

This Section provides an overview of the planning process; identifies the Nevada Mitigation Planning Committee (NHMPC); documents public outreach efforts; summarizes the review and incorporation of existing plans, studies, and reports used in the development of this Nevada Hazard Mitigation Plan (NHMP).

2.1 OVERVIEW OF THE PLANNING PROCESS

The requirements for the documentation of the mitigation planning process, as stipulated by the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLANNING PROCESS

Documentation of the Planning Process

Requirement §201.4(c)(1): The State plan **must** include a description of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how other agencies participated.

Element

Does the plan provide a narrative description of how the **new or updated** plan was prepared?

Does the **new or updated** plan indicate who was involved in the **current** planning process?

Does the **new or updated** plan indicate how other agencies participated in the planning process?

Does the updated plan document how the planning team reviewed and analyzed each section of the plan?

Does the updated plan indicate for each section whether or not it was revised as part of the update process?

Source: FEMA, Standard State Hazard Mitigation Plan Review Crosswalk 2006

Planning is a method of outlining small goals to reach a larger goal such as financial security or college degree. When a goal is accomplished such as a Bachelor's degree, it can be integrated into the next goal and so forth.

Mitigation planning is the same way.

The first step in the State of Nevada's mitigation planning process was the establishment of the Nevada Hazard Mitigation Planning Committee (NHMPC). The NHMPC appointed a Mitigation Plan Subcommittee (Subcommittee) to meet monthly to review, discuss, and approve the NHMP's revisions from March 2007 to October 2007.

The Chair of the Subcommittee, James Walker, formed a Task Force comprised Elizabeth Ashby, SHMO; Cynthia Bagley, Consultant; Ursula Powers, State Planner; and himself. The purpose of the Task Force is to restructure the plan to reflect the order of the DMA 200 requirements, gather, review, organize and present information to the Subcommittee. The Task Force is responsible for writing the plan document under the direction of the Subcommittee. The NHMP Task Force met on an as needed basis beginning in January 2007.

The next step in the State of Nevada's mitigation planning process was to elicit information from the counties about their specific hazard risks. A survey was sent to each County Emergency Coordinator

and Tribal entity. The State Hazard Mitigation Officer served as primary Point of Contact (POC) for the agencies, counties, and public.

The Subcommittee used the following five-step process to revise the NHMP:

- **Organize resources:** The Subcommittee identified resources, which could provide technical expertise and historical information needed in the development of the NHMP.
- **Assess risks:** The Subcommittee identified the hazards specific to the State of Nevada. The Subcommittee reviewed the risk assessment, including the vulnerability analysis, prior to and during the development of the mitigation strategy.
- **Assess capabilities:** The Subcommittee reviewed current administrative and technical, legal and regulatory, and fiscal capabilities to determine whether existing provisions and requirements adequately address relevant hazards.
- **Develop a mitigation strategy:** After reviewing the risks posed by each hazard, the Subcommittee developed a comprehensive range of potential mitigation goals, objectives, and actions. Subsequently, the Subcommittee identified and prioritized the actions to be implemented.
- **Monitor progress:** The Subcommittee developed an implementation process to ensure the success of an ongoing program to minimize hazard impacts to the State of Nevada.

2.1.1 Nevada Hazard Mitigation Planning Committee (NHMPC)

The advisory body, known as Nevada Hazard Mitigation Planning Committee (NHMPC) was formed in 21 July 2003 to advise the Nevada Division of Emergency Management (NDEM) concerning hazard mitigation planning, activities and policies. The members of the Board of Directors are in Table 2-1. The bylaws of this committee are in Appendix C.

The planning process for this update was started in January 4, 2007. The NHMPC formed a subcommittee to update the NHMP, as required by the DMA 2000 and its implementing regulations.

Table 2-1
Board of Directors of the Nevada Hazard Mitigation Planning Committee

Name	Agency
Chair: Jonathan G. Price	Nevada Bureau of Mines and Geology
Vice Chair: Rick Diebold	Local or Multi-Jurisdictional Emergency Management
Mike Cyphers, Coordinator	Clark County Emergency Management
Press Clewe	Private Citizen
Margie Gunn-Nutman	Rural County Emergency Management

Name	Agency
Jeanne Ruefer	Local or Multi-Jurisdictional Floodplain Management – Northern Nevada
Gale Fraser, General Manager	Local or Multi-Jurisdictional Floodplain Management – Southern Nevada
Bob Ashworth	Nevada Department of Conservation and Natural Resources/Division of Forestry
Christine James	Nevada Department of Conservation and Natural Resources/Division of Water Resources
James Walker	Nevada Department of Transportation
Ron Lynn, Building Official	Nevada Earthquake Safety Council
Jim Reagan	Private Sector
Gary Dunn	At Large (private sector or governmental agency)
Elizabeth Ashby	Liaison with the Nevada Division of Emergency Management (non-voting)

The following table contains the members of the subcommittees for the NHMPC.

Table 2-2
Subcommittees of the Nevada Hazard Mitigation Planning Committee

Proposal Review Subcommittee	
Name	Agency
Chair: Ron Lynn, Building Official	Nevada Earthquake Safety Council
Press Clewe	Private Citizen
Margie Gunn Nutman	Rural County Emergency Management
Ben Hutchins	
Jon Price	Nevada Bureau of Mines and Geology
Jim Reagan	Private Sector

The Mitigation Plan Subcommittee table includes the Task Force Members and the designated responsibilities for completing the NHMP.

Mitigation Plan Subcommittee (Subcommittee)		
Name	Agency	Designated Responsibilities

Mitigation Plan Subcommittee (Subcommittee)		
Chair: James L. Walker	Nevada Department of Transportation NHMP Task Force Member	To help communities identify mitigation actions for State roads and bridges. To identify state resources and infrastructure vulnerable to hazards.
Elizabeth Ashby	Nevada Division of Emergency Management - State Hazard Mitigation Officer NHMP Task Force Chair	To coordinate mitigation planning and project implementation. To serve as liaison between FEMA Region IX and the Subcommittee.
Cynthia Bagley	Nevada Division of Emergency Management – Consultant NHMP Task Force Member	To organize the hazard mitigation information into a product that can be put into the revised NHMP. To work with the SHMO and Subcommittee in revising and updating the NHMP.
Dan Burns	Nevada Division of Emergency Management – Public Information Officer	To liaison between the public and the Subcommittee so that the public can provide feedback on the revised NHMP.
Rick Diebold	City of Las Vegas Office of Emergency Management	To represent Southern Nevada's mitigation interests. To liaison between the City of Las Vegas and the Subcommittee.
Sue Dunt	Department of Administration/ Division of Risk Management	To provide insurance, safety, loss prevention and risk management consultation services to state agencies .
Stacey Giomi	Carson City Fire Chief / Emergency Manager	Liaison between the Subcommittee and Emergency Managers in the State. To help local communities identify appropriate mitigation activities for their jurisdictions.
Juliette Hayes	FEMA Region IX Mitigation Specialist	To provide FEMA guidance to the Subcommittee in preparing the NHMP.
Kacey KC	Nevada Division of Forestry	To identify resources for acquiring funding for "Living with Fire" mitigation goals and activities. To help communities to identify mitigation actions for reducing wildland fire risk.
Rick Martin	Nevada Division of Emergency Management-	To provide insight into mitigation actions as they relate to response and

Mitigation Plan Subcommittee (Subcommittee)		
	Recovery	recovery.
Robert Martinez	Nevada Division of Water Resources	To coordinate efforts to improve drought conditions, water quality, dams, and other concerns with State mitigation activities.
Glade Myler	DAG – Nevada Division of Emergency Management	To review mitigation applications and plans to ensure their legality.
Jonathan G. Price	Director of Nevada Bureau of Mines and Geology & Chair for Nevada Earthquake Safety Council (NESC)	To provide geologic and resource information of the State of Nevada in regards to mitigation matters. Liaison with NESC.
Ursula Powers	Nevada Division of Emergency Management-Planning NHMP Task Force Member	To provide insight into the NHMP as it relates to the Nevada Emergency Operation Plan.
Drs. Annette Rink/Keith Forbes	Department of Agriculture	To help communities identify ways to mitigate hazards that threaten Nevada's agriculture and related industries.
Jeff Underwood	Nevada State Climate Office	To provide climatology information as it pertains to hazard mitigation in the State of Nevada, and its jurisdictions and communities.

2.1.2 How other agencies participated in the current planning process

The Subcommittee's membership expanded and contracted based on the expertise needed for each Section, hazard, etc. This is documented by the attendance rosters found in the minutes of each meeting.

Members of the Subcommittee provided input and direction based on their expertise. For example, Nevada Division of Forestry provided the information about wildfires along with the goals, objectives and action items for this hazard. Some agencies provided a listing of buildings under their jurisdiction along with the buildings' risk and vulnerability to identified hazards. The Division of Water Resources provided information about dam failure and flood. The University of Nevada Bureau of Mines and Geology along with the Nevada Earthquake Safety Council provided input on earthquakes and the goals, objectives and action items. The Division of Risk Management assisted with building inventory data. Division of Health provided input under the Capability Assessment.

2.1.3 How the team reviewed and analyzed each section of the plan

The Subcommittee held monthly meetings to direct, review and/or approve work accomplished by NDEM. NDEM staff and Cynthia Bagley, a volunteer who devoted much of her time from January to August in the revision of this document, reformatted the plan's structure and provided a skeleton for the Subcommittee. The Subcommittee began meeting monthly beginning in March of 2007 until the completion of the revised Nevada SHMP in September.

The revised format has each Section of the current plan beginning with the 44 CFR 201 requirements and the crosswalk elements in boxes. This helped in giving the Subcommittee the questions needed to be answered and bringing forth the members' input. The members were tasked with providing information in their field of expertise, and direction as to the applicable response for each of the elements outlined in the requirement. The Subcommittee approved Sections or partial Sections making recommendations to staff for added information, points of contact or grammatical changes. Recommended changes were brought back for approval at the next meeting. This ensured that the response to each element met the members' approval and the requirement.

2.1.4 Revision of each Section of the plan

After reviewing the content of each Section of the 2004 plan, the Subcommittee approved the modification of the majority and most frequently all of the content for each Section. The Subcommittee made the modifications based on current knowledge of hazards, the new ranking of hazards and the 2004 plan's language.

The Task Force compared the 2004 Nevada Multi-Hazard Mitigation plan with FEMA's 2006 revised crosswalk. Each section was updated, revised, and organized according to FEMA's crosswalk. The Subcommittee reviewed and approved sections prepared by the Task Force, each appendix was approved with its related section. The revised sections and timeline are in the following table:

Table 2-3
NHMP Revised Sections

Description	Date Started	Changes Made Y/N?	Date Approved
Introduction	January 11, 2007	Y – New	October 10
Section One	January 12, 2007	Y- New	June 1, 2007
Section Two	January 16, 2007	Y- New	June 1, 2007
Section Three	February 1, 2007	Y- New	October 10
Section Four	February 1, 2007	Y- New	October 10
Section Five	February 1, 2007	Y- New	July 30, 2007
Section Six	February 1, 2007	Y- New	August 27, 2007
Section Seven	January 16, 2007	Y	October 10
Section Eight	January 16, 2007	Y	October 10
Appendix A Adoption Document	February 11, 2007	Y- New	June 1, 2007
Appendix B Participating Orgs.	February 15, 2007	Y- New	June 1, 2007
Appendix C NHMPC Bylaws	February 26, 2007	Y- New	June 1, 2007
Appendix D Meeting Minutes	February 26, 2007	Y- New	June 1, 2007
Appendix E Hazard Risk Assmt.	March 12, 2007	Y- New	June 1, 2007
Appendix F Nv. Admin Code	July 14, 2007	Y- New	June 1, 2007
Appendix G Crosswalk	June 1, 2007	Y- New	October 10, 2007
Appendix H Earthquake Maps	September 10, 2007	Y- New	October 10, 2007
Appendix I Dam List	September 10, 2007	Y- New	October 10, 2007

Description	Date Started	Changes Made Y/N?	Date Approved
Appendix J Prioritization of Actions	August 2, 2007	Y- New	October 10, 2007
Appendix K Flood Maps	September 10, 2007	Y- New	October 10, 2007

2.2 COORDINATION AMONG AGENCIES

The requirements for coordination among agencies, as stipulated by the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLANNING PROCESS

Coordination Among Agencies

Requirement §201.4(b): The State mitigation planning process **should** include coordination with other State agencies, appropriate Federal agencies, interested groups, and . . .

Element

Does the **new or updated** plan describe how Federal and State agencies were involved in the **current** planning process?

Does the **new or updated** plan describe how interested groups (e.g. businesses, non-profit organizations, and other interested parties) were involved in the **current** planning process?

Does the updated plan discuss how coordination among Federal and State agencies changed since approval of the previous plan?

Source: FEMA, Standard State Hazard Mitigation Plan Review Crosswalk 2006

2.2.1 Federal and State Agencies Involvement

In examining the previous plan, the Task Force discussed the limited input from agencies during the planning process. At the time the plan was completed, none of the local jurisdictions had an approved plan. Therefore, the incorporation of their data was not possible. The previous plan lacked organization. Information was found in awkward locations making the plan not user-friendly. Lack of documentation made it difficult to replicate the information. The reliance on a consultant who did not use an inclusive and broad participatory process made it difficult to get the benefits of the in-house expertise or the opportunity of working together to build strong working relationships in support of mitigation.

To correct deficiencies of the previous plan, this plan is organized with the response to each element found within the Section where the element is located making this version more user-friendly. This will also make the update less cumbersome. The plan is a living document that will need ongoing modifications and Subcommittee members agreed to continue meeting to revise the plan. See Section 6 for the monitoring and revision schedule. Information found in approved local jurisdiction plans is found in the appropriate sections and include data from plans provided by several of Nevada's Tribal nations. The planning process was much broader in the building of the working relationships with the representation of several key agencies and local representatives such as Risk Management, the Division of Forestry, and the Division of Water Resources and Carson City and City of Las Vegas; but it still has room for improvement with involvement of additional key agencies. For example, Division of Environmental Protection and the State Public Works Board are agencies that have

authority to manage several mitigation programs. To bolster local representation, Washoe County and Elko County representatives will greatly strengthen the working relationships. Also pending is a better method to build the working relationships with neighboring states and begin discussion about mitigation of common hazards. However, this process has constructed a solid foundation that is necessary to continue building the working relationships required for strong support of the mitigation program in Nevada.

The NHMPC Task Force received the assignment to revise and update the format of the Nevada Hazard Mitigation Plan. In the process, the NHMPC Task Force met with Federal and State agencies for information concerning hazards in the State of Nevada. The Wildland Urban Interface (WUI) meetings involved BLM, U.S. Forest Service, Nevada Association of Counties, Nevada Division of Forestry, Nevada Fire Chiefs Association, Nevada Fire Safe Council, Sierra Front Wildfire Cooperators, Nevada Division of Emergency Management, and University of Nevada Cooperative Extension. The purpose of the WUI meetings is to organize a grass roots effort to mitigate the wildland urban interface fire danger. To this end, the group met once a month to discuss a method of bringing stakeholders together; inform them of the risk of wildfire posed to their communities, and the resources available to mitigate it. The attendance to these meetings by the Task Force provided information in this plan about the current mitigation efforts and capability in the WUI field. This coordinated effort by federal, state and local entities is unprecedented in Nevada and is part of the Ten-year strategy adopted by the federal, state, local, tribal, and volunteer entities in December 2006. the goal of the ten-year strategy is to form a collaborative approach for reducing wildland fire risks to communities and the environment.

Also, Arizona, California, Colorado, Montana, New Mexico, and Nevada have a conference call once a month to deal with mitigation matters involving those States. Other states participate occasionally, including Utah, Idaho, Oregon, etc. The conference calls have an established agenda to discuss issues about individual assistance, public assistance and mitigation. Each participant may relate concerns and/or respond to concerns from other participants. They can present information about changes in national, state or local policies. Under mitigation, most states present the status of their mitigation plan, their planning process, the hazards and goals, projects and/or applications for FEMA's five mitigation programs. The input from other states regarding their planning process, capability and risk assessments gave the Task Force a resource for specific formatting of tables, public awareness methods and ways to best present the information to FEMA. Minutes from these conference calls are found in Appendix D.

In addition, The Nevada State Clearinghouse received the State Capability Assessment of policies, programs, and capabilities from the SHMO for review. No input was received from this State agency. The Division of Water Resources Floodplain Manager was invited to the Subcommittee meetings. The Floodplain Manager did not come to the meetings. Moreover, the Floodplain Manager position was vacated midway through the planning process. However, the Subcommittee and the Task Force received input for flooding related issues found in this plan from Robert Martinez, Dam Safety and Professional Engineer of the Division of Water Resources. The Nevada Division of Environmental Protection representatives reviewed the capability assessment tables gave their input in September and agreed to participate in future meetings of the Subcommittee.

January 2007

On January 17, 2007, the NHMPC Task Force met to coordinate data acquisition of county hazards to prepare for the NHMPC's hazard risk assessment.

On January 22, 2006, Wildfire Urban Interface (WUI) committee met to determine how to reduce hazard rating for Nevada's extreme and high rated communities; help accomplish agency goals; and to improve collective competitiveness for federal and state funds in order to address the wildfire hazard in State of Nevada's communities.

February 2007

On February 6, 2007, the Nevada HMPC Task Force met to plan strategy for presenting mitigation goals to the Nevada Division of Forestry (NDF). This strategy included a survey for building stock, mitigation goals for wildfire in the next three years, and mitigation goal process STAPLEE (FEMA 386-1).

On February 7, 2007, the Nevada HMPC Task Force had a planning session with NDF. NDF mentioned that they had finished the Community Wildfire Protection Plan (CWPP) for all counties in the State of Nevada. Also, they are involved in the Wildfire Urban Interface committee and were involved in reducing wildfire hazards in Nevada's communities.

On February 8, 2007, the Wildfire Urban Interface (WUI) committee met to discuss a Nevada WUI Summit for County Commissioners, Hazard Mitigation Planning Committee members, Fire Protection representative, Fire Safe Chapter members, community representatives, and any other entity that would like to participate. The purpose of the Summit would be to educate participants in results of the Community Wildfire Protection Plans (CWPP), current efforts to keep communities wildfire safe, funding sources, and planning process. This information would help these communities mitigate wildfire factors and make their communities less of a risk when wildfire season starts. Tentative date for the Nevada WUI Summit is May 23, 2007.

March 2007

On March 2, 2007, the Wildfire Urban Interface (WUI) committee met to prepare the agenda for the Nevada WUI Summit. The date of this summit is set for September 26, 2007 in Carson City, Nevada. The tentative location is the Plaza hotel. Speakers were selected for the various subjects. Next meeting will be March 12, 2007. The purpose of this gathering is to energize community stakeholders to develop a WUI reduction consortium. The actions the consortium takes will be relevant to this plan's wildfire goals and objectives.

On March 20, 2007, the Nevada HMPC Task Force met to edit sections one and two of the updated NHMP. Some of the items that needed to be updated were pending legislative bills and incorporation of existing plans. The Nevada HMPC Task Force agreed to meet Monday March 26, 2007 to prepare for the NHMPC subcommittee meeting.

On March 22, 2007, The Wildfire Urban Interface (WUI) committee met to discuss the WUI Summit. Due to the Legislative Session, the Summit was moved from May to September. The morning portion of the Summit Agenda was approved. The WUI committee agreed that the afternoon session needs

more preparation. Some of the members discussed another pre-meeting to design this session. After this pre-meeting, they will present this design to the main group. The next WUI meeting will be April 24, 2007. The SHMO will present the mitigation programs to the audience at this Summit.

On March 26, 2007, the Nevada HMPC Task Force met to prepare worksheets and an information packet for the Nevada Hazard Mitigation Planning Subcommittee meeting in March 28, 2007. The packets contained the list of possible hazards affecting Nevada with columns for scoring the vulnerability.

On March 28, 2007, the Nevada Hazard Mitigation Planning Subcommittee (NHMPS) met to discuss the hazard identification and vulnerability screening of Nevada's Hazard. They agreed that one Nevada hazard was missing from the list—Infestation. The hazard was included in the new list. Additionally, two NRS statutes—144A and 571—were included in section one of the updated plan. The NHMPS requested more time to review and compare the updated sections of the Nevada Hazard Mitigation Plan with the old sections. The NHMPS agreed to schedule this meeting for the last Monday of the month until September. The next meeting will be April 30, 2007 at 1:30 p.m. in the Nevada Division of Emergency Management building.

April 2007

On April 9, 2007, the Nevada HMPC Task Force met to review changes to Section Two and Three recommended by NDF, to add totals from the hazard screening worksheet for risk assessment, and to prepare an agenda for the next NHMPC Subcommittee meeting. The next meeting will be on the 17 April 2007 to prepare capability worksheets for the next NHMPC Subcommittee meeting.

On April 17, 2007, the Nevada HMPC Task Force met to review Section Three of the NHMP and to add some conclusive statements to the hazard risk profiles. Also, the Task Force composed some ideas for the capability assessment worksheets. The next Task Force meeting will be on 27 April 2007.

On April 24, 2007, The WUI Committee met to discuss the break session options for group discussions. After a review and discussion the Committee decided that option three was the best break-out option for this meeting. Also, Sonya Sistare reported that the Plaza Hotel would not be a good venue for the WUI because of the small rooms and noise issues. She suggested that Regional Public Safety Training Center would be better especially for the break-out session. The next meeting was scheduled for 24 May 2007 at the Carson City Cooperative Extension Center.

On April 27, 2007, The Nevada HMPC Task Force met to review the designed capability assessment worksheet. The Task Force compared the worksheet with information from the California, Utah, and Virginia Hazard Mitigation Plans. The information helped the Task Force to design a capability assessment for policies, plans, and programs that are being used in Nevada. The next Task Force meeting will be on 15 May 2007.

May 2007

On May 15, 2007, the Task Force met with the NHMPC Subcommittee Chair to discuss and approve the discussion items for the Subcommittee meeting on 1 June 2007. The next Task Force meeting for development of the NHMP is on the 16 May 2007.

On May 16, 2007, the Task Force met to review the NDF Wildfire Mitigation plan. After review the NDF plan, the Task Force edited sections five and six. The next Task Force meeting is 5 June 2007 to review and discuss the June 1st Subcommittee meeting.

On May 24, 2007, the WUI meeting was canceled due to the Nevada Wildland Fire Awareness Week. The WUI Summit is scheduled for September 26, 2007, at the Washoe County Regional Training Center in Reno.

June 2007

On June 1, 2007, Subcommittee met to update the Nevada HMP. The agenda items included review, discussion, and possible approval of revisions to Section one and two of the Nevada HMP, review discussion, and possible approval of the results of the risk assessment and vulnerability ratings, approval of a public safety announcement, severe weather presentation by Dr. Jeff Underwood, discussion of Section three, discussion of State Capability assessment, and mention of goals, objectives and actions requirement in section four. The Subcommittee members were given State Capability and Resource worksheets to complete for the next meeting. The next Subcommittee meeting is scheduled for 25 June 2007.

On June 5, 2007, the Task Force met to discuss and review the Subcommittee meeting on the first of June. The Task Force Chair received the newest copy of the Nevada HMP. The next meeting for the Task Force is scheduled for 12 June 2007.

On June 12 2007, the Task Force met to assess and add information in the local capability assessment in section four. Using the blue book (how to manual for the SSHMP), they discussed the effectiveness of the local plans. Please see the Local Capability Assessment found in Section 4.3.2, Table 4-7 for the results. Additionally, the Task Force reviewed changes and suggestions made by members of the Subcommittee on Sections one, two, three, and four. It was decided that the consultant would make those changes before the next Subcommittee meeting. The next meeting for the Task Force is scheduled for 15 June 2007 to discuss agenda items for the Subcommittee meeting.

On June 15, 2007, the Task Force met with the Subcommittee Chair to discuss the agenda items for the next Subcommittee meeting. The next meeting for the Task Force is scheduled for June 20, 2007.

On June 20, 2007, the Task Force copied capability assessment and profiled hazards in section four. Also, they organized information on how to plan goals and objectives to meet the State's mitigation needs. The next meeting for the Task Force is scheduled June 27, 2007.

On June 21, 2007, the WUI committee meeting was cancelled.

On June 25, 2007, the Subcommittee met to update the Nevada HMP. The Subcommittee was requested to do the following agenda items: review and discussion Section III profiled hazards, review

and discuss capability assessment results, and discussion possible projects and planning action items. Jonathan G. Price was the Acting Committee Chair. After completing the first two items, the Subcommittee decided to work on the third agenda item at the next meeting. The next meeting was scheduled for July 30, 2007.

On June 27, 2007, the Task Force updated the Capability Assessment information gained at the Subcommittee meeting. Also, they updated the Section III profiled hazards edits supplied by the Subcommittee members. The next meeting for the Task Force was scheduled for July 3, 2007.

July 2007

On July 5, 2007, the main purpose of the Task Force was to review, revise, and edit the Nevada HMP. They reviewed the crosswalk and compared to Section Five: Coordinating Local Planning. They added information from the Administrative (404) plan into section five. The next meeting for the Task Force was scheduled on July 13, 2007. Also, they scheduled a meeting with NDF to discuss wildfire-urban interface mitigation goals.

On July 13, 2007, NDF met with the Task Force to discuss wildfire-urban mitigation goals. NDR received information about how-to plan mitigation goals, objectives, and action items. Later, the Task Force finished reviewing and updating section five. They started reviewing the crosswalk to prepare for Section Six: Plan Maintenance Process. Also, they have scheduled a meeting with Robert Martinez (Division of Water Resources) to generate mitigation goals for flooding and dam safety.

On July 24, 2007, the Task Force met to revise and update Section six. After reviewing the crosswalk and other State plans, they were able to revise several parts of section six. After discussing some of the processes, the Task Force determined that the Subcommittee Chair needed to review this section. A meeting was scheduled to review the agenda and Sections 5, 6 with the Subcommittee Chair. The next meeting was for the Task Force was scheduled to review flooding and dam safety mitigation goals with the Dam Safety Engineer.

On July 26, 2007, the Task Force met with the Dam Safety Engineer, Robert Martinez and his planner to discuss flooding and dam safety mitigation goals. They accepted the job to contribute goals, objectives, and actions for flooding and dam safety. The group discussed the difference between goals, objectives and action items. The Dam Safety Engineer and planner agreed to have the information ready to the Task Force in about a month. The next meeting for the Task Force was scheduled on July 27, 2007 with the Subcommittee Chair.

On July 26, 2007, the WUI committee met to discuss the Summit. This meeting was not attended by the Task Force members. Please see the minutes in Appendix D.

On July 27, the Task Force met with the Subcommittee Chair to discuss agenda items for the Subcommittee meeting and Sections 5 and 6. The Task Force Chairwoman agreed to have both sections on the website for review for the Subcommittee members. Also, the Subcommittee Chair discussed some of the processes in Section 6. He added a few ideas for the process in Section 6.1.2. The Task Force's next meeting was scheduled on August 3, 2007 to review information gathered from the Subcommittee meeting.

On July 30, 2007, the Subcommittee met to update the Nevada HMP. The Subcommittee was requested to do the following agenda items: review and approve meeting minutes from June 25, 2007; develop criteria for the evaluation for Section 6; review, discuss and possibly approve Section 5; and review, discuss and possibly approve Section 6. The minutes and Section 5 were approved by the Subcommittee. The Subcommittee Chair gave the members until August 10, 2007 to review and edict Section 6. The next Subcommittee meeting was scheduled for August 27, 2007.

August 2007

On August 3, 2007, Task Force reviewed mitigation goals, objectives, and action items of local hazard mitigation plans. The previous items were summarized and placed in the Mitigation Actions of Section Four. The Task Force agreed to meet on August 10, 2007 to finish this part of Section Four.

On August 10, 2007, the Task Force finished adding the goals, objectives, action items, and analysis to the Mitigation Action Planning table in section four. Also, they added the flooding and dam failure goals prepared by the Division of Water Resources. The Task Force agreed to meet on August 16, 2007 to continue researching and writing Section Four.

On August 16, 2007 the Task Force, goals, objectives and action items received from NDF for Wildfire and Craig DePolo of UNR for Earthquake.

On August 23, 2007 the Task Force added the Flood and Dam Failure goals, objectives and action items received from Robert Martinez of the Division of Water Resources (NDWR).

On August 23, 2007 the Task Force attended the WUI committee meeting. The meeting consisted of an exercise of the afternoon break-out session. The committee finalized questions to the participants, and identified scribes and moderators for the break-out sessions. The group was informed that the meal/break costs still needed a sponsor.

On August 24, the Subcommittee chair and the Task Force modified Section 6.1.2 and discussed the time line for the completion of the plan. After consulting with FEMA Region IX staff, an agreement to submit a partially completed plan on September 13 will allow time to gather the remaining data and submit a final draft to FEMA October 7, 2007, for their review.

On August 27, the Subcommittee met to discuss modifications to Section 6.1.2. Staff emphasized Section 6.1.5 recommends an agenda for future quarterly meetings. The subcommittee reviewed the Social, Technical, Administrative, Political, Legal, Economic and Environmental (STAPLEE) process. The members were asked to review the action items in Section 4.1.2 and be ready to prioritize the actions based on the STAPLEE process. Upon receipt of the risk assessment, the Task Force will forward the risk assessment and a table with the action items to the members. The assignment for the members is to complete the prioritization and resubmit to the Task Force for incorporation into Section 4. The Subcommittee received the current crosswalk. A copy of Sections 7 and 8 will be forwarded to the Subcommittee for review and input by September 4.

September 2007

The Subcommittee met September 24, 2007. Goals, objectives and action items were compiled for dam failure, flood and wildfire. October 4, 2007 is the deadline for submission of the prioritization of action items by the lead agency. A teleconference will take place October 10, 2007, to finalize the prioritization of all action items and to approve Sections 3, 4, 7 and 8. The final action item on October 10 will be to recommend the submission of the plan to FEMA to the NHMPC.

October 10, 2007

The Subcommittee reviewed the prioritization of action items provided by each lead agency for their specific hazard(s). They agreed to use this prioritization to formulate the high ranking action item final list which combines all ranked action items. The Subcommittee discussed the need for correcting format concerns in Sections 3 and 4 of the plan. The editor at UNR will review and correct obvious errors before the submission of the final draft. The subcommittee approved Section 3, 4 7 and 8 and the recommendation for approval to submit the draft state hazard mitigation plan to the NHMCP.

October 12, 2007

The NHMPC met via teleconference to discuss any revisions to the draft sections of the plan. Comments and suggestions were received from the members with staff's assurance of correction before submission of the final draft. A question was asked about the source of the information for the local plan analysis. A member made a suggestion for additional cross reference of data, especially in Section 3. The chair assured the members about the correction of glaring format errors before submission and asked for the approval to submit the plan. A motion was made and seconded. The final vote to submit the draft plan was unanimous.

2.2.2 Participation of Interested Groups

The NDEM representative to the VOAD invited members to participate in the Subcommittee meetings at VOAD quarterly meeting in April. The VOAD members did not send a representative.

None of the civic or non-profit groups agreed to or attended the Subcommittee meetings. Citizens and interested groups were able to access the plan on the NDEM website (www.dem.state.nv.us) for review and to provide comments to the SHMO. The website enables the public to provide feedback through a link with a comment box and a request for the participant's contact information. The comments are sent to the SHMO's email where they can be acknowledged and noted. To date, no comments have been received. Additionally, all meetings are posted according to the Nevada Open Meeting Law and teleconferencing information is noted on the agenda. Again, no input has been received.

2.2.3 Changes in Federal and State Coordination

Since the approval of the previous Nevada Hazard Mitigation Plan in 2004, the State of Nevada has focused on assisting Nevada's counties in writing emergency and hazard mitigation plans. Currently only five of Nevada's 17 counties have approved hazard mitigation plans. One jurisdiction is in the process of assembling a plan and two counties applied for funding to develop their plan.

Furthermore, the State of Nevada is working more closely with the Tribal entities in the State. Only four of Nevada's 28 Tribal Councils have hazard mitigation plans. One of the Tribal Councils is also in the process of assembling a plan.

Due to Nevada's yearly problems with wildfires and having much of Nevada's land under federal control, the State of Nevada and its agencies have included BLM and the U.S. Forest Service in wildfire urban interface emergency and mitigation planning.

It is through the coordination of these federal, state, and tribal entities that State of Nevada has been able to mitigate the hazard risks profiled in Section 3 of the Nevada HMP.

2.2.4 Public Involvement

The Subcommittee approved a public service announcement that directs the public to the NDEM website that contains the revised sections of the Nevada HMP. However, this announcement was not possible due to state administrative restrictions. On the website, the public can fill out a form expressing their thoughts about the revised Nevada HMP.

After the plan has been updated and revised, the final draft will be distributed throughout Nevada using the State Library Network. The public will have access to the plan through this network.

It is noted that in accordance with the "Open Meeting law" notice was made to the public of all meetings and agendas in order to solicit comments on the Plan. This was continuously done beginning in June of 2007. As of October 12, 2007, when the NHMPC approved the submission of this Plan, no public comments were forthcoming. Notice to the public will occur continuously through future revisions and updates.

2.3 PROGRAM INTEGRATION

DMA 2000 REQUIREMENTS: PLANNING PROCESS

Program Integration

Requirement §201.4(b): The State mitigation planning process **should** be integrated to the extent possible with other ongoing State planning efforts as well as other FEMA mitigation programs and initiatives.

Element

Does the **new or updated** plan describe how the State mitigation planning process is integrated with other ongoing State planning efforts?

Does the **new or updated** plan describe how the State mitigation planning process is integrated with FEMA mitigation programs and initiatives?

Source: FEMA, Standard State Hazard Mitigation Plan Review Crosswalk 2006

2.3.1 Integration of Existing Plans

In addition to the planning efforts discussed above, this *Nevada Hazard Mitigation Plan* incorporates the following plans and/or programs developed by state or federal agencies, primarily in the risk assessment and mitigation strategy sections (Sections 3 and 4). Mitigation programs, priorities, and initiatives described within these plans, should be conformed to, supported, and incorporated into mitigation planning done by local jurisdiction and state agencies.

Counties are required by NRS 278.160 to integrate hazard mitigation actions with planning and development at the local level.

Constraints: In Nevada any State mandate approved by the State legislature must also be approved by the county and city governing body before it can be implemented at the local jurisdiction.

The following table shows how the Nevada Hazard Mitigation Plan is integrated into other State programs.

Table 2-4
Integration of the Nevada Hazard Mitigation Plan

Planning:

Plans	Codes and Regulations	Program Mechanism for Integration
City Planning	NRS 623 - Architecture, Interior Design and Residential Design	Development NHMPC/Subcommittee membership

Plans	Codes and Regulations	Program Mechanism for Integration
Community Master Plans	NRS 278.160 – Planning and Zoning	<p>Conservation and Development</p> <p>This plan's goals and the NHMP's goals are both to reduce losses.</p>
Community Wildfire Protection Plans (CWPP)		<p>Rating and risk analysis of fire danger in "Communities at Risk" by county</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. Some goals and objectives were carried into this plan.</p>
County Hazard Mitigation Plans		<p>Risk analysis and mitigation plans of local hazards</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. Risk assessment data and action items are incorporated into Sections 3 and 4 of this plan.</p>
<p>Drought Plan -2003</p> <p>Reference: http://water.nv.gov/WaterPlanning/pub-list.cfm </p>	NRS 540 – Planning and Development of Water Resources	<p>Recording and reporting mechanism for drought management.</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. The State climatologist and the Division of Water Resources participated in</p>

Plans	Codes and Regulations	Program Mechanism for Integration
		the Subcommittee.
Flood Mitigation Assistance Program Reference: http://water.nv.gov/Flood/page4.htm		Provides planning and project grants for flood hazard mitigation This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.
Western Governors Assn. 10 year Comprehensive Strategy and Implementation Plan: National Fire Plan, USFS Reference: http://www.forestsandrangelands.gov/		Agency mitigation and response to wildfires This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.
Nevada Dam Safety Reference: http://water.nv.gov/Engineering/Dams/	NRS 535- Dams and other Obstructions	Promote safe construction and operation of dams and prevent loss of life and property. This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.
Nevada Floodplain Management Program		Monitor and implement the Community Assistance Program, the Flood Mitigation Assistance Program, and

Plans	Codes and Regulations	Program Mechanism for Integration
		<p>the Statewide Flood Management and Mitigation Plan</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.</p>
<p>Nevada Natural Resource Plan Reference: http://dcnr.nv.gov/nrp/home.htm</p>	<p>NRS 548 – Conservation</p>	<p>Conservation of Nevada's natural resources</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.</p>
<p>Nevada State Water Plan Reference: http://water.nv.gov/WaterPlanning/pub-list.cfm</p>	<p>NRS 540 – Planning and Development of Water Resources</p>	<p>Framework for water planning and management</p> <p>This plan's goals and the NHMP's goals are both to reduce losses.</p>
<p>Open Space Plan</p>	<p>NRS 376A – Taxes for development of open space land</p>	<p>Development and use for open space land for 20 years</p> <p>This plan's goals and the NHMP's goals are both to reduce losses.</p>
<p>Southern Nevada Water Authority Drought Plan</p>		<p>Sustain and promote water goals in Southern</p>

Plans	Codes and Regulations	Program Mechanism for Integration
		<p>Nevada</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. The NHMPC has representatives who network with the entity which produced the plan.</p>
<p>Statewide Floodplain Management/Mitigation Planning</p> <p>Reference: http://water.nv.gov/Flood/page5.htm</p>	<p>Floodplain Management Ordinance for Nevada Communities</p>	<p>Minimize public and private losses due to flooding</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manger is a member of the Subcommittee.</p>
<p>Strategic Plan for Earthquake Safety in Nevada</p> <p>Reference: http://www.nbmng.unr.edu/nesc/strat.pdf</p>		<p>Goals to reduce losses due to earthquakes in Nevada</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manger is a member of the Subcommittee.</p>
<p>Truckee River Flood Management</p>		<p>"The Living River Plan"</p> <p>This plan's goals and the NHMP's goals are both to reduce losses.</p>

Emergency Operations:

Planning	Codes and Regulations	Programs Mechanism for Integration
Emergency Operation Plans for local jurisdictions and State agencies	NRS 414 – Emergency Management	<p>Foster and adopt emergency operation plans</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.</p>
Jurisdictional Mutual Aid Agreements	NRS 414 – Emergency Management	<p>Assist with mutual aid agreements between local jurisdictions</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. This program's manager is a member of the Subcommittee.</p>
EMAC – Emergency Management Assistance Compact	NRS 415 – Emergency Management Assistance Compact	<p>Compact with participating States</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. The agency managing this program is represented in the Subcommittee.</p>
State of Nevada Fire Mutual Aid Agreement and Plan	<p>NRS 415 – Emergency Management Assistance Compact</p> <p>NRS 277 – Cooperative Agreements: State, Counties, Cities, Districts and Other Public Agencies</p>	<p>Coordination and mobilization of local government emergency response resources</p> <p>This plan's goals and the NHMP's goals are both to reduce losses. The agency managing this program is represented in</p>

Planning	Codes and Regulations	Programs Mechanism for Integration
		the Subcommittee
Cooperative Wildland Fire Protection Agreement	NRS 472 – State Forester Fire Warden NRS 473 – Fire Protection Districts Receiving Federal Aid	Agreement between the State of Nevada – NDF, USDA Forest Service and DOI Agencies for emergency response This plan's goals and the NHMP's goals are both to reduce losses. The agency managing this program is represented in the Subcommittee
NEMAC – Nevada Emergency Management Assistance Compact	Signed Agreement	Emergency Management Compact with all counties and incorporated cities for emergency situations This plan's goals and the NHMP's goals are both to reduce losses. The agency managing this program is represented in the Subcommittee

2.3.2 Integration with FEMA Programs and Initiatives

FEMA programs drive mitigation nationwide. FEMA initiated mitigation planning has administered funding for the new Pre-Disaster Mitigation (PDM) planning requirement. What follows is a description of several major FEMA programs integrated into this mitigation plan.

Program	Mechanism for Integration
Community Rating System (CRS) This is a voluntary program recognizing and encouraging community floodplain management	Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives,

Program	Mechanism for Integration
activities that exceed the NFIP's minimum standards.	committees, etc.
<p>Cooperating Technical Partners (CTP)</p> <p>This program creates partnerships between FEMA and participating NFIP cooperators having an interest and capability to become more active participants in the FEMA Flood Hazard Mapping Program.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>Flood Map Modernization</p> <p>This federal program provides up-to-date maps to support a flood insurance program that is more closely aligned with actual risk, encourage wise floodplain management, and increase the public's flood hazard awareness. In Nevada, Clark County's flood maps have been up-dated. Washoe County's maps are in the process of being digitized.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>Flood Mitigation Assistance</p> <p>To implement cost-effective measures that reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>Hazard Mitigation Grant Program</p> <p>To provide funds to governments and communities to significantly reduce or permanently eliminate future risk to lives and property from natural hazards. HMGP funds projects identified in the community's hazard mitigation plan and enables the implementation of mitigation measures during the recovery from a disaster.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>HAZUS MH</p> <p>HAZUS-MH is a nationally applicable standardized methodology and software program which contains models for estimating potential losses from</p>	<p>UNR used HAZUS to generate the data on which the risk assessment and loss estimates found in Section 3 are based.</p>

Program	Mechanism for Integration
<p>earthquakes, floods, and hurricane winds. HAZUS-MH was developed by the Federal Emergency Management Agency (FEMA) under contract with the National Institute of Building Sciences (NIBS).</p> <p>NIBS maintains committees of wind, flood, earthquake and software experts to provide technical oversight and guidance to HAZUS-MH development. Loss estimates produced by HAZUS-MH are based on current scientific and engineering knowledge of the effects of hurricane winds, floods, and earthquakes. Estimating losses is essential to decision making at all levels of government, providing a basis for developing mitigation plans and policies, emergency preparedness, and response and recovery planning.</p> <p>HAZUS-MH uses state-of-the-art geographic information system (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. UNR has updated the HAZUS information to provide current hazard analyses of Nevada's communities. UNR used HAZUS to generate the data on which the risk assessment and loss estimates found in Section 3 are based.</p>	
<p>National Dam Safety Program (NDSP)</p> <p>This program is a partnership of state and federal agencies with other stakeholders to encourage individual and community responsibility for dam safety. The program includes; grant assistance to states, dam safety research and dam safety training.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>National Earthquake Hazard Reduction Program NEHRP</p> <p>In October 1977, Congress passed the Earthquake Hazards Reduction Act to “reduce the risks life and property from future earthquakes in the United</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>

Program	Mechanism for Integration
<p>States through the establishment and maintenance of an effective earthquake hazards reduction program.” NEHRP is supported by the following agencies:</p> <ul style="list-style-type: none"> • FEMA • National Institute of Standards and Technology • National Science Foundation • United States Geologic Survey <p>With four basic goals:</p> <ul style="list-style-type: none"> • Promote understanding of earthquakes and their effects • Work to better identify earthquake risk • Improve earthquake-resistant design and construction techniques • Encourage the use of earthquake-safe policies and planning practices 	
<p>National Flood Insurance Program (NFIP)</p> <p>NFIP enables property owners in participating communities to purchase flood insurance as protection against flood losses, while requiring state and local governments to enforce floodplain management ordinances that reduce future flood damages.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>National Hurricane Program</p> <p>This program conducts and supports projects and activities that help protect communities in their residents for hurricane hazards.</p>	<p>Nevada has little to no risk to the hurricane hazard. Therefore, the state does not participate in this program.</p>
<p>Pre-Disaster Mitigation</p>	<p>Key players in this FEMA program and NHMP</p>

Program	Mechanism for Integration
<p>Pre-Disaster Mitigation (PDM) is a Federal program administered by FEMA, which funds a) local and state mitigation planning to meet the requirements of DMA 2000 and b) mitigation projects.</p>	<p>advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>Repetitive Flood Claim</p> <p>To reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have one or more claim payment(s) for flood damages.</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>
<p>Severe Repetitive Loss Program</p> <p>To reduce or eliminate the long-term risk of flood damage to severe repetitive loss residential properties and the associated drain on the National Flood Insurance Program (NFIP).</p>	<p>Key players in this FEMA program and NHMP advocates are the same people, working together collaboratively on grants, initiatives, committees, etc.</p>

2.4 STATE PROFILE

2.4.1. Quick Facts

- **Population:** 1,998,257 (2000), 2,414,807 (2005 estimate)
- **Area:** 110,567 sq. mi., 86% federally controlled (rank: 7th largest)
- **Capital:** Carson City
- **Highest Elevation:** Boundary Peak in Esmeralda County – 13,140 ft.
- **Lowest Elevation:** Clark County on the Colorado River – 470 ft.

- **Nevada Nicknames:** Sagebrush State, Silver State, Battle-born State



Figure 2-1 Boundary Map of Nevada

Origin of the State's Name: Nevada is Spanish, meaning “snow-capped”

2.4.2 Description

Nevada borders California on the west, Oregon and Idaho on the north, Utah on the east, and Arizona on the southeast. It has an area of 110,567 square miles (286,368 square kilometers), which makes it the seventh largest of the 50 states; it also, however, is one of the most sparsely settled. Carson City is the capital. Nevada became the 36th state of the Union on Oct. 31, 1864.

Nevada is located in a mountainous region that includes vast semiarid grasslands and sandy alkali deserts. It is the most arid state of the nation. The state takes its name from the Spanish *nevada* (“snow clad”), a reference to the high mountain scenery of the Sierra Nevada on the southwestern border with California.

Nevada appears far removed from the days when Virginia City was a fabled frontier town, thriving on the rich silver mines of the Comstock Lode. However, many frontier qualities persist, though subtly transformed by a sophisticated urban environment. The prospector digging against odds to find a bonanza has been replaced by the fortune seekers in the gambling casinos of Las Vegas and Reno, and the erstwhile “saloon diversions” have evolved into lavish nightclub entertainment.

While the great majority of Nevadans live in the two main cities—more than one-half of them in the Las Vegas metropolitan area and almost one-fourth in that of Reno—the undeveloped lands of the state provide a largely unknown resource. Combined with the major scientific activity related to the federal government's atomic research facilities, the modern cities and desert reaches make Nevada a unique phenomenon among U.S. states.

2.4.3. Climate

The high Sierras along the state's western boundary often cause clouds of Pacific origin to drop their moisture before reaching Nevada, thus producing a semiarid climate. The driest regions are in the southeast and near Carson Sink, where annual rainfall seldom exceeds four inches (100 millimeters). The northeast has as little as eight inches of precipitation, whereas that of the northwestern mountains often reaches 24 inches. Temperatures vary as widely. In the north, July temperatures average 70° F (21° C), and in the south 86° F (30° C). In January the averages range from 24° F (4° C) in the north to 40° F (4° C) in the south. The northern and eastern areas have long, cold winters and short, relatively hot summers, whereas in southern Nevada the summers are long and hot and the winters brief and mild. Regional differences are pointed up by variations in the growing season: Las Vegas has 239 days, Reno 155, and Elko only 103.

2.4.4. Geography

Most of Nevada lies within the Great Basin section of the Basin and Range Province, where the topography is characterized by rugged mountains, flat valleys with occasional buttes and mesas, and sandy desert regions. More than 30 north–south mountain ranges cross the state; the highest elevations are Boundary Peak, at 13,143 feet (4,009 meters), and Wheeler Peak, at 13,063 feet. The southern area of the state is within the Mojave Desert, and the lowest elevation, 470 feet (143 meters), is in the Colorado River Canyon.

The state's rivers depend on the melting of winter snows and on spring rainfall. Almost all of the rivers drain into lakes that have no outlets or into shallow sinks that in summer evaporate into alkaline mud flats. The Humboldt, the largest of Nevada's rivers, provides the state's only major east–west drainage system. The Truckee, Carson, and Walker rivers, which rise in the Sierra

Nevada, serve extensive irrigation and reclamation projects in their areas. The Muddy and Virgin rivers in southern Nevada are related to the Colorado River system.

Several lakes provide scenic and recreational attractions. Lake Tahoe on the California–Nevada border is particularly notable for its clarity, depth, and scenic beauty. Pyramid, Walker, and Winnemucca lakes are remnants of an ancient sea. In relation to its area, however, Nevada has little surface water. The increasing demands of urbanization, industry, and agriculture are exhausting both groundwater and surface resources, and scarcity of water is an increasing concern. The impounded waters of Lake Mead, extending for 117 miles (188 kilometers) behind Hoover Dam, provide reserves for the southeastern area.

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