be useful to jurisdictions in their risk assessments. Not all resources listed are applicable to all jurisdictions. New resources continue to be



developed, so local planning teams should review FEMA, WVEMD, and other agency websites for additional resources during the hazard mitigation planning process.

Table 8-2: Resources Supporting Hazard Information and Assessment

Agency	Guidance/ Tool	Resource Website
Resources for All Hazards		
FEMA	Hazus	https://www.fema.gov/flood-maps/products-tools/hazus
FEMA	Risk Mapping, Assessment, and Planning Program (RiskMAP) Region III	https://www.fema.gov/about/organization/region-3
FEMA	Training Modules: <ul style="list-style-type: none"> • IS-922 Application of GIS for Emergency Management • E-190 ArcGIS for Emergency Managers • E-296 Application of Hazus-MH for Risk Assessment • E-313 Basic Hazus-MH 	https://www.training.fema.gov/is/courseoverview.aspx?code=IS-922 https://training.fema.gov/emcourses/emicalog.aspx?cid=E313&
American Planning Association (APA)	Topic Based Resources	https://www.planning.org/resources/
Resources for Seismic Hazards		
FEMA	Earthquake Preparation	https://community.fema.gov/ProtectiveActions/s/article/Earthquake-Preparation
Earthquaketrack	Earthquake Tracker and Measurement	https://earthquaketrack.com/p/united-states/west-virginia/recent-earthquakes
USGS	WV Seismic Hazard Map	https://www.usgs.gov/media/images/2014-seismic-hazard-map-wv
USGS	Shake Alert System Information	https://www.usgs.gov/programs/earthquake-hazards/science/earthquake-alert-system
FEMA/ USGS	ShakeOut	https://www.shakeout.org/southeast/
Thinkhazard.org	Earthquake Loss Reduction Information	https://thinkhazard.org/en/report/3262-united-states-of-america
Resources for Flood Hazards		
FEMA	National Flood Insurance Program (NFIP)	https://www.fema.gov/flood-insurance
FEMA	Community Rating System (CRS) 2017 User Manual and 2021 Addendum	https://www.fema.gov/sites/default/files/documents/fema_community-rating-system-2017-user-manual.pdf https://www.fema.gov/sites/default/files/documents/fema_community-rating-system-addendum-2021.pdf
FEMA	Using National Flood Hazard Layer Web Map Service (WMS)	https://hazards.fema.gov/femaportal/wps/portal/NFHLWMSkmzdc
FEMA	NFIP Technical Bulletins	https://www.fema.gov/emergency-managers/risk-management/bulletins/insurance-technical-bulletins
FEMA	Flood Risk Products: Using Flood Risk Products in Hazard Mitigation Plans	https://www.fema.gov/sites/default/files/2020-07/fema_using-flood-risk-products-in-hazard-mitigation-plans.pdf https://www.fema.gov/floodplain-management/manage-risk
FEMA	Hazard Mitigation Assistance 2015 and 2021 (HMA) Flood Retrofitting	https://www.fema.gov/sites/default/files/2020-04/HMA_Guidance-2015-2021.pdf https://www.fema.gov/book/hazard-mitigation-assistance-guidance

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Agency	Guidance/ Tool	Resource Website
FEMA	Homeowners Guide to Retrofitting (2014)	https://www.fema.gov/sites/default/files/2020-08/FEMA_P-312.pdf
FEMA	Engineering Principles and Practices of Retrofitting Floodprone Residential Structures, 3rd Edition (2012)	https://www.fema.gov/sites/default/files/2020-08/fema259_comp.pdf
FEMA	Floodproofing Non-Residential Buildings	https://www.fema.gov/sites/default/files/2020-07/fema_p-936_floodproofing_non-residential_buildings_110618.pdf
FEMA	Coastal Construction Manual, 4th Edition (2011)	https://www.fema.gov/sites/default/files/2020-08/fema55_vol1_coastal_construction_manual_4th_edition_2011.pdf
FEMA	Training Modules	https://www.fema.gov/pdf/floodplain/is_9_complete.pdf https://www.fema.gov/floodplain-management/community-rating
Association of State Floodplain Managers (ASFPM)	Nationwide resources	https://www.floods.org/
WV Floodplain Management Association	State resources	http://wvfma.org/cfm-program/
Resources for Fire Hazards		
FEMA	Wildfire Mitigation Resources	https://www.ready.gov/wildfires
National Fire Protection Association	Codes and Standards	https://www.nfpa.org/Codes-and-Standards
U.S. Fire Administration	Data and National Fire Incident Reporting System (NFIRS) software and tools	https://www.usfa.fema.gov/nfirs/applications/
WV FIRE	Fire State Statute and Legislative Rules	https://firemarshal.wv.gov/about/Laws/Pages/default.aspx
WV FIRE	State Fire Code	https://firemarshal.wv.gov/Divisions/Fire_Inspections/Pages/Plans
WV FIRE	Fire Education	https://firemarshal.wv.gov/Divisions/Fire%20Services/Pages/Public
Office of the State Fire Marshal	Community Risk Reduction Planning	http://riskreduction.strategicfire.org/
WV State Fire Marshal	Community Risk Assessment for WV	https://firemarshal.wv.gov/Divisions/Fire%20Services/Documents/Community%20Risk%20Assessment%20Master.pdf
Division of Forestry	Laws and regulations for Fire	https://wvforestry.com/laws-regulations/fire/
WV Fireman's Association	Training and Education for WV firefighters	https://www.wvsfa.org/
Joint Fire Science Program	Fire Science Program Website	https://www.firescience.gov/index.cfm
Climate-Related Hazards—General Resources		
American Association of State Climatologist (AASC)	General resources	https://Stateclimate.org/region/nrcc/
U.S. Federal Government	U.S. Climate Resilience Toolkit	https://toolkit.climate.gov/
U.S. Global Change Research	2018 National Climate Assessment	https://science2017.globalchange.gov/
FEMA	Climate Resilient Mitigation Activities for Hazard Mitigation Assistance	https://www.fema.gov/sites/default/files/documents/fema_resilient_mitigation_activities_for_hazard_mitigation_assistance.pdf
FEMA	Green Infrastructure Methods Fact Sheet	https://www.mass.gov/doc/green-infrastructure-methods-fact-sheet

Agency	Guidance/ Tool	Resource Website
Northeast Climate Adaptation Science Center (NE CASC)	General resources	https://necasc.umass.edu/
Georgetown Climate Center	General resources	https://www.adaptationclearinghouse.org/
Extreme Heat-Specific Resources		
U.S. Environmental Protection Agency (U.S. EPA)	Urban Heat Islands	https://www.epa.gov/heatislands
National Weather Service	HeatRisk Forecast	https://www.weather.gov/safety/heat-index
Drought-Specific Resources		
Centers for Disease Control and Prevention (CDC)	Preparing for the Health Effects of Drought	https://www.cdc.gov/nceh/hsb/cwh/docs/CDC_Drought_Resource
WV Emergency Management	Emergency Operations Plan	https://emd.wv.gov/Preparedness/Resources/Documents/WV%20Drought%20FINAL%201-6-16.pdf
WV Emergency Management	Drought Information and Quick Links	https://emd.wv.gov/Preparedness/Pages/Drought-Information.aspx
NOAA	WV Drought Monitor	https://www.drought.gov/States/west-virginia
USGS	Chesapeake Bay Watershed	https://www.usgs.gov/tools/geonarrative-nontidal-network-mapping



8.3 State Review, Coordination, and Linkage with Local Plans

44 C.F.R. §201.3(c)(6), §201.4(c)(2)(ii), §201.4(c)(3)(iii), and §201.4(c)(4)(ii): The State Plan must describe the process and time frame to review, coordinate, and link local mitigation plans with the state mitigation plan including describing the state’s process and timeframe to review and submit approvable local mitigation plans to FEMA and share risk assessment data and mitigation priorities with local governments for their plan updates.

An LHMP is required to describe the planning process, the assessment of hazards and risks, the involvement of participating entities, action items, and a maintenance strategy. Local jurisdictions must use FEMA’s Plan Review Tool to navigate the required components for submitting their LHMPs. FEMA and the State review the plans in accordance with the required elements and provide necessary technical assistance that will lead to an approved plan. For a local plan to receive approval by the State, it needs to be in concert with the State’s mitigation priorities and efforts.

The required LHMP elements related to hazard identification and vulnerability offer an opportunity for integration of state and local planning. The SHMP provides information on known natural and technological hazards and the general location and vulnerability aspects of each hazard.

Using a consistent set of goals and objectives also reinforces the plan integration process. The 2023 SHMP includes an updated set of goals, objectives, and actions that can be adopted or adapted by local jurisdictions to guide their LHMP development. In turn, when reviewing and evaluating LHMPs, reviewers have the opportunity to ensure that local goals, objectives, and actions are consistent with those of the State and that local concerns are reflected in the State’s overall goals, objectives, and actions.

WVEMD is committed to building its hazard mitigation program to support a coordinated approach to mitigation within the State. This will occur through coordinated and linked SHMP and LHMPs. The following sections describe the process for LHMP review and the process to coordinate and link the SHMP and LHMPs, identify barriers for LHMP development and suggested solutions, describe the criteria for prioritizing mitigation planning and project grants, and outline the strategy for continued planning.

LOCAL HAZARD MITIGATION PLAN STATUS

Table 8-3 lists the status of the LHMPs, including adoption and expiration dates.

Table 8-3: Status of LHMPs in the State

Regions	Counties Included	Approval Date	Expiration Date
Region 1	McDowell, Mercer, Monroe, Raleigh, Summers, Wyoming	August 9, 2022	August 8, 2027
Region 2	Cabell, Lincoln, Logan, Mason, Mingo, Wayne	April 25, 2018	April 24, 2023
Region 3	Boone, Clay, Kanawha, Putnam	October 19, 2022	October 18, 2027
Region 4	Fayette, Greenbrier, Nicholas, Pocahontas, Webster	September 6, 2022	September 5, 2027



Regions	Counties Included	Approval Date	Expiration Date
Region 5	Calhoun, Jackson, Ritchie, Roane, Pleasant, Tyler, Wirt, Wood	January 11, 2023	January 10, 2028
Region 6	Doddridge, Harrison, Marion, Monongalia, Preston, Taylor	April 29, 2018	April 28, 2023
Region 7	Barbour, Braxton, Gilmer, Lewis, Randolph, Tucker, Upshur	July 4, 2018	July 3, 2023
Region 8	Hardy, Hampshire, Grant, Mineral, Pendleton	October 9, 2018	October 8, 2023
Region 9	Berkeley, Morgan	January 31, 2022	January 30, 2027
Region 10	Marshall, Ohio, Wetzel	November 2, 2022	November 1, 2027
Region 11	Brooke, Hancock	January 31, 2018	January 30, 2023
Jefferson County	Jefferson	January 14, 2019	January 13, 2024

Note: Status as of September 2023

PROCESS FOR LHMP REVIEW AND SUBMISSION TO FEMA

The WVEMD works closely with the regions to develop and update the LHMPs and is committed to continuing this close working relationship. This commitment includes early and ongoing technical assistance before and during the plan development process. The State is positioned to provide informal reviews as well as a formal review prior to submittal to FEMA. This level of involvement reduces the uncertainty in the plan review process when local plans are submitted to the State for review and ultimately reduces the number of plan revisions required to achieve ‘Approvable Pending Adoption’ notification from FEMA.

The State has not developed any additional planning requirements for LHMPs, so the FEMA Region III Plan Review Tool provides the complete set of plan requirements. Typically, plan reviews are conducted by the State in less than 45 days, and WVEMD will continue to strive for a shorter review period whenever staffing and resources allow.

There is currently no defined, formalized process for a plan that does not meet all requirements after the State’s review. The State will work with the region to address any identified issues. At the time of the 2023 SHMP’s development, WVEMD is developing, documenting, and implementing an established protocol to work together with the regions in a coordinated manner. WVEMD envisions that this protocol will involve:

- A memorandum of understanding with defined roles and responsibilities signed at the beginning of a plan update process.
- Formal transmission of the plan to the State for review.
- In the event that there are any requirements determined to have not been met, the WVEMD will formally transmit the plans back to the county with required changes noted.
- When all requirements are met to the satisfaction of WVEMD, WVEMD will transmit the LHMP to FEMA Region III.



The Hazard Mitigation Officer (HMO) serves as the lead plan reviewer at the time of this plan update. It is anticipated that an additional WVEMD staff person will assist with plan reviews. The counties and FEMA Region III will be notified via writing if the lead plan reviewer changes.

PROCESS TO COORDINATE AND LINK STATE AND LOCAL PLANS

Local jurisdictions can use FEMA’s Plan Review Tool to assist in navigating the required components for submitting an LHMP. FEMA and the State are responsible for determining current guidance that leads to an approved plan.

Local jurisdictions assemble a plan consistent with current guidance and submit the plan to WVEMD for the State’s review. Upon receiving the State’s review comments, the plan is then submitted to FEMA for review and formal approval. FEMA will issue an “Approvable Pending Adoption” letter and the local jurisdiction will then adopt the plan in order to receive formal approval from FEMA.

The local plan must describe the planning process, assessment of hazards and risk, participating entities and community involvement, identification of action items, and maintenance strategy. The required LHMP elements related to hazard identification and vulnerability offer an opportunity for integration of state and local planning. The SHMP provides information on known natural and man-made hazards in West Virginia and the general location and vulnerability aspects of each hazard. Local jurisdictions can incorporate this general information into the hazard identification and vulnerability portion of their LHMP and supplement with local knowledge, data, and tools, such as the WV Flood Tool.

During the performance period of the 2018 SHMP, WVEMD facilitated linking LHMPs and the SHMP through reviews of LHMPs and providing feedback and resources on hazard identification, the risk assessment, and the vulnerability assessment of local plans. As a result of the State working with the RPDCs to develop risk and vulnerability assessments for their LHMPs, the regions included the State’s critical facilities and lifeline infrastructure in their risk and vulnerability assessments.

The State recognizes the benefits of developing the 2023 SHMP update and local mitigation plans in a more integrated manner, which ultimately can result in improving resilience in West Virginia. The 2023 SHMP update strives to develop a framework, including a risk assessment methodology, upon which LHMPs can build their update. WVEMD has developed the 2023 SHMP update to be a resource for the development of LHMPs to improve their overall effectiveness. Specifically, the 2023 SHMP coordinates risk assessment and mitigation strategy information as follows:

- Includes an enhanced risk assessment that:
 - Consists of extensive outreach and coordination to ensure best-available data, methodologies, and science were utilized
 - Assessed local vulnerability and conducted local hazard ranking utilizing a holistic approach to prioritize the updated mitigation strategy
 - Included enhanced coordination among sectors as part of the planning process to maximize planning efforts and to inspire continued collaboration and implementation beyond the 2023 SHMP update process
 - Included high priority mitigation actions identified at the local level in the State mitigation strategy (see Section 6 [Mitigation Strategy])



The 2023 SHMP will serve as a catalyst for all LHMPs to be updated. WVEMD envisions that this will allow for wise use of resources and better coordination of risk assessment and mitigation strategies among the local jurisdictions and with the State.

EVALUATION OF PRIOR APPROACH TO LOCAL ASSISTANCE AND COORDINATION

Since the enactment of the *Disaster Mitigation Act of 2000*, every county in West Virginia has submitted a FEMA-approved hazard mitigation plan. The 2018 SHMP did not include a formalized, established approach to prioritize local assistance nor did it provide guidance on steps to take to encourage affected communities to update their plans to reflect changes in vulnerability or in the State’s priorities following a major disaster declaration.

However, the 2018 plan states that West Virginia does provide technical assistance and guidance to local communities prior to the plan update and submittal to FEMA at the state level. Additionally, over the performance period of the 2018 SHMP, WVEMD notified and assisted local jurisdictions of grant funding availability prior to plan expiration and provided LHMP assistance upon request.

BARRIERS TO LOCAL PLAN DEVELOPMENT AND SUGGESTED SOLUTIONS

At the time of this plan update, all regions and counties have adopted and approved LHMPs, except for Regions 2, 6, 7, and 11. Some of the regions are updating or need to update their LHMP because it has or will soon expire. Local jurisdictions depend heavily on the RPDCs to provide subject matter expertise and facilitate the development of the LHMPs. The RPDCs experience turnover and challenges with staffing capacity, capabilities, and funding resources. Although these are common challenges identified across various communities regarding developing LHMPs, they are particularly pronounced in West Virginia due to limited state funding to fill these gaps. Additionally, the RPDCs have a wide variety of responsibilities and may require additional staffing in the future to support the development and subsequent implementation of LHMPs.

If funding resources currently being used for plan updates are no longer available or are significantly delayed, this may be a significant barrier for local plan development in the future. The WVEMD is committed to supporting local plan updates via FEMA HMA grants. It is the goal of WVEMD to assist and help local jurisdictions in creating an updated LHMP with plans to share and utilize resources across county lines.

8.4 Prioritization of Project Grants

44 C.F.R. §201.4(c)(4)(iii): The State Plan must describe the criteria for prioritizing funding communities and local jurisdictions that would receive planning and project grants under available funding programs which should include consideration for communities with the highest risks, repetitive loss properties, and most intense development pressures. Further, that for non-planning grants, a principal criterion for prioritizing grants shall be the extent to which benefits are maximized according to a cost benefit review of proposed projects and their associated costs.



WVEMD administers the State’s hazard mitigation program; however, hazard mitigation is a shared responsibility between state agencies, county governments, the private sector, and non-governmental organizations within the State, including local residents.

The State reviews, ranks, and prioritizes project proposals submitted by state departments and local jurisdictions for FEMA grant funding programs. WVEMD receives grant applications from eligible subapplicants and reviews the applications for completeness. Once reviewed, WVEMD will ensure the subapplicant has applied to the most appropriate grant program or make a recommendation for a program that is a better fit for the project.

In conjunction with the Governor’s Office, WVEMD will rank and prioritize the grant applications. The ranking criteria have evolved over the performance period of the 2018 SHMP as the mitigation capabilities and the WVEMD staff have changed. Although specific ranking and prioritization criteria may change from grant to grant or disaster to disaster, the following guiding principles are utilized:

- **Life Safety** — Does the proposed activity provide an increased level of protection and contribute to public safety?
- **Geographic Area Impacted** — Is the proposed activity located in a hazard-prone area, such as a repetitive loss area or an area susceptible to landslides?
- **Emergency Power Back-up for Community Lifelines** — Does the project provide back-up power to critical facilities and services in the community, specifically for water and sanitation facilities and services?

STRATEGY FOR CONTINUED PLANNING

The WVEMD has reviewed and conducted a comprehensive evaluation of the State’s hazard mitigation program and has identified opportunities for a number of enhancements, which have been included as actions in the mitigation strategy and included in the plan implementation and maintenance strategy. WVEMD, with the help of the local jurisdictions, will continue to refine and enhance the program to best meet the needs of the State over the performance period of the 2023 SHMP.