



To: Subcommittee on Water, Oceans and Wildlife Republican Members
From: Subcommittee on Water, Oceans and Wildlife Republican Staff; Kiel Weaver (Kiel.Weaver@mail.house.gov), Annick Miller (Annick.Miller@mail.house.gov), and Rob MacGregor (Robert.MacGregor@mail.house.gov)
Date: October 15, 2021
Subject: Remote Oversight Hearing on “*Colorado River Drought Conditions and Response Measures – Day Two*”

On **Wednesday, October 20, 2021, at 11:00 a.m. EDT, via Cisco Webex**, the Subcommittee on Water, Oceans, and Wildlife will hold a remote oversight hearing titled “Colorado River Drought Conditions and Response Measures – Day Two.” This is the second oversight hearing on this topic within a week and will include testimony from non-governmental and local governmental witnesses. The first hearing, held on October 15, 2021, focused on testimony from federal, tribal and state government witnesses.

Member offices are requested to notify Annick Miller no later than Tuesday, October 19, at 4:30 p.m. EDT, if their Member intends to participate in person in the hearing room or remotely from his/her laptop from another location. Submissions for the hearing record must be submitted through the Committee’s electronic repository at HNRCDOCS@mail.house.gov. Please contact David DeMarco (David.DeMarco@mail.house.gov) or Everett Winnick (EverettWinnick@mail.house.gov) should any technical difficulties arise.

I. KEY MESSAGES

- The Colorado River Basin is in a 20-year historic drought that has resulted in low reservoirs, reduced hydropower generation and water shortages.
- Historically, the seven Basin states have worked collaboratively to develop the water supply projects and uses of the Colorado River.
- With water cutbacks looming in the lower Colorado River Basin, this hearing will focus on the process and potential short-term and long-term solutions to address continuing drought conditions amongst the seven Basin states and a diversity of stakeholders that depend on the Colorado River

II. WITNESSES (one panel)

- **Mr. Pat O’Toole**, President, Family Farm Alliance, Savery, Wyoming [Republican witness];
- **Mr. Tom Davis**, President, Agribusiness and Water Council of Arizona, Yuma, Arizona [Republican witness];
- **Ms. Anne Castle**, Senior Fellow, Getches-Wilkinson Center for Natural Resources, Energy and the Environment, University of Colorado, Boulder, Colorado;
- **Mr. Adel Hagekhalil**, General Manager, Metropolitan Water District of Southern California, Los Angeles, California;
- **Ms. Taylor Hawes**, Colorado River Program Director, The Nature Conservancy, Silverthorne, Colorado; and
- **Mr. Enrique Martinez**, General Manager, Imperial Irrigation District, Imperial, California

III. BACKGROUND

Colorado River Basin Overview

The Colorado River Basin (Basin) encompasses seven states (Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming), and the Republic of Mexico. In the United States, the Basin provides water for the irrigation of nearly 5.5 million acres, municipal water supply to about 40 million people, and hydropower facilities that can generate more than 4,200 megawatts (MW) of electricity.¹ Within the Basin, there are seven National Wildlife Refuges and eleven National Park Service units.²

The Colorado River is one of the most developed, regulated, and negotiated rivers in the United States. It has numerous diversions, several major dams, and reservoirs, and is managed through multiple compacts, laws, regulatory guidelines, contracts, court decisions, and decrees (collectively known as the “Law of the River”).³

The Basin is divided into an upper and a lower Basin by the 1922 Colorado River Compact. The upper Basin States include Colorado, Wyoming, New Mexico, Utah, and part of Arizona, while

¹ <https://www.usbr.gov/dcp/docs/DCP%20Basin%20States%20Transmittal%20Letter%20and%20attachments.pdf>

² <https://www.usbr.gov/climate/secure/docs/2021secure/basinreports/ColoradoBasin.pdf>

³ <https://www.usbr.gov/lc/region/pao/lawofrvr.html>

the lower Basin States include California, Arizona, and Nevada.⁴ Each Basin was apportioned 7.5 million-acre-feet (maf) annually.⁵ State-specific apportionments are displayed in Figure 1.

Development of the Basin

There are three main federal laws that authorized the construction of the majority of projects in the Basin: the Boulder Canyon Project Act of 1928 (43 U.S.C. 617), the Colorado River Storage Project (CRSP) Act of 1956 (43 U.S.C. 620), and the Colorado River Basin Project Act of 1968 (43 U.S.C. 1501 et seq.).

The Boulder Canyon Project Act approved the 1922 Compact, authorized the construction of Hoover Dam and related irrigation facilities in the lower Basin, apportioned the lower Basin’s water allocations, and authorized and directed the Secretary of the Interior (Secretary) to function as the sole contracting authority for Colorado River water use in the lower Basin.⁶

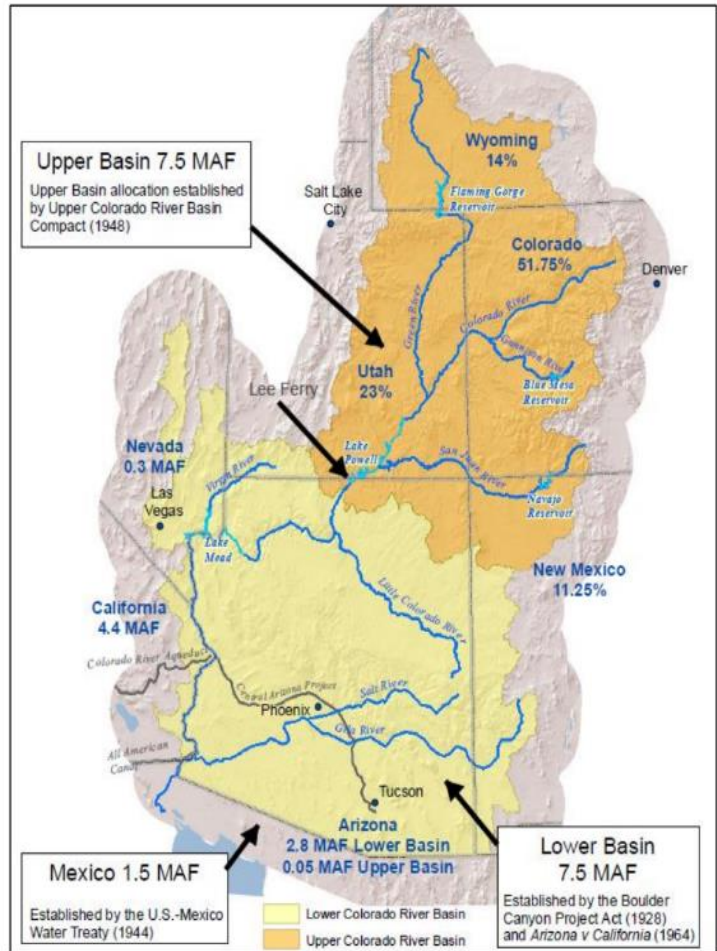


Figure 1: Colorado River Basin State Allocations
 Source: Congressional Research Service

⁴ Pursuant to the Colorado River Compact of 1922, <https://www.usbr.gov/lc/region/g1000/pdffiles/crcompact.pdf>.
⁵ *Id.*
⁶ <https://www.usbr.gov/lc/region/pao/pdffiles/bcpact.pdf>

Hoover Dam is the highest and third largest concrete dam in the United States. The dam has a storage capacity of 28.9 maf and its powerplant has an installed capacity of about 2,080,000 kW and annual average power generation of about 4 million kWh.⁷

The Colorado River Storage Project Act provided a comprehensive upper Basin-wide water development plan and authorized the construction of Glen Canyon, Flaming Gorge, Navajo and Curecanti Storage Units.⁸ Lastly, the Colorado River Basin Project Act authorized the construction of the Central Arizona Project and a number of projects in the upper and lower Basins.

The U.S. Bureau of Reclamation

(Reclamation) operates all the major dams on the river. In the upper Basin, facilities include Fontenelle, Flaming Gorge, Blue Mesa, Morrow Point, McPhee, and Glen Canyon Dams. Lower Basin facilities include Hoover, Davis, Roosevelt, and Parker Dams. Collectively, the river’s reservoirs can store more than 60 million acre-feet of water, or approximately four years of average annual river flow.⁹

Development of the 2007 Interim Guidelines

Since 2000, the Basin has experienced historically dry conditions and the combined storage in Lakes Powell (the reservoir created by Glen Canyon Dam) and Mead (the reservoir created by the Hoover Dam) reached the lowest levels since Lake Powell initially began filling in the 1960s.¹⁰ Under the Law of the River, the Secretary is required to declare the annual Colorado

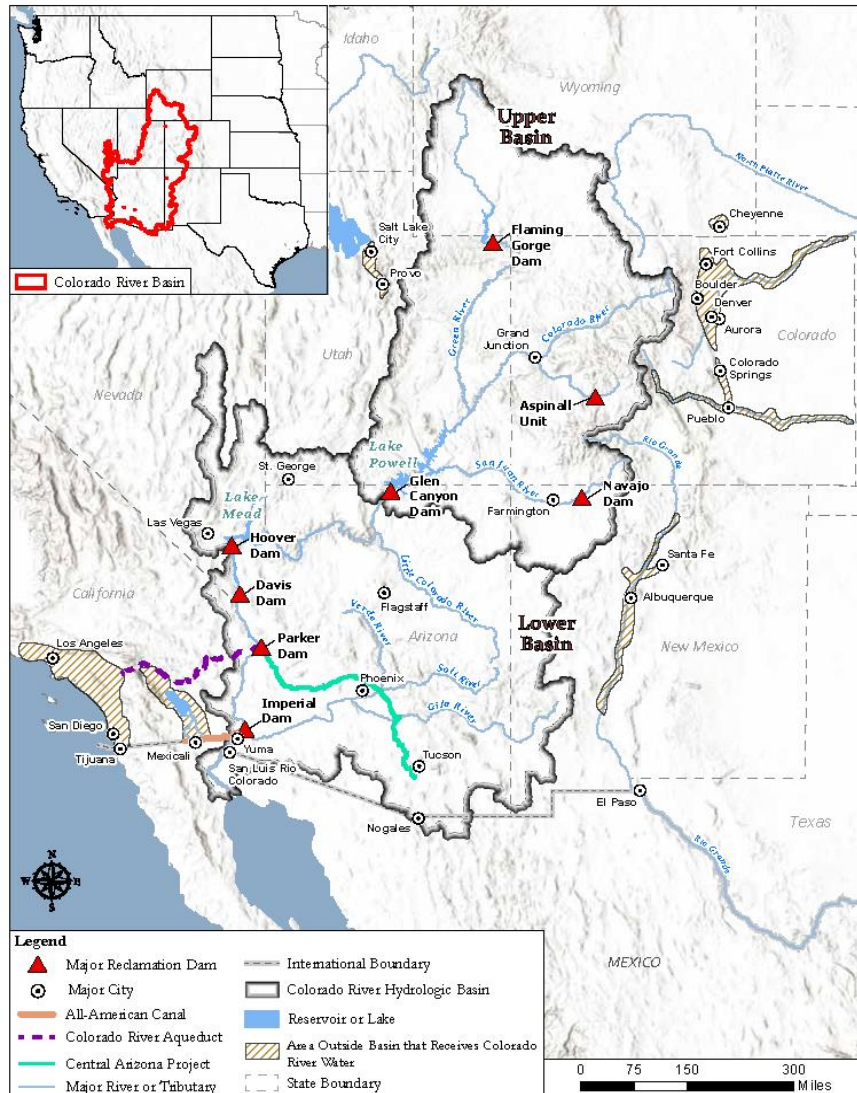


Figure 2: Colorado River Basin Infrastructure and Service Area
Source: U.S. Bureau of Reclamation

⁷ <https://www.usbr.gov/projects/pdf.php?id=77>

⁸ <https://www.usbr.gov/uc/rm/crsp/index.html>

⁹ <https://www.usbr.gov/climate/secure/docs/2021secure/basinreports/ColoradoBasin.pdf>

¹⁰ <https://www.usbr.gov/dcp/docs/DCP%20Basin%20States%20Transmittal%20Letter%20and%20attachments.pdf>

River water supply availability conditions for the lower Basin states (Arizona, California, and Nevada) in terms of Normal, Surplus, or Shortage.¹¹ In 2005, regulations and operations criteria had been developed for Normal and Surplus conditions, but guidelines were not established for a water supply during Shortage conditions.

That same year, then-Interior Secretary Gale Norton directed Reclamation to develop and adopt interim operational guidelines to address the operations of Lake Powell and Lake Mead during drought and low reservoir conditions.¹²

On December 13, 2007, then-Interior Secretary Dirk Kempthorne signed the Record of Decision on the Interim Guidelines. The Interim Guidelines provided for the coordinated operations of Lake Powell and Lake Mead through the full range of reservoir conditions, established the Intentionally Created Surplus (ICS) mechanism, and guidelines for determining a shortage condition in the Lower Basin.¹³ The Interim Guidelines are in place from 2007 through 2026.

Drought Contingency Plans

In March 2019, Reclamation and the Basin States transmitted to Congress their agreed-upon “drought contingency plans” (DCPs) to address the Basin’s water supplies.¹⁴ The following month, the Colorado River Drought Contingency Plan Authorization Act (P.L. 116-14) was signed into law. At their core, the DCPs obligate the lower Basin states to reduce water deliveries within their states, commit Reclamation to additional water conservation efforts, and institute plans to coordinate upper Basin operations to protect Lake Powell storage levels and hydropower generation.

Under the Lower Basin DCP, Nevada and Arizona would experience reductions to their water supplies if Lake Mead’s surface elevation drops below 1,090 feet. Additional reductions would be implemented if the surface elevation drops below 1,075 feet and reaches the maximum reductions if reservoir levels drop below 1,025 feet.¹⁵ If Lake Mead’s elevation drops below 1,045 feet, California also would see reductions to its water deliveries.¹⁶

¹¹ <https://www.usbr.gov/lc/region/pao/lawofrvr.html>

¹² https://www.doi.gov/sites/doi.gov/files/archive/news/archive/05_News_Releases/050502c.htm

¹³ <https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf>

¹⁴ <https://www.usbr.gov/dcp/docs/DroughtContingencyPlansBasinStates-TransmittalLetter-508-DOI.pdf>

¹⁵ <https://usbr.gov/dcp/docs/DroughtContingencyPlansBasinStates-TransmittalLetter-508-DOI.pdf>

¹⁶ *Id.*

Current Drought Conditions

On August 16, 2021, Reclamation released the Colorado River Basin 24-Month Study.¹⁷ The study's projections are used to set annual operations for Lake Powell and Lake Mead in 2022. The current Lake Mead elevation is 1,067 ft.¹⁸ Based on projections in the study, Lake Mead will operate in Shortage conditions for the first time ever.

The required shortage reductions and water savings contribution are:

- Arizona: 512,000 acre-feet, which is approximately 18% of the state's annual apportionment.
- Nevada: 21,000 acre-feet, which is 7% of the state's annual apportionment.
- Mexico: 80,000 acre-feet, which is approximately 5% of the country's annual allotment.

On September 22, 2021, Reclamation released an updated projection of Colorado River system conditions and reservoir levels that indicates higher chances than ever before that Lake Powell and Lake Mead may reach critically low elevations. The forecast projects that there is a 25-35% chance that Lake Powell could fall below minimum power pool by 2023.¹⁹ This will not only have significant water supply impacts but will also significantly reduce hydropower production in the Basin.

Efforts and the Process to Find Short and Long-Term Solutions

Day one (October 15, 2021) of this hearing focused on the processes underway to cope with water shortages in the short-term and to find longer-term agreements post-2026 when the Interim Guidelines and the DCPs expire. Historically, as evidenced by the agreements and federal statutes mentioned above, the seven states and the federal government eventually find resolution to Basin issues. Efforts to find resolution among the parties are underway and expected to last for some time.

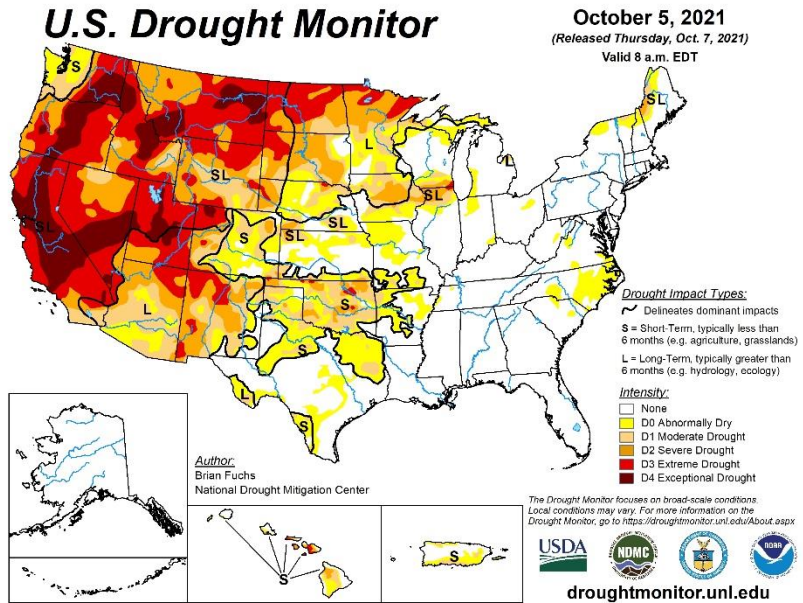


Figure 2: U.S. Drought Monitor for October 5, 2021

Source: National Drought Mitigation Center

¹⁷ <https://www.usbr.gov/lc/region/g4000/24mo/2021/AUG21.pdf>

¹⁸ <https://www.usbr.gov/lc/region/g4000/hourly/lcTeacups.bmp>

¹⁹ <https://www.usbr.gov/lc/region/g4000/riverops/crss-5year-projections.html>

This hearing will likely focus on the drought impacts to the non-federal witnesses representing different viewpoints along the Colorado River. For example, during the DCP discussions, farmers and ranchers throughout the Basin shared their priorities for a long-term solution to managing the river. These included:²⁰

- Planning for water shortages in the Basin must look to the long-term in meeting the goals of agriculture, energy, urbanization and the environment.
- A successful water shortage strategy must include a “portfolio” of water supply enhancements and improvements, such as water reuse, recycling, conservation, desalination, water-sensitive land-use planning, and water system improvements. New infrastructure and technologies can help stretch water for all uses.
- Temporary fallowing proposals should be approached in a thoughtful, thorough manner only after urban, energy and environmental users of water demonstrate a better management of their share of the finite supply and only for temporary shortfalls caused by droughts or emergency situations.
- Unintended consequences associated with reducing productive agricultural land, groundwater recharge, or riparian habitat benefits should be avoided and, if unavoidable, minimized and fully mitigated.

At the time there was concern that, without full collaboration, irrigated agriculture would be looked to as the solution for addressing the continuing drought through demand management (i.e., crop fallowing) and re-allocation of water, in effect making agriculture the “reservoir” for urban and environmental needs.²¹ Witnesses representing agriculture will discuss this concern, as well as the potential impact of such re-allocation of water on food security/supply chain issues. Other witnesses representing academia and environmental organizations may challenge these assertions and indicate that re-allocation and demand management is long overdue.

Following a key point from a number of witnesses testifying on the first day of the hearing and other related hearings, another witness representing farming and ranching interests will discuss the need to better manage the entire watershed through proactive timber and rangeland management.²² Such improvements would create more water for other needs and enhance habitat and species.

²⁰ Family Farm Alliance, Colorado River Basin Water Management Principles and Recommendations, July 2015.

²¹ In these discussions the term “demand management” means paying farmers and ranchers to not use water.

²² <https://www.energy.senate.gov/services/files/ABD6CD4B-8E33-42FD-9531-A8C8BD5C68B6> , at 12.