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"Protecting & Enhancing Arizona's Water Supplies For Current And Future Generations."

 

COLORADO RIVER SHORTAGE PREPAREDNESS

The Colorado River system has experienced severe drought conditions for almost two decades. Further, the Basin runoff during this period is comparable with one of the lowest comparable periods in the paleo-hydrologic record that dates back over 1,200 years. As a result, water levels in Lake Mead, the primary storage reservoir for the Lower Basin states, and the entire Colorado River System reservoirs have been declining and projections indicate that this will continue into the foreseeable future.

In addition, given the basic apportionments in the Lower Basin, the allotment to Mexico, and evaporation losses, Lake Mead annual outflow is about 1.2 million acre-feet more than the combination of annual releases from Lake Powell and local flow between the 2 reservoirs. The result is an imbalance that causes Lake Mead to drop by 12 feet or more every year. Lake Mead elevation has fallen approximately 126 feet from 2000 to the end of 2014, bringing it closer to elevations critical to a shortage determination.

▼ Close

Three factors that significantly affect the water levels in lakes Powell and Mead are:

1. The hydrology of the Colorado River, such as the amount of precipitation (mostly as snowpack) that falls within the basin and the resulting runoff that flows into the river and reaches the reservoirs,
2. Colorado River water use, such as the amount of water needed for agricultural and urban purposes in both the Upper and Lower Basins, and
3. Colorado River reservoir operations per the "Law of the River."

As a result of these conditions, the Colorado River users have taken actions to protect Lake Mead's elevation from dropping to critical levels.

Releases and diversions are made from Lake Mead to meet water deliveries in Arizona, California, Nevada, and Mexico, while Lake Powell is operated to deliver water from the Upper Basin to the Lower Basin. As part of the 2007 Interim Guidelines (<http://www.usbr.gov/lc/region/programs/strategies.html>), water levels in these two reservoirs are coordinated to allow better management of the Colorado River supply.

Lake Mead water levels are important because they determine whether a shortage is declared on the Colorado River. All the states that share the river, the federal government and Mexico previously agreed to shortage "trigger levels" and resulting reduced delivery amounts in the 2007 Colorado River Interim Guidelines (<http://www.usbr.gov/lc/region/programs/strategies.html>) for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead. These were developed based on data that was available at that time, very early in the Colorado River drought. Now, nearly 10 years later it is apparent that those guidelines are not enough. New river flow projections indicate that Lake Mead levels could drop to the point of seriously impacting power generation and water availability, despite the 2007 Interim Guidelines.

If a shortage is determined in the near future, quantified reductions in deliveries to Arizona, Nevada, and Mexico (pursuant to Minute 323) would be implemented as shown below:

LAKE MEAD JAN 1, ELEVATION*	SHORTAGE TIER	ARIZONA REDUCTION	NEVADA REDUCTION	MEXICO REDUCTION
1075'	1	320,000 AF	13,000 AF	50,000 AF
1050'	2	400,000 AF	17,000 AF	70,000 AF
1025'	2	480,000 AF	20,000 AF	125,000 AF

**Projected Jan 1 Elevation from August 24-month study. California takes no shortage*



The Lower Basin Drought Contingency Proposal (DCP) has been drafted to protect Lake Mead from dropping to critical levels and in a way that improves the health of the river system. The DCP proposes sharing of reductions among Arizona, California, Nevada and the United States while still honoring the previous agreements. The reductions will be earlier and deeper to Colorado River supplies for Arizona and Nevada beyond those currently agreed-upon limits. In addition, California for the first time ever would be asked to take reductions in its Colorado River deliveries if Lake Mead's elevation dipped to specified levels.

If the proposal were to be implemented, Arizona would have greater certainty about the longer-term reliability of the Colorado River, allowing on-river communities, agriculture and the Central Arizona water users to continue supporting the economic and environmental health for Arizona.

CONSERVATION



In 2014, Reclamation, the Colorado River Basin States, and Colorado River water entitlement holders explored ideas on how to mitigate the impacts of the ongoing drought in the Colorado River Basin. One idea that received broad support was funding projects that would test a wide range of measures to conserve Colorado River water in Lake Powell or Lake Mead as Colorado River System water to help offset declining reservoir elevations.

On July 30, 2014, Reclamation signed an agreement with the Central Arizona Water Conservation District, The Metropolitan Water District of Southern California, the Southern Nevada Water Authority, and Denver Water for a Pilot Program for Funding the Creation of Colorado River System Water (<http://www.usbr.gov/lc/region/programs/PilotSysConsProg/pilotsystem.html>) through Voluntary Water Conservation and Reductions in Use, as amended (Funding Agreement). The Funding Agreement is historic because water agencies from both the Upper and Lower Colorado River Basins and Reclamation agreed to jointly fund voluntary water conservation projects in both the Upper and Lower Colorado River Basins for the benefit of the Colorado River System.

In late 2014, Arizona Department of Water Resources and Central Arizona Project (CAP) signed the Memorandum of Understanding (MOU) (http://www.usbr.gov/lc/region/g4000/LB_DroughtResponseMOU.pdf) with the U.S. Bureau of Reclamation, California, Nevada and municipal water agencies to attempt to develop a new approach to begin addressing the potential for shortage. This agreement identifies proactive and voluntary actions to develop between 1.5 to 3 million acre-feet of new water

for Lake Mead by the end of 2019. CAP's goal is to store 345,000 acre-feet of water – or approximately four feet of elevation – in Lake Mead between 2014 and 2017. The combined benefit of this agreement may result in a 10-foot elevation boost to the lake.

BYPASS FLOWS



Opportunities for activities to be undertaken in the Yuma area to conserve water in Lake Mead included bypass flows which are predominantly comprised of drainage pumping from the Wellton-Mohawk Irrigation and Drainage District. The bypass flows, over 100,000 acre-feet of pumped agricultural drainage water that bypasses the Colorado River, are not included in water deliveries to Mexico due to salinity management constraints and therefore contribute to declining water surface elevations at Lake Mead.

The Bypass Flow Workgroup was convened and co-chaired by the Arizona Department of Water Resources and the US Bureau of Reclamation. The group was developed with the goal of aiding in the reduction of further declines of Colorado River reservoirs by identifying, analyzing and recommending a set of options that collectively conserve at least 100,000 acre-feet of water annually in Lake Mead by reducing, replacing or recovering a like amount of the bypass flows in a fiscally, legally, bi-nationally and environmentally responsible manner.

Recommendations of the Bypass Flows Workgroup
(/sites/default/files/WorkgroupFinalReportFinal.pdf)

[Overview \(/crm\)](#)

[Law of the River \(/crm/law-river\)](#)

[Colorado River Allocation \(/crm/colorado-river-allocation\)](#)

[Operations & Planning \(/crm/operations-planning\)](#)

[Environmental Compliance \(/crm/environmental-compliance\)](#)

[Bi-National Negotiations \(/crm/bi-national-negotiations\)](#)

[Shortage Preparedness \(/crm/shortage-preparedness\)](#)

[Current Conditions \(/crm/dashboard\)](#)

[Contact Us \(/crm/contact-us\)](#)

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