

September 2, 2021

# NOTICE OF REGULAR MEETING OF THE COLORADO RIVER BOARD

**NOTICE IS HEREBY GIVEN** pursuant to the call of the Chairperson, Peter Nelson, by the undersigned Executive Director of the Colorado River Board of California that a regular meeting of the Board Members is to be held as follows:

Date: Wednesday, September 15, 2021
Time: 10:00 a.m.
Place: Pursuant to Governor Newsom's Executive Order N-29-20 (March 17, 2020), this meeting will be held virtually via the Zoom Webinar platform. Board members will receive instructions separately. The public are welcome to attend. Attendees may access this meeting using the following: Webinar Link: <u>https://us02web.zoom.us/j/82544813935</u>
Telephone: US: +1 669 900 9128, enter Meeting ID: 825 4481 3935, followed by #; then press # again to connect.

The Colorado River Board of California welcomes any comments from members of the public pertaining to items included on this agenda and related topics. If members of the public wish to make a comment regarding items on the agenda, there are three options for consideration: (1) Public comments may be submitted by electronic mail, and **should be addressed to the Board's Chairman, Mr. Peter Nelson, at <u>crb@crb.ca.gov</u> and will be accepted up until 10:00 a.m. on the day of the meeting; (2) During the meeting, members of the public may submit comments by participating in the Zoom Webinar and utilizing the "Q&A" feature in the control panel; or (3) By calling into the Zoom Webinar using the telephone number above and pressing <b>\*9** to "Raise Hand." Please note, written submissions will be read aloud at the public comment period to the extent they fit within the five-minute time limit.

If accommodations from individuals with disabilities are required, such persons should provide a request at least 24 hours in advance of the meeting by electronic mail to the Board's staff member, Mr. Brian Alvarez at <u>balvarez@crb.ca.gov</u>.

Requests for additional information may be directed to: Mr. Christopher S. Harris, Executive Director, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, CA 91203-1068, or 818-500-1625. A copy of this Notice and Agenda may be found on the Colorado River Board's web page at <u>www.crb.ca.gov</u>.

A copy of the meeting agenda is attached.

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Christopher S. Harris Executive Director

770 Fairmont Avenue, Suite 100 · Glendale, California 91203-1068 · Telephone: (818) 500-1625 · crb.ca.gov

# Regular Meeting COLORADO RIVER BOARD OF CALIFORNIA Wednesday, September 15, 2021 10:00 a.m.

At the discretion of the Board, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated upon and may be subject to action by the Board. Items may not necessarily be taken up in the order shown.

# COVID-19 BOARD OPERATIONS NOTICE

The Board is following guidance provided by Governor Newsom, pursuant to Executive Order N-29-20 (March 17, 2020), for adhering to the Bagley-Keene Act's open meeting requirements.

- 1. Call to Order
- 2. Opportunity for the Public to Address the Board<sup>1</sup> (Limited to 5 minutes)
- 3. Administration

a. Consideration and approval of July 14, 2021, Board meeting Minutes (Action)

- 4. Colorado River Basin and Local Water Supply and Operations Reports
- 5. Colorado River Basin Programs Staff Reports
- 6. Executive Session<sup>2</sup>
- 7. Other Business
- 8. Future Agenda Items/Announcements

**Next Scheduled Board Meeting:** 

October 13, 2021 10:00 a.m., Pacific (Tentatively via Webinar)

<sup>&</sup>lt;sup>1</sup> In accordance with California Government Code, Section 54954.3(a).

<sup>&</sup>lt;sup>2</sup> An Executive Session may be held by the Board pursuant to provisions of Article 9 (commencing with Section 11120) of Chapter 1 of Part 1 of Division 3 of Title 2 of the Government Code and Sections 12516 and 12519 of the Water Code to discuss matters concerning interstate claims to the use of Colorado River System waters in judicial proceedings, administrative proceedings, and/or negotiations with representatives from the other Basin states or federal government.

# Minutes of Meeting COLORADO RIVER BOARD OF CALIFORNIA Wednesday, July 14, 2021

A meeting of the Colorado River Board of California (Board) was held virtually on Wednesday, July 14, 2021, using the Zoom Webinar meeting platform.

Board Members and Alternates Present:

David DeJesus (MWD Alternate) Dana B. Fisher, Jr. (PVID) John B. Hamby (IID) Jeanine Jones (DWR Designee) Henry Kuiper (Public Member) Delon Kwan (LADWP Alternate)

Board Members and Alternates Absent:

Castulo Estrada (CVWD Alternate) James Hanks (IID Alternate) Christopher Hayes (DFW Designee)

Others Present:

Steven Abbott Brian Alvarez Justina Arce Jim Barrett Robert Cheng **Dennis** Davis JR Echard Tim Gobler Melissa Haley Emily Halvorsen **Bill Hasencamp** Christopher Harris Joanna Hoff Michael Hughes Sarai Jimenez Lisa Johansen **Rich Juricich** Eric Katz Larry Lai

Jim Madaffer (SDCWA) Peter Nelson, Chairman (CVWD) Glen D. Peterson (MWD) David R. Pettijohn (LADWP) Mark Watton (SDCWA Alternate)

Jack Seiler (PVID Alternate) David Vigil (DFW Alternate)

Laura Lamdin **Enrique Martinez** Cary Meister Dylan Mohamed Jessica Neuwerth Jessica Rangel Shana Rapoport Angela Rashid Kelly Rodgers Shanti Rosset Tom Ryan Roberta Saligumba Keith Scoular **Tina Shields** Margaret Vick Cherie Watte Jav Weiner Meena Westford Jerry Zimmerman

# CALL TO ORDER

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:02 a.m.

## **OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD**

Chairman Nelson invited members of the audience to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Nelson moved to the next item on the agenda.

# **ADMINISTRATION**

Chairman Nelson asked for a motion to approve the June 9, 2021, meeting minutes. Mr. Madaffer moved that the minutes be approved, seconded by Mr. Pettijohn. By roll-call vote, the minutes were unanimously approved.

# **COLORADO RIVER BASIN WATER REPORTS**

## **Colorado River Basin Report**

Mr. Juricich reported that as of July 12<sup>th</sup>, the water level at Lake Powell was 3,557.98 feet with 8.17 million-acre feet (MAF) of storage, or 34% of capacity. The water level at Lake Mead was 1,068.08 feet with 9.05 MAF of storage, or 35% of capacity. He noted that both reservoirs are experiencing historically low conditions. The total system storage was 24.47 MAF, or 41% of capacity, which is 6.65 MAF less than system storage at this time last year. Mr. Juricich explained that the reservoir conditions have dramatically fallen in comparison to last year, partly due the dry spring precipitation conditions.

Mr. Juricich reported that as of July 1<sup>st</sup>, the unregulated inflow into Lake Powell for Water Year-2021 (WY-2021) is 3.23 MAF, or 30% of normal and the WY-2021 forecasted April to July inflow to Lake Powell is 1.75 MAF, or 24% of normal. WY-2021 unregulated inflow into Lake Powell is projected to be the second lowest on record, behind WY-2002. For WY-2021, the observed June inflow to Lake Powell was 0.81 MAF, or 30% of normal. The July inflow forecast to Lake Powell is 0.10 MAF, or 30% of normal. To date, the WY-2021 precipitation in the Upper Colorado River Basin is 74% of normal.

Mr. Harris reported on the proposed Upper Basin DCP drought operations. He stated that on July 8<sup>th</sup>, the Bureau of Reclamation (Reclamation) informed Lower Basin state representatives that it was contemplating implementation of supplementary releases from Colorado River Storage Project (CRSP) Initial Units above Lake Powell pursuant to emergency action provisions of the Sections II.A.3.j. and II.A.4.e. of the Upper Basin DCP Drought Response Operations Agreement (DROA). Mr. Harris explained that the rationale behind these releases is to bolster storage in Lake Powell. He added that Lake Powell's elevation is falling rapidly and there is a high probability that the elevation will fall below the critical elevation of 3,525 feet, which could increase the risk of cavitation-related damage to the turbines in the Glen Canyon power plant facility.

Mr. Harris reported that Reclamation proposes to release about 180,000 AF of additional water supplies from Flaming Gorge, Blue Mesa and Navajo Reservoirs between July to December, with the bulk of the supplies coming from Flaming Gorge reservoir. He added that Reclamation determined that the 180,000 AF is needed to stave off the reservoir reaching the elevation of 3,490 feet. Reclamation will begin to incorporate the supplemental releases into the July 24-Month Study.

Mr. Harris reported that the seven Basin States will be putting together a letter of support for Reclamation's emergency action. He also explained that the emergency provisions give the Secretary the discretion to take action even above and beyond those contemplated by the Upper Basin states in the other section of the DROA.

Chairman Nelson asked for more clarity about the potential of cavitation-related damage to Lake Powell's turbines. Mr. Harris stated that Reclamation believes that the turbines risk cavitation-related damage between the elevation of 3,525 feet and 3,490 feet. Mr. Harris also explained that the bulk of supplementary releases will be released from Flaming Gorge and then Aspinall later in the summer.

Mr. Juricich reported that on July 8<sup>th</sup>, Reclamation released the updated five-year projections for the system based on June 2021 conditions using the CRSS model. Mr. Juricich stated that the updated results project a 79% chance that Lake Powell will fall below its target water-surface elevation of 3,525 feet sometime next year. In addition, beyond 2022, there is a 5% chance that Lake Powell will fall below the minimum power pool elevation of 3,490 feet in 2023 and a 17% chance in 2024. He added that the longer-term projections show a 58% and 21% chance that Lake Mead will decline to the critical elevation of 1,025 and 1,000 feet by 2025, respectively.

Mr. Juricich reported that the second and third consultation for the 2022 Annual Operating Plan for the Colorado River Reservoirs are scheduled for July 22<sup>nd</sup> from 10 am to 1 pm, PDT and August 31<sup>st</sup> from 11 am to 2 pm, PDT. He stated that the annual operating plan highlights the operating condition for this year and the projects for next year.

Mr. Juricich reported that Reclamation scheduled a webinar to discuss the results of the August 2021 Most Probable 24-Month Study on Monday, August 16<sup>th</sup>. Mr. Juricich explained that the August 24-Month Study sets the operating conditions for both Lakes Powell and Mead for the next year based on the projected of the January 1<sup>st</sup> elevation of 2022.

Mr. Juricich continued the Colorado River Water Report stating that precipitation conditions in May were below average for most of the Basin. He stated that an early June push of monsoonal moisture northward toward Colorado led to much above average precipitation in southwestern and central Colorado.

Mr. Juricich presented the end of month elevations for the June 24-Month Study. He reported that the most probable release for 2021 is 8.23 MAF release from Lake Powell in WY2021, followed by a 7.48 MAF release in WY 2022. Mr. Juricich explained that Lake Powell is anticipated to drop lower than the 2005 level of 3,555 feet beginning in July 2021. He added that Lake Mead is expected to stay below the elevation of 1,075 feet for the rest of the year, which will trigger a shortage condition in 2022 for the first time.

Mr. Juricich reported that through July 1<sup>st</sup>, the Brock and Senator Wash regulating reservoirs captured 64,664 AF and 37,432 AF, respectively. He also reported that the excess deliveries to Mexico were 17,582 AF, compared to 48,053 AF last year. Finally, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 59,360 AF.

Mr. Peterson inquired whether monsoonal rains could be quantified. Mr. Juricich responded that Reclamation tracks the monsoonal activity as intervening side inflows in the region between Glen Canyon and Lake Mead, as well as the area between Hoover Dam and Imperial Dam. Mr. Juricich stated CRB Staff will provide additional information regarding Reclamation's tracking of monsoonal activity and intervening side inflows.

## **State and Local Report**

Ms. Jones, representing the California Department of Water Resources (DWR), reported that the end of the water year is nearing and many regions in California have received 30% to 50% of average precipitation. She noted that a number of basins may rank second, in terms of runoff, with 1977 being the driest year of statewide runoff. Ms. Jones reported that as of July 1<sup>st</sup>, statewide reservoir storage is 61% of average. She stated that the reservoir storage represents 154 reservoirs and the large central valley reservoirs represent 71% of the statewide storage. She stated that Shasta, Oroville and Folsom are substantially lower than average.

Ms. Jones reported that the Governor expanded the drought emergency proclamation to cover fifty counties, excluding the city and county of San Francisco and many Southern California counties. She stated that there is an extreme moisture deficit in the climate system and we need

substantially above average precipitation to get average runoff. She noted that the Colorado River Basin received nearly 70% of precipitation to date but only close to 30% of runoff into Lake Powell, stating that it illustrates how precipitation and runoff relationship changes in dry conditions. She added that DWR conducted some preliminary modeling with USGS and found that 140% of average rainfall is needed to get 100% of runoff. She also noted that the National Oceanic Atmospheric Administration (NOAA) has also forecasted a 66% chance of a La Nina condition for this fall and winter season for California. She noted that La Nina conditions often brings dry conditions to Southern California.

Responding to a question from Mr. Harris, regarding the State Water Project's projected allocation, Ms. Jones stated that allocation would be 5% unless precipitation conditions improve.

Mr. Peterson, representing The Metropolitan Water District of Southern California (MWD), reported that MWD's storage capacity is 82%. He noted that MWD has diverted 516,000 AF and MWD will operate on an eight-pump flow through the summer. MWD's consumption is 97% of average and its target for Coachella and Desert Water Agency is 15,000 AF. He added that at the end of the year, MWD will have 2.5 MAF in storage in all of its accounts.

### **California Guiding Principles**

Board Staff Ms. Neuwerth reported that Board staff was working with California stakeholders to develop a set of California Guiding Principles, intended to serve as a set of high-level consensus-based goals and objectives for the next set of System operating guidelines. Ms. Neuwerth reported that eleven guiding principles were drafted and included in the Board folder. She noted that the principles would likely remain flexible in order to incorporate changes to California's priorities throughout the development of the next set of guidelines.

Mr. Harris noted that the process to develop the guidelines served as the catalyst for collaboration among California's Colorado River agencies. He reported that the principles fell into several categories, including foundational, process-based, and solution-oriented. Mr. Harris thanked agency staff for their time and effort in the development of the guiding principles.

#### STATUS OF COLORADO RIVER BASIN PROGRAMS

### **Status of Salinity Control Program**

Mr. Juricich provided an update on the Colorado River Salinity Control Program including a summary of Colorado River Basin Salinity Control Forum, Advisory Council, and Forum Work Group meetings held on June 4, 7, 9, and 10, to further implementation of the Salinity Control Program. Mr. Juricich reported on the current low flow and high salinity conditions in Dolores River at the Paradox Valley Unit (PVU) salinity control project. The Dolores River is showing the negative impacts associated with the continued shutdown of the existing PVU brine injection well. The injection well is likely to remain shut down through 2023 while Reclamation conducts seismic hazard and risk assessment. Reclamation has selected a firm to evaluate potential effects of the extended shut down of the injection well, and Reclamation will work with the Forum to explore new options to replace the injection well.

Mr. Juricich also reported that the Advisory Council approved funding for two new salinity studies under the Basinwide Studies, Investigations and Research Program. Both studies will fund the U.S. Geological Survey (USGS) to collect two years of quarterly water quality data during 2022 and 2023. The data will be used to determine a salt budget for the study areas, which could then be used to determine the viability of salinity projects in the future. The first study, with a cost of \$28,000, will support the USGS to conduct salinity sampling and analysis in the Lower Colorado River at a location below the Colorado River Indian Tribes (CRIT) lands, AZ. The second study, with a cost of \$20,000, will support the USGS to conduct salinity sampling and analysis in the Upper Basin near Squaw Gulch, Colorado at the Cimmaron Canal.

Mr. Juricich summarized a presentation provided by Reclamation on the current state of analytical tools to provide short-term forecasts of salinity conditions under low reservoir levels. It was reported that there is a time lag of approximately 2 years from when high salinity levels reach Lake Powell and when they are observed downstream at Lake Mead. Reclamation has a tool, CE-QUAL-W2, that has the ability to consider total dissolved solids in the reservoirs.

Mr. Robert Cheng asked if there is any information about the trends in salinity in Lake Mead. Mr. Juricich responded that information was collected on Lake Mead salinity by Reclamation, and that staff would report back at a future Board meeting. Mr. Harris responded that Reclamation has long established monitoring stations below Hoover Dam, below Parker Dam and at Imperial Dam.

Mr. Juricich reported that Board staff have been tracking the recurrence of spikes in total dissolved solids (TDS) concentrations in the Lower Colorado River since 2019 when an increase in TDS concentrations was observed in the water supplies conveyed in the All-American and Coachella Branch Canals. Mr. Juricich presented information on TDS data associated with various water quality sampling locations along the Lower Colorado River from January 2019 through May 2021 and historical information as far back as 2010.

Mr. Harris commented that there are several potential causes for the observed spikes in salinity concentration in the Colorado River below Parker Dam, including reduced flows in the winter, return flows, and geologic conditions. The next step is to engage with other Lower Basin entities, Reclamation, and potentially the US Geological Survey to conduct additional monitoring and mitigation options.

Chairman Nelson commented that both he and Director Hanks are concerned about the winter spikes in salinity, especially for winter vegetables.

Member Hamby commented that he has had conversations with staff about IID's engagement with the Salinity Control Forum.

Member Watton asked for clarification on the current conditions with salinity and the treaty requirements with Mexico. Mr. Harris responded that it is manageable right now. A bigger challenge is the potential for reduced flows and the difficulty in blending water and saline drainage water.

Chairman Nelson commented that the California agencies develop salt and nutrient management plans that are approved by the Regional Water Quality Control Boards.

Member Watton asked if the agencies must add additional water to flush the root zones, and how that affects water use. Chairman Nelson responded that water schedules include additional water for leaching salts. Member Hamby responded that the fresher the water supply is the less water is needed for leaching salts from soils.

Mr. Harris commented that salinity is a rising priority for the River, and the Basin needs to develop a replacement for the Paradox Valley Unit project. Without implementation of a feasible alternative, its inoperability will result in an additional 100,000 tons of salt in the water supply.

Member Fisher commented that he has seen spikes in *e. coli* in the River and has wondered if there is a correlation between *e. coli* and salinity spikes. This is a concern for production of winter vegetables. Mr. Harris responded that staff will further explore this issues and report back to the Board.

## **Glen Canyon Dam Adaptive Management Program**

Ms. Neuwerth reported that the Technical Work Group (TWG) for the Glen Canyon Dam Adaptive Management Program met via webinar on June 16-17. Ms. Neuwerth reported that the group reviewed the 2021 budget and work plan and recommended several projects that could be pursued if additional funding became available. Ms. Neuwerth also noted that the group discussed the potential ecological effects of an anticipated 7.48 MAF release from Glen Canyon Dam in WY-2022. The group reviewed the ecological conditions observed after the only previous release of 7.48 MAF, which occurred in 2014. The potential WY2022 low release volume would likely coincide with unusually warm water temperatures, which Ms. Neuwerth noted could offer an advantage to both native fish and warmwater nonnative fish.

In response to a question from Chairman Nelson on future Glen Canyon Dam Adaptive Management Program funding, Ms. Neuwerth noted that over the last few years, program funding has been vacillating between power revenues and Congressional appropriations. Ms. Neuwerth stated that if power revenues are no longer available or available in lower amounts, the program would likely rely more heavily on appropriated funds.

Finally, Ms. Neuwerth noted that the Adaptive Management Work Group would meet via webinar on August 18-19.

# Lower Colorado River Multi-Species Conservation Program

Ms. Neuwerth reported that the Steering Committee for the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) met via webinar on June 23<sup>rd</sup>. The group reviewed and approved the *Final Implementation Report*, *FY22 Work Plan and Budget*, *FY20 Accomplishment Report*, which is prepared annually to review previous activities and direct future activities.

Ms. Neuwerth also reported that a fire burned more than 1,250 acres of the Bill Williams National Wildlife Refuge in late June, adjacent to LCR MSCP habitat.

# **U.S. Fish and Wildlife Service Announcements**

Ms. Neuwerth reported that the U.S. Fish and Wildlife Service (USFWS) had recently made two major announcements regarding listed species. On July 7<sup>th</sup>, the USFWS published a proposal to downlist the razorback sucker from endangered to threatened. Ms. Neuwerth reported that the species has been listed as endangered since 1991 and is the subject of stocking and management programs in the Upper and Lower Basins. In its proposed rule, the USFWS reported that there are currently seven populations of razorback sucker across the Basin, although most of these populations are sustained by stocking. Ms. Neuwerth reported that the downlisting would still provide for strong protections for the razorback sucker, while allowing for some flexibility for accidental or even intentional take of the species in some management or angling situations.

Ms. Neuwerth reported that the USFWS also finalized delisting of the Kanab ambersnail, which is found in areas of southwestern Utah and one area of the Grand Canyon. Recent genetic testing indicated that the species was not genetically distinct from regional ambersnail populations and therefore did not meet the definition of an endangered species.

# **GENERAL ANNOUNCEMENTS**

# **Salinity Spikes**

Mr. Juricich reported on salinity spikes in the lower Colorado River. Mr. Juricich stated that Board staff have been tracking the recurrence of spikes in the total dissolved solids since 2019. Mr. Juricich and Mr. Harris indicated that reduced flows released out of Lake Mead; bank discharge; and, winter rains flushing sediments from the local geologic outcrops, may contribute to the spikes. Mr. Juricich noted that Board staff will continue to evaluate available water quality data from Reclamation.

#### **Basin States Technical Meeting**

Mr. Harris reported on the Basin States Technical meetings held on June 28-30. Mr. Harris stated that technical representatives of the Basin states met in Denver, Colorado to kick-off a process to develop and review technical assumptions and parameters to be utilized in modeling long-term Colorado River reservoir system operations and identification of impacts to the water supply conditions. Mr. Harris also reported on the CRSS sensitivity analysis. Mr. Harris indicated that the CRSS sensitivity analysis will evaluate and identify key drivers including hydrologies, depletion demand schedules, existing operational policies and then identify key metrics, including impacts to Lakes Powell and Mead elevations and annual release volumes; and, that the technical workgroup will continue to develop CRSS sensitivity analysis over the summer.

# Webinar: Trends in Recent Historical and Projected Climate Data for the Colorado River Basin and Potential Effects on Groundwater Availability

Mr. Juricich presented a summary of a June 16, 2021, webinar organized for the California Agencies with presentations from the USGS and Reclamation on their report published in November 2020 on groundwater trends in the Upper and Lower Colorado River Basins. The report documents the data, methods, and results from the investigation of recent historical and projected climate data, and simulated, projected groundwater infiltration in the Colorado River Basin.

#### Washington, D.C. Updates

Mr. Harris reported on the Six States Colorado River Basin Letter. Mr. Harris indicated that the six Basin States sent a letter to Chairman Grijalva, the Chair of the House Natural Resources Committee, on June 28. 2021, expressing support for the investments and opportunities identified by SNWA in testimony and responses to questions following the May 25th western water hearing.

Mr. Harris reported on administrative nominations. Mr. Harris stated that the Senate voted unanimously to confirm Ms. Tanya Trujillo to the Department of Interior's Assistant Secretary for Water and Science, which oversees Reclamation and the USGS; Mr. Tommy Beaudreau was confirmed as the Deputy Secretary of the Interior; Ms. Radhika Fox was confirmed as the Assistant Administrator for EPA's Office of Water; and, Ms. Camille Touton was nominated to be the

Commissioner of the Bureau of Reclamation on June 18, 2021.

Mr. Harris reported on the White House infrastructure negotiations. Mr. Harris stated that the White House recently reached a bipartisan agreement with 22 senators on the framework of an infrastructure proposal. Mr. Harris also reported on the House Transportation Bill. Mr. Harris noted that the House passed the \$715B Invest Act, which reauthorizes the nation's surface transportation funding programs and includes drinking and wastewater provisions.

Mr. Harris reported that there have been several bills introduced in Congress to address the ongoing western drought crisis. Mr. Harris noted that Sen. Barrasso introduced S. 2158, the Western Water Infrastructure Act, which would provide millions of funding for WaterSMART water recycling and desalination. Mr. Harris concluded by stating that Rep. Valadao introduced the NEED Water Act, which would extend the WIIN Act in its entirety and mandate several actions to manage water resources in the Central Valley and State Water Projects.

# Next Scheduled Board Meeting

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be held on August 11, 2021, and would also be held virtually using the Zoom Webinar meeting platform.

# **ADJOURNMENT**

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:54 a.m.

9/7/2021

#### LOWER COLORADO WATER SUPPLY REPORT

River Operations

Bureau of Reclamation

#### Questions: BCOOWaterops@usbr.gov

(702)293-8373 http://www.usbr.gov/lc/region/g4000/weekly.pdf

		Content	Elev. (Feet	7-Day
	PERCENT	1000	above mean	Release
CURRENT STORAGE	FULL	ac-ft (kaf)	sea level)	(CFS)
LAKE POWELL	31%	7,517	3,549.04	10,700
* LAKE MEAD	35%	9,030	1,067.86	11,400
LAKE MOHAVE	<b>94</b> %	1,701	643.09	12,400
LAKE HAVASU	95%	588	448.39	8,000
TOTAL SYSTEM CONTENTS **	39%	23,521		
As of 9/6/2021				
SYSTEM CONTENT LAST YEAR	50%	29,540		

\*Percent based on capacity of 26,120 kaf or elevation 1,219.6 feet. \*\*Total System Contents includes Upper & Lower Colorado River Reservoirs, less Lake Mead exclusive flood control space.

Salt/Verde System	72%	1,643		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	10%	103	1,114.14	25
Forecasted Water Use for Calendar Year	2021 (as of 9/7/20	21) (values in k	af)	
NEVADA			257	
SOUTHERN NEVADA WATER SYSTEM				231
OTHERS				26
CALIFORNIA			4,388	
METROPOLITAN WATER DISTRICT OF CA	LIFORNIA			1,075
IRRIGATION DISTRICTS				3,296
OTHERS				17
ARIZONA			2,441	
CENTRAL ARIZONA PROJECT				1,365
OTHERS				1,076
TOTAL LOWER BASIN USE				7,087
DELIVERY TO MEXICO - 2021 (Mexico So	cheduled Delivery + Pro	eliminary Yearly Ex	cess)	1,492
OTHER SIGNIFICANT INFORMATION			/	
UNREGULATED INFLOW INTO LAKE POWELL -	SEPTEMBER FINAL FO		/2021 ACRE-FEET	% of Normal
FORECASTED WATER YEAR 2021		MILLION	3.561	33%
OBSERVED APRIL-JULY 2021			1.850	26%
AUGUST OBSERVED INFLOW			0.294	20% 59%
SEPTEMBER INFLOW FORECAST			0.200	49%
		Upper Colorad		t/Verde Basin
WATER YEAR 2021 PRECIP TO DATE		82% (24		80% (21.1")
CURRENT BASIN SNOWPACK		NA% (NA	•	NA% (NA)

<sup>1</sup> Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.



CY 2021

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Y 2021

325

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Forecast Use, ac-f

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#### ARIZONA, CALIFORNIA, NEVADA, MEXICO

FORECAST OF END OF YEAR CONSUMPTIVE USE FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS <sup>1</sup>

(ACRE-FEET)

WATER USE SUMMARY	Use To Date CY 2021	Forecast Use CY 2021	Approved Use <sup>2</sup> CY 2021	Exce App CY
ARIZONA	1,731,113	2,441,030	2,440,705	
CALIFORNIA	3,182,417	4,388,295	4,388,295	
NEVADA	184,102	257,447	257,447	
STATES TOTAL 3	5 007 000	7 000 770	7 000 447	
STATES TOTAL	5,097,632	7,086,772	7,086,447	
TOTAL DELIVERIES MEXICO IN SATISFACTION OF TREATY REQUIREMENTS <sup>4</sup>	1.149.618	1,456,682		
CREATION OF MEXICO'S RECOVERABLE WATER SAVINGS <sup>5</sup>	1 . 1			
	9,923	41,000		
CREATION OF MEXICO'S WATER RESERVE 6	36,994	37,341		
DELIVERY OF MEXICO'S WATER RESERVE 7	(29,349)	(35,023)		
TOTAL TO MEXICO IN SATISFACTION OF TREATY REQUIREMENTS 8	1,167,186	1,500,000		
TO MEXICO IN EXCESS OF TREATY 9	23,547	34,860		
WATER BYPASSED PURSUANT TO IBWC MINUTE NO. 242 10	82,675	120,376		
TOTAL LOWER BASIN & MEXICO 11	6,353,472	8,698,690		

Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS.

Use to date has been updated through April for users reporting monthly and estimated for users reporting annually.

These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.

Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona

Department of Water Resources, Colorado River Board of California, and Reclamation.

Includes deliveries to Mexico at the Northerly International Boundary (including delivery from Mexico's Water Reserve), Southerly International Boundary, Limitrophe, and Diversion Channel Discharge; and diversions at Parker Dam for Emergency Delivery to Tijuana;

does not include Creation of Mexico's Water Reserve or Creation of Mexico's Recoverable Water Savings. Water deferred by Mexico pursuant to Section IV of IBWC Minute 323 and the Joint Report of the Principal Engineers with the Implementing

Details of the Binational Water Scarcity Contingency Plan in the Colorado River Basin, dated July 11, 2019. (Mexico's required Binational Water Scarcity Contingency Plan Contribution).

Water deferred by Mexico pursuant to Section V of IBWC Minute 323.

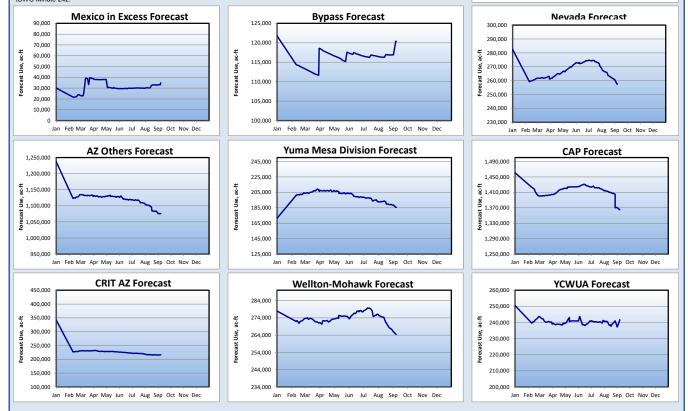
Delivery from Mexico's Water Reserve pursuant to Section V.E.13 of IBWC Minute 323. Pursuant to Sections VIII.A and VIII.B of IBWC Minute 323, this water is being delivered for environmental purposes within Mexico.

In accordance with the procedure documented in USIBWC's letter to the Mexican Section of the IBWC dated July 25, 2017 regarding the the calculation process applied when accounting for the quantity and quality of the volumes of Mexico's Water Reserve and Mexico's Recoverable Water Savings during creation and delivery, "Total Delivery to Mexico in Satisfaction of Treaty Requirements" adds in Mexico's Water Reserve and Mexico's Recoverable Water Savings creation and subtracts out Mexico's Water Reserve and Mexico's Recoverable Water Savings delivery.

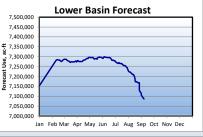
Mexico excess forecast is based on the 5-year average for the period 2015-2019.

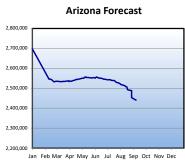
Bypass forecast is based on the average for the period 1990-2019.

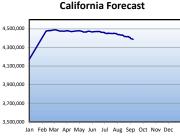
Includes States Total, Deliveries to Mexico in Satisfaction of Treaty, To Mexico in Excess of Treaty, and Water Bypassed Pursuant IBWC Minute 242.



Graph notes: January 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates a use rate equal to schedule. Lower priority users such as CAP, MWD, and Robt.B. Griffith may adjust use rates to meet state entitlements as higher priority use deviates from schedule. Abrupt changes in the forecast use line may be due to a diversion schedule change or monthy updating of provisional realtime diversions.







#### Sep 07, 2021 10:56:43 AM

BUREAU OF RECLAMATION LOWER COLORADO BASIN REGION

CY 2021

NOTE: • Diversions and uses that are pending approval are noted in red

Italics. • Water users with a consumptive use entitlement - Excess to Estimated Use column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement. • Water user with a diversion entitlement - Excess to Approved Diversion column indicates overnu/underrun of entitlement. Dash in this column indicates water user has a consumptive use entitlement.

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e to

ARIZONA WATER USERS

FORECAST OF END OF YEAR CONSUMPTIVE USE FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

Historic Use Records (Water Acc inting Reports)

				Excess to				Excess
	Use	Forecast	Estimated	Estimated	Diversion	Forecast	Approved	Approv
	To Date	Use	Use	Use	To Date	Diversion	Diversion	Diversi
WATER USER	CY 2021	CY 20						
ARIZONA PUMPERS	12,152	15,828	15,828		18,695	24,351	24,351	
LAKE MEAD NRA, AZ - Diversions from Lake Mead	57	74	74		57	74	74	
LAKE MEAD NRA, AZ - Diversions from Lake Mead	153	220	220		153	220	220	
DAVIS DAM PROJECT	2	2	2		13	17	17	
BULLHEAD CITY	5,330	7,896	8,163		8,332	12,330	12,720	-3
MOHAVE WATER CONSERVATION DISTRICT	519	676	676		775	1,010	1,010	
BROOKE WATER LLC	219	321	323		329	482	485	
MOHAVE VALLEY I.D.D.	10.353	14.706	15,932		19,170	27.229	29,503	-2,2
FORT MOJAVE INDIAN RESERVATION, AZ	28,844	36,620	44,550		53,414	67,814	82,500	-14,6
GOLDEN SHORES WATER CONSERVATION DISTRICT	220	286	286		328	427	427	
HAVASU NATIONAL WILDLIFE REFUGE	3.464	4.073	3,564		28.860	36.004	41.835	-5,8
LAKE HAVASU CITY	5,636	8,451	9,021		9,091	13,631	14,550	-3,0
			9,021				14,550	-9
CENTRAL ARIZONA PROJECT	918,213	1,364,957			918,213	1,364,957		
TOWN OF PARKER	391	508	430		603	875	917	-
COLORADO RIVER INDIAN RESERVATION, AZ	186,827	216,143	226,280		375,649	496,317	509,647	-13,3
EHRENBURG IMPROVEMENT ASSOCIATION	178	232	232		250	325	325	
CIBOLA VALLEY 1	11,558	14,720	15,618		16.164	20,588	21,843	-1,2
CIBOLA NATIONAL WILDLIFE REFUGE	11,388	14,264	14,264	0	18,368	23,005	23,005	,
IMPERIAL NATIONAL WILDLIFE REFUGE	2,637	3,799	3,799	Ō	4,253	6,128	6,128	
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	648	844	844	0	997	1,299	1,299	
	887					1,299		4
CHA CHA, LLC		1,257	1,365		1,365		2,100	-1
BEATTIE FARMS	579	774	722		891	1,193	1,110	
YUMA PROVING GROUND	367	492	516		367	492	516	-
GILA MONSTER FARMS	3,224	4,351	5,273		5,871	7,861	9,156	-1,2
WELLTON-MOHAWK IDD	197,147	264,454	278,000	-13,546	286,430	400,487	412,965	-12,4
BLM PERMITEES (BELOW IMPERIAL DAM)	57	74	74	0	88	114	114	
CITY OF YUMA	9,320	14,333	16,201	-1,868	16,995	25,861	27,500	-1,6
MARINE CORPS AIR STATION YUMA	896	1,261	1,320		896	1,261	1,320	-
UNION PACIFIC RAILROAD	19	27	29		33	48	48	
UNIVERSITY OF ARIZONA	721	1,005	1,005		721	1,005	1,005	
YUMA UNION HIGH SCHOOL DISTRICT	96	137	150		130	185	200	
								-
DESERT LAWN MEMORIAL	18	23	23		25	33	33	
NORTH GILA VALLEY IRRRIGATION DISTRICT	7,267	9,932	11,563		31,203	43,983	44,200	-2
YUMA IRRIGATION DISTRICT	26,659	37,307	37,835		51,016	71,436	69,900	1,5
YUMA MESA I.D.D.	97,053	138,407	150,455		159,037	226,299	242,080	-15,7
UNIT "B" IRRIGATION DISTRICT	12,935	18,186	20,816		18,678	25,998	29,400	-3,4
FORT YUMA INDIAN RESERVATION	1,147	1,494	1,494		1,765	2,299	2,299	
YUMA COUNTY WATER USERS' ASSOCIATION	173,260	241,665	242,377		237,038	346,398	360,400	-14,0
COCOPAH INDIAN RESERVATION	498	1,004	1,686		589	1,364	2,585	-1,2
RECLAMATION-YUMA AREA OFFICE	174	227	227		174	227	227	-,-
RETURN FROM SOUTH GILA WELLS	174	221	221		174	221	221	
RETORIN FROM SOUTH GILA WELLS								
TOTAL ARIZONA	1 701 110	2 444 020	2 500 727		2,287,026	2 255 564	0.047.514	
TOTAL ARIZONA	1,731,113	2,441,030	2,500,737		2,207,020	3,255,561	3,347,514	
045	040.010	4 004 057				4 004 057		
CAP	918,213	1,364,957				1,364,957		
ALL OTHERS	812,900	1,076,073	1,131,237			1,890,604	1,978,014	
YUMA MESA DIVISION, GILA PROJECT	130,979	185,646	199,853	-14,207		341,718		
ARIZONA ADJUSTED APPORTIONMENT CALCULATION								
Arizona Basic Apportionment		2,800,000						
System Conservation Water - Pilot System Conservation Program <sup>2</sup>								
		(360)						
System Conservation Water - Colorado River Indian Tribes (CRIT) 3		(50,000)						
System Conservation Water - Fort McDowell Yavapai Nation (FMYN) 4		(13,933)						
System Conservation Water - Mohave Valley I.D.D. (MVIDD) 5		(6,925)						
System Conservation Water - Gila River Indian Community (GRIC) <sup>6</sup>								
		(40,000)						
Creation of Extraordinary Conservation ICS - CRIT (Estimated) 7.9		(4,685)						
Creation of Extraordinary Conservation ICS - GRIC (Estimated) <sup>8,9</sup>		(40,000)						
Arizona DCP Contribution <sup>10</sup>		(203,392)						
Total State Adjusted Apportionment		2,440,705						
Excess to Total State Adjusted Apportionment		325						

Estimated Allowable Use for CAP

Includes the following water users within the Cibola Valley: Cibola Valley IDD, Arizona Game and Fish Commission, GSC Farms, Red River Land Co., Western Water, and the Hopi Tribe <sup>2</sup> The estimated amount of System Conservation Water that will be created by the City of Bullhead City pursuant to System Conservation Implementation Agreement (SCIA) No. 15-XX-30-W0587, as amended. This System Conservation Water will remain in Lake Mead to benefit system storage.

<sup>3</sup> System Conservation Water to be created by CRIT pursuant to the Agreement Among the United States of America, Through the Department of the Interior, Bureau of Reclamation, the State of Arizona,

1,364,154

Voluntary Water Conservation and Reductions in use During Calendar Years 2020-2022. This System Conservation Water will remain in Lake Mead to benefit system storage.

<sup>4</sup> CAP water being conserved by FMYN pursuant to SCIA No. 20-XX-30-W0688, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of the Drought Contingency Plan Agreement annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin.

<sup>5</sup> System Conservation Water to be created by MVIDD pursuant to SCIA No. 20-XX-30-W0686, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of the LB DCP Agreement, Reclamation intends to apply this water towards the Secretary's commitment to create or conserve 100,000 AF per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin.

<sup>6</sup> CAP water being conserved by GRIC pursuant to SCIA No. 21-XX-30-W0713, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of the LB DCP

of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin.

<sup>7</sup> CRIT has been approved to create up to 4.685 AF of Extraordinary Conservation (EC) ICS in 2021. The actual amount of EC ICS created by CRIT will be based on final accounting and verification. <sup>8</sup> CAP water being conserved by GRIC in 2021 to create EC ICS. The actual amount of EC ICS created by GRIC will be based on final accounting and verification.

<sup>9</sup> When combined with the approved EC ICS creation amounts of other ICS Creators in the state of Arizona, the total amount of EC ICS approved for creation in the state of Arizona is 110,185 AF, which exceeds the state's annual creation limit set forth in Section XI.G.3.B.4 of the 2007 Interim Guidelines. In accordance with Section XI.G.3.B.4 and Section IV.B of the *Lower Basin Drought Contingency Operations* (LBOps), the total amount of EC ICS that may be created by the states of Arizona is Of Arizona's California, and Nevada in 2021 will be limited to 625,000 AF. Additionally, the total amount accumulated in Arizona's ICS accounts will be limited in accordance with Section IV.C. of LBOps.

<sup>10</sup> In accordance with Sections III B 1 a and III E 4 of LBOps, the state of Arizona is required to make a DCP Contribution in the total amount of 203.392 AF in 2021. This includes the annual contribution motoclashe with the Agreement Regarding Lower Basin Drought Contribution Deficiency amount of 11,992 AF, as shown in Table 23 in the 2020 Colorado River Accounting and Water Use Report. In accordance with the Agreement Regarding Lower Basin Drought Contribution Deficiency Plan Obligations, it is currently anticipated that the required DCP Contribution will be made by the

has been approved to create up to 60,500 AF of EC ICS in 2021. The actual amount of EC ICS created by CAWCD and credited toward the DCP Contribution will be based on final accounting and verification

NOTES: Click on Arizona Schedules and Approvals above for incoming diversion schedules and approvals.



NOTE:

Diversions and uses that are pending approval are noted in *red italics* Water users with a consumptive use entitlement - Excess to
 Estimated Use column indicates overrun/underrun of entitlement. Dash
 in this column indicates water user has a diversion entitlement.
 Water user with a diversion entitlement - Excess to Approved
 Diversion column indicates overrun/underrun of entitlement. Dash in
 this column indicates water user has a consumptive use entitlement.

LOWER COLORADO BASIN REGION CY 2021

#### CALIFORNIA WATER USERS

FORECAST OF END OF YEAR CONSUMPTIVE USE FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

California Schedules and Approvals

Historic Use Records (Water Accounting Reports)

				Excess to				Excess to
	Use	Forecast	Estimated	Estimated	Diversion	Forecast	Approved	Approved
	To Date	Use	Use	Use	To Date	Diversion	Diversion	Diversion
WATER USER	CY 2021	CY 2021	CY 2021	CY 2021	CY 2021	CY 2021	CY 2021	CY 2021
CALIFORNIA PUMPERS	1,124	1,464	1,464		2,031	2,646	2,646	0
FORT MOJAVE INDIAN RESERVATION, CA	5,568	7,085	8,996		10,349	13,169	16,720	-3,551
CITY OF NEEDLES (includes LCWSP use)	920	1,391	1,605	-214	1,482	2,144	2,261	-117
METROPOLITAN WATER DISTRICT	705,415	1,075,067			707,418	1,077,858		
COLORADO RIVER INDIAN RESERVATION, CA	3,849	5,014	5,014		6,378	8,307	8,307	0
PALO VERDE IRRIGATION DISTRICT	292,428	363,988	428,620		596,029	801,029	865,000	-63,971
YUMA PROJECT RESERVATION DIVISION	25,246	38,338	46,687		52,995	80,290	90,394	-10,104
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT					29,301	41,596	45,384	-3,788
YUMA PROJECT RESERVATION DIVISION - BARD UNIT					23,694	38,694	45,010	-6,316
YUMA ISLAND PUMPERS	1,359	1,770	1,770		2,456	3,199	3,199	0
FORT YUMA INDIAN RESERVATION - RANCH 5	820	1,143	938		1,485	2,068	1,696	372
IMPERIAL IRRIGATION DISTRICT <sup>1</sup>	1,885,856	2,526,617	2,622,800	-96,183	1,925,811	2,600,997	2,694,973	
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	
COACHELLA VALLEY WATER DISTRICT	259,219	365,619	379,000	-13,381	273,343	385,969	390,812	
OTHER LCWSP CONTRACTORS	405	527	527		708	922	922	0
CITY OF WINTERHAVEN	48	63	63		70	91	91	0
CHEMEHUEVI INDIAN RESERVATION	160	209	209		8,706	11,340	11,340	0
	0 400 447	4 000 005			0.500.004	4 000 000	5 470 004	
TOTAL CALIFORNIA	3,182,417	4,388,295			3,589,261	4,990,029	5,172,834	
CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION								
California Basic Apportionment		4,400,000						
System Conservation Water - Pilot System Conservation Program <sup>2</sup>		(145)						
IID Creation of Extraordinary Conservation ICS - Stored in Lake Mead (Estir	nated) <sup>3</sup>	(1,579)						
Ind Greation of Extraordinary Conservation ICS - Stored In Lake Mead (EStill	nateu)	(1,579)						

MWD Creation of Extraordinary Conservation ICS (Estimated) <sup>4</sup> Total State Adjusted Apportionment

Excess to Total State Adjusted Apportionment

#### Estimated Allowable Use for MWD

As shown here, IID's Approved Diversion and Estimated Use values reflect the maximum amount of Colorado River water available to IID in 2021.

<sup>2</sup> System Conservation Water to be conserved by the City of Needles pursuant to System Conservation Implementation Agreement No. 15-XX-30-W0596, executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

(9,981)

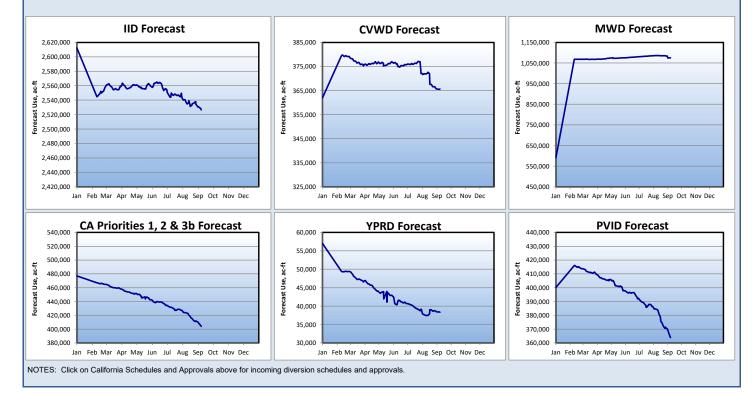
0

4 388 295

1,085,048

<sup>3</sup> IID has been approved to create up to 62,000 AF of "Additional Conserved Water" in 2021 for purposes including, but not limited to, the creation of ICS. Due to limitations set forth in the California ICS Agreement, IID may currently only store up to 1,579 AF in its Lake Mead ICS Account. Should IID elect to use "Additional Conserved Water" to create and credit EC ICS to the ICS account of another California contractor through application of Section XI.G.3.B.8 of the 2007 Interim Guidelines, IID must first obtain written agreement of the contractor. The actual amount of "Additional Conserved Water" created by IID in 2021 will be based on final accounting and verification.

<sup>4</sup> MWD has been approved to create up to 450,000 AF of EC ICS in 2021, less the amount of EC ICS created by IID, and further limited to the amount that, when added to the EC ICS created by the states of Arizona and Nevada, does not exceed 625,000 AF. The actual amount of EC ICS created by MWD will be based on final accounting and verification.





NOTE:

 Diversions and uses that are pending approval are noted in red italics.
 Water users with a consumptive use entitlement - Excess to Estimated Use column indicates overrun/underrun of entitlement.

Dash in this column indicates water user has a diversion entitlement. • Water user with a diversion entitlement - Excess to Approved Diversion column indicates overrun/underrun of entitlement. Dash in

this column indicates water user has a consumptive use entitlement.

LOWER COLORADO BASIN REGION CY 2021

NEVADA WATER USERS

FORECAST OF END OF YEAR CONSUMPTIVE USE

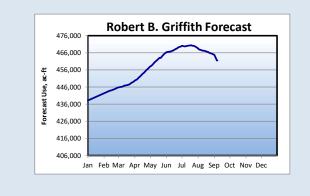
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

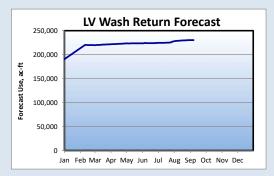
Nevada Schedules and Approvals

Historic Use Records (Water Accounting Reports)

WATER USER ROBERT B. GRIFFITH WATER PROJECT (SNWS) LAKE MEAD NRA, NV - Diversions from Lake Mead LAKE MEAD NRA, NV - Diversions from Lake Mohave BASIC MANAGEMENT INC. CITY OF HENDERSON (BMI DELIVERY) NEVADA DEPARTMENT OF WILDLIFE PACIFIC COAST BUILDING PRODUCTS INC. BOULDER CANYON PROJECT BIG BEND WATER DISTRICT FORT MOJAVE INDIAN TRIBE	Use To Date <u>CY 2021</u> 328,177 403 170 3,924 6,161 8 646 132 1,476 2,164	Forecast Use <u>CY 2021</u> 461,432 861 307 6,832 11,186 12 915 172 2,904 2,955	Estimated Use <u>CY 2021</u> 452,709 1,500 500 8,208 15,878 12 928 172 4,733 4,020	Excess to Estimated Use <u>CY 2021</u> 8,723   0  0	Diversion To Date <u>CY 2021</u> 328,176 403 170 3,924 6,161 620 646 230 3,061 3,231	Forecast Diversion <u>CY 2021</u> 461,431 861 307 6,832 11,186 1,030 915 300 6,090 4,411	Approved Diversion <u>CY 2021</u> 452,709 1,500 500 8,208 15,878 1,000 928 300 10,000 6,000	Excess to Approved Diversion <u>CY 2021</u> 8,722 -639 -193 -1,376 -4,692  -13 0 0 -3,910 -1,589
LAS VEGAS WASH RETURN FLOWS	-159,159	-230,129	-221,394		5,251	4,411	0,000	-1,509
TOTAL NEVADA	184,102	257,447	267,266	8,723	346,622	493,363	497,023	-3,690
SOUTHERN NEVADA WATER SYSTEM (SNWS) ALL OTHERS NEVADA USES ABOVE HOOVER	169,018 15,084 180,462	231,303 26,144 251,588				461,431 31,932 482,862		
NEVADA USES BELOW HOOVER	3,640	5,859				10,501		
<b>Tributary Conservation (TC) Intentionally Created Surplus (ICS)</b> Southern Nevada Water Authority (SNWA) Creation of TC ICS (Approved) <sup>1</sup>		43,000						
NEVADA ADJUSTED APPORTIONMENT CALCULATION Nevada Basic Apportionment SNWA Creation of Extraordinary Conservation (EC) ICS (Estimated) <sup>2</sup> Total State Adjusted Apportionment Excess to Total State Adjusted Apportionment	-	300,000 (42,553) 257,447 0						

<sup>1</sup> SNWA has been approved to create up to 43,000 AF of TC ICS in 2021. The actual amount of TC ICS created by SNWA will be based on final accounting and verification. <sup>2</sup> SNWA has been approved to create up to 100,000 AF of EC ICS in 2021. The actual amount of EC ICS created by SNWA will be based on final accounting and verification. The total amount accumulated in Nevada's ICS accounts will be limited in accordance with Section IV.C. of the *Lower Basin Drought Contingency Operations*.





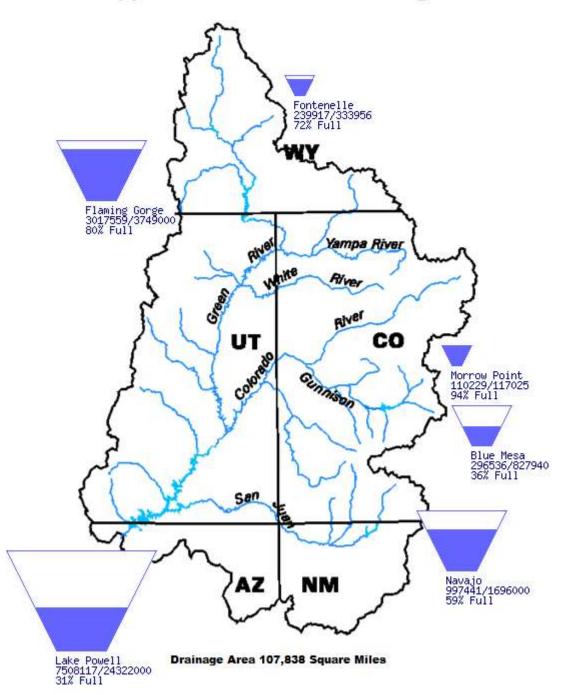
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

# **Upper Colorado Region Water Resources Group**

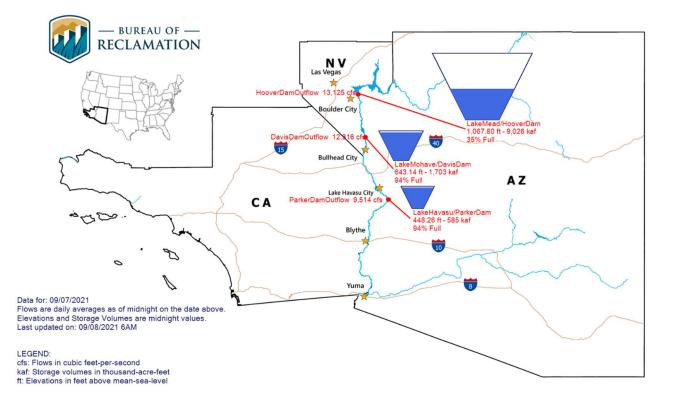
**River Basin Tea-Cup Diagrams** 

Data Current as of: 09/07/2021

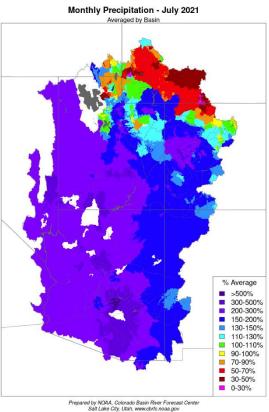
# Upper Colorado River Drainage Basin



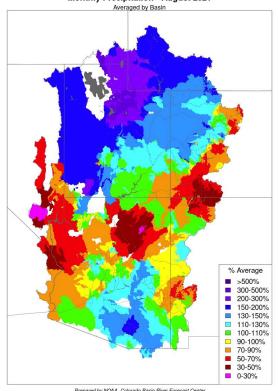
# Lower Colorado River Teacup Diagram



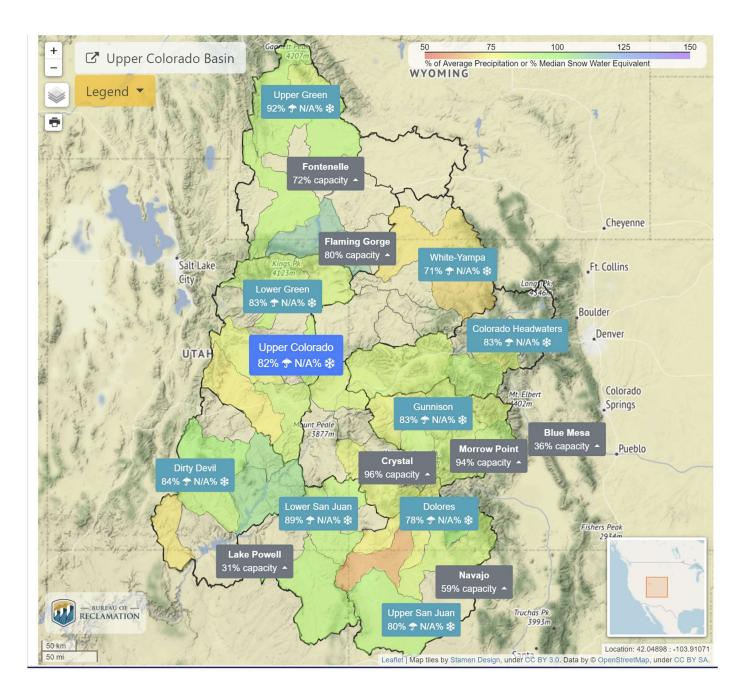
# NOAA National Weather Service Monthly Precipitation Map July and August 2021



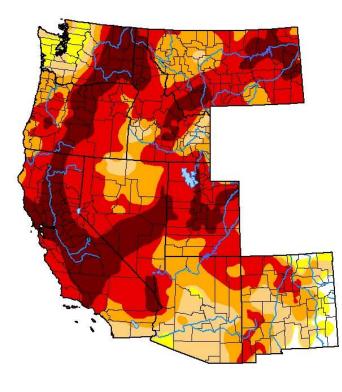
Monthly Precipitation - August 2021



Prepared by NOAA, Colorado Basin River Forecast Center Salt Lake City, Utah, www.cbrfc.noaa.gov



# U.S. Drought Monitor West



#### August 31, 2021 (Released Thursday, Sep. 2, 2021) Valid 8 a.m. EDT

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.67	98.33	94.97	83.13	60.51	22.81
Last Week 08-24-2021	1.69	98.31	94.95	83.70	60.68	23.51
3 Month s Ago 06-01-2021	3.99	96.01	87.24	71.98	52.79	26.18
Start of Calend ar Year 12-29-2020	13.52	86.48	75.49	63.25	45.40	23.76
Start of Water Year 09-29-2020	9.96	90.04	73.14	51.29	32.19	2.50
One Year Ago 09-01-2020	17.13	82.87	63.68	45.90	16.85	0.00

#### Intensity: None

D0 Abnormally Dry

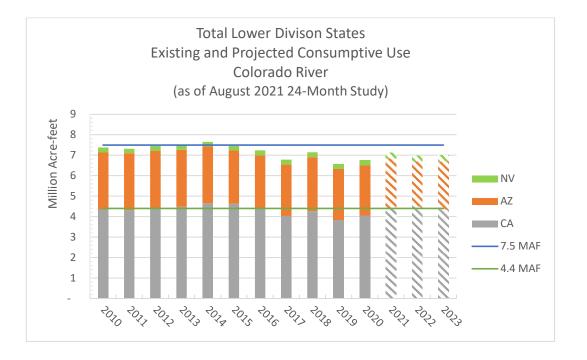
D2 Severe Drought D3 Extreme Drought D1 Moderate Drought D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author: David Simeral Western Regional Climate Center

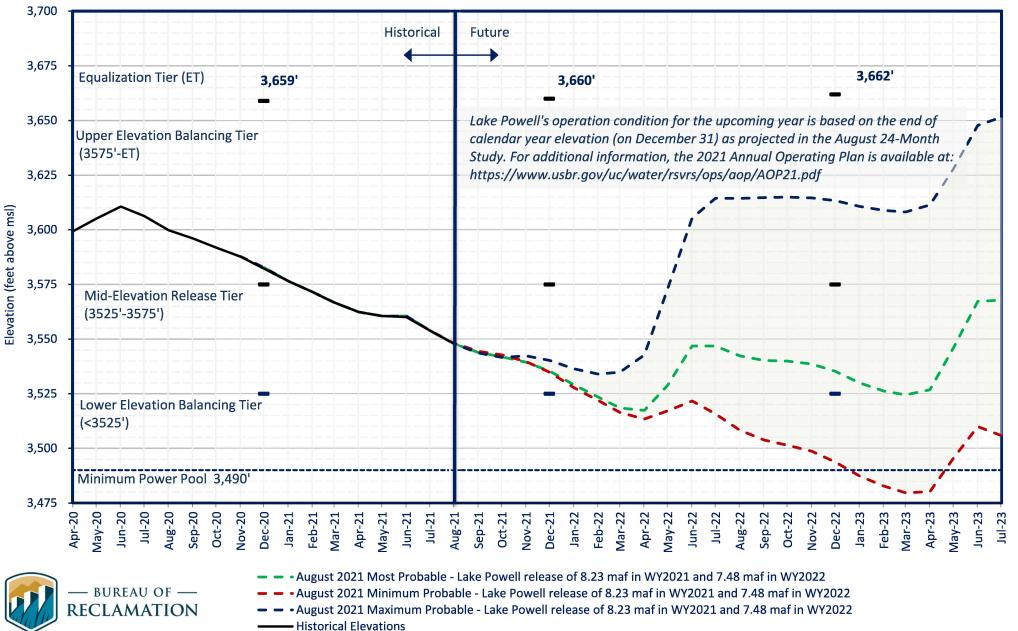


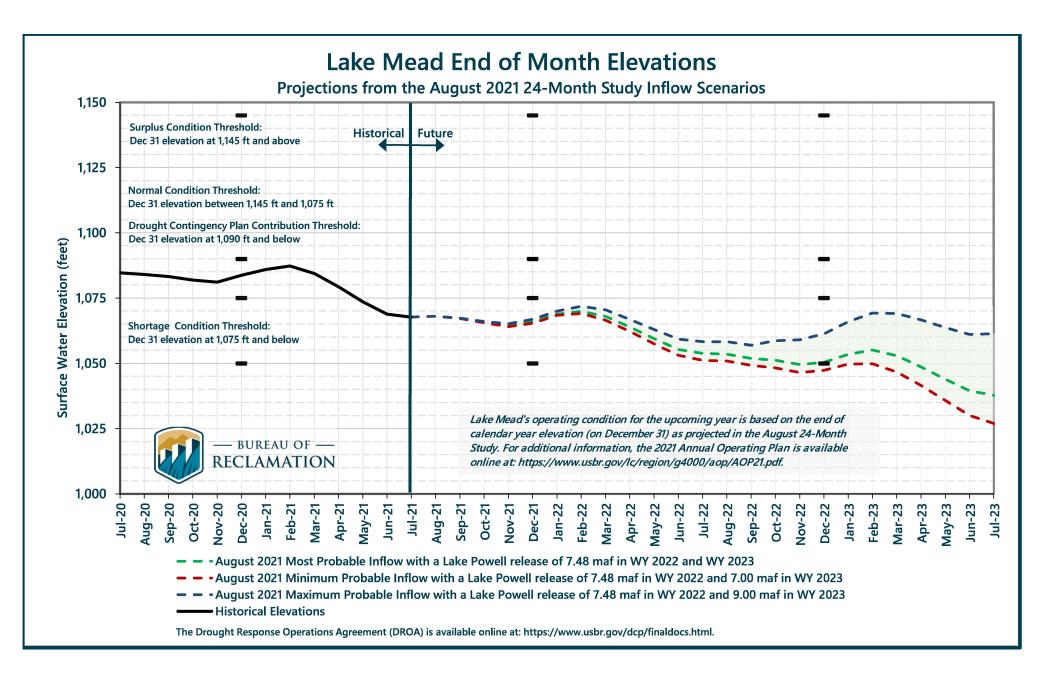
droughtmonitor.unl.edu

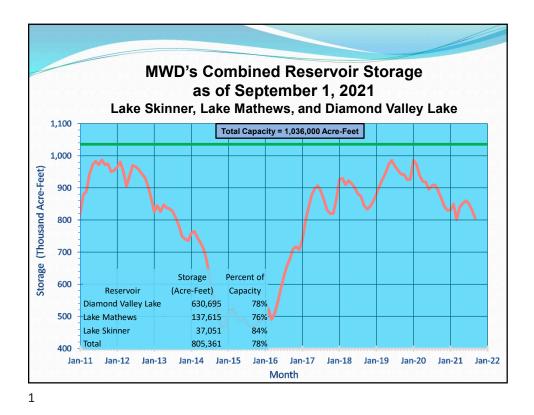


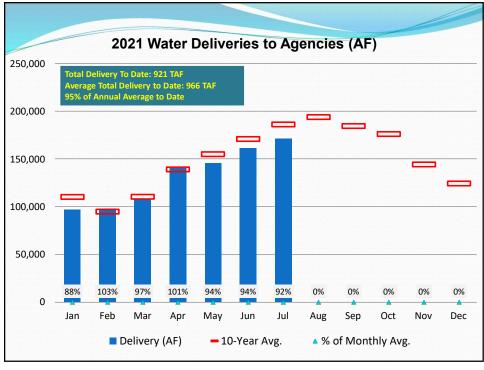
# Lake Powell End of Month Elevations

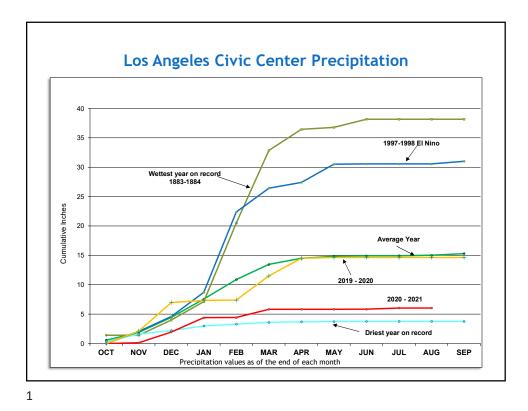
Projections from the August 2021 24-Month Study Inflow Scenarios



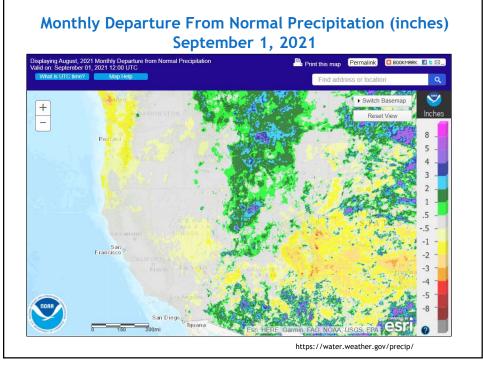


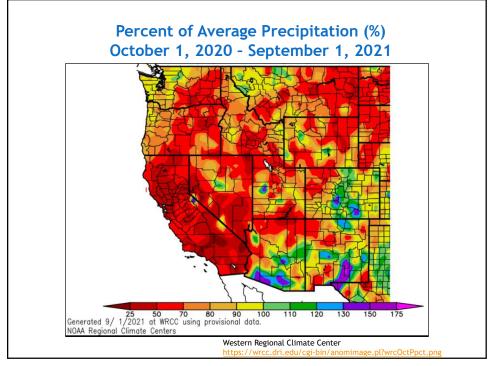


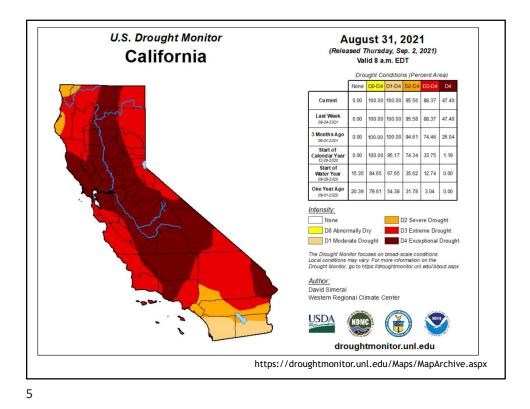


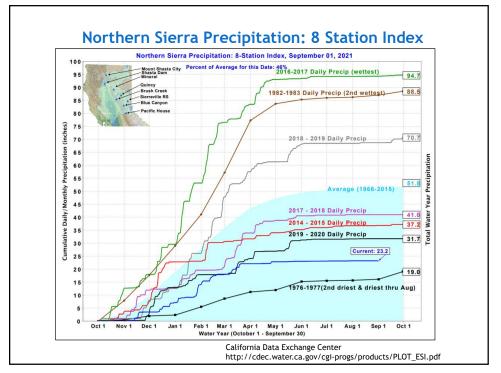


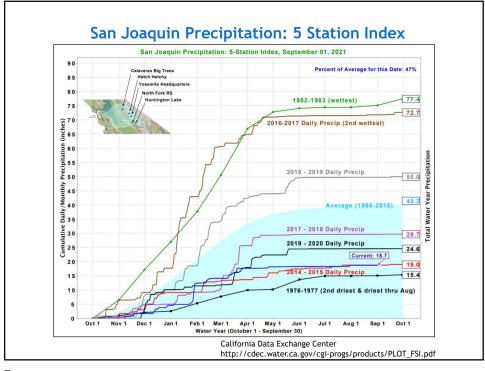
From O	ctober 1	, 2020 to Augus	t 31, 202	1
	Precip	itation in inches	Average	Percent of
Station	Aug	Oct 1 to Aug 31	to Date	Average
San Luis Obispo	0.00	8.32	22.18	38%
Santa Barbara	0.00	5.96	17.57	34%
Los Angeles	0.00	6.06	14.92	41%
San Diego	0.23	4.62	9.98	46%
Blythe	0.00	1.15	3.42	34%
Imperial	0.00	0.00	2.59	0%

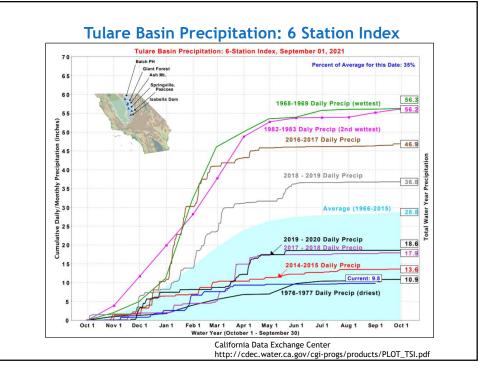












	2020 Storage (acre-feet)		2021 Storage (acre-feet)		
		As of	% of	As of	% of
Reservoir	Capacity	Aug 31	Cap.	Sep 1	Cap.
Frenchman	55,475	37,625	68%	27,817	50%
Lake Davis	84,371	56,324	67%	42,809	51%
Antelope	22,564	17,977	80%	14,252	63%
Oroville	3,553,405	1,705,516	48%	798,577	22%
TOTAL North	3,715,815	1,817,442	<b>49</b> %	883,455	24%
Del Valle	39,914	33,780	85%	35,117	88%
San Luis	2,027,835	974,253	48%	272,007	13%
Pyramid	169,901	166,681	<b>98</b> %	167,626	99%
Castaic	319,247	292,153	<b>92</b> %	90,798	28%
Silverwood	74,970	69,117	<b>92</b> %	67,116	90%
Perris	132,614	124,169	<b>94</b> %	111,839	84%
TOTAL South	2,764,481	1,660,153	60%	744,503	27%

As of March 23, 2021, the Table A allocations for SWP contractors is 5%.

