

# August 2022 Nevada Drought Impacts Summary Report



September 21, 2022

Nevada Drought Response Committee:

Nevada State Climate Office

Nevada Division of Water Resources

Nevada Division of Emergency Management



## Table of Contents

<b>SUMMARY</b> .....	<b>2</b>
<b>METEOROLOGICAL STATUS AND OUTLOOK</b> .....	<b>3</b>
<b>SURFACE WATER IMPACTS</b> .....	<b>4</b>
<b>ENERGY IMPACTS</b> .....	<b>5</b>
<b>AGRICULTURE IMPACTS</b> .....	<b>5</b>
<b>WATER SYSTEM IMPACTS</b> .....	<b>6</b>
<b>WILDFIRE IMPACTS</b> .....	<b>7</b>
<b>WILDLIFE IMPACTS</b> .....	<b>7</b>
<b>RECREATION IMPACTS</b> .....	<b>8</b>
<b>OTHER IMPACTS</b> .....	<b>8</b>
<b>RESOURCES</b> .....	<b>9</b>
<b>APPENDIX A. TABLES</b> .....	<b>9</b>

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## DROUGHT SUMMARY FOR TASK FORCE REPRESENTATIVES

### SUMMARY

While summer was wet, rains were spotty, which is common for summer thunderstorms. Nonetheless, drought intensity has waned, and as of the August 16, 2022 US Drought Monitor map, Nevada is free of D4 – Exceptional Drought for the first time since September 2020.

Impacts reported in July and August included:

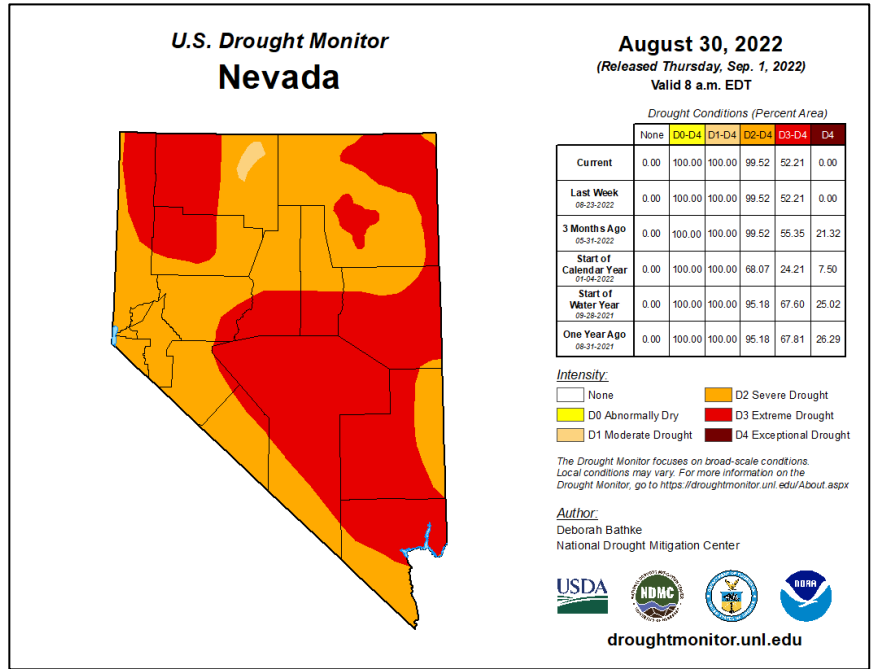
- Nevada’s combined Colorado River shortage/Drought Contingency Plan (DCP) Agreement contribution will be 25,000 acre-feet (AF) for 2023 operations, an increase from 21,000 AF in 2022.
- Ongoing concerns about reduced groundwater levels in portions of southern Nevada.
- Concerns about reduced surface water availability for wildlife and range livestock on public lands.
- Fire restrictions on public lands are widespread.
- Boating access to Lake Mead, Lake Tahoe, and Lahontan Reservoir are limited by low water levels.
- Ongoing drought conditions are or may impact the ability of reporting organizations to carry out routine operations, such as road maintenance and ecosystem restoration.
- Ongoing water hauling actions for livestock and wildlife throughout the state.

## METEOROLOGICAL STATUS AND OUTLOOK

### Current Status

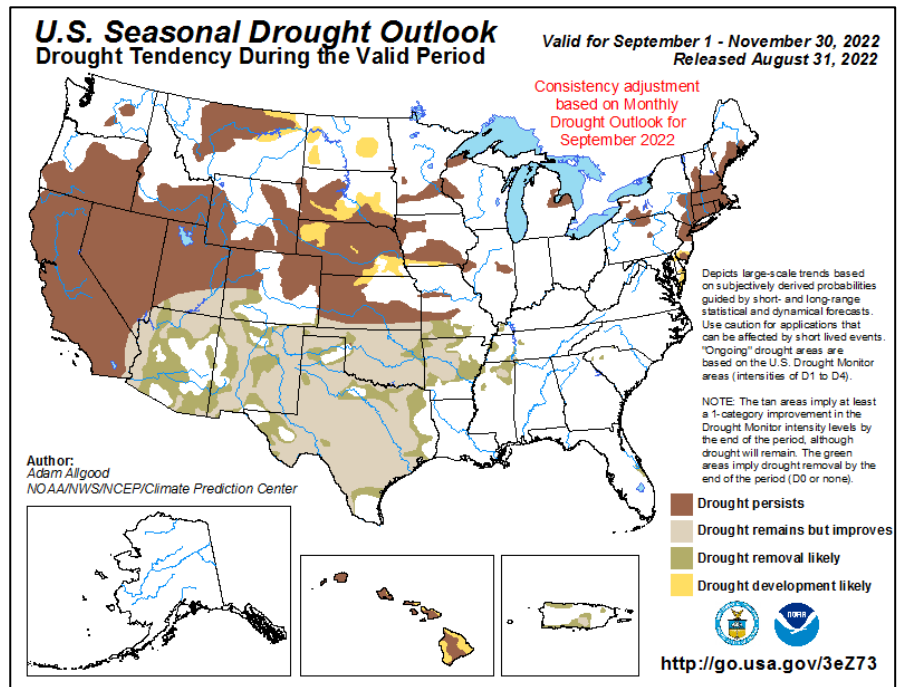
The entire state of Nevada remains in drought, as reflected in the U.S. Drought Monitor (Fig. 1). Drought conditions are expected to continue through late November with some improvement in a small area in southern Nevada (Fig. 2). Detailed information about current drought status is available at [LivingwithDrought.com](http://LivingwithDrought.com). Updates are typically posted early each month. Archived reports are available through the University of Nevada, Reno [ScholarWorks database](#).

Figure 1. US Drought Monitor Map and Conditions for Nevada



Source: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?NV> To learn more about drought categories, visit <https://droughtmonitor.unl.edu/About/WhatistheUSDM.aspx>

Figure 2. U.S. Seasonal Drought Outlook



Source: <https://www.cnrfc.noaa.gov/droughtInfo.php>

As of April 8, 2022, all counties in Nevada were eligible for USDA disaster-related emergency assistance programs triggered by the Drought FAST TRACK process. By June 16, 2022, all Nevada counties had received USDA Secretarial Disaster Designation as primary natural disaster areas due to recent drought. These designations were made based on the Drought-FAST TRACK process. This process includes Fast Track Secretarial disaster designations for severe drought, which provide for a nearly automatic designation when, during the growing season, any portion of a county meets the Severe Drought (D2) intensity category for eight consecutive weeks or a higher drought intensity value for any length of time as reported in the U.S. Drought Monitor.

## Drought Coordination

The Nevada Drought Response Committee<sup>1</sup> continues to request monthly updates from the state's Regional Drought Impact Task Force representatives on the status of drought impacts at regional and local levels. Representatives include water system operators, farming and ranching organizations, irrigation districts, Farm Service Agency, Bureau of Land Management, National Weather Service, and fire and wildlife management agencies. Regional Drought Impact Task Force participants are asked to prepare and submit answers to questions regarding drought impacts. Responses to the drought impact questions are summarized in this report.

The questions posed were as follows:

1. How is your community/organization/etc. affected by drought?
2. What were those impacts?
3. What local plans are already activated?
4. What resources are needed now or may be required if the drought conditions worsen or are prolonged?
5. Any additional comments you'd like to share?

Drought impacts will also be assessed based on reports from the Condition Monitoring Observer Reports (CMOR, <https://droughtimpacts.unl.edu/Tools/ConditionMonitoringObservations.aspx>) tool developed by the National Drought Mitigation Center and from updates posted on state, federal, and tribal websites.

## SURFACE WATER IMPACTS

Many reservoirs located in, or serving, Nevada are currently below average for storage. Streamflow has also been below average this water year for most of Nevada's rivers and streams.

Southern Nevada Water Authority (SNWA) reported the following surface water impacts:

- As of August 22, 2022, Lake Mead's storage volume was 28 percent of Lake's capacity with a surface elevation of 1,043 ft. above mean sea level. Lake Powell's storage was at 26 percent of capacity and elevation of 3,533 ft. that same day. The observed inflow in the Colorado River system over the past 23 years is the lowest in recorded history dating to 1906 and among the lowest in the past 1,200 years.
- On August 16, 2022, the U.S. Bureau of Reclamation announced its first-ever Level 2a water shortage declaration for the Colorado River for calendar year 2023. Nevada's combined Colorado River shortage/Drought Contingency Plan (DCP) Agreement contribution will be 25,000 acre-feet (AF) for 2023 operations, an increase from 21,000 AF in 2022.
- In light of deteriorating conditions across the Colorado River Basin, Bureau of Reclamation Commissioner Touton testified before the U.S. Senate Committee on Energy and Natural Resources in June 2022 and "called on water users across the Basin to take actions to prevent the reservoirs from falling to critically low elevations that would threaten water deliveries and power production." Commissioner Touton called upon the seven Colorado River Basin states to develop a plan to reduce

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<sup>1</sup> The Nevada Drought Response Committee consists of representatives from the Nevada State Climate Office, Nevada Division of Water Resources, and Nevada Division of Emergency Management.

water use by 2 to 4 million acre-feet of water in 2023. The Lower Basin States were unable to meet the Commissioner's August 15 deadline, and John Entsminger, General Manager of SNWA, submitted a letter to federal officials outlining strategies to achieve the reductions.

- The Bureau of Reclamation announced on August 16, 2022, that "in addition to undertaking preliminary work to develop the post-2026 strategies and operations, as several reservoir and water management decision documents expire at the end of 2026, Reclamation will immediately initiate a number of administrative actions in the Basin."

The Walker River Irrigation District reported:

- Allocations this year were 42% for users in the West basin and 26% for those in the East. These allocations are better than last year but worse than 2020.

Reservoir storage statistics from the Natural Resources Conservation Service

(<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/nv/snow/waterproducts/reservoirs/?cid=nrcseprd958817>) and the Bureau of Reclamation (<http://www.usbr.gov/lc/region/g4000/weekly.pdf>) and water year flows to date from the California Nevada River Forecast Center can be found in Appendix A, Tables 1 -5 at the end this report. (<https://www.cnrfc.noaa.gov/?product=flow2dateWY>).

## ENERGY IMPACTS

Declining water levels at Lake Powell threaten hydropower production and availability of reliable water supply to the communities of Page, Arizona, and the LeChee Chapter of the Navajo Nation. To prevent Lake Powell from falling to critically low elevations, the Federal Government updated its operating plan for Glen Canyon Dam, making a downward adjustment to the water release volume originally planned from Lake Powell to Lake Mead in 2022. This action, issued on May 3, 2022, will add approximately one million additional AF of storage, or 16 feet of pool elevation, in Lake Powell by April 2023. This action helps preserve hydropower production for users who rely on Glen Canyon Dam for power, address increased uncertainty regarding downstream releases should Lake Powell elevations continue to decline, and avoid water supply interruptions to water users who rely on intakes in Lake Powell for drinking water supplies. (SNWA)

- For the Water Year 2022, the release from Glen Canyon Dam has been temporarily changed from 7.48 million acre-feet (MAF) to 7.0 MAF, representing a reduction of 480,000 acre-feet (AF). (SNWA)
- The August 2022 24-Month Study that determined 2023 shortage volumes and Drought Contingency Plan contributions for the Lower Basin was modeled as if the 480,000 AF was not present in Lake Powell and was present in Lake Mead. This action helped to ensure operational neutrality with the delivery reduction. Resulting from the August 2022 24-Month Study, Nevada's Colorado River annual allocation will be reduced to 275,000 AF. (SNWA)
- The Bureau of Reclamation will account for and track the 480,000 AF reduced release amount in subsequent years and work with the Basin States on future operating changes. (SNWA)

## AGRICULTURE IMPACTS

Ongoing agricultural impacts include reduced forage activity, reduced range water availability, and reduced water deliveries.

- Drought conditions on public lands are resulting in low availability of forage and water sources for livestock and wildlife, increased dry fuel loads, and increased soil erosion. (Bureau of Land Management)

The following steps are being taken in response:

- BLM offices are continuing to work with permittees to determine potential changes in livestock use for this grazing season. BLM is working with permittees to identify options and incorporate more flexible management solutions (e.g., non-use or shortened grazing periods) where possible.

- BLM has been coordinating with other Federal and State agencies, tribal governments, local stakeholders, and permittees to address resource concerns, identify potential solutions, and strategize management actions.
- Drought management workshops for permittees are being planned for this fall in conjunction with the Nevada Department of Agriculture.
- BLM staff continue to conduct field drought investigations on allotments and herd management areas to track drought conditions.
- BLM is authorizing water hauling actions for livestock and wildlife, including for wild horses, and conducting wild horse gathers throughout the state.
- BLM utilizes reports from the National Weather Service, U.S. Drought Monitor, Desert Research Institute, National Integrated Drought Information System, and information from NOAA/NIDIS webinars to track drought conditions statewide.
- BLM permittees may need help from other agencies, such as the USDA-Farm Service Agency and the USDA-Natural Resources Conservation Service, for funding related to drought conditions, installation of conservation practices, and emergency relief.
- Farmers served by the Walker River Irrigation District have been making changes to crop choice and irrigation management, as well as fallowing fields to accommodate reduced water availability and limit long-term resource impacts. (Walker River Irrigation District)

## WATER SYSTEM IMPACTS

Lower groundwater levels in southern Nevada are impacting some groundwater wells.

- Several groundwater-dependent communities in Southern Nevada, including small and rural systems, continue to experience water-level declines in local aquifers. (SNWA)
- Groundwater levels at the two Blue Diamond water supply wells have reached the lowest level observed in the past 20-years. Water levels are directly influenced by the recharge of winter precipitation in the Spring Mountains. Below normal winter precipitation in a series of oncoming years may decrease water levels further outside the historical range and increase the uncertainty of system performance. A development moratorium is in place, and a U.S. Army Corps of Engineers grant has been obtained for an exploratory program and backup water supply well. A site location for the backup well is being pursued. The existing system emergency action plan is being reviewed and updated. (SNWA)
- Two wells in Kyle Canyon are currently in the “concerned” operating range. At this range, water supplies from the aquifer are being used at a rate consistent with the wells’ ability to recharge naturally. Area residents are urged to adhere to mandatory watering restrictions designed to help stabilize well conditions. Under the Concerned operating range, outdoor irrigation is limited to one day a week in Spring and Fall and two days a week in Summer. (SNWA)

In southern Nevada, continuing low water levels in Lake Mead have led to numerous conservation and planning actions.

- The SNWA responded to anticipated Lake Mead’s water level declines by shutting down its upper intake pumping station (Intake Pumping Station 1) and began operating the Low Lake Level Pumping Station (L3PS) in conjunction with Intake Pumping Station 2 to meet demands. The construction of their facilities has proven to be critical, as SNWA’s original intake that is at Lake Mead elevation 1,050’ is now visible above the surface of Lake Mead. The SNWA is now fully reliant on water pumped through L3PS and Intake 3 to meet the community’s water needs, and this infrastructure preserves SNWA’s ability to divert water from Lake Mead to a Lake Mead elevation of 875’.
- Basic Water Company’s (BWC) Lake Mead intake became inoperable as Lake Mead elevations declined. BWC halted diversions from Lake Mead on July 1. The Las Vegas Valley Water District and City of Henderson (COH) entered an interlocal agreement allowing COH to provide water service to BWC for



use at the Black Mountain Industrial Complex through a separate temporary potable water service agreement between BWC and COH.

In December 2021, the SNWA adopted a new conservation goal of 86 gallons per capita per day (GPCD) by 2035. To support goal achievement, the SNWA:

- Adopted a resolution supporting a prohibition on the installation of new irrigated turfgrass and the installation and use of spray irrigation systems in new development in the service areas of SNWA's purveyor members, except in parks, schools, and cemeteries.
- Adopted a resolution supporting a moratorium on cooling and heating mechanisms that consumptively use water in all new developments and establishments within the service area of SNWA's purveyor members, except for single-family residences.
- Adopted a resolution supporting a reduction of golf course water budgets from 6.3 acre-feet of water annually per irrigated acre to 4.0 acre-feet of water annually per irrigated acre for all golf courses that use Colorado River water effective January 1, 2023.
- Adopted a resolution supporting limiting the surface area of new single-family pool construction to 600 square feet.

The SNWA also approved an Implementation Plan for the Removal of Nonfunctional Turf in Southern Nevada. The plan supports the implementation of Assembly Bill 356 (AB356), which prohibits the use of Colorado River water to irrigate nonfunctional turf by the end of 2026. (SNWA)

The SNWA is working with its member agencies to update rules, ordinances, and codes to reflect policy changes. (SNWA)

Multiple municipal production wells are planned to be constructed over the next several years to replace existing aging wells in order to improve drought resiliency and system reliability and capacity. One well is being funded by a Bureau of Reclamation grant and additional state funding for the program is being pursued. (SNWA)

## WILDFIRE IMPACTS

According to the National Interagency Fire Center, Nevada is predicted to have near normal fire potential for the next four months due to the monsoonal moisture received during the first half of August (August 1, 2022). For this year's fire season, Nevada has had 353 fires totaling 41,867 acres with the largest being the Wildcat Fire (21,429 acres) in northern Elko County. (Bureau of Land Management)

The National Significant Wildland Fire Potential Outlook from the National Interagency Fire Center for Outlook Period – September through December 2022 can be accessed on their website.<sup>2</sup>

## WILDLIFE IMPACTS

Ongoing concerns about limited forage, and water resources. The North American Monsoon provided some needed precipitation but did not eliminate concerns.

- There has been some timely precipitation across the state, particularly in northern Nevada. Spring and summer moisture has promoted abundant vegetative growth and improved stock water availability in northern and western Nevada. The North American Monsoon has provided some precipitation across Nevada. (Bureau of Land Management)

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<sup>2</sup> Predictive Services, National Interagency Fire Center, National Significant Wildland Fire Potential Outlook, published September 1, 2022, [https://www.predictiveservices.nifc.gov/outlooks/monthly\\_seasonal\\_outlook.pdf](https://www.predictiveservices.nifc.gov/outlooks/monthly_seasonal_outlook.pdf)



The BLM is taking the following steps to reduce drought impacts on wildlife.

- BLM is working with Nevada Department of Wildlife on flexibility to provide water to support wildlife. Given the low availability for water on public lands, it's important for water sources to be available for wildlife use, particularly when a permittee is in non-use status and not grazing livestock on an allotment.
- BLM has been coordinating with other Federal and State agencies, tribal governments, local stakeholders, and permittees to address resource concerns, identify potential solutions, and strategize management actions.

The Nevada Department of Wildlife's (NDOW) fish hatchery relies on Colorado River water for operations. NDOW made operational changes to address an anticipated water service disruption due to the impact of declining Lake Mead water levels on their intake facilities in Lake Mead. As a result, NDOW curtailed Colorado River diversions and halted fish hatchery operations in January 2022. The fish hatchery is an important producer of razorback sucker and bonytail for the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), which is working toward the recovery of these endangered fish in the Lower Colorado River Basin. (SNWA)

- The SNWA continues working with NDOW to scope a project proposal and secure funding for a new service connection, helping to support ongoing species recovery efforts. (SNWA)
- The SNWA is working with NDOW to design, permit, fund, and construct a small supply line to the fishery from the Southern Nevada Water System's Alfred Merritt Smith Water Treatment Facility. The project should be complete in three years. (SNWA)

The Nature Conservancy reported that riparian habitat conditions in Storey County are better than last year but are "Still dry though."

Nevada lawmakers recently approved \$3.1 million to contribute toward replacement of the water supply line to NDOW's fish hatchery. (SNWA)

## RECREATION IMPACTS

### Fire restrictions

Currently, there are fire restrictions in place over much of the state. Full details are available at <https://www.nevadafireinfo.org/restrictions-and-closures>.

### Boating

- Many Lake Mead boat ramps are closed or limited to shallow hull vessels because the lake level is so low (<https://www.nps.gov/lake/learn/news/lakeconditions.htm>).
- At Sand Harbor, due to low water levels, the boat ramp closed for the season.<sup>3</sup>
- Lahontan State Recreation Area Silver Springs & North Shore Marina boat ramps closed for the season.<sup>4</sup>

## OTHER IMPACTS

Routine maintenance and ecosystem restoration activities are being impacted.

- BLM activities and actions may be impacted, such as curtailing road maintenance to reduce dust emissions. Previous wildfire and rangeland restoration activities, such as seedings, may be impacted due to lack of soil moisture resulting in reduced germination, loss of vegetative cover, and potential increase in wind erosion.

<sup>3</sup> Nevada Division of State Parks, retrieved August 28, 2022, from <http://parks.nv.gov/parks/lake-tahoe-nevada-state-park>

<sup>4</sup> Nevada Division of State Parks, retrieved August 28, 2022, from <http://parks.nv.gov/news/boat-launch-at-silver-springs-closed-due-to-low-water-levels>

## RESOURCES

The Farm Service Agency (FSA) has the following programs available to assist agricultural producers in response to the ongoing drought:

- A. Livestock Forage Disaster Program (LFP)
- B. Emergency Livestock Assistance Program (ELAP) - Assistance for water hauling expenses and to cover feed transportation costs due to drought
- C. Emergency Conservation Program (ECP)
- D. Noninsured Crop Disaster Assistance Program (NAP)
- E. Emergency Loan Program (EM)
- F. Primary Loan Servicing for existing FSA farm loan borrowers in the form of payment deferrals or loan restructuring

Additionally, the [U.S. Small Business Administration \(SBA\)](#) offers disaster assistance in the form of low-interest loans to businesses, nonprofit organizations, homeowners, and renters located in regions affected by declared disasters. SBA also provides eligible small businesses and nonprofit organizations with working capital to help overcome the economic injury of a declared disaster. Eligibility for SBA disaster assistance requires one to be in an SBA-declared disaster area or named in an SBA Disaster Declaration by the Secretary of Agriculture.<sup>5</sup> The [Check Disaster Declarations](#) tool can be used to locate disaster areas by state and territory.

## APPENDIX A. TABLES

**Table. 1 Lake Tahoe and Truckee River Basins**

Reservoir storage as of end of August 2022		
<i>Lake/Reservoir</i>	<i>% Capacity</i>	<i>% Median</i>
Lake Tahoe <sup>6</sup>	17%	40%
Boca Reservoir	72%	98%
Prosser Reservoir	53%	92%
Stampede Reservoir	51%	72%
Water Year Flow to Date (October 1, 2021 through September 1, 2022)		
<i>Gauging Station</i>	<i>% Average</i>	
Truckee River at Farad	80%	

According to the U.S. Geological Survey (USGS) gage 10337000 Lake Tahoe At Tahoe City CA, the lake elevation for Lake Tahoe on September 1, 2022 sat above the natural rim of the lake at 6,223.64 feet.<sup>7</sup>

<sup>5</sup> Refers to an SBA Disaster Declaration due to Designation by the Secretary of Agriculture. Current Declared Disasters, retrieved September 1, 2022, from <https://disasterloanassistance.sba.gov/ela/s/search-declarations>

<sup>6</sup> Data for Lake Tahoe are for the end of July 2022.

<sup>7</sup> U.S. Geological Survey National Water Information System: Web Interface, retrieved September 1, 2022, from [https://waterdata.usgs.gov/usa/nwis/uv?site\\_no=10337000](https://waterdata.usgs.gov/usa/nwis/uv?site_no=10337000)

**Table. 2 Carson River Basins**

<b>Reservoir storage as of end of August 2022</b>		
<b>Lake/Reservoir</b>	<b>% Capacity</b>	<b>% Median</b>
Lahontan Reservoir	14%	37%
<b>Water Year Flow to Date (October 1, 2021 through September 1, 2022)</b>		
<b>Gauging Station</b>		<b>% Average</b>
West Fork Carson River at Woodfords		61%
East Fork Carson River near Markleeville		68%
East Fork Carson River near Gardnerville		71%
Carson River near Carson City		56%
Carson River near Fort Churchill		52%

**Table. 3 Walker River Basin**

<b>Reservoir storage as of end of August 2022</b>		
<b>Lake/Reservoir</b>	<b>% Capacity</b>	<b>% Median</b>
Bridgeport Reservoir	25%	66%
Topaz Lake	32%	84%
<b>Water Year Flow to Date (October 1, 2021 through September 1, 2022)</b>		
<b>Gauging Station</b>		<b>% Average</b>
West Walker River below Little Walker River, near Coleville		64%
East Walker River near Bridgeport		43%

**Table. 4 Humboldt River Basin**

<b>Reservoir storage as of end of July 2022</b>		
<b>Lake/Reservoir</b>	<b>% Capacity</b>	<b>% Median</b>
Rye Patch (lower Humboldt)	4%	14%
<b>Water Year Flow to Date (October 1, 2021 through September 1, 2022)</b>		
<b>Gauging Station</b>		<b>% Average</b>
Marys River above Hot Springs Creek near Deeth		36%
Humboldt River near Elko		10%
Humboldt River near Carlin		13%
Humboldt River at Palisade		15%
Humboldt River at Comus		7%
Humboldt River near Imlay		1%
Martin Creek near Paradise Valley		63%

**Table. 5 Colorado River**

<b>Reservoir storage as of August 29, 2022</b>		
<b><i>Lake/Reservoir</i></b>	<b><i>% Capacity</i></b>	<b><i>Elevation (ft amsl)</i></b>
Lake Mead	28%	1,044