



## SECTION 11. MITIGATION ACTIONS

### 2023 SHMP UPDATE CHANGES

- ❖ The 2018 State Hazard Mitigation Plan (SHMP) mitigation actions, updated risk assessment, updated capability assessment, and local hazard mitigation plan (LHMP) actions were used to identify mitigation actions for the 2023 SHMP.
- ❖ All identified mitigation actions include implementation details, such as responsible agency, possible sources of funding, timeline, etc.
- ❖ All identified mitigation actions are prioritized using a standardized process for prioritization.
- ❖ High-priority county-led mitigation actions have been included in the 2023 SHMP to enhance the linkage between the State of West Virginia (the State) and regional/county mitigation strategies.

#### 11.1 Overview

The mitigation strategy sets the State's mitigation program priorities and helps guide the counties as they update their plans. The mitigation strategy is composed of goals, objectives, and actions that directly address the risks and vulnerabilities identified in the risk assessment as well as the findings of the capability assessment. The review and evaluation of the mitigation actions described in the 2018 SHMP are provided in Section 9. The State's goals and objectives for the 2023 SHMP are described in Section 10. This section identifies and prioritizes actions for implementation over the performance period of the 2023 SHMP.

**44 C.F.R. §201.4(c)(3)(iii):** [The State Plan must include an] ...identification, evaluation, and prioritization of the cost-effective, environmentally sound, and technically feasible mitigation actions and activities the State is considering and an explanation of how each activity contributes to the overall mitigation strategy. This section should be linked to local plans, where specific local actions and projects are identified.

#### 11.2 Identification of Actions

Mitigation actions for inclusion in the 2023 SHMP were identified through three primary sources:

- **2018 SHMP Mitigation Strategy** — Actions listed in the 2018 SHMP that were not completed during the 2018 SHMP's lifespan were reviewed and revised as described in Section 9 (Progress on Previous Plan).
- **Risk Assessment** — The results of the updated risk assessment, including problem statements, were reviewed with the State Planning Team (SPT). Mitigation actions were considered to address identified problems.
- **Capability Assessment** — Challenges and opportunities identified during the capability assessment were reviewed with the SPT. Mitigation actions were considered to address challenges and capture opportunities.



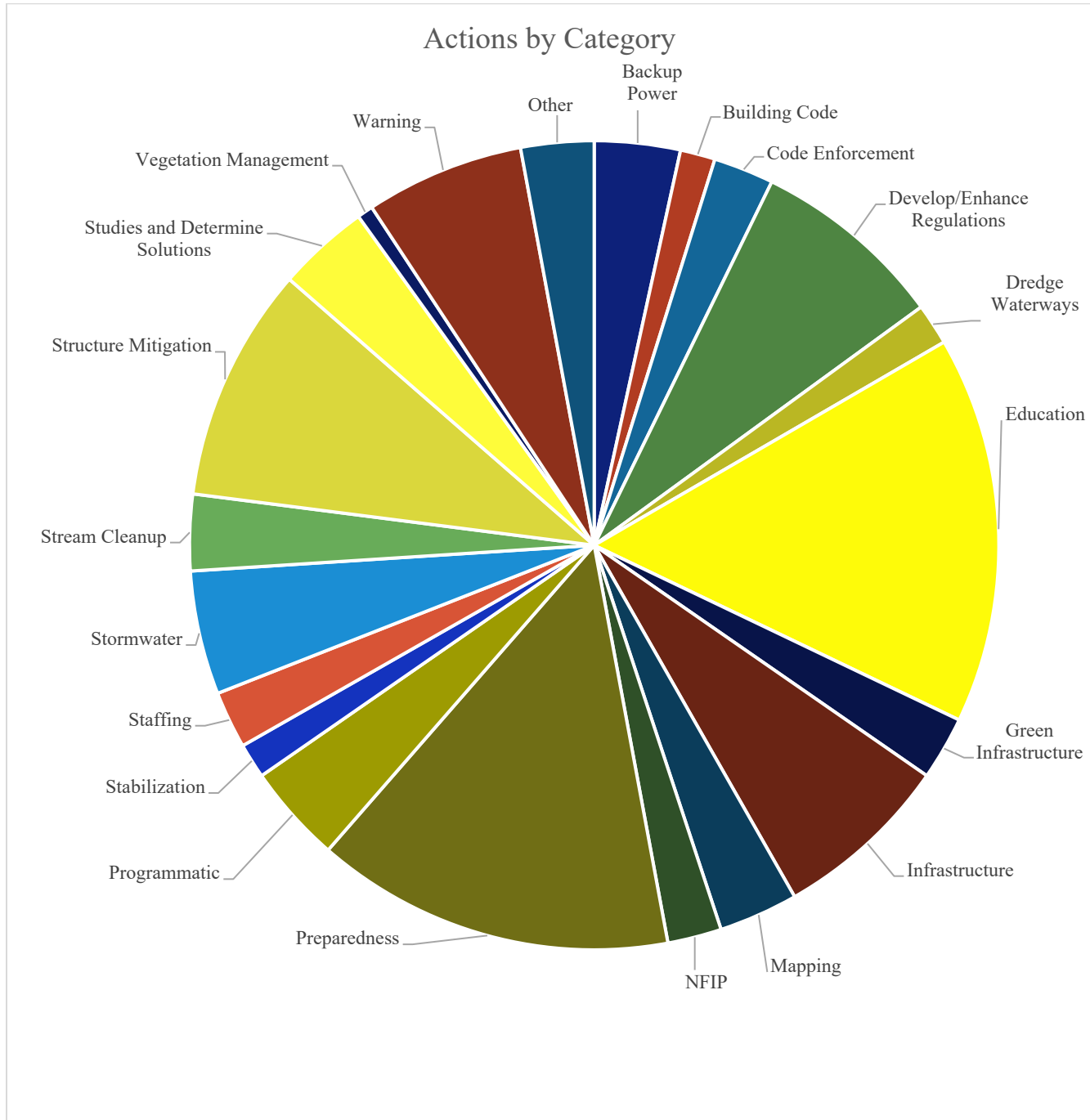
## 11.3 Actions in Local Hazard Mitigation Plans

The State analyzed the nearly 800 high-priority actions included in the LHMPs throughout West Virginia. For the purpose of this analysis, high-priority actions are those that were prioritized by the regions/counties as “high” priority or were given first priority in the local ranking; prioritization of actions in LHMPs did not follow a consistent methodology across West Virginia. The State then organized those high-priority actions into the following categories:

- Backup Power – generators, etc.
- Building Code – adopting the State Building Code
- Code Enforcement – actions related to enforcing regulations that are already in place (e.g., building code, floodplain management ordinance, zoning, etc.)
- Develop/Enhance Regulations – actions related to developing new regulations, improving, or enhancing existing regulations
- Dredge Waterways – removing excess sediment from waterways
- Education – conducting public outreach, developing and disseminating educational materials, and training officials
- Green Infrastructure – installing and/or maintaining green infrastructure
- Infrastructure – installing, maintaining, and/or protecting “gray” infrastructure (e.g., water or wastewater systems), roadways, etc.
- Mapping – mapping hazard areas
- NFIP – actions related to participating in the NFIP
- Preparedness – actions related to emergency planning, training, and exercises; emergency facilities; response equipment, etc.
- Programmatic – actions related to participating in local, county, state, or federal programs; developing boards or commission
- Stabilization – streambank or soil stabilization activities
- Staffing – developing or expanding intergovernmental agreements to share staff
- Stormwater – constructing, maintaining, or upgrading stormwater management infrastructure
- Stream Cleanup – removing debris from waterways
- Structure Mitigation – acquiring, demolishing, elevating, or relocating hazard-prone structures, including repetitive loss properties
- Studies and Determine Solutions – analyzing problems and problem areas to determine the best course of action to reduce vulnerability
- Vegetation Management – trimming trees and other vegetation away from infrastructure
- Warning – developing and implementing systems related to warning the public of an imminent threat
- Other – actions that do not fit in the above categories



Figure 11-1. Actions in LHMPs by Category





## 11.4 2023 SHMP Action Plan

Implementable mitigation actions require more than just a statement of activity as actions are led by different departments and agencies, require various levels of effort, and have varied resource needs. The State's Mitigation Action Plan (see Table 11-1) includes information on implementation, including:

- Action number/designator
- Mitigation action description
- Department(s) or agency(ies) responsible for implementation, with lead department/agency listed first
- Type of action
  - **State and Local Plans and Regulations (SLPR)** — Include government authorities, policies, or codes that encourage risk reduction, such as building codes and state planning regulations. This may also include planning studies.
  - **Structure and Infrastructure Projects (SIP)** — Involve modifying existing structures and infrastructure or constructing new structures to reduce the impact of hazards.
  - **Natural Systems Protection (NSP)** — Minimize losses while also preserving or restoring the function of natural systems.
  - **Education and Awareness Programs (EAP)** — Include long-term, sustained programs to inform and educate citizens and stakeholders about hazards and mitigation options. This category could also include training.
- Relevant goal(s) and objective(s) – the goals and objectives from Section 10 to which the action relates
- Description of the contribution towards achieving goals (i.e., benefits)
- Estimated cost – expressed as “low,” “medium,” or “high” to indicate the cost of implementing the action
- Potential sources of funding – identifies the federal, state, and other funding streams that could be used to pay for implementing the action
- Anticipated timeline during which the action can be completed
  - Short-term: within 1–2 years
  - Long-term: within 5 years
  - Ongoing: continuously implemented over the period of performance



**Table 11-1. State of West Virginia 2023 SHMP Mitigation Action Plan**

Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
EMD-1: Develop and annually review State-level requirements for local mitigation plans and programs, including standardized hazard descriptions; data sources; requiring LHMPs to meet the HHPD mitigation planning requirements; developing a standardized dam reporting template; completing templates for flooding, landslide, and dam failure hazards; integrating the effects of changing future hazard conditions and changes in development; documented involvement of the municipal floodplain administrators in the plan development process.						
WVEMD	SLRP	4.3, 4.4	Stronger, consistent hazard mitigation programs and planning efforts across the State.	Low	FEMA HMA Management Costs, BRIC, HMGP; Operating Budget	Short-term
EMD-2: Continue and enhance integration of the WVEMD Mitigation program with the WVSRO.						
WVEMD, WVSRO	SLRP	2.1	Further integration of the State's mitigation and resilience programs.	Low	Operating Budget	Ongoing
EMD-3: Leverage excess management costs for HMA programs to fund local-level mitigation programs and regional technical assistance.						
WVEMD	SLRP	4.1	Lack of funding is a major deterrent to project implementation. The State providing financial resources can help overcome that barrier.	High	FEMA HMA Management Costs, BRIC, HMGP; Operating Budget	Long-term
EMD-4: Provide more technical assistance, including BCAs and guidance on conducting BCAs, to local communities on their mitigation projects.						
WVEMD	SLRP	2.5, 3.1, 4.3, 4.4, 4.5, 4.6	Builds local capabilities and increases the likelihood of local-level project implementation.	High	FEMA HMA Management Costs, BRIC, HMGP, HMTAP; Operating Budget	Long-term
EMD-5: Ensure at least 50 percent compliance of State-owned critical facilities to local floodplain management regulations in the next five years.						
WVEMD, Real Estate Office, BRIM	SIP	1.1, 1.2, 1.3, 1.4	Significant progress towards decreasing vulnerability to State-owned and -leased structures; less likelihood of a disruption to State operations due to hazard impacts.	High	FEMA HMA, EMPG, CAP-SSSE; Operating Budget	Long-term
EMD-6: Hire at least one engineer who could provide project design and other services to local communities.						
WVEMD	SLRP	4.4, 4.6	Lack of technical expertise, particularly in engineering solutions to problems caused by hazards, is a barrier to reducing vulnerability. The State providing technical assistance to develop engineering designs for mitigation	Medium	FEMA HMA Management Cost, EMPG, CAP-SSSE; Operating Budget	Short-term



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
			projects would increase the likelihood of implementation.			
EMD-7: Conduct FEMA-supported training workshops on a regional basis.						
WVEMD	EAP	3.1	Provides current information and best practices to stakeholders; minimizes time and financial cost on the State by bringing in FEMA personnel; builds local capabilities on relevant topics.	Medium	FEMA EMPG; Operating Budget	Ongoing
EMD-8: Develop and regularly conduct an abridged (less than one day long) floodplain management training session for local officials.						
WVEMD	EAP	3.1, 3.2, 3.3	Local officials will understand floodplain management requirements, be more likely to implement programs that support floodplain management and reducing flood losses, and be less likely to allow deviations from best practices and requirements.	Low	FEMA CAP-SSSE, EMPG; Operating Budget	Short-term
EMD-9: Conduct an annual education program for State Legislators on hazards and mitigation, perhaps during Flood Resiliency Week, at the State Capitol.						
WVEMD, WVSRO	EAP	3.1	Provides information to decision makers about the State's vulnerability to hazards and how risk can be reduced. Informs what future actions the legislature can take.	Low	FEMA EMPG, SHSP, CAP-SSSE; Operating Budget	Short-term
EMD-10: Educate legislators of the cost of locating State facilities in identified hazards areas, and the benefits of locating facilities outside those areas.						
WVEMD, WVSRO, Real Estate Office	EAP	3.1	Provides information to decision makers about protecting State facilities and operations by not locating them in hazard areas.	Low	Operating Budget	Short-term
EMD-11: Mitigate repetitive loss and severe repetitive loss properties, including educating local officials on mitigation options, funding sources, and non-federal match requirements.						
WVEMD	SIP	3.1, 3.2, 3.3, 4.4, 4.6	Reduce or eliminate future flood loss suffered by properties that already have a history of repetitive flooding.	High	FEMA BRIC, FMA, HMGP	Ongoing
EMD-12: Promote participation in the Community Rating System (CRS) Program.						
WVEMD	EAP	3.1, 3.2, 3.3	Secures discounts for policyholders in participating communities, which can increase the levels of flood insurance coverage	Medium	FEMA BRIC, CAP-SSSE	Ongoing



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
			throughout the community, resulting in greater financial resources available to help recover from a flood event.			
EMD-13: Educate local elected and appointed officials on hazards, vulnerability, and mitigation, including related to dam failure.						
WVEMD, WVSRO, Regional Planning and Development Councils (RPDC)	EAP	3.1, 3.2, 3.3	Provides information to local decision makers about the hazards their communities face and what can be done to reduce vulnerability from those hazards.	Medium	FEMA EMPG, NDSP, CAP-SSSE; Operating Budget	Short-term
EMD-14: Expand coordination of building code officials, the County Commissioners Association, the WV Municipal League, the Homebuilders Association, and the Realtors Association regarding reducing vulnerability.						
WVEMD, WVSRO, State Fire Marshal, County Commissioners Association, WV Municipal League, Homebuilders Association, Realtors Association	SLRP	4.6	Integrates multiple stakeholder organizations and programs to reduce risk due to hazard impacts throughout the State.	Low	Operating Budget	Ongoing
EMD-15: Integrate WVEMD's preparedness programs (e.g., Critical Infrastructure/Key Resources [CI/KR] Protection, Threat/Hazard Identification and Risk Assessment [THIRA], Emergency Operations Plan [EOP], Training and Exercise Plan [TEP]) with the Mitigation program, WVSRO, and Flood Protection Plan.						
WVEMD, WVSRO	SLRP	2.1, 2.4, 4.6	Increased coordination among several State programs that assess risk and capabilities, and implement measures to reduce vulnerability and increase resilience; increased efficiency of government programs.	Low	FEMA EMPG, SHSP, IPP, HMA Management Costs; Operating Budget	Short-term
EMD-16: Create and maintain a Mitigation Partner Focus Group or similar body.						
WVEMD, WVSRO	SLRP	2.1, 4.6	Brings additional perspectives into ongoing mitigation planning and coordination efforts at the State level.	Low	Operating Budget	Short-term
EMD-17: Demonstrate the need to invest time and coordination with established agency partners to build the State's mitigation program.						
WVEMD, WVSRO, WVDEP	EAP	2.1	Overcome reluctance or resistance by key personnel and decision makers to integrate and coordinate multiple programs among	Low	Operating Budget	Ongoing



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
			multiple departments to implement a holistic State-level hazard mitigation program.			
EMD-18: Establish a cadre of interdepartmental educators who would inform other departments about their capabilities and programs.						
WVEMD, WVSRO, WVDEP, WVDOT, RPDCs, Community and Development	EAP	3.2, 3.3	Shares information about programs managed by different agencies/departments to help identify possible synergies and partnerships to reduce vulnerability.	Medium	Operating Budget	Short-term
EMD-19: Build Relationships with Critical Facilities: Promoting and enhance activities that include, but are not limited to, developing relationships with private utilities and owners of critical facilities; providing information related to best practices, lessons learned, and local hazard knowledge; providing information related to threats and hazards in local communities; developing a facility assessment checklist to be used as part of a Continuity of Operations/Hazard Vulnerability Assessment; and encouraging facility involvement in local planning efforts.						
WVEMD, WVSRO	EAP	4.6	Increases resilience of individual critical facilities and community lifelines.	Medium	FEMA EMPG, SHSP, IPP, HMEP; Operating Budget	Long-term
EMD-20: Grow the WV Silver Jackets membership, program, and projects.						
WVEMD, USACE WV Silver Jackets	SLRP	2.3, 4.6	Encourages interagency support and coordination to develop and implement a unified floodplain management and mitigation program.	Medium	USACE; FEMA CAP-SSSE, EMPG	Long-term
EMD-21: Implement a State requirement that development within the SFHA should have to be justified using a cost-benefit analysis or some other analysis.						
WVEMD, Legislature	SLRP	1.1, 1.2, 1.3, 3.1, 4.4, 4.6	Guides development away from the SFHA while balancing community and economic development needs for communities that cannot avoid development in the SFHA.	High	FEMA CAP-SSSE; Operating Budget	Long-term
EMD-22: Publicize the availability of grants.wv.gov and the WV Infrastructure Hub as resources for resilience, mitigation, and infrastructure efforts.						
WVEMD, WVSRO	EAP	4.5	Lack of funding is a major deterrent to project implementation. Better understanding of available financial resources can help overcome that barrier.	Low	Operating Budget	Short-term
EMD-23: Enact a real estate disclosure law to require potential property buyers be informed of a property's history of flooding and other hazard impacts.						
WVEMD, WVSRO, Legislature	SLRP	3.1	Protects potential buyers from investing in property with a history of damage from hazard impacts. May deter potential buyers from	High	Operating Budget	Long-term





Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
			residing or establishing a business in a hazardous area.			
EMD-24: Encourage individuals to secure and maintain flood insurance, particularly if their property is within the Special Flood Hazard Area (SFHA).						
WVEMD	EAP	3.1	Increases the levels of flood insurance coverage throughout the community, resulting in greater financial resources available to help recover from a flood event.	Medium	FEMA BRIC, CAP-SSSE	Ongoing
EMD-25: Improve Use of Media: Promote and enhance public outreach programs throughout the State, including but not limited to developing outreach materials, videos, and presentations; encouraging media to publish stories about preparedness and mitigation efforts; ensuring information is available for all media formats and audiences; and coordinating efforts with the WV Silver Jackets.						
WVEMD	EAP	3.1, 3.2, 3.3	Provides standardized, current content for distribution across the State by and to the whole community.	Medium	Operating Budget	Ongoing
EMD-26: Develop template marketing materials and programs for mitigation topics.						
WVEMD	EAP	3.1, 3.2, 3.3	Provides standardized, current content for distribution across the State by and to the whole community.	Low	Operating Budget	Short-term
EMD-27: Consider adding cyber attack as a hazard of concern analyzed in the SHMP.						
WVEMD, WV Office of Technology, WV Fusion Center	SLRP	1.4, 2.4	Provides information on a cause of utility failure and lays the foundation to identify mitigation actions to protect IT systems.	Low	FEMA BRIC, HMGP, HMA Management Costs; Operating Budget	Long-term
EMD-28: Develop a state-level funding mechanism for implementing mitigation actions at the local level.						
WVEMD, Legislature	SLRP	4.2	Lack of funding is a major deterrent to project implementation. The State providing financial resources can help overcome that barrier.	High	FEMA STORM	Long-term
SRO-1: Add relevant eligibility requirements to existing State funding programs or the State requirements for other funding programs administered by the State, to incentivize mitigation efforts.						
SRO, WVEMD, WVDEP, WVDOT, RPDCs, Community and Development, Economic Development	SLRP	4.1	Provides an incentive to build local capabilities and programs related to hazard mitigation, reducing vulnerability, and resilience.	Low	FEMA HMA Management Costs, EMPG; U.S. EDA; U.S. HUD CDBG; Operating Budgets of Administrative Agencies	Short-term
SRO-2: Conduct a one-day meeting to describe all available funding opportunities that can be leveraged to reduce long-term vulnerability.						



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
SRO, WVEMD, WVDEP, WVDOT, RPDCs, Community and Development, Economic Development	EAP	3.1	Lack of funding is a major deterrent to project implementation. The State providing information about available financial resources can help overcome that barrier.	Low	Operating Budget	Short-term
SRO-3: Require documented continuing education of local officials for the community to be eligible for grant funding.						
SRO, WVEMD, WVDEP, WVDOT, RPDCs, Community and Development, Economic Development	SLRP	4.1	Provides an incentive for local officials to maintain a working knowledge of mitigation and other topics.	Low	Operating Budget	Short-term
SFM-1: Promote adoption of the State Building Code.						
State Fire Marshal	EAP	3.1, 3.2, 3.3	Structures that are constructed to meet or exceed building codes are more likely to withstand hazard impacts. The State maintains a State Building Code, but adoption of the code is optional. Promoting adoption would result in more communities adopting the State Building Code, in turn resulting in decreased structural damage during hazard events.	High	FEMA BRIC, HMA Management Costs; Operating Budget	Ongoing
SFM-2: Update the State Code to state that State facilities “should” go through the local permitting process.						
State Fire Marshal, Legislature	SLRP	1.1, 1.2, 1.3, 1.4	Helps to protect State facilities by recommending they follow local development regulations; provides an incremental step towards requiring State facilities follow development regulations.	Medium	FEMA BRIC, HMA Management Costs; Operating Budget	Short-term
SFM-3: Explore making or allowing code enforcement to be a county or regional function to leverage economies of scale.						
State Fire Marshal, Legislature	SLRP	2.5	Provides economies of scale in code enforcement, which may result in communities that had not adopted codes (including the State Building Code) due to the cost of enforcement adopting them and reducing risk to structures.	Medium	FEMA BRIC; U.S. EDA; Operating Budget	Long-term



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
SFM-4: Develop a State-level funding mechanism for local code enforcement efforts.						
State Fire Marshal, Legislature	SLRP	2.5, 4.1, 4.2	Lack of funding to pay for code enforcement is a major deterrent to adopting and enforcing the State Building Code. The State providing financial resources for code enforcement can help overcome that barrier.	High	FEMA BRIC; U.S. EDA; Operating Budget	Long-term
DEP-1: Conduct outreach to dam owners about the availability of funding through FEMA's Rehabilitation of High Hazard Potential Dams (HHPD) Grant Program, and work with dam owners to secure funding to protect dams and reduce the threat that the dams pose to downstream communities.						
WVDEP	EAP	1.5, 2.2, 2.3	Assists dam owners with upgrading and maintaining high hazard potential dams, reducing the likelihood of catastrophic impacts were the dams to fail.	Medium	FEMA NDSF, HHPD, EMPG; Operating Budget	Short-term
DEP-2: Provide more technical assistance to local communities on their dam failure mitigation projects.						
WVDEP	EAP	1.5, 2.2, 2.3	Assists local communities in reducing their risk from dam failures and to their dams from other hazard events.	Medium	FEMA NDSF; Operating Budget	Ongoing
DEP-3: Require dam failure Emergency Action Plans (EAP) to assess roadway inundation in evacuation planning.						
WVDEP, WVEMD	SLRP	1.5, 2.1, 4.6	Ensures that emergency evacuation plans are valid and implementable, rather than relying on roadways that may not be passable during a dam failure event.	Low	FEMA NDSF; Operating Budget	Short-term
DEP-4: Expand coordination of the WVDEP's coal and non-coal dam safety programs, WVEMD, the USACE, local conservation districts, the Natural Resources Conservation Service (NRCS), WV Fish and Wildlife, WVDNR, and local watershed groups regarding decreasing vulnerability due to dam failures.						
WVDEP, WVEMD, WVDNR, USACE, U.S. Fish and Wildlife, RPDCs, local conservation districts, local watershed groups	SLRP	1.5, 2.1, 2.2, 2.3, 2.4, 4.6	Integrates multiple State departments and programs with federal and local stakeholders to reduce risk due to dam failures and to dams from other hazard impacts.	Low	Operating Budget	Ongoing
CAD-1: Fund and increase coordination and regional activities at the RPDCs.						
Community and Development, RPDCs	SLRP	2.5	Leverages the working relationship that RPDC staff have with their constituent communities to implement mitigation and other programs across the State. Providing funding to do so	High	U.S. EDA	Long-term



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
			reduces the burden on the RPDCs and makes it more likely that they participate.			
CAD-2: Conduct train-the-trainer sessions for RPDC staff so that they can provide local training and education, and develop a funding mechanism to do so.						
Community and Development, RPDCs	EAP	2.5	Leverages the working relationship that RPDC staff have with their constituent communities to provide training and education on mitigation and other programs across the State.	Medium	U.S. EDA	Short-term
CAD-3: Leverage the RPDCs to conduct outreach on mitigation topics throughout the regions, including in-person local outreach efforts.						
Community and Development, RPDCs, WVEMD, WVSRO	EAP	2.5, 4.6	Leverages the working relationship that RPDC staff have with their constituent communities to provide training and education on mitigation and other programs across the State.	Low	U.S. EDA; FEMA EMPG, HMA Management Costs, CAP-SSSE; Operating Budget	Ongoing
CAD-4: Develop a funding stream for the RPDCs to provide mitigation planning and technical assistance to local jurisdictions.						
Community and Development, RPDCs, WVEMD, WVSRO	SLRP	2.5, 4.1, 4.2	Providing funding to conduct planning and offer technical assistance makes it more likely that RPDCs will participate.	High	U.S. EDA	Long-term
CAD-5: Provide additional funding to RPDCs to support their local mitigation objectives.						
Community and Development, WVEMD	SLRP	2.5	Providing funding to implement mitigation measures makes it more likely that RPDCs will lead the efforts.	Medium	U.S. EDA; FEMA BRIC, HMGP, FMA, HMA Management Costs	Ongoing
Conservation-1: Soil Erosion Reduction Measures: Promote and enhance activities including, but not limited to, working with logging operations to reduce soil erosion, developing and implementing programs to reduce erosion and run-off following logging, and identifying best practices and education programs for logging operations.						
Conservation Agency	SLRP	2.3	Reduces risk from landslides and stormwater flooding following logging operations.	Medium	U.S. NRCS; U.S. DOI LWCF; Operating Budget	Ongoing
Forestry-1: Wildfire Prevention Measures: Promote and enhance activities to reduce the risk that wildfires pose to State-owned and operated facilities, critical facilities, and private residences. Specific activities to support this initiative include, but are not limited to: promote creation of defensible spaces between structures and potential wildfire fuel sources; assist communities with reduction of hazardous wildland fuels; identify potential wildfire hazards (i.e., burning coal seams); and take measures to mitigate that hazard fuel sources.						
Division of Forestry (WVDOF)	NSP	1.3, 1.4, 3.1, 3.2, 3.3, 4.4, 4.6	Reduces risk to structures from wildfires.	Medium	U.S. NWCG; FEMA EMPG; Operating Budget	Ongoing



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
Forestry-2: Fund Community Wildfire Protection Plan Program: Promote and enhance a variety of specific mitigation activities to include, but not limited to providing potential financial and technical assistance for development of Community Wildfire Protection Plans.						
WVDOF	SLRP	4.2	Develops local strategies for reducing risk from wildfires.	Medium	U.S. NWCG; FEMA EMPG; Operating Budget	Ongoing
Forestry-3: Provide training on wildfire suppression techniques to volunteer structure fire departments and wildland firefighters.						
WVDOF	EAP	4.6	Increases the State's and local fire departments' ability to respond to wildfires before they grow too large, limiting the number of people and properties affected by a wildfire event.	Medium	U.S. NWCG; FEMA EMPG; Operating Budget	Short-term
Forestry-4: Increase education of the public on the risk from wildfires and how to prevent them.						
WVDOF	EAP	3.1	Reduces risk of wildfire events and provides individuals with options for protecting themselves and their own property.	Low	Operating Budget	Short-term
Forestry-5: Modernize the Division of Forestry's fire fighting capability						
WVDOF	SLRP	4.6	Increases the State's ability to respond to wildfires before they grow too large, limiting the number of people and properties affected by a wildfire event.	High	FEMA EMPG, Fire Prevention and Safety Grant Program, Assistance to Firefighters; U.S. Forest Service Cooperative Forestry State Fire Assistance; Capital Improvements, Operating Budget	Short-term
IJA-1: Integrate the Infrastructure Investment and Jobs Act (IJA) Board and projects with the WVEMD Mitigation program and WVSRO.						
IJA Board, WVEMD, WVSRO	SLRP	2.3	Further integration of the State's mitigation and resilience programs with another major programmatic body	Medium	IJA Funding; Operating Budgets	Ongoing
IJA-2: Add WVEMD and the WVSRO officials to the IJA Board.						
IJA Board, WVEMD, WVSRO	SLRP	2.3	Further integration of the State's mitigation and resilience programs with another major programmatic body.	Low	Operating Budget	Short-term



Action Number and Description						
Responsible Department(s)/ Agency(ies)	Action Type	Goal/Objective	Contribution to Goals	Estimated Cost	Potential Sources of Funding	Timeline
Real Estate-1: Develop a long-term State Real Estate Plan to eventually ensure that all State buildings comply with development regulations. This could include retrofitting existing structures, building new facilities, or finding new space for lease in buildings that comply with regulations. The plan will prioritize buildings that WVEMD deems critical facilities.						
Real Estate Office, WVEMD, BRIM, WVSRO, State Fire Marshal	SLRP	1.1, 1.2, 1.3, 1.4, 2.3	Decreased vulnerability to State-owned and -leased structures; less likelihood of a disruption to State operations due to hazard impacts.	Medium	Operating Budget	Short-term
WVU-1: Maintain and enhance the TEAL system.						
WVU GISTC	SLRP	4.5	Provides data and information on the landslide hazard across the State, for use in State, regional, and county mitigation planning efforts.	High	FEMA BRIC, HMGP, HMA Management Costs; Operating Budget	Ongoing
WVU-2: Develop tools similar to the TEIF and TEAL systems for wildfires, including a layer of historical fires and delineation of the wildland-urban interface.						
WVU GISTC	SLRP	4.5	Would provide data and information on the wildfire hazard across the State, for use in State, regional, and county mitigation planning efforts.	High	FEMA BRIC, HMGP, HMA Management Costs; Operating Budget	Long-term
WVU-3: Establish a Resiliency Center for Excellence to provide technical assistance, outreach, planning liaison, and other support throughout the State.						
WVU, WVEMD, RPDCs, FEMA	SLRP	4.6	Provides an additional source of assistance to the State, regions, and communities.	High	U.S. NIST; FEMA BRIC, HMA Management Costs; Operating Budget	Long-term



## 11.5 2023 Mitigation Actions by Hazard

Table 11-2 summarizes the 2023 mitigation actions and the hazards of concern each addresses.

*Table 11-2. State of West Virginia 2023 SHMP Mitigation Action Plan and Hazards of Concern Addressed*

Action Number	Hazard(s) of Concern Addressed															
	Dam Failure	Drought	Earthquake	Extreme Temperatures	Flood	Hazardous Materials	Landslide	Levee Failure	Pandemic	Radiological Incidents	Radon Exposure	Severe Storms	Subsidence	Utility Failure	Wildfire	Winter Weather
EMD-1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-4			◆		◆		◆					◆	◆	◆	◆	◆
EMD-5	◆				◆											
EMD-6			◆		◆		◆					◆	◆	◆	◆	◆
EMD-7	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-8					◆											
EMD-9	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-10	◆				◆	◆	◆	◆		◆	◆		◆		◆	
EMD-11					◆											
EMD-12					◆											
EMD-13	◆				◆											
EMD-14	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-15	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-16	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-17	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-18	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-19	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-20	◆				◆											
EMD-21					◆											
EMD-22	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-23	◆		◆		◆	◆	◆	◆		◆		◆	◆	◆	◆	◆
EMD-24	◆				◆											
EMD-25	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-26	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
EMD-27														◆		



Action Number	Hazard(s) of Concern Addressed															
	Dam Failure	Drought	Earthquake	Extreme Temperatures	Flood	Hazardous Materials	Landslide	Levee Failure	Pandemic	Radiological Incidents	Radon Exposure	Severe Storms	Subsidence	Utility Failure	Wildfire	Winter Weather
EMD-28	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
SRO-1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
SRO-2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
SRO-3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
SFM-1			◆		◆		◆				◆	◆	◆		◆	◆
SFM-2			◆		◆		◆				◆	◆	◆		◆	◆
SFM-3			◆		◆		◆				◆	◆	◆		◆	◆
SFM-4			◆		◆		◆				◆	◆	◆		◆	◆
DEP-1	◆				◆											
DEP-2	◆				◆											
DEP-3	◆				◆											
DEP-4	◆				◆											
CAD-1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
CAD-2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
CAD-3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
CAD-4	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
CAD-5	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Conservation-1					◆		◆									
Forestry-1															◆	
Forestry-2															◆	
Forestry-3															◆	
Forestry-4															◆	
Forestry-5															◆	
IJJA-1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
IJJA-2	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆
Real Estate-1			◆		◆		◆			◆		◆	◆		◆	◆
WVU-1							◆									
WVU-2															◆	
WVU-3	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆





## 11.6 Action Plan Prioritization

All mitigation actions included in the 2023 SHMP must be prioritized based on the risk assessment, capabilities, and progress on previously identified actions. The following summarizes the prioritization schema for action implementation. Each action included in the 2023 SHMP was ranked numerically based on the following criteria:

- Will the action result in life safety?
- Will the action result in property protection?
- Will the action be cost-effective? (future benefits exceed cost)
- Is the action technically feasible?
- Is there political support?
- Does the State have the legal authority to implement?
- Is funding available for the action?
- Will the action have a positive impact on the natural environment?
- Is there community support?
- Does the State have the administrative capability to execute the action?
- Will the action reduce risk to more than one hazard?
- Can the action be completed in less than 5 years?
- Is there an agency/department local champion for the action?
- Will the action meet other objectives (such as capital improvements, economic development, environmental quality, or open space preservation?) Does it support the policies of other plans and programs?

Actions were given a score of 0 to 4 based on responses to these criteria and scores were added to assign a priority. The following outlines the 0 to 4 scale used; as well as the high, medium, and low priority action total scores.

- Numeric Scale for Each Criteria:
  - Definitely Yes = 4
  - Maybe Yes = 3
  - Unknown/Neutral = 2
  - Probably No = 1
  - Definitely No = 0
- Priority Categories Based on Total Score:
  - Low =<47 (up to the mean of all scores)
  - Medium = 47–51 (from the mean to plus one standard deviation)
  - High =>52 (over one standard deviation above the mean)

Table 11-3 indicates the evaluation and implementation priority for each action of the 2023 SHMP.



**Table 11-3. State of West Virginia 2023 SHMP Mitigation Action Plan Prioritization**

Action Number	Criteria														Priority	
	Life Safety	Property Protection	Cost-effective	Technically Feasible	Politically Acceptable	Legal Authority	Funding Available	Environmental Impact	Social	Administrative Capability	Multi-Hazard	Timeline	Local Champion	Other Local Objectives		Total Score
EMD-1	3	3	4	4	3	4	3	2	4	3	4	4	4	4	49	Medium
EMD-2	2	2	4	4	4	4	4	2	4	4	4	4	4	4	50	Medium
EMD-3	4	4	4	4	4	4	3	2	4	3	4	3	3	4	50	Medium
EMD-4	3	3	4	4	4	4	3	2	4	4	4	4	4	4	51	Medium
EMD-5	4	4	4	4	3	4	2	3	3	2	4	3	4	4	48	Medium
EMD-6	2	3	2	4	4	4	3	2	4	4	4	4	3	3	46	Low
EMD-7	2	2	2	4	4	4	3	2	4	4	4	4	4	3	46	Low
EMD-8	3	2	3	4	4	4	3	2	3	4	0	4	4	4	44	Low
EMD-9	3	2	3	4	4	4	3	2	2	4	4	4	4	4	47	Low
EMD-10	3	2	3	4	4	4	4	2	3	4	4	4	4	4	49	Medium
EMD-11	4	4	4	4	4	4	3	4	4	3	0	4	4	4	50	Medium
EMD-12	3	3	4	4	4	4	4	3	4	4	0	4	4	4	49	Medium
EMD-13	3	3	4	4	4	4	4	2	4	4	4	4	4	4	52	High
EMD-14	3	4	3	4	4	4	4	2	4	4	4	4	3	3	50	Medium
EMD-15	2	4	4	4	4	4	4	2	4	3	4	4	3	4	50	Medium
EMD-16	2	2	3	4	4	4	4	2	4	4	4	4	4	4	49	Medium
EMD-17	2	3	3	4	4	4	4	2	4	4	4	4	4	4	50	Medium
EMD-18	2	2	2	4	4	4	4	2	4	3	4	4	2	3	44	Low
EMD-19	4	4	3	4	4	4	3	2	4	4	4	4	4	4	52	High
EMD-20	3	3	4	4	4	4	4	4	4	4	4	4	4	4	54	High
EMD-21	4	4	4	4	1	4	2	4	1	2	0	3	2	4	39	Low
EMD-22	2	3	3	4	4	4	4	2	4	4	4	4	3	4	49	Medium
EMD-23	4	2	3	4	1	4	4	2	1	3	4	3	4	3	42	Low
EMD-24	2	4	4	4	4	4	4	2	3	4	4	4	4	3	50	Medium
EMD-25	2	3	3	4	4	4	4	2	4	4	4	4	4	4	50	Medium



Action Number	Criteria														Total Score	Priority
	Life Safety	Property Protection	Cost-effective	Technically Feasible	Politically Acceptable	Legal Authority	Funding Available	Environmental Impact	Social	Administrative Capability	Multi-Hazard	Timeline	Local Champion	Other Local Objectives		
EMD-26	2	2	3	4	4	4	4	2	4	4	4	4	4	4	49	Medium
EMD-27	2	2	3	4	4	4	4	2	4	4	0	4	3	3	43	Low
EMD-28	3	4	3	4	1	4	1	3	2	2	4	2	3	4	40	Low
SRO-1	2	3	4	4	1	4	4	2	1	4	4	4	2	4	43	Low
SRO-2	2	3	2	4	4	4	4	2	4	4	4	4	2	4	47	Low
SRO-3	2	2	3	4	1	4	4	2	1	2	4	4	2	4	39	Low
SFM-1	4	4	4	4	3	4	3	2	3	4	4	4	4	3	50	Medium
SFM-2	3	4	4	4	3	4	4	2	3	4	4	4	4	3	50	Medium
SFM-3	3	4	3	4	3	4	3	2	2	4	4	3	3	4	46	Low
SFM-4	2	4	3	4	2	4	1	2	2	2	4	2	3	4	39	Low
DEP-1	4	3	3	4	4	4	4	2	4	4	4	4	3	3	50	Medium
DEP-2	4	2	3	4	4	4	4	2	4	4	4	4	3	3	49	Medium
DEP-3	4	2	2	4	4	4	4	2	3	3	4	4	3	3	46	Low
DEP-4	4	3	3	4	4	4	4	3	4	4	4	4	3	4	52	High
CAD-1	3	2	3	4	3	4	2	3	3	3	4	3	3	4	44	Low
CAD-2	2	2	3	4	4	4	3	2	4	4	4	4	3	4	47	Low
CAD-3	3	3	3	4	4	4	3	2	4	4	4	4	4	4	50	Medium
CAD-4	4	2	3	4	2	4	1	2	3	2	4	2	2	4	39	Low
CAD-5	3	3	3	4	2	4	1	2	3	3	4	4	3	4	43	Low
Conservation-1	3	3	3	4	4	4	3	4	2	4	4	4	3	3	48	Medium
Forestry-1	4	4	4	4	4	4	3	4	3	4	0	4	3	3	48	Medium
Forestry-2	3	3	3	4	4	4	2	3	3	4	0	4	3	3	43	Low
Forestry-3	4	4	3	4	4	4	4	3	4	4	0	4	4	3	49	Medium
Forestry-4	4	4	3	4	4	4	4	3	4	4	0	4	3	3	48	Medium
Forestry-5	4	4	3	4	4	4	2	3	4	3	0	4	3	3	45	Low
IJA-1	2	2	3	4	3	4	4	2	4	4	4	4	3	4	47	Low



Action Number	Criteria														Total Score	Priority
	Life Safety	Property Protection	Cost-effective	Technically Feasible	Politically Acceptable	Legal Authority	Funding Available	Environmental Impact	Social	Administrative Capability	Multi-Hazard	Timeline	Local Champion	Other Local Objectives		
IIJA-2	2	2	3	4	3	4	4	2	4	4	4	4	3	4	47	Low
Real Estate-1	3	4	3	4	4	4	4	2	3	3	4	4	2	4	48	Medium
WVU-1	3	2	2	4	4	4	3	2	3	4	0	4	3	3	41	Low
WVU-2	3	2	2	4	4	4	2	2	3	3	0	3	3	3	38	Low
WVU-3	2	2	2	4	4	4	2	3	3	3	4	3	3	4	43	Low