



CHAPTER 1

HAZARD SUMMARY AND MITIGATION STRATEGY

Chapter 1: Hazard Summary and Mitigation Strategy

Introduction

What is Hazard Mitigation?

Hazard Mitigation is defined as ***any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards***. The key phrases in this definition, “sustained action” and “reduce or eliminate long-term risk,” make hazard mitigation different from other types of actions. Mitigation actions are usually permanent solutions to the hazards faced by Idahoans. Hazard mitigation is considered one of the five phases of emergency management. The other four phases are:

- **Prevent:** Preventive measures are designed to provide more permanent protection from disasters or emergencies; however, not all disasters can be prevented. The risk of loss of life and injury can be limited.
- **Preparedness:** Actions, programs and systems developed and implemented prior to disasters or emergencies
- **Response:** Actions designed to address the immediate and short-term effects of disasters or emergencies
- **Recovery:** Actions and programs designed to return conditions to an acceptable level

Mitigation actions can occur before or after a disaster event, so mitigation can be built into both preparedness actions and recovery actions to improve conditions and make them more resilient after future disaster events.

Types of Hazard Mitigation Actions

Hazard mitigation strategies to reduce specific risks can vary from very simple to complex. They comprise one or more hazard mitigation actions. There are so many different hazard mitigation actions that they are often classified into six categories:

1. Prevention
2. Property protection
3. Public education and awareness
4. Natural resource protection
5. Critical facilities protection
6. Structural projects

Prevention actions are intended to keep a hazard risk problem from getting worse. They ensure that future development does not increase hazard losses. Communities can achieve significant progress toward hazard resistance through prevention actions. This is particularly true in areas that have not been developed. Types (and examples) of prevention actions are:

- Planning and zoning (floodplain regulations)



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- Open space preservation (parks and recreation areas)
- Land development regulations (large lot sizes)
- Stormwater management (clear ditches/larger retention basins)
- Capital improvement planning (no infrastructure extended into hazard areas)
- Building codes

Property Protection actions are used to modify buildings subject to hazard risk, or their surroundings, rather than to prevent the hazard from occurring. A community may find these to be inexpensive actions because often they are implemented or cost-shared with property owners. These actions directly protect people and property at risk. Protecting a building does not have to affect the building's appearance and is therefore a popular action for historic and cultural sites. Some examples of property protection actions are:

- Acquisition (the public procurement and management of lands that are vulnerable to damage from hazards)
- Relocation (involves permanent evacuation of hazard-prone areas through movement of existing hazard-prone development and population to safer areas)
- Elevation of structures above the base flood elevation
- Rebuilding (modifying structures to reduce damage by future hazard events)
- Floodproofing and localized flood control (protecting a flood prone building using one or more of several different methods)
- Creating defensible spaces around structures in and around the wildfire-urban interface
- Nonstructural seismic retrofits (includes strapping water heaters to walls, reinforcing connections for suspended ceilings, bookcases, and electronics mounted on walls, etc.)

Public Education and Awareness activities inform and remind people about hazardous areas and the actions necessary to avoid potential damage and injury. The public can be informed about hazard mitigation through several avenues. Some examples include:

- Providing hazard maps and other hazard information
- Website
- Outreach programs that provide hazard and mitigation information
- Asking business owners to provide hazard mitigation information to employees
- Mass mailings
- Notices to residents and property owners in a specific hazard-prone area
- Displays in widely used facilities, such as public buildings and malls
- Print media, radio/TV spots, and interviews
- Public access TV channel announcements
- Videotape/property owner handbook
- Presentations at meetings of neighborhood groups
- Tab in phone book



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- Real estate disclosure
- Hazard mitigation Information in a library
- Available technical assistance
- School-age and adult education

Natural Resource Protection actions are intended to reduce the intensity of hazard effects, as well as to improve the quality of the environment and wildlife habitats. Park, recreation, or conservation agencies or organizations usually implement these activities. Examples of natural resource protection include:

- Erosion and sediment control
- Wetlands protection
- Dune restoration
- Reforestation
- Terracing

Critical Facilities Protection is essential because critical facilities can have a huge effect on the scope of the damage as well as the ability of the community to respond and recover from a hazard event.

Critical facilities include:

- Essential facilities, such as police stations, fire stations, and hospitals
- Facilities that house populations requiring special consideration, such as nursing homes, prisons, schools, and secondary education facilities
- Facilities that can create secondary hazards, such as nuclear power plants and hazardous materials production or storage facilities

Structural Projects directly protect people and property at risk. They are called “structural” because they involve the construction of structures to control hazards. Some examples of structural projects are:

- Dams, reservoirs, dikes, levees
- Revetments
- High-flow diversions
- Debris basins
- Channel modifications
- Storm sewers
- Elevated roadways

Framework for Hazard Mitigation in Idaho

Hazard mitigation is done on multiple levels and is intended to be both unilateral and overlapped. On an *individual* level, for example, a home or business owner can purchase flood or earthquake insurance. On a *community* level, mitigation actions can be any of those discussed earlier. At the *state or tribal nation* level, mitigation actions tend to focus on ensuring that programs are made available, protecting



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government facilities from hazards, and encouraging mitigation through programs, policies, and laws. It is important that state, tribal, and federal agencies work cooperatively to reduce risk.

Hazard mitigation goals, objectives, and actions are described in *hazard mitigation plans*. Mitigation plans are created to protect the health, safety, and economic interests of residents by reducing the impacts of natural hazards. Plans are important because they:

- ✓ Increase public awareness and understanding of vulnerabilities and support specific actions to reduce losses from future natural disasters
- ✓ Expand understanding of potential risk reduction measures
- ✓ Create safer communities by reducing loss of life, injury, and property damage
- ✓ Reduce the financial impact on individuals, communities, and society as a whole
- ✓ Provide eligibility for FEMA post-disaster and pre-disaster mitigation funding

Currently, there are two primary mitigation plans at the state level in Idaho: the *State of Idaho Hazard Mitigation Plan* (this document, which focuses on all hazard mitigation) and the *Idaho Statewide Implementation Strategy for the National Fire Plan* (which focuses on the hazard of wildfire only).

Who are the agencies involved in hazard mitigation in Idaho? Chapter 4 details the mitigation capability of the state. The primary state agencies implementing hazard mitigation in Idaho include the Idaho Office of Emergency Management (IOEM), Idaho Department of Lands, Idaho Department of Transportation, and the Idaho Department of Water Resources. At the federal and local levels, many agencies are involved in hazard mitigation. With so many agencies having a stake in hazard mitigation, technical working groups have been formed around all thirteen of Idaho's assessed hazards. The technical working groups are detailed in the planning process later in this chapter.

Why Mitigate in Idaho?

Idaho is hazard prone. In fact, Idaho faces significant hazards and has experienced significant events in the past. Consider:

1910 Fire Aftermath

- ✓ Idaho experienced the most significant wildfire event in U.S. history. IT CAN HAPPEN IN IDAHO! The 1910 fire burned 3 million acres (an area the size of the State of Connecticut), and destroyed two entire Idaho towns. In all, 86 people died and 7.5 billion board-feet of timber were consumed. Unfortunately, combinations of drought, extreme fires, weather, continuous fuels over landscapes, multiple large fires burning at the same time, and severe late-season



Source: US Forest Service



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wind events could cause such an event to occur again today. Using conservative cost estimation methodologies, such a fire today in total cost would approach \$3.5 billion.

- ✓ Idaho experienced one of the most significant dam failures in United States history. The Teton Dam failure in 1976 drained an impoundment 270 feet deep in less than six hours. Damage was swift and complete as 2 million cubic feet per second poured from the breach. Six communities were devastated, and thousands of homes and businesses were destroyed. The dam failure triggered significant landslides and resulted in serious impacts to the lower portion of the Teton River's ecology and to habitats in the Snake River as far down as Fort Hall. Damages, in today's costs, exceeded \$2 billion.

1976 Teton Dam Failure



Source: www.damsafety.org

- ✓ The 1983 Borah Peak earthquake registered a 6.9 magnitude and resulted in approximately \$26 million in damage. What would happen if a magnitude 6.9 earthquake occurred in Idaho Falls? State-of-the-art FEMA loss estimation tools such as HAZUS determined that such a scenario would generate the following losses: over 1,500 structures would be complete losses, and over 31,000 structures would be damaged. Total estimated losses would be \$1.5 billion.

BILLION-DOLLAR DISASTERS HAVE OCCURRED AND WILL OCCUR IN IDAHO!

Given the relatively small size of the State and its Gross Domestic Product – billion-dollar disaster losses would result in significant impacts – both economic and environmental. Hazard mitigation today can reduce the losses that will inevitably occur tomorrow.

Status of 2013 Mitigation Action Plan

The 2013 State Hazard Mitigation Plan (SHMP) identified 14 mitigation actions. The executive committee and technical working groups (TWG) s reviewed all 14 and reported on each action's current status. Table 1.F at the end of this chapter includes this status information. Overall, five (35%) of those actions were completed as of the writing of this update. The remaining nine actions will continue to be on-going efforts. See Table 1.F for more information on the status of the 2013 mitigation action items.

Mitigation Funding Highlights

To date, mitigation funding for the period of 2013-2018 was significant. Table 1.A below presents a summary of hazard mitigation assistance programs that were awarded to the State since 2013. A full description of these programs is located in Chapter 4 of this Plan.



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TABLE 1.A: Idaho Mitigation Funding Summary, 2013-2017

| Year awarded | Unified HMA ¹ | Volunteer Fire Assistance ² | National Fire Plan ² | NEHRP ¹ | EMPG ¹ | TOTAL |
|--------------|--------------------------|--|---------------------------------|--------------------|-------------------|-----------|
| 2013 | \$66,842.28 | \$1,357,000.00 | ----- | \$123,011.37 | \$1,546,853.25 | 2013 |
| 2014 | \$1,400,952.00 | \$1,998,100.00 | ----- | \$123,230.00 | \$3,522,282.00 | 2014 |
| 2015 | \$502,087.50 | \$2,461,840.00 | \$37,200.00 | \$122,726.19 | \$3,123,853.69 | 2015 |
| 2016 | \$1,962,063.50 | \$2,761,170.00 | \$32,000.00 | \$105,168.20 | \$4,860,401.70 | 2016 |
| 2017 | \$1,805,521.00 | \$3,004,670.00 | \$30,642.32 | \$129,316.16 | \$3,164,628.48, | 2017 |
| Sub-Total | \$3,931,945.28 | \$11,582,780.00 | \$99,842.32 | \$603,451.92 | \$16,218,019.32 | Sub-Total |

- Information sources: IOEM¹, Idaho Department of Lands²
- Unified Hazard Mitigation Assistance (HMA) from the Federal Emergency Management Agency (FEMA) encompasses the following grant programs:
 - Hazard Mitigation Grant Program (HMGP) / Pre-Disaster Mitigation (PDM) / Flood Mitigation Assistance (FMA)
- The National Fire Plan (NFP) is a collaborative program between the U.S. Department of the Interior (DOI) and U.S. Department of Agriculture (USDA)
 - Funding shown includes Hazardous Fuels Treatment and Wildland Landscape Scale Restoration.
- The National Earthquake Hazards Reduction State Assistance Program (NEHRP) is a collaboration between FEMA, the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the U.S. Geological Survey (USGS). These were awarded to consortiums on behalf of Idaho.
- Emergency Management Performance Grants (EMPG) is also run through FEMA. These funds only represent mitigation staffing and projects.
- Years shown are tied to funding cycle dates and HMGP declaration dates (for Unified HMA) and do not represent funds obligated in that year.

Unified Hazard Mitigation Assistance (HMA) grant awards in grants 2013 through 2017 were well below the previous 5 year average of mitigation funding which was close to \$2.7 million per year. National Fire Plan funding is where the State saw the largest decreases in 2013 and 2014, when compared to a five year average of close to \$3 million per year. As a State with a significant wildfire risk as well as a significant amount of public lands, the National Fire Plan funds for hazardous fuels treatment and wildland fire planning and assessment are important mitigation funding sources. The Emergency Management Performance Grants have held relatively level. The National Earthquake Hazards Reduction Program (NEHRP) now includes an option for states to match 50% or work through a consortium partnership with no match required.



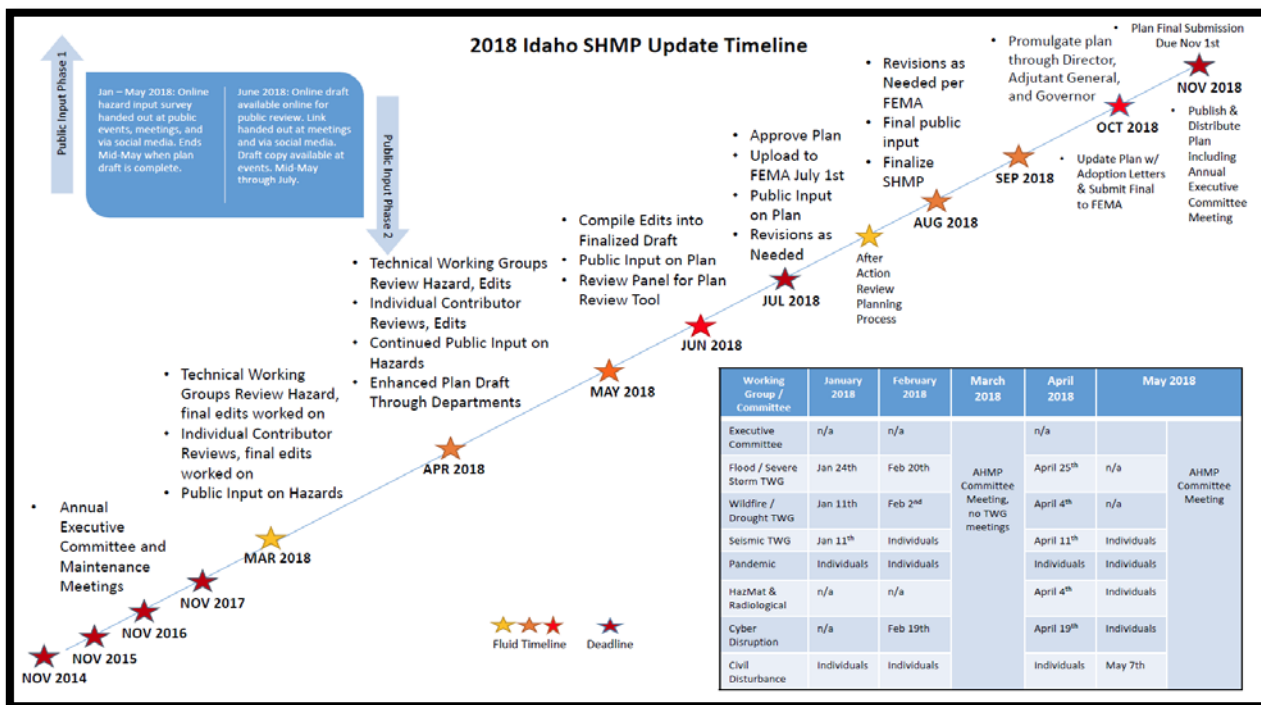
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Planning Strategy

Development of the 2018 State Hazard Mitigation Plan Update has involved coordination between the Idaho Office of Emergency Management (IOEM); local, State, and Federal agencies; private sector partners, and the public to address and incorporate: 1) FEMA requirements for Enhanced Plan requirements, 2) updated data on hazard events and mitigation efforts in Idaho, and 3) diverse and changing concerns reflected in the local plans of the counties and Tribal governments that comprise the State. This update required a multilayered planning process that employed a variety of forums and techniques. The following sections detail the planning process in the years since 2013; describe who were involved, key decisions and milestones, timeline, and the integration of other planning programs.

Timeline



The Planning Team

Planning Executive Committee. IOEM used a Planning Executive Committee comprising of IOEM and other agency representatives to assist IOEM in the SHMP Update. This committee included individuals from other state and Federal agencies, as well as other stakeholders from local jurisdictions, private and non-governmental agencies, and academia. These were all stakeholders responsible for the sectors of emergency management; economic development; land use and development; housing; health and social services; infrastructure; and natural and cultural resources. The Executive Committee participated in several exercises which are detailed in the following section. The Executive Committee provided overall guidance and direction on the 2018 Plan update. Meeting notes and sign in sheets are located in Appendix G.



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Technical Working Groups (TWGs) were used to provide expertise and detail beyond the scope of the Planning Executive Committee. Four main groups were utilized as part of the 2018 Plan update: Flood / Severe Storm, Wildfire / Drought, Seismic (including landslide and avalanche), and Human Caused. Human Caused was split up into four separate sub groups: Civil Disturbance, Cyber Disruption, HazMat & Radiological, and Pandemic. The working groups assisted in updating the risk assessment and formulating mitigation strategies for their hazards. The working groups will also champion the implementation of the mitigation strategies after the Plan is adopted (see “Plan Maintenance” in Appendix D). For the three key hazards of flood, wildfire, and earthquake, Idaho already benefitted from organized, multi-agency groups that could fill the role of technical working groups in the Idaho SHMP update effort. The pre-existing groups already had track records for maintaining a regular meeting schedule and could focus their attention on their topics of expertise and not have to grapple with edits to the entire SHMP. The technical working group concept also allowed proper coordination and integration with other statewide planning efforts (Idaho Implementation Strategy for National Fire Plan, Silver Jackets Implementation Plan), because members were involved in both efforts. Table 1.B. below summarizes those hazards assigned to each working group.

Table 1.B. IOEM Technical Working Group Hazard Assignments

| Flood | Wildfire | Seismic | Human – Caused |
|-------------------------|----------|--------------------|---------------------|
| Flood | Wildfire | Earthquake | Civil Disturbance |
| Dam/Levee/Canal Failure | Drought | Avalanche | Cyber Disruption |
| Severe Storms | | Landslide | Hazardous Materials |
| Lightning | | Volcanic Eruptions | Pandemic |
| Wind/Tornados | | | Radiological |

For **Flood and Severe Storms (including Wind and Tornados)**, IOEM turned to the Idaho Silver Jackets Team, which is the State-level implementation of the USACE’s National Flood Risk Management Program (NFRMP). The Idaho chapter of the Silver Jackets was established by a USACE charter in the summer of 2009 (NFRMP, 2009). The group holds meetings at least on a quarterly basis, but it has met nearly every month in the year since its charter. Meeting minutes are posted publically at <http://www.nfrmp.us/state/factIdaho.cfm>. As described in their charter, the group’s vision is to “serve as a catalyst in developing comprehensive and sustainable solutions to flood hazard issues, including mitigation planning, flood hazard mapping, risk reduction activities, and response and recovery planning.” As explained in a USACE news release (USACE, 2010), “Silver Jackets team members with different areas of expertise provide one-stop information to State and local government to help them identify solutions to flood hazards. In addition, Silver Jackets educate the public about flood risks, so communities can better understand flood-related problems and assistance programs.” This allows for integration with FEMA’s mitigation programs and initiatives.

Membership in the Idaho Silver Jackets varies based on available resources and team focus; however, the core member agencies involved at all times include USACE, FEMA, IDWR, IOEM, and National



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Oceanic Atmospheric Administration National Weather Service (NOAA/NWS). Those individuals that participated directly as part of the 2018 Plan update included:

- Brandon Hobbs, Jeff Stidham, Alex Hammond US Army Corps of Engineers
- John Falk, Maureen O'Shea, Idaho Department of Water Resources
- Rick Sego, US Bureau of Reclamation
- Neal Murphy, Idaho Department of Transportation
- Troy Lindquist, National Oceanic and Atmospheric Administration/National Weather Service
- Susan Cleverly, Lorrie Pahl, Robin Kiska, Becky Rose, Lorrie Pahl, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

For **Wildfire and Drought**, the working group consisted of a pre-existing team that already focused on the hazard of wildfire in the State: the Idaho Lands Resource Coordinating Council (ILRCC). This council was formed from three existing advisory groups within the Idaho Department of Lands (IDL). The Idaho State Plan Working Group (ISPWG), formed in 2002, had previously assisted with Plan updates and is charged with assisting counties and tribes with their local Wildfire Protection Plans and their associated local working groups, disseminating information, and providing oversight to facilitate the implementation of the National Fire Plan in Idaho. Group members participating as part of the 2013 Plan update included:

- Tyre Holfeltz, Idaho National Fire Plan Coordinator
- Knute Sandahl, Idaho State Fire Marshal
- Brooke Jacobson, Idaho Department of Agriculture
- David Hoekema, Liz Cresto, Idaho Department of Water Resources
- Tricia Hosch-Hebdon, Idaho Fish & Game
- Susan Cleverly, Lorrie Pahl, Mallory Wilson, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

For **Earthquake (and Seismic including Avalanche, Landslide, and Volcanic)**, another pre-existing group was used by IOEM as the technical working group: the Seismic Advisory Committee. The Idaho Seismic Advisory Committee is a multidiscipline, interagency group that has been meeting since September 2007. In early 2010, the Committee incorporated the SHMP update as part of its on-going agenda. The Seismic Advisory Committee was organized by IOEM to develop and implement statewide earthquake preparedness and mitigation efforts. It is composed of members representing Idaho's local, State and Federal agencies, professional engineers, and universities.

Membership that participated in the 2018 Plan update included the following people:

- Zach Lifton, Bill Phillips, Idaho Geological Survey
- Lee Liberty, Boise State University
- Richard Gummersall, Idaho Department of Parks and Recreation
- Susan Cleverly, Lorrie Pahl, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

For **Human-Caused**, a diverse group representing a number of agencies and organizations was selected for the 2013 plan update to assist IOEM with the first-time profiling of the various human-caused



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hazards. For the 2018 update, this group was expanded upon, and split into several smaller sub-groups. Some sub groups were newly formed for the 2018 update. The Human-caused technical working group included Civil Disturbance, Cyber Disruption, HazMat & Radiological, and Pandemic.

Members of the **Civil Disturbance** Technical Working Sub group included:

- Bret Kessinger, Scott Hanson, Idaho State Police and Idaho Criminal Intelligence Center
- Philip Mills, Idaho National Guard
- Conley Hefley, Department of Homeland Security
- Susan Cleverley, Josh McIntosh, Lorrie Pahl, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

Members of the **Cyber Disruption** Technical Working Sub group included:

- Jeff Weak, Diego Curt, Idaho Department of Information Technology Services
- Shawn Scott, Idaho National Guard
- Russ Syphert, Micron
- Jeremy Thomas, Idaho National Laboratory
- Yang Lu, Boise State University
- Ben Roeber, Ben Call, Mallory Wilson, Josh McIntosh, Robin Kiska, Susan Cleverley, Lorrie Pahl, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

Members of the **HazMat & Radiological** Technical Working Sub group included:

- Kerrie Martin, Neil Flegel, Dean Ehlert, Mark Dietrich, Idaho Department of Environmental Quality
- Jeff Rylee, Josh McIntosh, Susan Cleverly, Lorrie Pahl, Lucille Webster, Mary Mott, Kelsey Brown, IOEM

Members of the **Pandemic** Technical Working Sub group included:

- Kris Carter and members of the Idaho Department of Health and Welfare

Participating Consultants

In the fall of 2017, IOEM hired a consulting firm, Tetra Tech, Inc. to assist with updates and enhancements to the risk and vulnerability assessments and perform updated mapping and analysis. In the Spring of 2018, IOEM hired a temporary Mitigation Planner to help coordinate meetings and facilitate the technical advisory groups as well as plan and execute public outreach and education events regarding the 2018 update to the plan.

Planning Process

IOEM chose to focus the 2018 Plan update on enhancing the risk and vulnerability assessments to include updated hazard information, data, mapping, and analysis. The overall planning process, IOEM GIS mapping, and associated public outreach also were expanded upon. Detailed below is the process that IOEM followed. All Planning Team meetings are on the following pages. The Public Meetings are



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documented, and meeting agendas, minutes, and sign-in sheets are located in Appendix G. Below are summaries of major additional steps, activities, highlights, and exercises that were part of the planning process.

Project Kickoff Meeting

A Kick-Off Meeting to organize the Planning Team for the 2018 SHMP update was held August 28, 2017. Membership on the planning team was addressed, along with the plan update timeline. The mitigation goals and objectives were reviewed to determine if any changes were needed, the EMAP accreditation and mitigation integration and Enhanced Plan Requirements were discussed.

Planning Executive Committee Meetings

The Executive Committee played an integral role in the 2018 Plan update. In addition to assisting IOEM throughout the entire planning process and being called upon both collectively and individually as needed, members also served on some of the Technical Working Groups. The following meetings were held specifically for the Executive Committee:

September 20, 2017: Hazard Mitigation Plan Planning Meeting

The Executive Committee convened for a morning to continue the 2018 Plan Update process. The committee received an overview and demonstration of the online SharePoint site for collaboration. A review and update to the Mitigation Goals and Objectives was conducted. Members signed up for their respective technical working groups, and a risk factor exercise was completed on hazards of wildfire, flood, severe storms, earthquake, landslide, and volcanic eruptions. Sign in roster and minutes are included in Appendix G.

October 19, 2017: Hazard Mitigation Plan Planning Meeting

The Executive Committee convened for a morning to continue the 2018 Plan Update process. The committee discussed Mitigation Project Presentations for the November Annual meeting, public outreach strategy, continued sign up for technical working groups, and continued a risk factor exercise for hazardous materials, pandemic, drought, and cyber disruption. Sign in roster and minutes are included in Appendix G.

November 15, 2017: All Hazard Mitigation Plan Annual Meeting and Plan Update Planning Meeting

The Executive Committee convened for their annual meeting, and to continue the 2018 Plan Update process. Presentations included Enhanced Mitigation Plan requirements, Northern Idaho Crude Oil by Rail Risk, IOEM's Risk Mapping, Assessment and Planning (Risk MAP) program partnership with the Federal Emergency Management Agency (FEMA), Hazardous Materials Risk and Exposure in Idaho, the State National Flood Insurance Program (NFIP) Status Report, Prioritizing Flood Risk by the Army Corps of Engineers (USACE), the Flood Alert and Monitoring Network (FAMN), Update of the Soda Springs/Sulphur Peak Earthquake Sequence, Public Information Office communication strategies, and the contractor gave an overview of the



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methodology for updating the hazard risk and vulnerability assessments. Attendees were then divided up into the technical working groups according to expertise and assigned those hazards that they would focus on as part of the Plan update. Each group came up with a series of questions that were then incorporated into the online survey for determining public input on hazards in Idaho. To finish the day, IOEM facilitated a risk factor exercise for the hazards of civil disturbance and avalanche. Technical working group meetings were assigned for January 2018. Sign in roster and minutes are included in Appendix G.

March 8, 2018: Hazard Mitigation Plan Planning Meeting

The Executive Committee convened for an afternoon to continue the 2018 Plan update process. The committee received an overview of the Threat Hazard Identification and Risk Assessment (THIRA) process, and reviewed the remaining timeline for the plan update process. A consequence analysis exercise was conducted for the hazards of wildfire, flood, and earthquake. Sign in roster and minutes are included in Appendix G.

May 15, 2018: Hazard Mitigation Plan Planning Meeting

The Executive Committee convened for the final plan update meeting. The committee reviewed the mitigation goals and objectives once more and provided updates. New mitigation action items were ranked according to the FEMA Benefit Cost Analysis – STAPLEE method (Socially acceptable, technically feasible, administrative capacity, politically acceptable, legal authority, economically beneficial, and environmental impact). The consequence analysis for flood was re-done using a better Idaho specific flood scenario, and the plan review panel was nominated. Sign in roster and minutes are included in Appendix G.

Flood Technical Working Group Meetings

The Flood TWG assisted with updates to numerous hazard profiles within the Plan, to include dam / levee / canal failure and severe storms (including winter storms, wind, and tornado). The following meetings were held by the Flood TWG:

January 24, 2018: Review of Hazard Profiles and SHMP Edits

The Flood TWG met to collectively work through the hazard profiles for the plan that were updated by the contractor to review for accuracy and analysis. Sign in roster and minutes are included in Appendix G.

February 20, 2018: Review of Vulnerability Assessments and SHMP Edits

The Flood TWG met to collectively work through the vulnerability assessments for the plan that were updated by the contractor to review for accuracy and analysis. Sign in roster and minutes are included in Appendix G.



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April 25, 2018: Review of Mitigation Strategies and SHMP Edits

The Flood TWG met to collectively work through the mitigation strategies for the plan to review for updated policy or actions, and discussed new mitigation action items. Sign in roster and minutes are included in Appendix G.

Seismic Technical Working Group Meetings

The Seismic TWG was tasked with updates to numerous hazard profiles within the Plan, to include the hazards of avalanche, landslide, earthquake, and volcanic eruption. The following meetings were held by the Seismic TWG:

January 23, 2018: Review of Hazard Profiles and SHMP Edits

The Seismic TWG met to collectively work through the hazard profiles and vulnerability assessments for the plan that were updated by the contractor to review for accuracy and analysis. Additional topics discussed were several grant opportunities, an earthquake clearinghouse plan, and input on the exercise planning earthquake scenario. Sign in roster and minutes are included in Appendix G.

April 11, 2018: Review of Mitigation Strategies and SHMP Edits

The Seismic TWG met to collectively work through the mitigation strategies for the plan to review for updated policy or actions. Additional topics discussed were several grant opportunities and an earthquake clearinghouse plan. Sign in roster and minutes are included in Appendix G.

Wildfire Technical Working Group Meetings

The Wildfire TWG worked on updates to hazard profiles within the Plan, to include the drought hazard, and lightning from a wildfire perspective. The following meetings were held by the Wildfire TWG:

December 15, 2017: Discuss Strategy and Format for SHMP Update

The Wildfire TWG met to discuss the format of the hazard profile and complete recommendations for the contractor to update. The online SharePoint tool and gaining access was also discussed. Sign in roster and minutes are included in Appendix G.

January 11, 2018: Review of Hazard Profiles and SHMP Edits

The Wildfire TWG met to collectively work through the hazard profiles for the plan that were updated by the contractor to review for accuracy and analysis. Sign in roster and minutes are included in Appendix G.

February 2, 2018: Review of Vulnerability Assessments and SHMP Edits

The Wildfire TWG met to collectively work through the vulnerability assessments for the plan that were updated by the contractor to review for accuracy and analysis. Sign in roster and minutes are included in Appendix G.



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April 4, 2018: Review of Mitigation Strategies and SHMP Edits

The Wildfire TWG met to collectively work through the mitigation strategies for the plan to review for updated policy or actions, and discussed new mitigation action items. Sign in roster and minutes are included in Appendix G.

Human-Caused Technical Working Group Meetings

The Human-Caused TWG's sub working groups met to work on their respective hazards, to include civil disturbance, cyber disruption, hazardous materials, radiological, and pandemic. The following meetings were held by the Human-Caused TWG:

February - May 2018: Pandemic Review of Hazard Profile, Vulnerability Assessment, and Mitigation Strategies SHMP Edit

Pandemic did not have a working group. Subject matter experts reviewed the hazard profile, vulnerability assessment, and mitigation strategy; and new action items were presented.

April 4, 2018: HazMat & Radiological TWG Review of Hazard Profile, Vulnerability Assessment, and Mitigation Strategies SHMP Edit

The HazMat & Radiological TWG met to collectively work through the hazard profile and vulnerability assessment for the plan to review for accuracy and analysis. The mitigation strategy was also reviewed for updated policy or actions, and new action items were discussed. Sign in roster and minutes are included in Appendix G.

April 19, 2018: Cyber Disruption TWG Review of Mitigation Strategies and SHMP Edits

The Cyber Disruption TWG met to collectively work through the mitigation strategy for the plan to review for updated policy or actions, as well as new action items. Additional topics discussed were the Cyber Incident Response Coalition and Analysis Sharing (CIRCAS) and the Chief Information Officer (CIO)'s Cyber Incident Response Plan Hotwash. Sign in roster and minutes are included in Appendix G.

May 7, 2018: Civil Disturbance TWG Review of Hazard Profile, Vulnerability Assessment, and Mitigation Strategies SHMP Edit

The Civil Disturbance TWG met to collectively work through the hazard profile and vulnerability assessment for the plan to review for accuracy and analysis. The mitigation strategy was also reviewed for updated policy or actions, and new action items were discussed. Sign in roster and minutes are included in Appendix G.

IOEM GIS Enterprise Projects and Data Collection

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present spatial or geographic data. The IOEM GIS Section performs data related functions such as data creation, conversion, management, and mapping including interactive maps to support



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IOEM mitigation plans and processes. Current and authoritative data sources are used for all mapping projects and are used to display vulnerability and identify critical infrastructures and populations at risk.

IOEM GIS assisted with the SHMP update by providing data analysis, maps, and tables created from mapping overlays that consist of some For Official Use Only (FOUO) data and Homeland Security Infrastructure Protection (HSIP) data. FOUO and HSIP gold level data are distributed only to authorized users. These provide information that can be used for planning and mitigation to help protect life, property, and the environment.

Public Outreach Activities

IOEM took a three tiered approach to Public Outreach as a part of the 2018 Plan update. A change in strategy from previous years was to use of social media more extensively for public outreach and input, as this has become the best method of reaching a broad spectrum of the public that may not be otherwise engaged in the process through traditional engagement platforms. IOEM also continued outreach efforts through traditional engagement at various public events across the state. Drafts of the plan were available for public review, as well as other information on mitigation planning and resources. Additionally, in order to integrate stakeholders into the planning process, IOEM Mitigation both held Hazard Mitigation planning meetings and attended other various committee, working group, and technical meetings with State and multi-jurisdiction stakeholders present to ensure widest participation and input possible. IOEM utilized each of these strategies and corresponding activities as a way to collect surveys from the public and stakeholders via a written form or utilizing an online survey tool at each event, meeting, or through social media outreach.

Online Survey and Social Media

As the hazard mitigation plan was up for its five-year renewal, IOEM turned to the public to gather input on different aspects of the revised plan. A large part of this process focused on the creation and use of a survey to gather public response and assessment of current risks and plans. During the November 2017 Executive Committee Meeting, the technical working groups each came up with questions for the survey. The survey contained 10 questions that were then reviewed for relevant and comprehensive content yet ease of use for public input. IOEM then held a planning meeting in early January to specifically to address Public Outreach strategies, with an online survey and social media outlets being another planning factor. The survey was made available through both a paper hard copy, as well as an online link and QR code. The survey was utilized both at in-person events, as well as propagated online. Social media was critical to its expansion, as well as to the size, depth, and breadth of availability for public access. The use of social media in the planning process was an invaluable tool to providing access to the community all across Idaho that might not typically be engaged at an in-person emergency management event. Emergency management and disaster preparedness affects the whole community,



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so it is very important to the Hazard Mitigation Planning Process to receive feedback from as much of the community as possible. The survey was used in turn in the crafting of the updated mitigation plan, so that the public response element was incorporated. Another meeting devoted to the public input strategy on the draft plan was held on April 30, 2018. Minutes from the meetings devoted to the Public Outreach Social Media Project and survey website are included in Appendix G.



Statewide Public Events

IOEM attended multiple events throughout the State in order to promote outreach efforts through traditional public engagement. The public input survey was made available through a flyer detailing the survey link as well as the QR code for mobile device scanning capabilities for survey process simplification. A large map with an overview of the most prevalent three hazards in the State of Idaho was displayed at each event. The events attended are outlined below. All of the Planning Team members were kept informed of these activities and a number of those members also helped to participate and support these events.

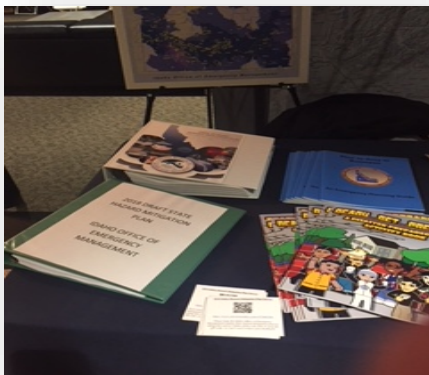
Boise WaterShed – April 15, 2017

IOEM Mitigation staff participated in a public education event hosted by the Boise WaterShed. Hundreds of citizens attended with their families for indoor and outdoor activities. Participants learned about floodplains, stormwater runoff, and mitigating flooding by building and flooding communities in a water table. A sticky dot survey ranked hazards in the community.

Safety Fest of the Great Northwest – Boise, January 23, 2018:

IOEM Mitigation attended this event in conjunction with the Community Preparedness Coordinator. Safety Fest is an annual training event that offers free safety and health training to workers, supervisors, and managers of all levels. The Boise Safety Fest was held January 23-26, 2018. It was sponsored by the

Local Highway Assistance Council whose mission is to assist the Cities, Counties and Highway Districts in dealing with the day to day issues of managing and operating the local highway system throughout the state of Idaho. Safety Fest enjoyed participation of about 500 transportation industry professionals with the sole purpose of expanding their knowledge of risk mitigation. IOEM was able to directly interact with the public and share the Idaho SHMP revision and solicit input on the plan as well as collect survey information.





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Pocatello Safety Fest - April 3-4, 2018:

The IOEM Community Preparedness Coordinator attended this event. The Pocatello Safety Fest started a day after damaging winds in the area closed the freeway in two places and knocked out power to many residents. Aaron Blake with IEOM discussed emergency preparedness with about 600 attendees over the two-day period, distributing educational materials on wildfires, floods, earthquakes, and various other hazards that threaten Idaho. He also handed out the mitigation public survey.



Integrating Stakeholders and Additional Public Outreach

In order to further integrate planning activities with additional stakeholders and maximize public outreach, a survey on public hazards was developed. The Executive Committee broke out into technical working groups and designed the survey at the November 2017 planning kickoff meeting for public input on hazards. This was further developed into a survey monkey link with a code to be sent out across social media channels as well as forwarded through email. Minutes from each meeting and survey results are included in Appendix G.

November 15, 2017:

IOEM Mitigation hosted the State of Idaho Hazard Mitigation Plan Executive Committee Meeting to kick off the 2018 State Hazard Mitigation planning process, continue to develop and refine the technical working groups for hazards, and bring to light additional new hazards within specific hazard categories for the group to consider.

January 17, 2018:

IOEM Mitigation attended the IOEM Emergency Support Function (ESF) Coordinating Group Quarterly Meeting on January 17, 2018, in which multiple stakeholders from multiple jurisdictions and State Agencies were present. The State Hazard Mitigation Plan Public Outreach efforts were discussed, and the survey was requested to be taken as well as distributed amongst all of the members and their respective agencies and communities.

January 18, 2018:

IOEM Mitigation attended the Public Information Emergency Response (PIER) Team Meeting on January 18, 2018, in which Public Information and Public Affairs personnel from multiple jurisdictions and State Agencies were present. The PIER Team members were asked to assist in the public outreach efforts and were all emailed a write up and link to the survey to release in their respective social media platforms.



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Winter (March) 2018: IOEM included a copy of the online survey link and QR code in the Newsletter for Winter 2018.

State of Idaho Hazard Mitigation plan is underway Idahoans encouraged to participate in Hazard Mitigation Planning

IOEM is working to keep you safe. In an effort to reduce the risks to lives and property from natural and human-caused hazards, the State of Idaho Hazard Mitigation Executive Planning Committee is seeking public input. Public feedback and outreach activities help us to gather local perspective of hazards and mitigation activities. This is your opportunity to tell us what hazards matter to you so resources and plans can be more effective.

Every five years the State of Idaho Hazard Mitigation Plan is revised with current risk and vulnerability assessments, updates to hazard profiles including historical disaster events, prioritization of strategies, and reports on progress of mitigation projects. The plan sets a mitigation vision for Idaho, and focuses multi-agency coordination, actions, and public outreach. A FEMA-approved plan meets the federal requirement necessary to apply for and receive disaster and non-emergency mitigation funding.

The planning committee is using an online survey, and social media, to reach local communities about the issues they care about the most. With the use of these tools as well as past procedures, the committee is working to gather public feedback from as broad a swath of Idahoans as possible. A local perspective is critical to effective planning. We want and need your thoughts on everything from what disasters impact you most - to how you prepare yourself for an emergency.

If you are interested in taking the survey you can follow the link below! Make sure to like us on Facebook and follow us @IdahoOEM on twitter! Contact Susan Cleverley at scleverley@imd.idaho.gov for any questions or updates.



<https://www.surveymonkey.com/r/CS6KSJK>

*Please help the Idaho Office of Emergency Management update their hazard mitigation plan by taking this survey!
Either follow the link or scan the QR code, we can't wait to hear your feedback!*



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February 7, 2018

IOEM Mitigation staff shared mitigation successes with attendees at the Annual Idaho Emergency Managers Association (IEMA) Conference. Emergency Managers from around the state held up pictures of completed projects in their areas and were challenged to capture new mitigation actions on provided forms for future plan maintenance meetings.

April 4, 2018:

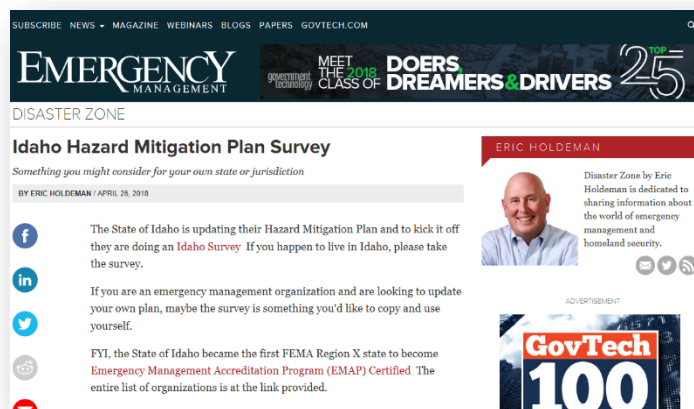
The Idaho Rural Water Association invited IOEM staff to present about mitigation programs and funding. Staff took the opportunity to explain about the SHMP update and the need to participate in local mitigation planning. Hard copy surveys, QR codes, and a sticky dot exercise were available for input.

April 17, 2018:

The Regional Interagency Steering Committee (RISC) brings together partner agencies from across the region to discuss strategies and objectives. In April 2018, at the quarterly Planning Sub-Committee Meeting, IOEM Mitigation provided an update on the SHMP timeline and process. The survey was provided to attendees who live within Idaho, and the Flood Action Item “Sticky Dot” Exercise was provided for additional voting.

April 26, 2018:

The 4th Idaho Annual Cybersecurity Interdependencies Summit was co-hosted by the Idaho Office of Emergency Management and the Center for Regional Disaster Resilience, and draws subject matter experts from a broad cross section of industries. IOEM Mitigation passed out public surveys and had them available at the front sign in desk. As a result of this, the survey was also published on an emergency management blog urging Idahoans to participate in the survey.





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Spring (May) 2018: IOEM included an analysis of the online survey as well as the link and QR code in the Newsletter for Spring 2018.

MITIGATION MATTERS IN IDAHO

How the Hazards Stack Up according to Public Opinion

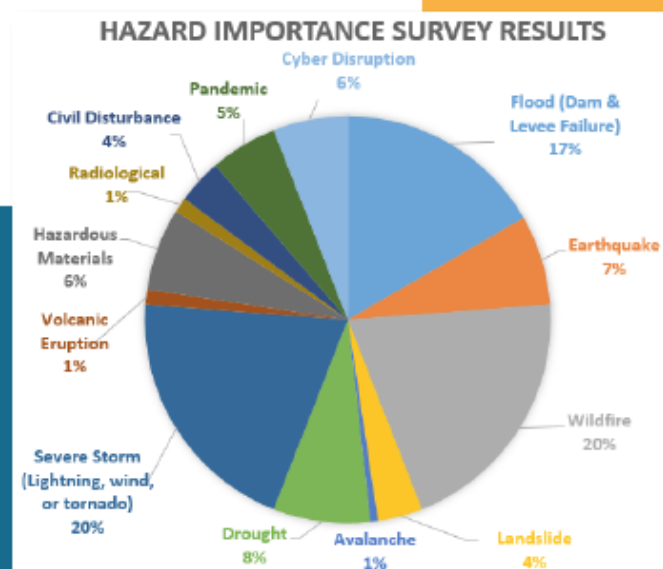
The IOEM Mitigation Section continues gathering public input from Idahoans for the 2018 State Hazard Mitigation Plan (SHMP) Update. Since early this year IOEM has been using an online survey format. From now through the end of this month, the survey will be available online, and IOEM Mitigation is continuing to seek public input.

The survey has 10 questions about everything from what hazards are important, and ways in which disasters are prepared for, to ideas on what should be done to mitigate risks. So far 55 survey results have been recorded. The top three ranked hazards of concern are Wildfire, Severe Storms (these two are a tie for highest concern), and Flooding. Survey results were highest on days where the survey was handed out at events, publicized at meetings, or posted on social media (Facebook and Twitter accounts). Idaho's Public Information Emergency Response (PIER) Team was also instrumental in publicizing the survey on partner agency social media accounts.

35 of the 55 total survey respondents submitted additional comments. There is a general consensus among survey respondents that continued mitigation efforts are important and should include land use planning, infrastructure planning and improvements, and increased public awareness of the vulnerabilities – especially in new development areas. Respondents also stated that more exercise facilitation, public outreach and education, as well as whole community involvement in hazard assessments and mitigation planning are areas in which they would like to see additional efforts.

Please help the Idaho Office of Emergency Management update their hazard mitigation plan by taking this survey! Either follow the link or scan the QR code, we can't wait to hear your feedback! <https://www.surveymonkey.com/r/CS6KSJK>

Contact Susan Cleverley at scleverley@imd.idaho.gov for any questions or updates.





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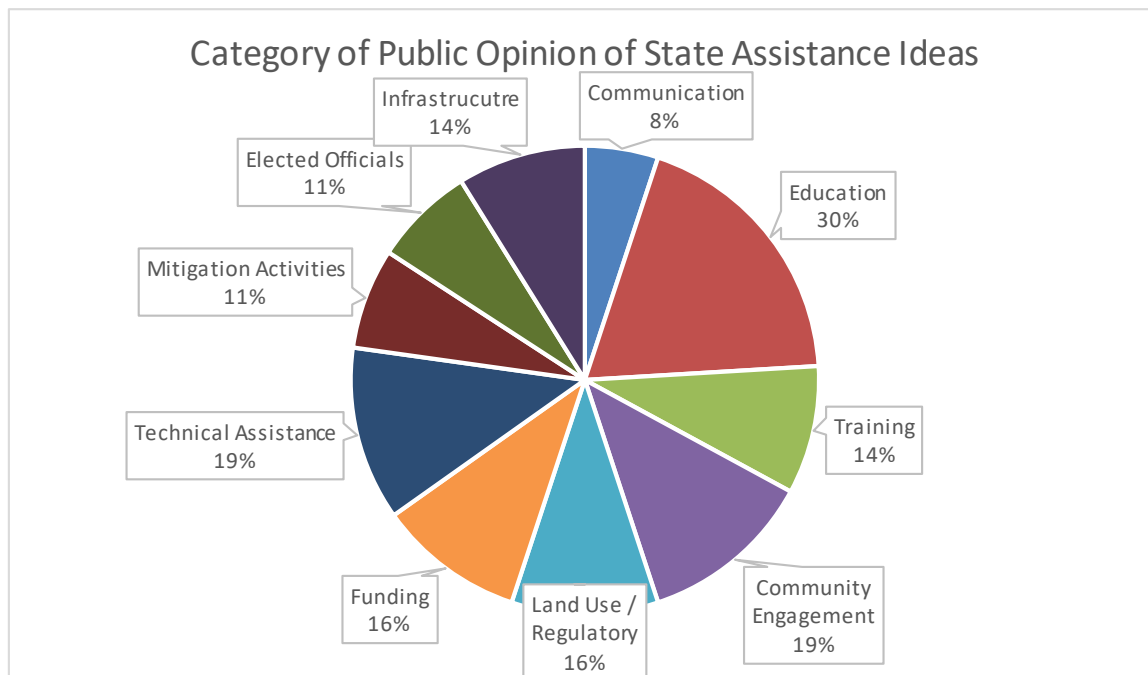
Additional Public Outreach and Social Media

IOEM made additional efforts with social media via IOEM Facebook and Twitter accounts and the IOEM website. This was a targeted, strategic “peppering” of the survey and result information along with mitigation messages and the survey link throughout the entire plan update process to gain public involvement and input.

Public Hazard Survey Results and Incorporation

In all, IOEM received back 95 public surveys. Analysis of the survey data revealed that most of the respondents were from the central and eastern part of the state. The top three assessed hazards were Wildfire (68%), Severe Storms (58%), and Flood (55%). Less than 10% do not expect disaster government assistance while 44% expect assistance before, 72% expect assistance during, and 80% expect assistance after a disaster. Survey respondents have done some preparedness activities in their household, with the majority (80%) having talked with members of their household about their plan. Public Comments were reviewed and analyzed, with 64 respondents providing suggestions on how the state could help reduce or eliminate risk of future hazard damages. The answers were tallied by category or response type and are depicted in Figure 1.C below.

Figure 1.C. Aggregate Ranking of Public Opinion for State Assistance



The rollup of items and ideas were shared across the sectors of state agencies, and will be used to help guide future revisions and planning efforts. The survey results were continuously monitored throughout the process and were used as a planning guide for mitigation goals, actions, and objectives.

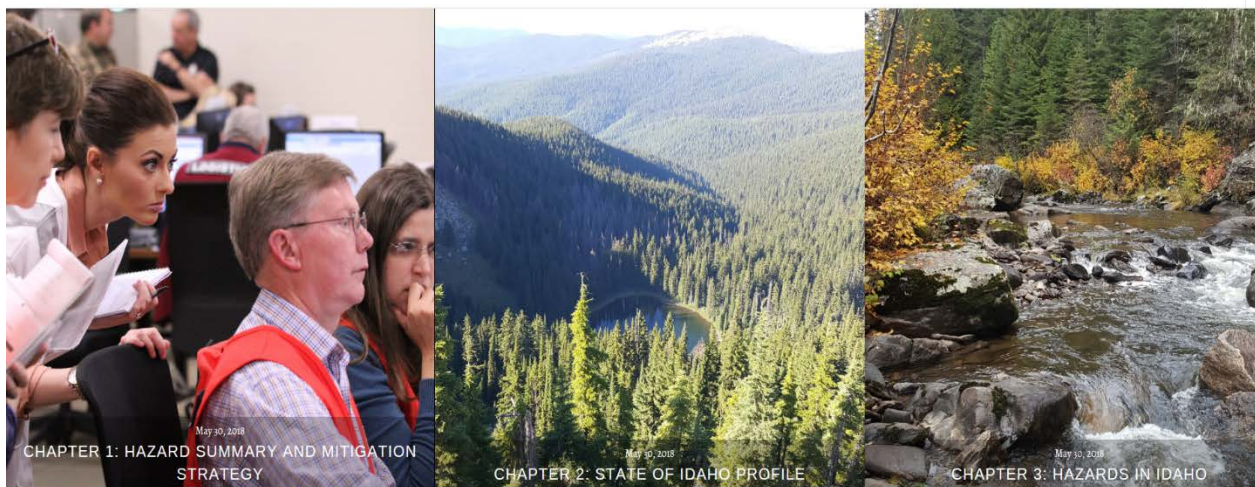


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Preparation and Review of the Draft Plan

The draft plan incorporated the aforementioned results of meetings, analyses, surveys, and other information. The draft plan was posted on the IOEM blog website that guides readers through each chapter, with opportunities for comment below each section. This was a first step in the development of an interactive display method to further captivate and engage the public. This has been a best practice that IOEM will continue to utilize and further develop. The published plan will also be presented at this site.

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A survey with the link to the online plan was developed to guide the public through the chapters of the plan, soliciting feedback and gathering demographic data. The survey link was propagated through social media via IOEM Facebook and Twitter accounts in the same manner as the hazard input survey.



This was a targeted, strategic “peppering” of the survey information along with mitigation messages and the survey link to gain public involvement and input. The survey link was sent out to the



Planning Executive Committee to send to their contact lists, as well as to the PIER Team once again to be placed on other state agency social media accounts. The survey link was featured as a “Hot Topic” on the main IOEM Webpage, was provided on a flyer detailing information about the plan and cut off tabs containing the link and QR code, and was sent to various facilities and organizations throughout the state for posting on information bulletin boards in order to reach the public. A news release with the survey info was also sent out on June 19th asking for public comment on the plan. Additionally, IOEM staff presented the draft plan and survey link at public events.



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June 19, 2018:

In order to promote outreach efforts through engagement at events, IOEM attended and gave a presentation to a conference for secondary education teachers focused on iSTEM curriculum. iSTEM is the problem-based learning curriculum with an emphasis on science, technology, engineering, and mathematics. The importance of hazard mitigation was expressed, and the draft plan survey was handed out. This is the beginning of a partnership between IOEM and teachers throughout the state for future events, resource sharing, and promoting public education and outreach.

June 29-30, 2018:

The IOEM Community Preparedness Specialist attended the Salmon Ready Preparedness Fair/Self-Reliance Experience hosted during Salmon River Days, which is an annual 4th of July celebration for the city of Salmon, Idaho. While the population of Salmon is roughly around 3,000 people, there are another 5,000 who live nearby, outside the city. Some local families use this holiday to bring in as many 30 to 40 family members for reunions. The event included booths, speakers, and classes on many aspects of preparedness and self-reliance. The draft plan and copies of the survey link were provided.

Draft Plan Public Survey Results and Incorporation

For the draft plan, at time of submission to FEMA, IOEM received back 2 public surveys. The low public comment participation has led the IOEM staff to re-evaluate the design of future surveys to incorporate a user-defined method to determine chapter importance and comments accordingly. The plan display blog site allowed for analysis of views and comments, and will continue to be monitored.



Any comments received will be used as a benchmark to help guide future revisions and planning efforts. Public comments will continue to be received up until official publishing of the plan once it has been promulgated and accepted through the Governor's office in October 2018. The public comments received and actions taken are listed in Appendix D.



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Preparation and Adoption of Final Plan

The final draft was prepared after receipt of FEMA Region X comments and will be promulgated in September - October 2018.

Risk Assessment Update and Review

The risk assessment update included several steps: review and confirmation of major hazards; update and collection of hazard profile information; data search and incorporation of any risk and vulnerability assessments that had been completed since 2013; Level 2 Hazus runs for flood and earthquake; and enhanced vulnerability assessments utilizing updated local facility inventories. Additional details are included in Chapter 3. Upon completion of the update, the technical working groups were provided the results of the risk and vulnerability assessments. The TWGs were able to provide comment and were then able to utilize the results as they worked towards updates to the hazard profiles and resulting mitigation strategy sections of the Plan.

Local Mitigation Plan Roll-Up

Beginning in 2010, all local hazard mitigation plans were reviewed and key information from these plans was then compiled into a database to allow for further analysis and mapping. This same database has been maintained and updated annually to utilize in administering the State Hazard Mitigation Program as well as in both the 2013 and 2018 plan updates. Any newly approved local plans since the 2013 roll-up were reviewed for the following information, which focused on the risk assessment (what were the top hazards identified in local plans, what were the estimated losses and vulnerability); and mitigation strategy (what were the categories of mitigation strategies, and what, if any statements were made regarding local capability). This information was then analyzed and utilized by the planning team as part of the update process. Additional details are included in Chapter 3.14, under the Local Hazard Mitigation Plan rollup section. Additional information can be found in Chapter 4, under the Local Mitigation Plan Capability Assessment subsection.

Mitigation Strategy

Mitigation Strategy Update

Throughout the planning process, both IOEM and the planning teams reviewed and updated the Plan's mitigation strategy. The planning teams reviewed the 2010 Mitigation Strategy Goals and Objectives and made updates and edits as agreed upon. Overall the Goals were mainly left as they were defined in 2010. One Objective from 2010 was eliminated and another was added as part of the 2013 update. The next steps included reviewing and updating the status of those Actions included in the 2010 Plan. Of the 24 total actions included as part of the 2010 Plan, seven (30%) were documented as completed. 13 of those 2010 Actions will continue as part of the 2013 Plan and one was revised. In addition, 14 new actions were identified as part of the 2013 Plan update. Additional details can be found in Chapter 1 of this Plan. Ultimately this Action Plan includes 28 actions. The planning teams believed that measurable progress, if not successful attainment, could be made on these actions in the next three years.



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For the 2013 Mitigation Action Plan, those new actions that were developed again focused on actions that were SMART – Specific, Measurable, Attainable, Realistic, and Timely. To evaluate these actions, three factors were identified – cost-effectiveness, technical feasibility, and environmental soundness. Each factor was given a ranking of 1 to 3 “plusses”. There are no negative scores, because each action was fully discussed and revised during the meeting, before it was officially considered to be included. Thus, it was felt that all of the actions had positive benefits. One way the group prioritized projects was to add up all of the plusses for each action. These were tallied and included in the action plan. During the planning period, the “prioritization” using the plusses will help guide those responsible for implementing the action, as well as those responsible for monitoring the plan’s implementation. Because the focus of this update was to identify actions that were SMART, the prioritization does not preclude efforts to complete the identified actions; rather, it is useful in determining how each action might be weak (e.g., not cost effective) and inform those responsible for implementing potential issues.

The Executive Committee felt that the 2018 Mitigation Strategy reflects the actions and projects identified in local plans in the goals and objectives of the 2013 State Plan. An analysis of the local actions is discussed above in the Local Plan Roll-Up subsection. It should also be noted that each action ties back to at least one goal and one objective.

2018 Mitigation Goals, Objectives, Actions

The purpose of setting mitigation goals, objectives, and actions at the State level is to ensure that:

- A mitigation vision is set for Idaho,
- Local mitigation objectives and actions that have been developed are consistent with the State’s overall vision, and
- Specific actions, appropriate at the State level, are established to facilitate greater hazard mitigation activity and enhance community resiliency.

Actions that are appropriate to a State-level hazard mitigation plan were identified for the 2013 update. Many of these actions focus on agency coordination, outreach, data development, and creation and identification of human-caused hazards.

2018 Mitigation Goals

Mitigation goals are the overarching targets stated in the Plan that define the State’s hazard mitigation strategy. Since the 2010 update, there have been no additions or major changes to these goals by the executive committee or any of the technical advisory groups. The only change is that some were reworded to also include technological and human-caused events, in addition to natural hazards.

The State of Idaho’s hazard mitigation goals are to:

1. Save lives and reduce public exposure to risk from natural, technological, and human-caused hazard events.



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2. Reduce or prevent damage to public and private property from natural, technological, and human-caused hazard events.
3. Enhance coordination between Federal, State, Tribal, regional, local agencies, and non-governmental organizations and consistency of hazard impact reduction policy.
4. Reduce the adverse economic and environmental impacts of natural, technological, and human-caused hazard events.
5. Enhance vulnerability and risk assessments through the development and collection and analysis of data.

2018 Mitigation Objectives

Mitigation objectives are the fundamental strategies prescribed by the Plan to achieve the mitigation goals. They specifically state how the goals will be achieved through action at State and other levels. Since 2010, one objective was removed as it related to a now defunct software system. #9 below is the only new objective that was added by the executive committee.

The State of Idaho's hazard mitigation objectives are to:

1. Improve State agency administrative and legislative coordination, cooperation, and capacity to identify and implement effective hazard mitigation strategies. (Goal 3)
2. Increase awareness of hazards and their impacts. (Goals 1,2,4,5)
3. Increase knowledge of hazard mitigation options. (Goals 1-5)
4. Improve statewide understanding of risk and vulnerability. (Goals 1-5)
5. Motivate communities and citizens to take preparedness and mitigation actions. (Goals 1,2)
6. Identify, analyze, and integrate existing data. (Goal 5)
7. Develop common statewide datasets to enhance vulnerability, risk assessments, and impact. (Goal 5)
8. Develop cost-effective and feasible mitigation grant projects. (Goals 1-5)
9. Influence policy based on risk assessment and historical events. (Goals 1-5)



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To implement the goals and objectives in the 2018 Plan, status updates were provided for past actions in Table 1.D, 2010 items.

Table 1.D. 2010 Mitigation Action Items

| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies L-Lead Agency S-Support Agency | Budget Category A-no cost B-\$0-10K C-\$10K-100K D-\$100K+ | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|---|----------------------------------|---|--|--|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| 2010-01 | Establish communication and procedures with State Department of Administration related to cybersecurity, purchasing land/buildings in relation to natural hazards protection. | G 3, O 1, 2 | IOEM (L) Dept. of Admin (S) | A | N/A | +++ | ++ | +++ | 8 | S | Ongoing –Formed Cyber TWG sub-group Will continue to work with Dept. of Admin towards accomplishing this action. | Executive Committee |
| 2010-03 | Create a working group to oversee data sharing, database construction, and maintenance (HAZUS input datasets) | G 3, 5, O 1, 5, 6 | Idaho Spatial Data Officer (L) IDWR, IOEM (S) | C (.5 FTE) | FEMA RiskMap and Hazard Mitigation Mgmt. Funds | + | ++ | +++ | 6 | S | Ongoing -Will continue to work with IDWR towards accomplishing this action. | Executive Committee |
| 2010-04 | Develop and deliver 2 workshops every other year in different parts of the State for local officials on low impact development, No Adverse Impact, etc. | G 2, 3 O 3, 4 | IDWR (L) Consultant (S) | C (est. \$60K every other year) | FEMA, EPA, USACE | ++ | ++ | +++ | 7 | E | Ongoing-Workshops held in various areas around state. Using Idaho Silver Jackets team to secure funding and provide future workshops. | Flood TWG |



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|----------------|---|----------------------------------|---|--|---|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| | and how to implement these activities | | | | | | | | | | | |
| 2010-06 | Expand statewide Flood Awareness Week to include school activities, promote community activities, and look at all flooding sources. | G 1, 2 O 2, 3 | Silver Jackets (L) Project | C (est. \$30K annually) | Agency in-kind, look for some outside funding sources: Idaho Community Foundation or other private foundations funding educational activities | +++ | +++ | +++ | 9 | E | Ongoing-Idaho Silver Jackets team annually participates in Flood Awareness Week with varying projects, social media, and Governor's Proclamation. | Flood TWG |
| 2010-07 | Form a team of experts from appropriate Federal and State agencies to produce and conduct all hazard training for local governments (cycle it in preparation for update of local mitigation plan) | G 1, 2, 3 O 2, 3, 4, 7 | IOEM (L) IDWR, USACE, FEMA, IGS (S) | C (est. \$50K every other year) | IOEM Mitigation | ++ | + | +++ | 6 | P | Completed by silver jackets this year) – Ongoing - Regional Emergency Management Workshops provide quarterly to annual opportunities to train new staff—Possible duplicate of 2010-04 | Executive Committee |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies L-Lead Agency S-Support Agency | Budget Category A-no cost B-\$0-10K C-\$10K-100K D-\$100K+ | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|--|----------------------------------|---|--|--|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| 2010-08 | In order to improve analysis of flood, landslide, seismic and wildfire hazards, obtain new or compile existing LIDAR data for populated areas of Idaho | G 5 O 5, 6 | IOEM (L) IGS, USGS, FEMA, FS, IDWR, BSU (S) | D | FEMA RiskMap and Hazard Mitigation Mgmt. Funds | +++ | +++ | +++ | 9 | P | Ongoing -Will continue to track and support projects throughout state. LiDar data is being gathered around the state | Executive Committee |
| 2010-09 | Produce liquefaction susceptibility maps for populated areas | G 5 O 5, 6 | BSU (L) IGS (S) | D (cost should be spread over multiple years) | FEMA/IOEM | + | ++ | +++ | 6 | P | Ongoing-completed Kootenai Co. Payette identified. Seeking funding to continue | Seismic TWG |
| 2010-11 | Develop and publish a Firewise guide specific to Idaho | G 1, 2 O 2 | Idaho Firewise (L) IOEM, IDL (S) | C (est. \$40K) | FEMA/IOEM | + | ++ | +++ | 6 | E | Ongoing -Silver Jackets completed a wildfire guide and will potentially start on one for officials as well | Fire TWG |
| 2010-12 | Seismic rehabilitation of vulnerable State facilities | G 1, 2, 4 O 7 | Department of Administration (L) IOEM, DBS (S) | D (est. \$50M) | FEMA/IOEM, Dept. of Building Fund | + | + | ++ | 4 | S | Ongoing-this project is part of the NEHRP project to seismically access state facilities | Seismic TWG |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies L-Lead Agency S-Support Agency | Budget Category A-no cost B-\$0-10K C-\$10K-100K D-\$100K+ | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|--|----------------------------------|--|--|----------------------------|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| 2010-13 | Adopt and enforce statewide building codes | G 1, 2, 4 O 4 | State Legislator, Div. Building Safety (L) Industry, Western States Seismic Policy Council (S) | D (est. \$100K) | Industry | ++ | + | + | 4 | P | Ongoing-State adopted 2015 IBC. Need to do more out reach to help jurisdictions understand importance of adopting code | Seismic TWG |
| 2010-14 | Develop and maintain statewide inventory of State and county facilities and infrastructure with an isolated server | G 5 O 6, 7 | IOEM (L), ICRMP | D (est. \$200K) | FEMA | ++ | +++ | +++ | 8 | P | Ongoing – development accomplished. Maintenance schedule needs established. Department of Admin has a list of state facilities and have recently completed a study on each. | Executive Committee |
| 2010-15 | Working with the Industrial Commission under contract with Div. of Building Safety, develop legislation to annually inspect EOCs -Structural and non-structural retrofits for county EOCs for multiple hazards (floodplain, high and | G 1, 2 O 7 | Div. of Building Safety (L) IOEM (S) | D (est. \$3M) | FEMA PDM | ++ | ++ | ++ | 6 | P | Ongoing – DBS will follow-up on status | Executive Committee |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies L-Lead Agency S-Support Agency | Budget Category A-no cost B-\$0-10K C-\$10K-100K D-\$100K+ | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|--|----------------------------------|---|--|--|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| | extreme seismic areas, WUI) | | | | | | | | | | | |
| 2010-16 | Conduct outreach activities to better inform local jurisdictions regarding protection of critical infrastructure | G 1, 2, 3 O 1, 2, 3 | IOEM (L) | D (est. \$132K [\$3K per county]) | DOE (energy efficiency), DHS, agency in-kind | +++ | +++ | +++ | 9 | E | Ongoing -Currently working to develop state Infrastructure Protection Plan | Human-Caused TWG |
| 2010-17 | Standardized regulation of HVAC, plumbing, electrical, and life safety codes | G 2 O 1 | DBS, Industry, Legislature (L) | C (est. \$25K - staff time mostly) | Industry, code boards | + | + | ++ | 4 | P | Deferred-DBS planning partner retired. Need to engage new staff and determine if still needed. | Seismic TWG |
| 2010-20 | Increase capacity of State dam safety program directed at partnering with Federal agencies to fund & perform repair/rehabilitation of poor condition dams. | G 1-3 O 1-3 | IDWR (L) | D | USACE Planning Assistance to States, IDWR | ++ | + | +++ | 6 | P | Ongoing – identify private owner funding to perform repair/rehab of existing dams that reside in poor condition. This is part of the HHPD with IDWR | Flood TWG |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies L-Lead Agency S-Support Agency | Budget Category A-no cost B-\$0-10K C-\$10K-100K D-\$100K+ | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|----------------|--|----------------------------------|---|--|----------------------------|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| | | | | | | | | | | | | |
| 2010-21 | Increase participation in the National Levee Safety Program Database | G 1, 2, 4, 5 O 1 | USACE (L) IOEM, IDWR (S) | Unknown | USACE | ++ | +++ | +++ | 8 | P | Ongoing-USACE expanding program to include locally owned levees | Flood TWG |

2010 Project Challenges

Staff turnover and retirement has delayed projects and planning team participation.

To implement the goals and objectives in the 2018 Plan, status updates were provided for past actions in Table 1.E.



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Table 1.E. 2013 Mitigation Action Items

| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies | Budget Category | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Natural Systems Protection = N Structure and Infrastructure Projects = S | Plans and Regulations = P Education and Awareness Programs = E Plants and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|----------------|---|----------------------------------|--|-----------------|--|----------------|----------------------|-----------------------|------------|---|--|---|---------------------|
| 2013-01 | Island Park Fire-adapted Community Demonstration Site | G 1-5 O 2-5, 7 | FS, IOEM, Fremont County (L) IDL, BLM, State Parks, Greater Yellowstone Coalition, State Fire Marshal's Office, Farm Bureau Ins. (S) | D (est \$1.2M) | FS Cohesive Strategy Grant, Western States Fire Managers WUI Grant, State and Private Forestry Grant, PDM, AFG Community Grant | ++ | +++ | +++ | 8 | S | | Complete – Ongoing project as well | Fire TWG |
| 2013-02 | Establishment of Rangeland Fire Protection Associations | G 1-5 O 1-5, 8 | IDL (L) BLM, State Fire Marshal's Office, Governor's Office (S) | D | Volunteer Fire Assist. Grant, Western States Fire Assist. WUI Grant, Governor's Office | +++ | +++ | +++ | 9 | P | | Ongoing-RFPA's continue to be added throughout the State. | Fire TWG |
| 2013-03 | Guberif5% Education Initiative | G 1-5 O 2, 4, 5 | Idaho Firewise (L) IOEM, IDL (S) | C | DR-1927 HMGP, volunteer match | ++ | +++ | ++ | 7 | E | | Complete | Fire TWG |
| 2013-04 | West Mountain Corridor Mitigation & Education Project | G 1-5 O 1-5,8 | ILRCC (L) Valley Co., IDL, USFS, local fire depts., U of I (S) | D | WSFM WUI Grant, State and Private Competitive Grant | +++ | +++ | +++ | 9 | E | | Ongoing-IDL update pending | Fire TWG |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies | Budget Category | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Natural Systems Protection = N Structure and Infrastructure Projects = S | Plans and Regulations = P Education and Awareness Programs = E | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|----------------|---|-------------------------------------|---|---------------------|---|----------------|----------------------|-----------------------|------------|--|--|---|---------------------|
| 2013-05 | Clear Creek - Harpster Face Project | G 1-5 O 1-5, 8 | ILRCC (L) Idaho Co., Clearwater Co., IDL, USFS, BLM, local fire depts., Idaho Light and Power (S) | D | WSFM WUI Grant, State and Private Competitive Grant | +++ | +++ | +++ | 9 | S | | Complete | Fire TWG |
| 2013-06 | School Seismic Assessments- Coordinate with local school districts to assess possible structural and non-structural seismic mitigation projects | G 1,2,4,5 O 3-7, 9 | DBS, IOEM (L) Assn. School Boards, Dept. of Ed | C | NEHRP | + | ++ | +++ | 6 | S | | Ongoing-Pilot project assessed 7 school districts. . Part of 2019 NEHRP funding | Seismic TWG |
| 2013-07 | Annual ACT-20 and BCA training | G 3 O 1, 3, 5, 8 | IOEM (L) | B | | +++ | +++ | +++ | 9 | E | | Ongoing-will expand outreach and continue video trainings. | Executive Committee |
| 2013-08 | Develop a catalog of hazard threat planning scenarios | G 1-5 O 2-4 | IOEM, IDWR, IGS, IDL | C (est. \$25-\$30K) | NEHRP, PDM, EMPG, HSGP, HMEP | +++ | +++ | +++ | 9 | P | | Complete | Human Caused TWG |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies | Budget Category | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Natural Systems Protection = N Structure and Infrastructure Projects = S | Plans and Regulations = P Education and Awareness Programs = E Plants and Infrastructure Projects = N | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|---|----------------------------------|--|-----------------|--|----------------|----------------------|-----------------------|------------|---|---|---|---------------------|
| 2013-09 | Annual review of policies and Executive Orders to promote mitigation activities | G 1-4 O 1, 3-5 | IOEM, Human-Caused TWG (L) | A | N/A | + | ++ | +++ | 6 | P | | Ongoing – develop review schedule and report at annual maintenance meeting. | Human Caused TWG |
| 2013-10 | Rapid Visual Assessment of EOCs and CIKRs | G 1, 2 O 3, 4, 7 | IOEM (L) Div. of Building Safety (S) | C | NEHRP | ++ | +++ | +++ | 8 | S | | Ongoing-completed seismic for 13 E. Idaho counties. Continue in 2019 based on CIKR Assessments. | Executive Committee |
| 2013-11 | Create a process to identify critical infrastructure and facilities and then perform assessments | G 1, 2, 5 O 2, 6 | IOEM (L) | D | DHS | ++ | +++ | +++ | 8 | S | | Ongoing - 2 counties in 2017. Continue in 2018 and report in annual maintenance meeting. May need to combine this item with 2013-10 | Executive Committee |
| 2013-12 | Create a repository and clearing house of risk assessment data in accordance with ID Code 67-5745C (3). | G 3, 5 O 2, 4, 6, 7, 9 | Dept. of Admin (L) ITRMC, IOEM, IDWR (S) | D | State agencies, local gov, FEMA (RiskMap), DHS | + | +++ | +++ | 7 | P | | Ongoing – IOEM Critical Infrastructure manager has been conducting these | Executive Committee |



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| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies | Budget Category | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes -New -Deferred -In Progress / Ongoing -Completed -Revised -No Longer Applicable/Remove | Reporting Committee |
|---------|---|----------------------------------|----------------------|-----------------|----------------------------|----------------|----------------------|-----------------------|------------|--|---|---------------------|
| 2013-14 | Soil Stabilization - Landslide protection to State Highway 52 | G 1,2,4, 5 O 1, 5, 8 | ITD (L) | D | PDM, HMGP | * | *** | *** | 7 | S | Complete | Flood TWG |

2013 Project Challenges

All 2013 action items were either pilot projects or multi-phased projects that are spaced out over time due to funding. A large amount of the action items are now successful programs that will be enduring.

To implement the goals and objectives in the 2018 Plan, the actions in Table 1.F were developed and status updates provided.



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Table 1.F. 2018 Mitigation Action Plan

| ID | Action | Goal(s) & Objective(s) Addressed | Responsible Agencies | Budget Category | Possible Funding Source(s) | Cost Effective | Technically Feasible | Environmentally Sound | Sum of "+" | Plans and Regulations = P Education and Awareness Programs = E Natural Systems Protection = N Structure and Infrastructure Projects = S | Status & Notes New, Deferred, In Progress / Ongoing, Completed, Revised, No Longer Applicable / Remove | Reporting Committee |
|---------|--|----------------------------------|---------------------------|-----------------|----------------------------|----------------|----------------------|-----------------------|------------|--|---|----------------------|
| 2018-01 | Create State Cyber Incident Response plan and integrate planning through TWG. | G 2-4 O 1,9 | ITS (L), IOEM (S) | A | HMGP, HSGP | +++ | +++ | +++ | 9 | P | Ongoing – NEW Continuing integration process. 2021 update scheduled. ITS working on this issue | Cyber Disruption TWG |
| 2018-02 | Develop a self-assessment template for mitigation of Cyber Security risks. | G 2,4 O 1,2,4,8 | ITS (L), IOEM (S) | A | HMGP, HSGP | +++ | +++ | +++ | 9 | P, E | Ongoing – New 2020- ITS put out an assessment for all state agencies | Cyber Disruption TWG |
| 2018-03 | Development of a Cyber Industry Control System for attack cycle understanding and penetration testing using artificial intelligence. | G2 O 4,6 | BSU (L), ITS, IOEM (S) | C | HMGP, HSGP | + | +++ | +++ | 7 | E, S | New – 2022. Need to check with ITS for more details | Cyber Disruption TWG |
| 2018-04 | Display approved SHMP to public on story map (interactive web display platform). | G 2-4 O 2-5 | IOEM (L) | A | HMGP | +++ | +++ | +++ | 9 | P, E | New – 2018 started word press and development of new website, will conduct story | Executive Committee |



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|----------------|---|------------------------|-------------------------------------|---|------------------------------|-----|-----|-----|---|------------|---|---------------------|
| | | | | | | | | | | | map training in Nov 2019 | |
| 2018-05 | Resiliency modeling for system interdependency (4 systems – based on hazards). | G 2, 4, 5 O 2, 4, 7 | BSU (L), IOEM (S) | C | HMGP, HSGP | + | +++ | +++ | 7 | P, E | Ongoing - New – 2019 need to follow-up with BSU for more details | Executive Committee |
| 2018-06 | Create all hazards publications for public education. | G 1-4 O 2,9 | IOEM (L) | B | HMGP | ++ | +++ | +++ | 8 | E | Ongoing - New – 2020- Received funding under Dr- 5263 for educational video | Executive Committee |
| 2018-07 | Produce digital inundation maps with depth grids for HAZUS vulnerability and loss analysis for major dams within the state. | G 5 O 4,6,7 | IOEM (L) | B | HMGP | +++ | +++ | +++ | 9 | S, P | New – 2018 started for ten high risk dams | Flood TWG |
| 2018-08 | Conduct engineering study to identify and replace undersized and damaged culverts and bridges throughout the state. | G 1,2,4 | ITD (L), IOEM (S) | D | ITD, HMGP | + | +++ | +++ | 7 | N, S | Ongoing- With ITD New – 2018 started and ongoing | Flood TWG |
| 2018-09 | Update Idaho Multi-Hazard Risk Portfolio. | G 2, 3, 5 O 2, 4, 5, 7 | IOEM (L), IDWR (S) | C | RiskMAP | +++ | +++ | +++ | 9 | P, E | New - 2022 | Flood TWG |
| 2018-10 | Flood Alert Monitor Network (FAMN) Streamgage Sensor Project. | G 1-3, 5 O 5, 7, 9 | USGS(L), ITD, IOEM, IDWR (S) | C | USACE (Silver Jackets), USGS | + | +++ | +++ | 7 | P, E | New - 2019 | Flood TWG |
| 2018-11 | Glenwood Bridge signage for public education and high water marks. | G 1,2 O 2,5 | USACE (L), NWS, USGS, BOR, IDWR (S) | C | USACE (Silver Jackets) | ++ | +++ | +++ | 8 | P, E, S, N | Completed by Silver Jackets in 2019 | Flood TWG |



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|----------------|---|------------------|--|---|------------------------|-----|-----|-----|---|------------|--|---------------------------|
| 2018-12 | High water marks post-flood statewide. | G 1,2 O 2,5 | NWS (L), IDWR, IOEM (S) | C | USACE (Silver Jackets) | + | +++ | +++ | 9 | E | New – after flood events | Flood TWG |
| 2018-13 | Boise River Balancer Game. | G 3 O 3 | USACE (L), NWS, USGS, BOR, IDWR (S) | C | USACE (Silver Jackets) | + | +++ | +++ | 9 | E | New – 2018 Silver Jackets funding | Flood TWG |
| 2018-14 | FIRM digitization statewide. | G 2,5 O 4,5,7 | USACE (L), IDWR (S) | C | USACE (Silver Jackets) | +++ | +++ | +++ | 9 | P, E, N | New-2018 Silver Jackets 50% complete. | Flood TWG |
| 2018-15 | Resiliency Planning Assistance to incorporate in local AHMPs | G 2-4 O 5,6,9 | USACE (L), IOEM, BSU, INL (S) | C | USACE (Silver Jackets) | +++ | +++ | +++ | 9 | P, E, S, N | New – 2018 Custer Co. Pilot | Flood TWG |
| 2018-16 | Create statewide icejam inventory. | G 5 O 9 | USACE (L), BOR (S) | C | USACE (Silver Jackets) | +++ | +++ | +++ | 9 | P, E, S, N | New – 2019 ongoing post-event | Flood TWG |
| 2018-17 | Create household hazardous waste collection sites in rural counties that are without a program. | G 2,4 O 5 | DEQ (L), IOEM (S) | C | DEQ, HMGP | + | +++ | +++ | 7 | E, N | New – 2019 pilot- need to follow up with DEQ | HazMat & Radiological TWG |
| 2018-18 | Create program to go through all levels of educational institutions throughout the state and collect chemical / hazardous waste and provide ongoing education, outreach, guidance, and monitoring assistance. | G 2,4 O 5 | DEQ (L), IOEM (S) | C | DEQ, HMGP | | +++ | +++ | 6 | P, E | New – 2019 begin pilot with secondary schools | HazMat & Radiological TWG |
| 2018-19 | Inventory landfills for hazardous waste disposal presence and capability. | G 2,5 O 3 | DEQ (L), IOEM (S) | C | DEQ, HMGP | ++ | +++ | +++ | 9 | P, E | New - 2020 | HazMat & Radiological TWG |
| 2018-20 | Adult immunization clinics for vulnerable populations with limited access to healthcare (e.g., homeless | G 1,4 | IDHW (L) | B | IDHW | + | +++ | +++ | 7 | P, E, N | New – 2018 started in Central Dist. Health and vaccine clinics | Pandemic TWG |



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| | persons, low-income healthcare workers). | | | | | | | | | | for Hep A in panhandle | |
| 2018-21 | Update human illness, hospitalization, and death estimates by county and Public Health District for various severities of pandemic influenza, and to update pandemic economic loss estimations based on previously developed models. | G 5 O 7 | IDHW (L) | C | Idaho Immunization Program, Public Health Emergency Preparedness Cooperative Funds, Idaho Immunization Coalition | + | +++ | +++ | 7 | P, E | New – 2019 Still working to secure funding | Pandemic TWG |
| 2018-22 | Fund local veterinarians to educate local jurisdictions on passage of rabies control ordinances requiring rabies vaccination of dogs, cats, and ferrets. | G 1,3 O 5,9 | IDHW (L) | C | State Public Health Veterinarian, IDHW | + | +++ | +++ | 7 | P, E | New – 2018- Still working to secure funding need to check HMA guidance to see if qualifies for funding | Pandemic TWG |
| 2018-23 | Purchase of mobile self-contained housing for Idaho Public Health Districts to borrow or use for isolation of infectious or exposed persons who do not require hospitalization and are not able to be isolated in other accommodations. | G 1,2 | IDHW (L) | C | PDM, IDHW | | +++ | +++ | 6 | P, E, N | New – 2022 Still working to secure funding need to check HMA guidance to see if qualifies for funding | Pandemic TWG |
| 2018-24 | Create a revolving loan fund for start-up mosquito abatement districts to use prior to receipt of tax money and prior to a disaster declaration. | G 1,2 | IDHW (L) | C | HMGP, IDHW, PDM | | +++ | +++ | 6 | P, E | New – 2019 Still working to secure funding need to check HMA guidance to | Pandemic TWG |



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|----------------|---|--------------|-----------------------------------|---|---------------------|-----|-----|-----|---|---------|--|-------------|
| | | | | | | | | | | | see type of funding it qualifies for | |
| 2018-25 | Complete and exercise Earthquake Clearinghouse and Communications Plan. | G 5 O 4 | EERI (L), IOEM (S) | | NEHRP | +++ | +++ | +++ | 9 | P, E | Completed during March 2018 exercise | Seismic TWG |
| 2018-26 | Idaho Earthquake Fact Sheet. | G 4 O 2,5 | EERI (L), IOEM (S) | | NEHRP | +++ | +++ | +++ | 9 | P, E | Completed March 2018 | Seismic TWG |
| 2018-27 | Exercise Rapid Visual Assessment Teams. | G 5 | IOEM (L) | | NEHRP, WSSPC | +++ | +++ | +++ | 9 | P, E, S | New –Unable to complete in 2018 exercise will be done during 2022 exercise | Seismic TWG |
| 2018-28 | Shakecast computer modeling after an earthquake event to determine highest likelihood of infrastructure that is damaged from the epicenter. | G 5 O 2 | ITD (L), IDGS (S), IOEM (S) | D | ITD, HMGP, NEHRP | ++ | +++ | +++ | 8 | P, E, S | New - ITD funding through 2020. Need update from ITD | Seismic TWG |



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|----------------|--|----------------|--|---|--|-----|-----|-----|-----|------------|---|-------------|
| 2018-29 | Northern Idaho seismic assessment, outreach, and replacement to include: hazard analysis of rail shipping Crude Oil, Coal, and other Petroleum Products; property inventory and seismic inspection; update of building codes; earthquake awareness and education; development of multi-state groups, joint exercises between Washington/Idaho, and replacing/improving RR highway crossings, bridges, high risk areas. | G 1-5 O 1-9 | IGS (L), IOEM, IGS, ITD, IDHW (S) | | NEHRP, Public / Private partnerships with BNSF, Montana LINK, and UPRR. IDWR, USGS, ITD, Federal RR Admin, PDM | | + | +++ | +++ | P, E, S, N | New – 2018 started and ongoing | Seismic TWG |
| 2018-30 | Drills/training for major rail derailment/accident involving explosions, fires, spills. | G 1-5 O 1-9 | IGS (L), IOEM, IGS, ITD, IDHW (S) | C | NEHRP, Public / Private partnerships with BNSF, Montana LINK, and UPRR. IDWR, USGS, ITD, Federal RR Admin, PDM | +++ | +++ | +++ | 9 | P, E, S, N | New – 2019 need status update from IGS | Seismic TWG |
| 2018-31 | Update state fault database from 2003 data, statewide fault mapping and paleo seismic trench study. | G 2-5 O 7 | IGS (L) | C | HMGP, NEHRP, USGS Earthquake Hazard Research Grant | + | +++ | +++ | 7 | P, E | New – 2019 need status update from IGS | Seismic TWG |
| 2018-32 | Create statewide landslide inventory. | G 2-5 O 7 | IGS (L), ITD (S) | C | ITD | ++ | +++ | +++ | 8 | P, E | New – 2018 started IGS and ITD working together | Seismic TWG |



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|----------------|--|--------------|----------------------------|---|------------------|-----|-----|-----|---|---------|-----------------------------------|----------------------|
| 2018-33 | Post wildfire soil study using ubiquitous sensors for understanding landslide / mudslide hazard. | G 2-5 O 7 | BSU (L), IOEM, IDL (S), | C | IDL, HMGP | +++ | +++ | +++ | 9 | P, E | New – 2018 and ongoing post-event | Seismic TWG |
| 2018-34 | Statewide hazard fuels reduction. | G 1,2 | IDL (L) | C | IDL, HMGP | +++ | +++ | +++ | 9 | P, E, N | New – 2018 ongoing | Wildfire TWG |
| 2020-01 | Ensure downstream entities are made aware of HHPD risk status as it will impact their mission/operations. | G 1,2 | IDWR | A | HHPD | +++ | ++ | + | 6 | E | New | Dam/Levee/ Canal TWG |
| 2020-02 | Propose land use regulations, ordinances, and/or construction standards to protect life and property from eligible high hazard potential dams. | G 1-4 | IDWR | A | BRIC | +++ | +++ | +++ | 9 | P | New | Dam/Levee/ Canal TWG |
| 2020-03 | Rehabilitating and/or removing eligible high hazard potential dams. | G 1-5 | IDWR | D | HHPD, BRIC, HMGP | + | +++ | ++ | 6 | S | New | Dam/Levee/ Canal TWG |
| 2020-04 | Working with eligible dam owners to create/ update and share EAPs or dam incident annex to emergency operations plans (EOPs). | G 1-3, 5 | IDWR, IOEM | A | HHPD | +++ | +++ | +++ | 9 | P | New | Dam/Levee/ Canal TWG |



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Evaluation Criteria for Prioritization of Mitigation Action Items

The Executive Committee considered in a systematic way the Social, Technical, Administrative, Political, Legal, Economic, and Environmental (STAPLEE) opportunities and constraints of implementing all proposed new mitigation action items for the state. The STAPLEE benefit-cost analysis methodology is taken from FEMA's Using Benefit-Cost Analysis in Mitigation Planning (FEMA 386-5). The following discussion explains each of the STAPLEE evaluation criteria used and includes examples of questions the planning team considered, as well as who may be the appropriate person or agency to answer these questions as the team worked through the list of mitigation actions.

Social - The public must support the overall implementation strategy and specific mitigation actions. Therefore, the projects are evaluated in terms of community acceptance by asking questions such as:

- Will the proposed action adversely affect one segment of the population?
- Will the action disrupt established neighborhoods, break up voting districts, or cause the relocation of lower income people?
- Is the action compatible with present and future community values?
- If the community is a tribal entity, will the actions adversely affect cultural values or resources?

Technical - It is important to determine if the proposed action is technically feasible, will help to reduce losses in the long term, and has minimal secondary impacts. Here, determine whether the alternative action is a whole or partial solution, or not a solution at all, by considering the following types of issues:

- How effective is the action in avoiding or reducing future losses? If the proposed action involves upgrading culverts and storm drains to handle an 10-year storm event, and the objective is to reduce the potential impacts of a catastrophic flood, the proposed mitigation cannot be considered effective. Conversely, if the objective were to reduce the adverse impacts of frequent flooding events, the same action would certainly meet the technical feasibility criterion.
- Will it create more problems than it solves?
- Does it solve the problem or only a symptom?

Administrative - Under this part of the evaluation criteria, examine the anticipated staffing, funding, and maintenance requirements for the mitigation action to determine if the jurisdiction has the personnel and administrative capabilities necessary to implement the action or whether outside help will be necessary.

- Does the jurisdiction have the capability (staff, technical experts, and/or funding) to implement the action, or can it be readily obtained?
- Can the community provide the necessary maintenance?
- Can it be accomplished in a timely manner?



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Political - Understanding how current community and state political leadership feels about issues related to the environment, economic development, safety, and emergency management will provide valuable insight into the level of political support for mitigation activities and programs. Proposed mitigation objectives sometimes fail because of a lack of political acceptability. This can be avoided by determining:

- Is there political support to implement and maintain this action?
- Have political leaders participated in the planning process so far?
- Is there a local champion willing to help see the action to completion?
- Who are the stakeholders in this proposed action?
- Is there enough public support to ensure the success of the action?
- Have all of the stakeholders been offered an opportunity to participate in the planning process?
- How can the mitigation objectives be accomplished at the lowest - cost to the public?

Legal - Without the appropriate legal authority, the action cannot lawfully be undertaken. When considering this criterion, determine whether the jurisdiction has the legal authority at the state, tribal, or local level to implement the action, or whether the jurisdiction must pass new laws or regulations. Each level of government operates under a specific source of delegated authority. As a general rule, most local governments operate under enabling legislation that gives them the power to engage in different activities. Identify the unit of government undertaking the mitigation action, and include an analysis of the interrelationships between local, regional, state, and federal governments. Legal authority is likely to have a significant role later in the process when the state, tribe, or community will have to determine how mitigation activities can best be carried out, and to what extent mitigation policies and programs can be enforced.

- Does the state, tribe, or community have the authority to implement the proposed action?
- Is there a technical, scientific, or legal basis for the mitigation action (i.e., does the mitigation action -fit the hazard setting)?
- Are the proper laws, ordinances, and resolutions in place to implement the action?
- Are there any potential legal consequences?
- Will the community be liable for the actions or support of actions, or lack of action?
- Is the action likely to be challenged by stakeholders who may be negatively affected?

Economic - Every local, state, and tribal government experiences budget constraints at one time or another. Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are much more likely to be implemented than mitigation actions requiring general obligation bonds or other instruments that would incur long-term debt to a community. States and local communities with tight budgets or budget shortfalls may be more willing to undertake a mitigation initiative if it can be funded, at least in part, by outside sources. Big ticket mitigation actions, such as large-scale acquisition and relocation, are often considered for implementation in a post disaster scenario when additional federal



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and state funding for mitigation is available. Economic considerations must include the present economic base and projected growth and should be based on answers to questions such as:

- Are there currently sources of funds that can be used to implement the action?
- What benefits will the action provide?
- Does the cost seem reasonable for the size of the problem and likely benefits?
- What burden will be placed on the tax base or local economy to implement this action?
- Does the action contribute to other community economic goals, such as capital improvements or economic development?
- What proposed actions should be considered but be -tabled for implementation until outside sources of funding are available?

Environmental - Impact on the environment is an important consideration because of public desire for sustainable and environmentally healthy communities and the many statutory considerations, such as the National Environmental Policy Act (NEPA), to keep in mind when using federal funds. Evaluate whether, when implementing mitigation actions, there would be negative consequences to environmental assets such as threatened and endangered species, wetlands, and other protected natural resources.

- How will this action affect the environment (land, water, endangered species)?
- Will this action comply with local, state, and federal environmental laws or regulations?
- Is the action consistent with community environmental goals?

Mitigation Effectiveness Weighting – The action items were additionally given a weighted score based on the mitigation effectiveness of each one. The criteria are listed below, and each question was rated on a scale of 5-10 depending on the likelihood.

- Will the implemented action result in lives saved?
- Will the implemented action result in a reduction of disaster damages?

During the May 2018 Executive Committee Meeting, the planning team ranked the mitigation action items proposed for the 2018 Plan update using the STAPLEE criteria with mitigation effectiveness as the weighted criteria. Below are the rankings and results, and subsequent prioritization of action items. Table 1.G below shows the results of the ranking.



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Table 1.G. Mitigation Action Item Implementation Strategy Tool

| Action Item | STAPLEE Criteria Avg. Score | Mitigation Effectiveness Weight Avg. Score | Score | Rank |
|--|-----------------------------|--|-------|------|
| Statewide hazardous fuels reduction. | 23 | 16.91 | 39.91 | 1 |
| Conduct engineering study to identify and replace undersized and damaged culverts and bridges throughout the state. | 21 | 16.69 | 37.69 | 2 |
| Create all hazards publications for public education. | 23 | 14.69 | 37.54 | 3 |
| Update Idaho Multi-Hazard Risk Portfolio. | 22.92 | 14.38 | 37.31 | 4 |
| Flood Alert and Monitor Network (FAMN) Streamgage Sensor Project. | 21.92 | 15.38 | 37.31 | 5 |
| Northern Idaho seismic assessment, outreach, and replacement to include: hazard analysis of rail shipping Crude Oil, Coal, and other Petroleum Products; property inventory and seismic inspection; update of building codes; earthquake awareness and education; development of multi-state groups, joint exercises between Washington/Idaho, and replacing/improving RR highway crossings, bridges, high risk areas. | 22.18 | 15.09 | 37.27 | 6 |
| Shakecast computer modeling after an earthquake event to determine highest likelihood of infrastructure that is damaged from the epicenter. | 23.75 | 13.50 | 37.25 | 7 |
| Exercise Rapid Visual Assessment Teams. | 23.00 | 14.17 | 37.17 | 8 |
| Produce digital inundation maps with depth grids for HAZUS vulnerability and loss analysis for major dams within the state. | | | 37.31 | 9 |
| Idaho Earthquake Fact Sheet. | 23.55 | 13.25 | 36.80 | 10 |
| Produce digital inundation maps with depth grids for HAZUS vulnerability and loss analysis for major dams within the state. | 20.54 | 15.77 | 36.31 | 11 |
| Drills/training for major rail derailment/accident involving explosions, fires, spills. | 22.18 | 14.09 | 36.27 | 12 |
| Resiliency Planning Assistance. | 22.31 | 13.77 | 36.08 | 13 |
| Create State Cyber Incident Response plan and integrate planning through TWG. | 22.15 | 13.85 | 36.00 | 14 |
| Complete and exercise Earthquake Clearinghouse and Communications Plan. | 22.42 | 13.42 | 35.83 | 15 |
| Update state fault database from 2003 data, statewide fault mapping and paleo seismic trench study. | 22.09 | 13.36 | 35.45 | 16 |



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|---|-------|-------|-------|----|
| Adult immunization clinics for vulnerable populations with limited access to healthcare (e.g., homeless persons, low-income healthcare workers). | 19.42 | 16.00 | 35.42 | 17 |
| Resiliency modeling for system interdependency (4 systems – based on hazards). | 20.62 | 14.69 | 35.31 | 18 |
| Post wildfire soil study using ubiquitous sensors for understanding landslide / mudslide hazard. | 21.64 | 13.55 | 35.18 | 19 |
| Glenwood Bridge signage for public education and high water marks. | 22.85 | 12.23 | 35.08 | 20 |
| FIRM digitization statewide. | 22.08 | 12.62 | 34.69 | 21 |
| Create statewide icejam inventory. | 21.85 | 12.85 | 34.69 | 22 |
| Create statewide landslide inventory. | 21.27 | 13.40 | 34.67 | 23 |
| Display approved SHMP to public on story map (interactive web display platform). | 21.38 | 12.92 | 34.31 | 24 |
| Purchase of mobile self-contained housing for Idaho Public Health Districts to borrow or use for isolation of infectious or exposed persons who do not require hospitalization and are not able to be isolated in other accommodations. | 19.17 | 15.08 | 34.25 | 25 |
| Inventory landfills for hazardous waste disposal presence and capability. | 20.23 | 13.46 | 33.69 | 26 |
| High water marks post flood statewide. | 21.62 | 11.69 | 33.31 | 27 |
| Develop a self-assessment template for mitigation of Cyber Security risks. | 20.31 | 12.62 | 32.92 | 28 |
| Create household hazardous waste collection sites in rural counties without a program. | 20.00 | 12.85 | 32.85 | 29 |
| Update human illness, hospitalization, and death estimates by county and Public Health District for various severities of pandemic influenza, and to update pandemic economic loss estimations based on previously developed models. | 19.83 | 12.92 | 32.75 | 30 |
| Create program to go through all levels of educational institutions throughout the state and collect chemical / hazardous waste. | 20.08 | 12.54 | 32.62 | 31 |
| Create a revolving loan fund for start-up mosquito abatement districts to use prior to receipt of tax money and prior to a disaster declaration. | 19.42 | 13.08 | 32.50 | 32 |
| Development of a Cyber Industry Control System for attack cycle understanding and penetration testing using artificial intelligence. | 20.00 | 12.46 | 32.46 | 33 |
| Boise River Balancer Game. | 20.23 | 10.62 | 30.85 | 34 |
| Fund local jurisdictions to hold meetings including local veterinarians to consider passage of rabies control ordinances requiring rabies vaccination of dogs, cats, and ferrets. | 18.42 | 12.33 | 30.75 | 35 |



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|---|-------------|------------|-------------|----------|
| 2020 HHPD - Working with of eligible dam owners to create/update and share EAPs or dam incident annex to emergency operations plans (EOPs). | 15.2 | 5.4 | 20.6 | 1 |
| 2020 HHPD - Rehabilitating and/or removing eligible high hazard potential dams. | 11.2 | 7.9 | 19.1 | 2 |
| 2020 HHPD - Propose land use regulations, ordinances, and/or construction standards to protect life and property from eligible high hazard potential dams. | 11.9 | 7.1 | 19 | 3 |
| 2020 HHPD - Ensure downstream entities are made aware of HHPD risk status as it will impact their mission/operations. | 13.1 | 5.2 | 18.3 | 4 |