

CHAPTER 2

Planning Process

Planning Process

DEM was designated as the lead agency to update the State Hazard Mitigation Plan (SHMP) for the State of Utah. Following the Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707 (signed into law November 23, 1998), DEM began systematically creating and updating mitigation plans for the State.

Updates between the 2014 plan and the 2019 plan include:

- Engaging with personnel and agencies around the state to participate as members of the planning teams
- Compiling, analyzing, and implementing approved local hazard mitigation plan data and information into the risk assessment and mitigation strategies portions of the plan
- Reviewing, updating, and evaluating the hazard list for the state plan
- Completing a survey about the State Hazard Mitigation Plan
- Updating, rewriting, and performing analyses on the hazards identified in the plan
- Performing new HAZUS runs for earthquake and flood scenarios for all 29 counties
- Working with Envision Utah to gather data on development, population, and growth in Utah
- Developing, incorporating, and utilizing data on the effects of changing future climate conditions
- Engaging with the NWS, Forestry, Fire, & State Lands, Utah Dam Safety, Utah floodplain coordinator, local drought experts, and many other agencies to gather data and help update related portions of the risk assessment and mitigation strategies portions of the plan
- Partnering with the Utah Geological Society to update and rewrite the geologic hazards chapter of the plan
- Performing a new capabilities assessment of the state's mitigation capabilities that involved a broad spectrum of participants from state agencies to local level personnel
- Presenting at conferences, SHMPC meetings, quarterly SHMT meetings, and DEM meetings
- Reorganization and rewriting the text of the plan
- Sent the plan to all emergency managers around the state for review during the update
- Requested input from the public

THE FOLLOWING ORGANIZATIONS, DEPARTMENTS, AND AGENCIES DIRECTLY AND INDIRECTLY PARTICIPATED IN THE DEVELOPMENT OF THE 2019 UTAH SHMP:

- Utah Forestry, Fire & State Lands
- National Weather Service
- National Oceanic Atmospheric Administration
- University of Utah Seismograph Stations
- University of Utah Kem C. Gardner Policy Institute
- University of Utah City & Metropolitan Planning
- Utah Department of Transportation
- Utah Dam Safety
- National Resource Conservation Service
- Utah Division of Emergency Management
- Utah Geological Society
- Federal Emergency Management Association
- United States Geological Society
- Utah Avalanche Center
- Colorado Avalanche Information Center
- Utah Division of Water Resources
- National Climate Data Center
- United States Department of Agriculture
- Governor's Office of Economic Development
- Governor's Office of Management and Budget
- Envision Utah

- United States Drought Monitor
- National Drought Monitor Center
- Bear River Association of Governments
- Five County Association of Governments
- Mountainland Association of Governments
- Six County Association of Governments
- Southeastern Utah Association of Local Governments
- Uintah Basin Association of Governments
- Bureau of Reclamation
- United States Army Corps of Engineers
- Environmental Protection Agency
- National Aeronautics and Space Administration
- Utah Automated Geographic Reference Center
- Utah Seismic Safety Commission
- Utah Division of Water Rights
- Western Water Assessment
- Great Basin Coordination Center
- BLM Fire Prediction Bureau
- Unified Fire Authority
- Central Iron Water Conservancy District
- Kane County Water Conservancy District
- Colorado River Basin Forecast Center
- Utah Division of Drinking Water
- Utah Water Users Association
- Bear River Water Conservancy District
- Duchesne Water Conservancy District
- Utah Department of Environmental Quality
- Utah Agriculture and Food
- Utah State Board of Education
- Utah Department of Health
- Utah Division of Environmental Response and Remediation
- United States Department of Agriculture Snow Survey
- Utah State Board of Education
- The local emergency managers and the public

State Planning Teams

The update of the SHMP was a collaboration of several groups including the State Hazard Mitigation Planning Committee (SHMPC), the State Hazard Mitigation Team (SHMT), DEM, and regional and local agencies. This process involved reviewing chapters, data acquisition, coordinating among agencies, map making, editing, meetings, presentations, developing mitigation strategies and reviewing Local Hazard Mitigation Plans (LHMP).

STATE HAZARD MITIGATION PLANNING COMMITTEE (SHMPC)

The Utah SHMPC is the hazard mitigation planning body within the State. This planning committee is tasked with updating and maintaining the SHMP, coordinating with state agencies, providing technical assistance to locals, and representing the DEM on various committees and commissions related to mitigation. The SHMPC consists of two divisions, one of which is the core committee.

The core SHMPC consists of various personnel from the Utah Division of Emergency Management and comprises the State Hazard Mitigation Officer, the State Floodplain Manager, the State Earthquake Program Manager, the RiskMAP/CTP Coordinator, the GIS Coordinator, mitigation planners, and mitigation interns. The more general SHMPC consists of the core members, as well as

personnel from state agencies, regional planning organizations, associations of governments, and other regional and local organizations.

The core SHMPC met numerous times throughout the planning update process. The greater SHMPC met during the following dates:

February 22, 2017 – Discussed the background of the Utah State Hazard Mitigation Plan, the overview of the mitigation planning process, goals and objectives of the 2019 update, new hazards list, and presented a survey.

May 25, 2017 – Overview of planning process, discussion of new hazards list, review of current mitigation plan, discussion of risk assessment and capabilities assessment.

September 18, 2018 - Update of GIS and HAZUS analyses, reviewed updated risk assessment, highlighted the updated flood chapter, discussed the mitigation strategies section of the plan, reviewed the current strategies, solicited for new mitigation strategies, and discussed the state capabilities assessment.

| SURVEY

The SHMPC created a mitigation plan survey to determine the effectiveness of the SHMP, gather input for the update, and determine the direction of the planning process and update. The survey was sent out to emergency managers APA planners around the state.

The mitigation plan survey included the following questions:

- Did you know the State of Utah has a State Hazard Mitigation Plan?
If yes, from where
- Do you know where/how to access the State Hazard Mitigation Plan?
- Have you accessed the State Hazard mitigation Plan?
If yes, what was the purpose
- Have you used any of the information from the State Hazard Mitigation Plan?
If yes, what was the purpose
- Do you find the State Hazard Mitigation Plan useful?
- How could the State Hazard Mitigation Plan be more useful to you?
- Would a web based plan be more useful?
- What would you like to see in the State Hazard Mitigation Plan?
- What hazards would you like to see added/taken out of the plan?

The survey was discussed at planning meetings and the results utilized to make the planning process and update of the SHMP better.

State Hazard Mitigation Planning Committee (SHMPC)	
Name	Agency - CORE SHMPC Members
Brad Bartholomew	Utah DEM - State Hazard Mitigation Officer
Bob Carey	Utah DEM - Bureau Chief/Earthquake Program Manager
John Crofts	Utah DEM - OPS/Earthquake Planner
Josh Groeneveld	Utah DEM - GIS Coordinator
Kim Hammer	Utah DEM - Liaison Manager
Sarah Hardin	Utah DEM - GIS Intern
Tracie Harrison	Utah DEM - Utah RiskMAP Coordinator Intern
Ember Herrick	Utah DEM - Mitigation & Recovery
Kathy Holder	Utah DEM - Utah Floodplain Coordinator
Jamie Huff	Utah DEM - Utah RiskMAP Coordinator
Angela Kula	Utah DEM - Planning Manager
Eric Martineau	Utah DEM - Mitigation & Recovery
Tyffanae Simonsen	Utah DEM - Utah RiskMAP Coordinator Intern
Tara Tannahill	Utah DEM - Mitigation & Recovery Intern
Jake Unguren	Utah DEM - Mitigation & Recovery
Brandon Webb	Utah DEM - Utah Floodplain Coordinator Intern
Janna Wilkinson	Utah DEM - Mitigation & Recovery

Other SHMPC Members	
Nicole Aimone	FEMA
Bob Allen	Mountainland AOG
Tony Beals	National Resources Conservation Service
Michael Byrant	Southeastern Utah ALG
Divya Chandrasekhar	University of Utah, City & Metropolitan Planning
Zac Covington	Bear River AOG
Evan Curtis	Governor's Office of Management and Budget
LaNiece Davenport	Wasatch Front Regional Council
Margaret Doherty	FEMA
Travis Kyhl	Six County AOG
Kevin Leo	Envision Utah
Chris Merritt	Utah Division of State History
Joaquin Mixco	Utah DOT
Nathan Wiberg	Five County AOG
Kevin Yack	Uintah Basin AOG
Jenefer Youngfield	State Schools
Gary Zabriskie	Five County AOG

STATE HAZARD MITIGATION TEAM (SHMT)

The SHMT consists of representatives from state and federal agencies, local agencies, universities, and professional organizations. Individuals are subject matter experts in fields related to hazard mitigation. The team includes geologists, hydrologists, meteorologists, engineers, and biologists, to name a few. The primary role of the SHMT is to:

- Provide pre- and post-hazard mitigation information and technical assistance to local governments and individuals
- Identify specific mitigation measures and assist in their implementation

Members reviewed the hazard chapters that corresponded with their field of expertise. Their suggestions were incorporated into the plan and provided valuable aid and correction. The members revised the mitigation goals for each hazard and provided new mitigation strategies. The SHMP was discussed at quarterly SHMT meetings and with the members at planning meetings. They were asked to review the entire plan to ensure continuity in the planning document.

The SHMT met on the following dates during the update planning process:

November 17, 2016
 February 23, 2017
 August 31, 2017
 November 30, 2017
 February 20, 2018
 May 31, 2018
 August 30, 2018
 November 20, 2018

SHMT MEMBERS

State Hazard Mitigation Team (SHMT)	
Name	Agency
Craig Angeroth	U.S. Geological Survey
Seth Arens	Cooperative Institute for Research in Environmental Sciences
Craig Barnitz	Utah Department of Environmental Quality
Kevin Barjenbruch	National Weather Service
Brad Bartholomew	Utah DEM - State Hazard Mitigation Officer
Tony Beals	National Resource Conservation Service
Tara Behunin	Utah DEM - Liaison
Greg Beukelman	Utah Geological Survey
Steve Bowman	Utah Geological Survey
Tony Brosten	NRCS - Snow Survey
Bob Carey	Utah DEM - Bureau Chief/Earthquake Program Manager
Divya Chandrasekhar	University of Utah, City & Metropolitan Planning
John Crofts	Utah DEM - OPS/Earthquake Planner
Tom Cova	University of Utah, Geography
Evan Curtis	Governor's Office of Management and Budget
Sheila Curtis	Utah DEM - Operations Manager
Ryan Dearing	Utah Division of Water Resources
Charlotte Dewey	National Weather Service

Joe Dougherty	Utah DEM - PIO
Gordon Douglass	Utah Geological Survey
Richard Giraud	Utah Geological Survey
Josh Groeneveld	Utah DEM - GIS Coordinator
Brain Haines	USACE
Kris Hamlet	Utah DEM - Director
Kim Hammer	Utah DEM - Liaison Manager
Jennifer Hansen	Utah Forestry, Fire, & State Lands
Tracie Harrison	Utah DEM - Utah RiskMAP Coordinator Intern
Laura Haskell	Utah Division of Natural Resources
Ember Herrick	Utah DEM - Mitigation & Recovery
Cheryl Heying	Utah Division of Water Resources
Kathy Holder	Utah DEM - Utah Floodplain Coordinator
Jamie Huff	Utah DEM - Utah RiskMAP Coordinator
Pete Keers	Utah Division of Drinking Water
Kevin Leo	Envision Utah
Ryan Luke	Bureau of Reclamation
David Marble	Dam Safety
Eric Martineau	Utah DEM - Mitigation & Recovery
Greg McDonald	Utah Geological Survey
Brian McInerney	National Weather Service
Thayne Mickelson	Utah Department of Agriculture and Food
Joaquin Mixco	Utah DOT
Ashley Nay	Utah Division of Water Resources
Rachel Orellana	USACE
Melissa Ottley	Utah Division of Environmental Response & Remediation
Roddy Pirouznia	Dam Safety
Brian Rast	USACE
Dwight Slaugh	U.S. Bureau of Reclamation
Bronson Smart	National Resources Conservation Service
Corrie Stetzel	USACE
Kent Sutcliffe	USDA Snow Survey
Tyler Thompson	Utah Division of Natural Resources
Nathaniel Todea	National Resources Conservation Service
Jake Unguren	Utah DEM - Mitigation & Recovery
Judy Watanabe	Utah DEM - Deputy Director
Brandon Webb	Utah DEM - Utah Floodplain Coordinator Intern
Melissa Weymiller	USACE
Janna Wilkinson	Utah DEM - Mitigation & Recovery

Key Planning Meetings

The following table contains all the key or major planning meetings that occurred during the update of Utah's SHMP. These meetings include core SHMPC meetings, SHMPC meetings, SHMT meetings, conferences attended, workshops, DEM meetings, etc.

Date	Meeting	Attendance	Purpose
11/16/2016	Utah Climate Action Network	Brad Bartholomew	Discussion on climate impacts in Utah
11/16/2016	Planning Meeting	Brad Bartholomew, Janna Wilkinson, Eric Martineau	Went over the timeframe and costs
11/17/2016	SHMT	SHMT Team Sign In Sheet	Presentation on the planning update and the new hazards list
11/30/2016	SHMP Meeting	Brad Bartholomew, Janna Wilkinson, Eric Martineau, Bob Carey	Went over the timeframe and costs
12/15/2016	CORE	Brad Bartholomew, Janna Wilkinson, Bob Carey, John Crofts, Jamie Huff, Kathy Holder, Josh Groeneveld	Plan vision, goals, timeframe, what is expected and next steps.
1/5/2017	CORE	Brad Bartholomew, Eric Martineau, Josh Groeneveld	Discussed GIS needs and the State Facilities database
1/19/2017	Utah Seismic Safety Commission	Brad Bartholomew	Overview of the mitigation plan and the update.
2/22/2017	SHMPC	Sign-in sheet	Kick-off meeting
2/23/2017	SHMT	Sign-in sheet	Presentation on the new Utah Hazard List and the purpose of the plan
3/1/2017	SMHP Climate Change Committee	Brad Bartholomew, Eric Martineau, Brian McInerney, Seth Arens,	Discussed requirements to meet changing climate conditions for SHMP update
3/21/2017	Utah Climate Action Network	Eric Martineau	Discussed future climate conditions requirement at the meeting and update of the mitigation plan
4/4/2017	Geologic Hazards Chapter	Brad Bartholomew, Eric Martineau, Steve Bowman	Meeting with Steve Bowman (Geologic Manager) to discuss update of Geologic Hazards Chapter
4/10/2017	CORE	Brad Bartholomew, Eric Martineau	Discuss progress of update
4/17/2017	CORE	Brad Bartholomew, Eric Martineau	Discuss progress of update
4/17/2017	RiskMap 5-year Plan	Jamie Huff, Brad Bartholomew, Kathy Holder, Jake Unguren, Tracie Harrison, Eric Martineau, Brandon Webb	Discussion of RiskMAP's future plan in Utah
4/18/2017	Earthquake Chapter	Eric Martineau, Bob Carey	Meeting with Bob Carey (Earthquake Program Manager) to discuss update of Earthquake Chapter

4/19/2017	Severe Weather Chapter	Brad Bartholomew, Eric Martineau, Kevin Barjenbruch	Meeting with Kevin Barjenbruch (Meteorologist, NOAA/NWS) to discuss update of Severe Weather chapter
4/19/2017	Wildfire Chapter	Brad Bartholomew, Eric Martineau, Jennifer Hansen	Meeting with Jennifer Hansen (Wildland Urban Interface/Catastrophic Fire Program Coordinator.) to discuss update of the Wildfire Chapter
4/24/2017	Dam Failure Chapter	Eric Martineau, Dave Marble	Meeting with Dave Marble (Assistant State Engineer - Dam Safety) to discuss update of Dam Failure Chapter
5/25/2017	SHMPC	Sign-in Sheet	Planning process, new hazard list, review of current plan, risk assessment
8/31/2017	SHMT	Sign In Sheet	Eric Martineau presented on efforts to update the risk assessment portion of the plan and the various state agencies, experts helping on various chapters.
11/4/2017	Utah Snow and Avalanche Workshop	Tara Tannahill	Attended workshop for information, data, etc. for new avalanche chapter
11/14/2017	Intermountain West DEWS - Drought	Brad Bartholomew, Eric Martineau	Discussed integration of State mitigation Drought chapter with other state drought planning efforts.
11/27/2017	CORE	Brad Bartholomew, Eric Martineau	Discussed progress of plan and presentation of plan for SHMT
11/30/2017	SHMT	Sign In Sheet	Presentation on the progress of the risk assessment and the upcoming mitigation strategy portion.
11/30/2017	GIS	Brad Bartholomew, Eric Martineau, Josh Groeneveld	Discussed progress of analysis of State Facility assessment; HAZUS; maps
12/14/2017	CORE	John Crofts, Josh Groeneveld, Kathy Holder, Janna Wilkinson, Eric Martineau, Brad Bartholomew	Reviewed progress, gave out assignments, discussed needs
2/22/2018	SHMPC	Sign-in Sheet	Webinar about update of plan, risk assessment chapters, state facility update, meetings, sources, etc.
5/21/2018	SHMPC	Cancelled	
5/29/2018	CORE	Jennifer Hansen, Ember Herrick, Eric Martineau, Josh Groeneveld, Brad Bartholomew, Janna Wilkinson	Reviewed the Wildfire Chapter and identified any further data and GIS needs
6/11/2018	CORE	Brad Bartholomew, Janna Wilkinson, Brandon Webb, Ember Herrick, Eric Martineau, Jamie Huff, Kathy Holder, Tracie Harrison	Reviewed the Flood Chapter and identified any further data and GIS needs.

6/21/2018	CORE	Brad Bartholomew, Ember Herrick, Janna Wilkinson, Josh Groeneveld, Eric Martineau	Reviewed the Severe Weather Chapter and identified further data and GIS needs
7/17-18/2018	Drought Response Plan Workshop	Brad Bartholomew	Discussion about current drought in Utah
8/7/2018	CORE	Brad Bartholomew, Eric Martineau, Ember Herrick, Janna Wilkinson, Josh Groeneveld	Reviewed the Avalanche and Space Weather chapters and identified any further data and GIS needs
8/30/2018	SHMT	SHMT Sign-in Sheet	Plan progress, handed out survey on goals accomplished and requested new mitigation strategies from SHMT
9/18/2018	SHMPC	Sign-in Sheet	Reviewed risk assessment, mitigation strategies, and discussed state capabilities assessment
11/1/2018	Resource Development Coordinating Committee Meeting	Brad Bartholomew	Discussion of SHMP
11/5/2018	CORE	Eric Martineau, Ember Herrick	Reviewed plan progress and any gaps and needs
11/15/2018	SHMT	SHMT Sign-in Sheet	Presentation on state capabilities assessment
1/14/2019	CORE	Brad Bartholomew, Eric Martineau, Ember Herrick, Jamie Huff, Kathy Holder	Reviewed plan progress and finalized remaining tasks
1/17/2019	USSC	Brad Bartholomew	Presentation on SHMP

Public Involvement

The current 2014 SHMP has been available on its own website during the entire 2019 update process. The SHMP is also discussed on DEM's website. The SHMPC involved members of the public for its planning meetings. The SHMPC sent out a mitigation plan survey to members of the public about their experience with the SHMP and any items they would like to see for the update. The 2014 SHMP was also sent out for review to all the available local emergency managers in the state. Their feedback was incorporated into the plan. The 2019 SHMP update was also discussed at various public meetings during the plan update process.

The final draft of the 2019 SHMP was also put out for public comment for 30 days. The draft 2019 SHMP was made available online during the public comment period and any public comments or suggestions were incorporated into the plan. (Will be updated following comment period.)

Coordination with Other Agencies and Plans

The SHMPC coordinated the development and update of the SHMP with other state, federal, and local agencies. Coordination between federal and state agencies has remained consistent through each planning cycle with interactions between the different agencies improving over time as a direct result of each agency's participation in the planning process. More state and federal agencies have also become actively involved with the SHMT. Members of the SHMT coordinate and support local mitigation efforts as these partnerships and working relationships continue to strengthen.

UTAH SEISMIC SAFETY COMMISSION (USSC)

The 15-member USSC was established with the passage of House Bill (HB) 358 during the 1994 legislative session. In the 2000 legislative session, the USSC Act was amended by HB 200. This amendment revised the membership of the commission and added two additional seats. The USSC advises federal, state and local agencies and jurisdictions along with the private sector on earthquake-related policy and loss-reduction strategies.

The objective of the USSC is to:

- Review earthquake-related hazards and risks in Utah
- Prioritize recommendations to identify and mitigate these hazards and risks
- Prioritize recommendations for adoption as policy or loss reduction strategies
- Act as a source of information for earthquake safety and promote loss reduction measures
- Prepare a strategic seismic safety planning document
- Update the strategic-planning document and other supporting studies or reports
- The USSC has compiled a report outlining a long-term plan to improve earthquake safety in the State of Utah entitled "A Strategic Plan for Earthquake Safety in Utah - 1995." The plan lists 33 specific strategies grouped into five key objectives and are outlined in a 64-page report.

Bob Carey, DEM Bureau Chief and Earthquake Program Manager, represents the SHMPC on the USSC. John Crofts, DEM Earthquake Planner also represented the SHMPC at the USSC meetings. In addition, other SHMPC members attended some of the USSC meetings. Brad Bartholomew presented on the mitigation plan on the January 19, 2017 meeting and the January 17, 2019 meeting. The USSC conducted meetings on the following days during the mitigation planning process:

- October 27, 2016
- January 19, 2017
- April 13, 2017
- July 13, 2017
- November 8, 2017
- January 18, 2018
- April 26, 2018
- July 19, 2018
- October 25, 2018

ASSOCIATIONS OF GOVERNMENTS

AOGs implement the vision of multi-county or regional planning districts to coordinate planning and governmental activities within a specified geographic area of the State. These multi-county planning districts, or AOGs, comprise three or more counties with the primary objective to provide a framework to aid and encourage better coordination of and communication between plans and programs. AOGs facilitate efficient ways to administer and deliver the services governments are responsible for providing to the public at a more cost-effective rate by operating facilities at the district level. Regional planning districts have a few distinct purposes:

- Regional (and state-wide) planning and integration

- Reduce duplication of local government efforts
- Facilitate cost savings through an increased level of production for economies of scale
- A member from every Association of Government in the State of Utah was a member of the SHMPC and helped update the SHMP. Members of the SHMPC met with or contacted each AOG about the SHMP update and garnered their participation during the update process.

Members of AOGs who participated in the 2019 SHMP Update:

Bob Allen	Mountainland AOG
Michael Byrant	Southeastern Utah ALG
Zac Covington	Bear River AOG
LaNiece Davenport	Wasatch Front Regional Council
Travis Kyhl	Six County AOG
Nathan Wiberg	Five County AOG
Kevin Yack	Uintah Basin AOG
Gary Zabriskie	Five County AOG

UTAH FLOODPLAIN AND STORMWATER MANAGEMENT ASSOCIATION (UFSMA)

UFSMA is an organization of professionals involved in floodplain management, stormwater management, flood hazard mitigation, FEMA’s National Flood Insurance Program (NFIP) and RiskMAP Cooperating Technical Partners Program (CTP) and flood preparedness. UFSMA has become a respected voice in floodplain management practices in Utah because it represents flood hazard specialists with local, state and federal government, the research community, the insurance industry, the fields of engineering, hydrologic forecasting, emergency response, water resources and others. A couple of UFSMA’s board members served on the SHMPC. Members of the SHMPC also present at UFSMA’s annual conference on mitigation.

CITY AND COUNTY EMERGENCY MANAGERS

There are emergency managers for each of the 29 counties, as well as many cities with larger populations throughout Utah. The majority of these emergency managers are a current city or county employee with this additional duty assigned to them, a part-time employees paid through a federal grant or a local volunteer.

The city and county emergency managers play a significant role in the mitigation planning process. Their knowledge of natural hazards in their communities allowed for the development of sound, realistic mitigation strategies, identified in the Regional plans. As emergency managers they are aware of the importance of planning principles and support efforts to ensure the Regional plans reflect their unique hazards and risks. Emergency Managers were instrumental in the formal adoption of the Regional mitigation plans.

Quarterly emergency manager’s meetings are held to discuss current issues and update the emergency management community on ongoing natural, technological, and human event planning activities, grant opportunities, training, and other items related to their responsibilities as emergency managers. A yearly Public Officials Conference POC is also held to educate and inform elected officials and emergency managers of current emergency management issues and trends.

Utah's 7 Associations of Governments



Source: base data from AGRC; map created by Utah DEM

All of the city and county emergency managers were invited to participate in the planning process of the SHMP update by reviewing the plan and provide any comments, suggestions, data, etc. Several emergency managers responded and provided comments that have been incorporated into the plan.

NATIONAL FIRE PLAN AND UTAH FORESTRY, FIRE, AND STATE LANDS COMMUNITY FIRE PLANNING

The Utah Division of Forestry, Fire, and State Lands (FFSL) initiated Community Fire Planning for the Wildland Urban Interface (WUI) communities of Utah. Utah switched from a reactive wildfire suppression strategy to a proactive risk reduction strategy in 2017 with the legislative adoption of a new wildland fire policy between the FFSL and participating counties, municipalities and special service fire districts throughout Utah who chose to opt in. Every participating entity is required to create a community wildfire preparedness plan (CWPP) within two years of joining the coalition to help prioritize risk reduction projects for their jurisdiction or community. To protect these communities, fire planning was initiated to:

- Empower communities to organize, plan, and take action on issues impacting community safety
- Enhance levels of fire resistance and protection to the community
- Identify the risks of wildland/urban interface fires in the area
- Identify strategies to reduce the risks to homes and business in the community during a wildfire
- The state's philosophy is that wildfire is a local issue and ownership of the problem resides at the local level.

In 2016, DEM and FFSL entered into a Memorandum of Understanding (MOU) regarding the integration and interchangeability of Utah's LHMPs and CWPPs. This integration and collaboration helps to support the SHMP which uses data from the local plans.

A key component of the wildfire chapter update was provided by Jennifer Hansen from FFSL. The SHMPC met with FFSL several times and gathered data, input, and assistance that greatly shaped the formation of the wildfire risk assessment, wildfire mitigation strategies, and other sections of the wildfire chapter.

FLOODPLAIN MANAGEMENT – FLOODPLAIN MAPPING

Within Utah's floodplain management program one of the top priorities has been and will continue to be updating current floodplain maps and mapping those areas in the State of Utah not yet mapped. This effort is directly integrated into the hazard mitigation planning process. Through coordination with local governments during updates to multi-jurisdictional LHMPs, outdated floodplain maps and their inaccuracy was a consistent concern raised at the local level. Both the Utah State Floodplain Manager and the State's Risk MAP Coordinator are members of the SHMPC and provided valuable data related to their areas of expertise during the latest plan update. They contributed significantly in developing the flood hazards chapter and providing information on the NFIP, repetitive loss structures, floodplain mapping, and other flood related data.

DEM has received several RiskMAP/CTP grants to hire a full-time RiskMAP Coordinator who performs management support for RiskMAP activities to increase the state's capacity. This grant is critical to Utah's ability to employ a RiskMAP/CTP Coordinator and further state mapping efforts.

COUNTY EMERGENCY OPERATIONS PLANS (EOP)

Mitigation, one of the four phases of emergency management, is included in most city and county EOPs. These multi-jurisdictional mitigation plans detail how local governments will respond to events. Plans include information on vulnerability, potential dollar losses, and likelihood of natural events. Incorporating mitigation data aids locals in developing and updating their county and city EOP. Understanding the costs to infrastructure within a given jurisdiction, regardless of how it was damaged, helps locals in developing exercises based on real world estimates.

EMERGENCY MANAGEMENT ACCREDITATION PROGRAM (EMAP)

In 2007, the State of Utah achieved the milestone of having a fully accredited EMAP and was re-accredited in 2012 and again in 2017. EMAP accreditation is an ongoing process much like mitigation planning. Emergency management accreditation represents a significant achievement. The program documents how Utah meets national standards for their disaster preparedness, response,

recovery and mitigation systems. To achieve accreditation, DEM documented compliance with 54 national standards used in the accreditation process. The SHMP is an integral part of the EMAP accreditation process and is used to meet certain requirements. Certain sections, analyses, and data are also incorporated into the SHMP to meet EMAP requirements.

ENVISION UTAH

In January 1997, the Envision Utah Public/Private Partnership was formed to guide the development of a broadly and publicly supported Quality Growth Strategy - a vision to protect Utah's environment, economic strength, and quality of life for generations to come. With the help of thousands of Utah residents, Envision Utah has developed a Quality Growth Strategy that will help preserve critical lands, promote water conservation and clean air, improve our region-wide transportation systems, and provide housing options for all residents.

DEM partnered with Envision Utah to help update the section on Utah's profile, geography, development, population, and general statistics portion of the State's mitigation plan. In addition, Envision Utah was part of the SHMPC and attended planning meetings. Envision Utah provided valuable input for the plan update that was incorporated into the plan.

WESTERN WATER ASSESSMENT AND CIRES

The Western Water Assessment (WWA) is a university-based applied research program that addresses societal vulnerabilities to climate variability and climate change, particularly those related to water resources. While we are based in Boulder, Colorado, we work across the Intermountain West—Colorado, Utah, and Wyoming.

Their mission is to conduct innovative research in partnership with decision makers in the Rocky Mountain West, helping them make the best use of science to manage for climate impacts. They are part of the Cooperative Institute for Research in Environmental Sciences (CIRES) at the University of Colorado-Boulder. The WWA team is comprised of researchers in multiple disciplines—climatology, hydrology, ecology, social sciences, and law—at the University of Colorado-Boulder and several other institutions in the region.

The 2019 SHMP update utilized the Western Water Assessment to help contribute to the creation of the climate change portions of the plan. Seth Arens, Research Integration Specialist, CIRES, was a key player in updating the climate section and climate portions in hazard chapters. FEMA Region VIII also contributed information about climate conditions in Utah.

NATIONAL WEATHER SERVICE AND NOAA

The National Weather Service's mission is to provide weather, water, and climate data, forecasts and warnings for the protection of life and property and enhancement of the national economy.

Members of the National Weather Service served on the SHMPC and contributed significantly to the plan update. Brian McInerney a hydrologist at the NWS provided data and assistance on climate conditions in Utah and Kevin Barjenbruch, Warning Coordination Meteorologist, provided data and assisted in the update of the Severe Weather chapter of the SHMP.

HAZUS-MH

HAZUS-MH, is a nationally applicable standardized methodology and software program, which contains models for estimating potential losses from earthquakes, floods, tsunamis, and hurricane winds. FEMA under contract with the National Institute of Building Sciences (NIBS) developed HAZUS-MH. NIBS maintains committees of wind, flood, earthquake and software experts to provide technical oversight and guidance to HAZUS-MH development. HAZUS-MH uses GIS software to map and display hazard data and the results of damage and economic loss estimates for buildings and infrastructure. It also allows users to estimate the impacts of hurricane winds, floods, and earthquakes on populations.

HAZUS-MH was utilized to produce damage loss estimates extensively in this state mitigation plan. New HAZUS runs were completed for all 29 counties for earthquakes and flooding. This produced new damage estimates and data that served to help inform the risk assessment sections dealing with earthquakes and flooding.

Additional Plans related to the State Hazard Mitigation Plan

In addition to the planning efforts discussed above, the following plans are helpful to support and guide mitigation planning. Mitigation programs, priorities, and initiatives described within these plans, should be conformed to, supported, and incorporated into mitigation planning done by local jurisdictions and state agencies. However, many of the plans have not been updated in many years and are still the most up-to-date available version.

- Utah Dam Safety Guide to Routine Maintenance of Dams 2003
- Utah Dam Safety Guide to Emergency Action Plans Development and Implementation 2003
- “Drought in Utah, Learning from the Past – Preparing for the Future”, State of Utah, Division of Water Resources, 2007
- Utah’s M&I Water Conservation Plan, State of Utah Division of Water Resources, 2003
- Water Reuse in Utah, 2005, State of Utah, Division of Water Resources, 2005
- Conjunctive Management of Surface and Ground Water in Utah, State of Utah, Division of Water Resources, 2005
- Utah State Water Plan, State of Utah, Division of Water Resources, 2001
- Earthquake Probabilities for the Wasatch Front Region in Utah, Idaho, and Wyoming
- Earthquake Forecast for the Wasatch Front Region of the Intermountain West

Local Government Planning Support

The Utah Division of Emergency Management (DEM) serves as the primary contact and support agency for local governments to develop their LHMPs. DEM works to assist any type of LHMP whether it is a multi-jurisdictional plan, county plan, city plan, tribal plan, or special district plan. DEM will help initiate the process for local jurisdictions to begin the update process for their LHMP. For the jurisdictions that choose to use FEMA grants to help fund the update of their LHMP, DEM provides resources, technical assistance, and training for application development. DEM will then provide a formal review of the submitted application and provide suggestions for revision to improve the planning application.

Once a jurisdiction begins the update process, DEM will provide many resources to the local jurisdiction to aid in the planning process. Some of these resources include: Hazard Mitigation Planning Overview, Local Mitigation Planning Handbook, Local Mitigation Plan Review Guide, Mitigation Ideas document, Integrating Hazard Mitigation into Local Planning, Mitigation Planning How-To Guides, Hazard Mitigation Planning Risk Assessment, etc. Other resources supplied to the local jurisdiction deal with risk assessment data sources and key websites and links. DEM will also conduct a personalized meeting with the local mitigation planners in charge of updating the plan and review planning guidance, go over all of the mitigation planning requirements, and ensure that the local jurisdiction understands the planning process and federal requirements.

During the planning process, DEM mitigation staff will try to attend planning meetings and will give presentations on the planning process when asked to do so. Throughout the whole update, DEM is available to provide technical assistance and answer concerns and questions. DEM also performs a state review of the LHMP and helps facilitate the FEMA review.

LOCAL HAZARD MITIGATION PLAN REVIEW

When a local jurisdiction is ready to submit their LHMP to the State for review, DEM recommends that the local jurisdiction submit, along with the final draft of the mitigation plan, a filled out FEMA Plan Review Tool document. The LHMP submitted to DEM is then formally reviewed. DEM has allotted a maximum of 30 days to complete the state review and submit a response back to the local jurisdiction. DEM mitigation staff will review the plan and the plans are reviewed against the FEMA planning tool. Once the state review is completed, DEM will provide a filled out copy of the Plan Review Tool to the local jurisdiction and if there are any required revisions, DEM will also provide a state review document that provides information and clarification on the revision needed in detail. Additional plan reviews are completed once the required revisions are finished and the local jurisdiction has resubmitted the plan.

Once an LHMP has completed the state review process, DEM will submit the local jurisdiction mitigation plan to FEMA along with the state review document. DEM will coordinate with FEMA who has 45 days to complete their review. When FEMA has completed their review, DEM will work with the local jurisdiction to help complete any required revisions and will facilitate any conference calls or emails with FEMA, if needed. DEM will process any further submittals to FEMA and then will help coordinate the Approval Pending Adoption (APA) status of the plan. Following APA status, DEM will assist the local jurisdiction in the adoption process and will provide examples of adoption letters. DEM will then submit all adoption letters to FEMA.

INTEGRATION OF LHMPs WITH THE SHMP

The LHMPs throughout the state provided a valuable resource in the development of the 2019 SHMP update. Each local emergency manager had opportunities to review and give input on the SHMP at the beginning of the update process, throughout the revision period, and they were encouraged to make changes to the final draft before it was submitted to FEMA. The 2019 SHMP update began in the beginning of 2017. LHMPs were reviewed throughout the update process. In 2018, an analysis was performed from data found in the LHMPs with most of the results being completed by the summer of 2018.

The SHMPC reviewed the mitigation strategies from the local hazard mitigation plans as well as tribal mitigation plans, as part of the update to the 2019 SHMP update. The LHMPs were utilized to update the mitigation goal section of the mitigation strategy chapter of the SHMP by incorporating goals from the local plans to be a state mitigation goal. Several goals that were part of local mitigation goals were added to the state goals to better reflect the needs and vision from the LHMPs. For example, some goals from Salt Lake County’s 2015 LHMP, namely, to “Avoid risk of exposure to natural and technological hazards” and “Provide a basis for prioritizing and funding mitigation projects” were adapted and added to be part of the 2019 Utah SHMP update. Salt Lake County is Utah’s most populous county and this utilization of some of their goals helps the state mitigation plan better reflect the direction from the locals.

All of the county LHMPs were also reviewed to categorize the mitigation actions listed in the various plans and identify which mitigation action categories are prevalent throughout the state and to help show where any gaps may exist. A key component of identifying these gaps was to allow these gaps to be addressed at local mitigation planning meetings, which would then allow for improved future LHMPs that would then filter back up into the next SHMP update and strengthen the Utah SHMP. Mitigation actions from local plans were incorporated into the state’s comprehensive mitigation action list. See the Local Hazard Assessment chapter for more information.

The LHMPs also served as a backbone for portions of the risk assessment by providing information on how each county perceived their risk/vulnerability to each identified hazard, based on severity and probability. This information was used in a comparison analysis across the whole state for all 29 counties. This data was also used to compare against real world natural disaster events to see how they match up. This analysis of hazards from the LHMPs also determined the hazard risk priorities of the hazards for the 2019 SHMP, i.e. which hazards are at the highest risk, medium and low. In addition, information related to critical facilities, damage numbers and estimates, and other pertinent risk assessment data was gathered to help inform the state risk assessment and show which counties may be at the highest risk for various natural hazards or which areas have experienced some of the most damage or potential damage from these hazards.

In addition to county LHMPs, tribal LHMPs were also reviewed and incorporated into the SHMP update. The SHMPC reviewed the Skull Valley tribal plan and a draft copy of the Uintah and Ouray tribal plan, which is part of the greater Uintah Basin LHMP. The Skull Valley tribal plan was adapted from a flood management plan. However, the Skull Valley Band of Goshute tribe is also included in the Tooele County LHMP and information from the Tooele County plan was also reviewed for the tribe. A review of the tribal plans highlighted a gap that data and information about hazards and mitigation specifically related to tribes is lacking. In addition, the review of the plans also discovered for instance, that the Skull Valley Band of Goshute tribe did not have any land use regulations or policies related to flooding. It was then determined to create a mitigation action in the SHMP update that addressed this finding (Flood Objective D, #2). In addition, a review of the tribal plans showed the importance of preserving cultural resources from hazard events. Because of this importance, the preservation of cultural resources was added to one of the 2019 SHMPs goals. The inclusion of tribal governments was also included as being responsible for certain mitigation actions.

MITIGATION TRAINING

Mitigation and the concept of mitigation as an area of emergency management is sometimes neglected at the national, state, and local level, but has been improving. While emergency managers have a general understanding of mitigation, most would benefit from training on specific mitigation practices and programs. DEM conducts training during the LHMP update process and when the opportunity arises. The FEMA G-318 Local mitigation planning and G-393 - Mitigation for Emergency Managers training course has been taught at least once a year as locals have been updating their plans. DEM also holds an annual PDM workshop to help local jurisdictions and other sub grantees with the process of applying for a FEMA mitigation grant to update their plan and also to go over the local mitigation planning process and requirements.

Plan Maintenance

At least once every 5 years, this plan will undergo a comprehensive review, update, and readoption process as required by federal regulations for state hazard mitigation plans. The plan review and update process will be managed by DEM and SHMT. DEM will manage the administrative details of the plan update process, including potentially securing external funding support through FEMA, coordination with FEMA, and plan submission. For the next plan update DEM is planning on utilizing a contractor to assist with the update process of the plan. A contractor will be acquired in 2022. The contractor will be utilized for coordinating meetings, reviewing the plan, gathering data for the risk assessment, reaching out to stakeholders, updating the different chapters of the plan, presenting at meetings, assisting with the mitigation strategy update, formatting the plan, editing and other responsibilities. The SHMT meetings will be used throughout the maintenance process to keep the plan current as well as during the plan update process. During the plan update beginning in 2022, at each quarterly SHMT meeting, the SHMP will be presented on during the whole update process. The SHMT and the SHMPC will be involved in reviewing the plan, providing data for the risk assessment, reviewing current mitigation strategies and actions, providing new mitigation actions, assisting with the state capabilities assessment, reviewing the updated plan, and other activities. On completion of the update, the updated plan will be submitted to the Governor for formal adoption, and to the FEMA Regional Administrator for final federal approval in 2024.

At a minimum, the plan must be reviewed and revised to reflect changes in development, progress in statewide mitigation or adaptation efforts, and changes in priorities. It must also incorporate information learned from implementing the plan and the experiences of state agencies, municipalities, and other partners or stakeholders in assessing and responding to natural hazards. This includes, but is not limited to, plan amendments or updates that were identified during the plan maintenance, but not yet incorporated.

During the 5-year plan review and update, the following questions may be considered by DEM as key factors for assessing the effectiveness of the plan, and for identifying the most critical improvements or enhancements to be made during the process. Additional questions may be added as appropriate. Are the plan's goals and actions still representative of Utah's priorities? Has there been meaningful progress toward achieving the goals and in implementing the actions? Has the completion of actions resulted in expected outcomes? Did the action help achieve plan goals? If the action was not completed, what were the barriers to implementation? Should the action remain in the strategy for the updated plan? How can lessons/outcomes from implementation of these actions inform development and implementation of future strategies and actions to reduce risk and vulnerability? Are the current capabilities and resources of state agencies adequate to implement the plan as scheduled? If not, what are the key gaps or shortfalls? Have there been any changes to Federal or State laws, authorities, regulations, funding, or other measures that necessitate specific revisions or amendments to the plan? Have the risks from hazards of concern as characterized in the risk assessment changed? Are there new data, techniques, or approaches that must be integrated into the risk assessment? Has there been significant new or improved development in areas susceptible or exposed to the impacts of natural hazards?

The Utah DEM's Mitigation and Recovery (M&R) Section is the agency primarily responsible for the SHMP's maintenance and will collaborate with other agencies as a part of the maintenance process. DEM M&R will track implementation of the SHMP goals, objectives, and mitigation projects funded by FEMA's Hazard Mitigation Assistance (HMA) programs.

The DEM recognizes that the SHMP is not a static document and requires regular review and evaluation. The SHMP will be monitored for changes in the conditions under which the plan was developed, such as new or revised state laws, major disaster

declarations or availability of funding. Utah DEM will take the lead in monitoring, evaluating and conducting future updates to ensure the participation of and representation from federal, state, and regional organizations and agencies. Regular SHMP maintenance and monitoring will continue at the quarterly SHMT meetings with comments and recommendations incorporated into the plan. The SHMP will be discussed at each quarterly SHMT meeting. This will also be a venue to discuss mitigation projects, ideas, proposals and enhanced strategies and to review the SHMP's risk assessment capabilities.

Statewide mitigation projects will be tracked by the DEM mitigation and recovery planners. At quarterly SHMT meetings all participants will be encouraged to bring an updated list of their hazard mitigation projects to date for the year, including but not limited to FFSL, NRCS Emergency Watershed Protection Program, and the Utah Division of Water Rights Dam Safety. At the SHMT meetings, DEM representatives will also update the team on the progress of local city and county and state mitigation projects they are overseeing that are funded through FEMA grants. All hazard mitigation projects will be listed on a page of Utah's SHMP website, including a brief description of the project, the hazard it is mitigating, and contact info for the responsible agency. This will allow visitors to the website to identify projects in other areas of the state that might be applicable to their region and identify sources of funding for hazard mitigation projects they would like to do in the future. Utah's DEM will be responsible for updating this list as new information is received at SHMT meetings quarterly.

Potential discussion points at SHMT meetings include:

- Progress made on mitigation actions and projects
- Implementation problems (technical, political, legal, financial, etc.)
- Relevancy of goals, objectives, and actions to determine which need to be discontinued or changed
- Level of involvement by the public and other agencies
- Risk assessment findings
- State capability gaps
- Suggested updates to the SHMP

In addition, the SHMP will be discussed at various LHMP planning meetings that DEM is invited to attend and present at. This will help assist in the integration of the SHMP in the LHMPs around the state and will in turn facilitate the integration of LHMPs into the next SHMP update. At these meetings DEM M&R Section staff can discuss findings from the latest SHMP update, gaps identified from the review of LHMPs in local hazard assessment chapter of the plan, discuss mitigation actions, and other relevant data.

Tracking all mitigation projects throughout the State of Utah is a DEM priority. DEM staff will provide a form requesting mitigation project information and images from all SHMT members and emergency managers across the state to simplify the collection of mitigation project information. The creation of a new website to improve electronic access to Utah's SHMP will facilitate the tracking of successful mitigation projects completed by all federal, state, and local agencies. As mitigation projects are successfully completed, project managers will be invited to present to the SHMT at their quarterly meetings sharing with the group lessons learned.

Locals are responsible for the implementation of their plans and mitigation strategies and tracking the progress of hazard projects. Utah's DEM works with the National Resources Conservation Services (NRCS), Utah Forestry, Fire and State Lands (FFSL) and other agencies to complete mitigation projects by providing expertise and technical assistance. DEM will annually solicit lists of mitigation projects from all cities, counties and agencies to track the state's collective progress in addressing natural hazard risks.

Agencies Utah’s DEM supports and will solicit projects from include:

- Bear River AOG
- Bureau of Reclamation
- Confederated Tribes of Goshute
- Cooperative Institute for Research in Environmental Quality
- Envision Utah
- FEMA
- Five County AOG
- Mountainland AOG
- National Resources Conservation Service
- National Weather Service and National Oceanic and Atmospheric Administration
- Navajo Nation
- Northwest Band of Shoshone Nation
- Paiute Indian Tribe of Utah
- San Juan Southern Paiute Tribe
- Six County AOG
- Skull Valley Band of Goshute
- Southeastern Utah ALG
- State Schools
- U.S. Bureau of Reclamation
- U.S. Geological Survey
- UDOT
- Uintah Basin AOG
- University of Utah City and Metropolitan Planning
- University of Utah Geography
- USACE
- Utah Avalanche Center
- Utah DEM
- Utah DEM GIS
- Utah Department of Agriculture and Food
- Utah Department of Environmental Quality
- Utah Division of Drinking Water
- Utah Division of Environmental Response and Remediation
- Utah Division of Indian Affairs
- Utah Division of State History
- Utah Division of Water Resources
- Utah Division of Water Rights – Dam Safety
- Utah Department of Transportation
- Utah Forestry, Fire and State Lands
- Utah Geological Survey
- Utah Seismic Safety Commission
- Utah Floodplain and Stormwater Management Association
- Ute Indian Tribe – Uintah and Ouray Reservation
- Ute Mountain Ute Tribe
- Ute Tribe Business Committee
- Wasatch Front Regional Council
- Western Water Assessment and Cooperative Institute for Research in Environmental Sciences

The 2019 SHMP will be hosted on its own new interactive website that will be available to the public throughout the five year effective date of the plan. The website will discuss risks for the hazards identified in the plan and actions that can be taken to mitigate against those risks. The SHMP website will include a list of all current hazard mitigation projects in progress in Utah and as projects are completed they will be archived in a historical list, also found on the website. This feature will allow all interested parties to review mitigation projects in Utah and potential funding sources to identify strategies that might work in their area to address similar hazards and find partners that could help with cost sharing. The SHMP website will also include a feature allowing for any member of the public or any local, state, or federal agency to provide comments that can then be used to update or improve the plan.

Links to all of Utah's LHMPs will also be found in one central location on the state's website to facilitate greater integration among the SHMP and the LHMPs so cities, counties, tribes and agencies can glean ideas from each other.

After each presidentially declared major disaster in Utah, the Utah DEM M&R Section will evaluate the event and utilize the priorities, goals, objectives and actions identified in the SHMP Mitigation Strategy chapter to help guide any mitigation needs or projects in the State.

Plan Update

Every five years, as required by 44 CFR 201.4, the SHMO is responsible for submitting the revised SHMP and State Mitigation Plan Review Guide document to FEMA for review prior to adoption of the updated plan by the state.

A key component of the update of the SHMP will be ensuring continued compliance of 44 CFR 13.11. For the update, DEM will ensure that it still complies with federal statutes and regulations that pertain to grant funding. This will additionally ensure proper distribution of grant funding. In addition, DEM will amend its plan whenever necessary to reflect changes in state or federal laws and statutes as required in 44 CFR 13.11(d).

Agendas from meetings related to the plan will be filed and saved so that they may be included in the planning process appendix for the next SHMP update. Other information pertinent to Utah's progress with hazard mitigation, such as news articles, will also be saved in this file for incorporation in the updated SHMP appendix.