



April 27, 2023

## **NOTICE OF REGULAR MEETING OF THE COLORADO RIVER BOARD OF CALIFORNIA**

**NOTICE IS HEREBY GIVEN** pursuant to the call of the Chairman, J.B. Hamby, by the undersigned Executive Director of the Colorado River Board of California that a regular meeting of the members of the board is to be held as follows:

Date:	Wednesday, May 10, 2023
Time:	<b>10:00 AM</b>
Place:	Monterey City Hall Council Chambers 580 Pacific Street Monterey, CA 93940

The Colorado River Board of California welcomes any comments from members of the public pertaining to items included on this agenda and related topics. Members of the public may provide comments in the following ways: (1) Oral comments can be provided at the beginning of each board meeting; and (2) Public comments may be submitted by electronic mail, addressed to the board's Chairman, J.B. Hamby, at [crb@crb.ca.gov](mailto:crb@crb.ca.gov) and will be accepted up until 10:00 a.m. on the day of the meeting. 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 for individuals with disabilities are required, such persons should provide a request at least 24 hours in advance of the meeting by electronic mail to board staff at [crb@crb.ca.gov](mailto:crb@crb.ca.gov).

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. A copy of this Notice and Agenda may be found on the Colorado River Board's web page at [www.crb.ca.gov](http://www.crb.ca.gov).

A copy of the meeting agenda, showing the matters to be considered and transacted, is attached.



## **REGULAR MEETING AGENDA**

### **Wednesday, May 10, 2023 — 10:00 AM**

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.

#### **CALL TO ORDER**

#### **PUBLIC COMMENTS** (Limited to 5 minutes.)

#### **ADMINISTRATION**

1. Consideration and approval of Board Resolution honoring Mr. Glen Peterson for his service as Board Member **(Action)**
2. Consideration and approval of meeting minutes of the March 15<sup>th</sup>, 2023 board meeting **(Action)**
3. Consideration and approval of resolution on application for Lower Colorado River Water Supply Project **(Action)**
4. Presentation of Draft Colorado River Board of California FY-2023/2024 Budget **(Information)**
5. FY-2022/2023 Accomplishments Report and FY-2023/2024 Planned Activities Report **(Information)**

#### **REPORTS**

6. Local and State Water Supply and Operations Reports
7. Colorado River Basin Water Supply and Operations Reports
8. Colorado River Basin Programs Staff Reports
9. Member Agency Reports
10. Executive Director's Report

11. Chairman's Report  
**EXECUTIVE SESSION<sup>1</sup>**

**OTHER BUSINESS**

**FUTURE AGENDA ITEMS & ANNOUNCEMENTS**

**ADJOURNMENT**

**Next Scheduled Board Meeting**

Date:	Thursday, June 15, 2023
Time:	10:00 AM
Place:	Los Angeles TBD

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<sup>1</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.



**RESOLUTION OF THE  
COLORADO RIVER BOARD OF CALIFORNIA**

**HONORING**

**GLEN PETERSON**

WHEREAS, the water and power resources of the Colorado River are vital to the State of California and its citizens; and

WHEREAS, the Colorado River Board of California represents and protects California's water and power interests within the Colorado River Basin, consistent with the Law of the River, through negotiations and dialogue with the other Colorado River Basin states and the federal government; and

WHEREAS, Mr. Glen Peterson was appointed to the Colorado River Board in 2013 by Governor Jerry Brown, representing the Metropolitan Water District of Southern California, adding to an active and ongoing career in water resources management and public service; and

WHEREAS, Mr. Peterson demonstrated a tireless dedication to advancing the interests of the Metropolitan Water District and the many Californians served by the MWD during a time when the Colorado River Basin faced significant and multifaceted challenges; and

WHEREAS, during Mr. Peterson's tenure, the Board has tackled topics from the routine to the unprecedented, including historically low runoff and reservoir levels, drought contingency planning, the impending decommissioning of key salinity control infrastructure, and regular Board administration tasks, all of which Mr. Peterson met with equal discernment, practicality, and directness, and by his example encouraged a general spirit of inquisitiveness among the Board; and

WHEREAS, in addition to Mr. Peterson's contributions to the Colorado River Basin, he served over 32 years on the board of the Las Virgenes Municipal Water District, including multiple terms as board president, and he continues to serve as LVMWD's representative on MWD's Board of Directors, a role he has held since 1993; and

NOW, THEREFORE, BE IT RESOLVED that the Colorado River Board of California recognizes and honors the many contributions of Mr. Glen Peterson to the State of California and its water users during his tenure as member of the Colorado River Board; and

BE IT FURTHER RESOLVED that the Colorado River Board of California and its staff extend their gratitude to Glen and his family for his service as a Board member and anticipate his continued contributions to water resources management in California.

Unanimously adopted on the 10<sup>th</sup> day of May 2023.

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J.B. Hamby, Chairman



Minutes of Meeting  
COLORADO RIVER BOARD OF CALIFORNIA  
Wednesday, March 15, 2023

A meeting of the Colorado River Board of California (Board) was held on Wednesday, March 15, 2023, at the San Diego County Water Authority, 4677 Overland Avenue, San Diego, CA 92123.

Board Members and Alternates Present:

Dana B. Fisher, Jr. (PVID)

John B. Hamby, Chairman (IID)

Jeanine Jones (DWR Designee)

Delon Kwan (LADWP Alternate)

Jim Madaffer, Vice Chairman (SDCWA)

Glen D. Peterson (MWD)

Jack Seiler (PVID Alternate)

Board Members and Alternates Absent:

Gary Croucher (SDCWA Alternate)

Castulo Estrada (CVWD Alternate)

David De Jesus (MWD Alternate)

James Hanks (IID Alternate)

Christopher Hayes (DFW Designee)

David R. Pettijohn (LADWP)

Peter Nelson (CVWD)

David Vigil (DFW Alternate)

Others Present:

Nick Bahr

Gloria Cordero

Dennis Davis

Dan Denham

Gina Dockstader

Jackie Duran

JR Echard

David Edwards

Tom Eib

Craig Elmore

Ray Face

Chris Harris

Alex Heide

Geoff Holbrook

Rich Juricich

Sandy Kerl

Aaron Mead

Jessica Neuwerth

Shana Rapoport

David Rheinheimer

Eric Ruckdaschel

Alexi Schnell

Tina Shields

Peter Silva

Darren Simon

Cesar Solis

Gary Tavetian

Meena Westford

Jerry Zimmerman

## **CALL TO ORDER**

Chairman Hamby announced the presence of a quorum and called the meeting to order at 10:05 a.m.

Vice Chairman Madaffer reported that before the meeting, there was tour of two SDCWA facilities that highlight investments made toward drought-resilient water supplies in the San Diego region. He stated that the first stop of the tour was to the Carlsbad Desalination Plant, which came online in 2015 and produces over a hundred billion gallons of fresh drinking water. He added that the plant allows SDCWA to offset its Colorado River water use. He stated that the tour also visited the construction site of the East County Advanced Purification Program, which will produce 30% of the east county's drinking water demand. Construction of the facility will be completed in 2026.

## **REMARKS FROM CONGRESSMAN SCOTT PETERS**

Vice Chairman Madaffer introduced Congressman Scott Peters and stated he and Congressman Peters met each other on the campaign trail in 1999, when they were both running for the San Diego City Council. He stated that they served together for eight years from 2000 to 2008. He added that Congressman Peters was elected in 2012 for Congress and represents the 50<sup>th</sup> Congressional district which includes the cities of Coronado, San Marcos, Escondido, and Coastal San Diego. He stated Congressman Peters serves on the House of Representatives Energy and Commerce Committee, House Budget Committee, and the House Equality Caucus. Vice Chairman Madaffer stated that Mr. Peters is focused on practical climate change policies and promotes San Diego's activities in innovation.

Vice Chairman Madaffer stated that Congressman Peters also advocates for San Diego's pivotal role as a partner in national defense. He stated that Congressman Peters was with President Biden earlier in the week. He added that Congressman Peters understands that problems have bi-partisan solutions and is never afraid to work across party lines to get things done.

Congressman Peters stated that he is a big fan of Vice Chairman Madaffer and that he was a driver of much of the energy on the San Diego City Council. He added that his staff from Washington D.C accompanied him on this trip, and some of them are working on water issues. He also stated that he hoped that his discussion today would be a two-way discussion that would hopefully educate himself and the Board. He stated the Colorado River Basin provides water for 40 million people, with 20 million people living in Southern California and of that, 3 million live in



San Diego County. He stated that the Colorado River's annual flow has decreased over the past few decades due to the worst drought in the last 120 years. He stated it would take five or more years of increased rain to help alleviate the drought in the Colorado River Basin. He stated that Lake Powell's elevation is declining and getting closer to a dead pool situation. He remains optimistic that a solution will be found.

Congressman Peters addressed some of the solutions SDCWA has implemented to address challenging water situation, such as water transfers from Imperial Irrigation District (IID) and desalination. He stated that he and Vice Chairman Madaffer were early proponents of "black-water" recycling. He stated that San Diego County has also reduced its water demand, noting that water use is down by 40% between 1990 and 2022. He stated that California farms are adopting methods to conserve water and make crops more resilient to drought, which will protect the industry from drought field losses, protect jobs and conserving water while maintaining a thriving agricultural economy—which is essential to California. He stated that one-third of the country's vegetables, and three-quarters of the country's fruits, and nuts are grown in California. He stated that his top priority, going forward, is for San Diego, Sacramento, and Washington to work together to finalize a consensus-based approach to maintain California's water use rights along the Colorado River. He stated that California has been a model in investments in water recycling, water conservation and efficiency and other states should do the same.

Congressman Peters stated that the Inflation Reduction Act (IRA), Congress provided \$4 billion in drought relief funds that can be used for land fallowing, canal lining, land leveling and installation of drain ditches, in the agricultural sector, and in urban areas, the funds can be used for turf replacement and installation of drought tolerant landscaping. He stated that he would like to use his remaining speaking time to hear from the Board about which projects should be part of federal funding. He stated that he would like to know how federal legislatures can support a "Seven-state" solution and other steps the federal government can take to be more supportive.

Chairman Hamby remarked that a few weeks ago he travelled to Washington, D.C to provide a briefing for members of the California delegation and their staff on Colorado River Basin issues and how California is dealing with them. He stated that California has stepped up and committed an additional 400,000 AF per year of water conservation over the next few years on top of the existing Lower Basin Drought Contingency Plan obligations. He stated that California has also been collaborating effectively with its sister states and water users across the Basin, particularly in the Lower Basin. Chairman Hamby stated that the federal government could help with assisting Arizona in developing a robust set of water management strategies and activities similar to California's Quantification Settlement Agreement (QSA), adopted in 2003. He stated

that there are a number of tribes that are dependent on water supplies from the Central Arizona Project (CAP) and those obligations and commitments need to be back-stopped so Arizona can be provided with the certainty it needs going forward in this era of limited supplies. He stated that everyone needs to be more efficient about how Colorado River water is used. He stated that the winter hydrology season has been phenomenally good within California and across the Colorado River Basin, but these conditions will not address long-term challenges.

Congressman Peters inquired whether the counterparts in Arizona have considered this issue. Vice Chairman Madaffer stated that there is a receptiveness within Arizona to developing a plan similar to the QSA, but it will require funding and a real commitment by the Department of the Interior (DOI) leadership to step in and help guide the process. He added he believed that California would be supportive of the development of the plan. Congressman Peters remarked that it is important for the Board and other stakeholders to reach out to and educate members of Congress and their staff about these issues to build relationships with them. Vice Chairman Madaffer stated that Ms. Tina Shields from Imperial Irrigation District (IID), presented to the House of Representatives on California's Colorado River issues. He added that the trip brought together staff from IID, SDCWA, and The Metropolitan Water District of Southern California (MWD) to meet with Congress to discuss and find solutions to Colorado River issues.

Ms. Jones, representing the California Department of Water Resources (DWR), stated that more funding is needed for the National Oceanic and Atmospheric Administration (NOAA) for precipitation forecasting. She stated that California's "whiplash" weather this year, shows that better long-range forecasting is needed. She stated that California's Senators have written a letter requesting additional funding for NOAA, stating that she would like Congressman Peters' signature on the letter.

Congressman Peters remarked that it is not always necessary to travel to Washington, DC to educate Congress members about these issues and recommended meeting with them via Zoom. Executive Director Harris added that he speaks with staff from Senators Feinstein and Padilla twice a month and offered Congressman Peters updates to his staff as well.

Board member Fisher thanked Congressman Peters for his comments and stated that he was a farmer. He stated that agriculture is the only sector that can contribute to the diminished flows of the Colorado River. He added that this is a difficult solution for many disadvantaged communities that are dependent on agricultural production to fuel their local economies. He stated that farmers are compensated for providing conserved water, but it diminishes the local economies of many disadvantaged, Hispanic communities, which do not have voice about these issues. Congressman Peters stated that he would like to better understand the issue. Board

member Fisher stated there is a lot funding to find solutions to Colorado River issues and funding should also be made available to disadvantaged communities dealing with these issues as well.

Chairman Hamby thanked Congressman Peters for his time and noted the development of the current Farm bill. He stated it there should be more western provisions in the Farm bill given the drought issues. He stated that the CRB staff are working with Senators Feinstein and Padilla and other delegations of California and Colorado to request additional resources in the Farm bill to address year-term agricultural water contributions.

Vice Chairman Madaffer reported that when he, Mr. Alex Cardenas, Chair of the IID Board and Mr. Adan Ortega, Chair of the MWD Board, met with the Council on Environmental Quality at the White House, they addressed some of the environmental and social justice issues that exist in the Imperial Valley. He stated that they emphasized the importance of these issues such as the Salton Sea, and the need for funding to address these issues. He added that supporting the agricultural sector in the Imperial Valley will not only benefit the region, but also the nation, as it benefits from the agricultural production from the region. Congressman Peters noted that there is a new Congressman representing the California-Mexico border region and other Congress members in the region that are concerned with issues related to the Salton Sea and public health.

Ms. Meena Westford representing The Metropolitan Water District of Southern California, asked about Congressman Peters climate change agenda. Congressman Peters stated that \$360 billion has been allocated for climate change in the Inflation Reduction Act (IRA), adding that the funds need to be put to use. He stated that the size of the electric grid needs to be increased and infrastructure such as hydrogen pipelines and direct air capture should be built to combat climate change. He added that additional water infrastructure is needed to mitigate climate impacts such as stormwater capture. He stated that he is working on a regulatory regime that would help get climate change projects to be developed more efficiently. He stated that the National Environmental Policy Act was passed in 1970, and Congress is legislating these issues with policy that does not match today's problems.

Congressman Peters stated he and the Speaker of the House, Mr. Kevin McCarthy, are working on legislation that would address the loss of Sequoia trees due to wildfires. He remarked that California lost its first Sequoia tree in 750 years in 2017 due to a Pine tree next to the Sequoia that carried the fire up into the tree canopy, adding that California lost 19% of Sequoias in this manner over the last three years. He added that he and Speaker McCarthy are looking at ways to get this legislation to move forward before more Sequoia trees are lost. He added that if Congress believes that climate advocacy is important, legislation and policies need to be changed to move things forward.

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

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

## **ADMINISTRATION**

Chairman Hamby asked for a motion to approve the January 11, 2023, Board meeting minutes. Mr. Fisher moved that the minutes be approved, seconded by Mr. Madaffer. By roll-call vote, the minutes were approved with an abstention from Board member Peterson.

## **SPECIAL PRESENTATION FROM SAN DIEGO COUNTY WATER AUTHORITY**

General Manager Sandy Kerl provided a welcome presentation to the Board with an overview of the SDCWA strategic investments including local surface storage, the Carlsbad Desalination plant, water conservation initiatives, water transfers and canal linings, and potable water reuse. The per capita water use in the San Diego region has declined by 43% since 1990. SDCWA is also investing in an energy storage project at the San Vicente reservoir. SDCWA is also evaluating the potential to expand the Carlsbad Desalination plant to support management of the Colorado River.

## **STATE AND LOCAL REPORTS**

Ms. Jones, representing the California Department of Water Resources (DWR), reported that statewide reservoir storage is very close to average for this time of the year. She stated the storage numbers will change over the next few weeks as major reservoirs begin flood control measures, starting on March 15<sup>th</sup>. She noted that out of all the reservoirs, Lake Shasta's storage is lagging because the snowpack in the northern Sierra has not been as abundant as the southern Sierra Mountain range.

Ms. Jones reported that statewide precipitation conditions are 141% of average and stated that statewide snowpack is ranked second in terms of all-time record snowpack. She noted however, that the southern Sierra Nevada Mountains have record snowpack which brings significant flood control challenges in the San Joaquin River system because the capacity of the river is very small. Ms. Jones added that when comparing the full natural flow into the reservoir system over the last two years to natural flow in 2023, all the reservoirs have inflows between 100% and 150% of average, with the exception of Shasta reservoir.

Board member Peterson, representing The Metropolitan Water District of Southern California (MWD), reported the Table A allocation for the State Water Project (SWP) is 35%. He stated that MWD is currently discussing receiving Title 21 water.

Mr. Peterson stated that MWD is in the process of filling Diamond Valley Lake reservoir. MWD's total reservoir storage is 63% of capacity. He added that he anticipates storage to decline by the end of this year. He stated that MWD's service area is still vulnerable to swings in water availability, and it is incumbent on MWD to develop more local water and rely less on imported water. Mr. Peterson reported that water sales have declined, and it anticipated that sales data from February will also decline due to wet weather. He added that MWD plans to put water in storage in the Desert Coachella replenishment aquifers, adding that 211,000 af is scheduled for replenishment at the end of March.

Alternate Board member Delon Kwan, representing the Los Angeles Department of Water and Power (LADWP), reported that precipitation conditions in the eastern Sierra Nevada Mountains are 275% normal to date and 258% of the April 1<sup>st</sup> normal. He stated that snow melt has begun at elevations that range between 4,000 to 6,000 feet in the Owens Valley. He stated that in 1969, there was historic snow water equivalent (SWE) of 66 inches, noting that the current SWE is 57.8 inches and may increase to above 60" by April 1<sup>st</sup>. He stated that 2017 also had historic SWE and runoff was about one million acre-feet. He stated that if there is similar runoff, LADWP may have to shift to flood management mode on the aqueduct system. He stated that LADWP is anticipating a similar runoff amount this year. Mr. Kwan stated that the Los Angeles aqueduct provides regional and storage benefits.

### **COLORADO RIVER BASIN WATER REPORT**

Mr. Juricich reported that as of March 6<sup>th</sup>, the water level at Lake Powell was 3,520.81 feet with 5.31 million-acre feet (MAF) of storage, or 23% of capacity. The water level at Lake Mead was 1,046.87 feet with 7.46 MAF of storage, or 29% of capacity. He noted that Lake Mead's elevation has been holding steady at 1,046 feet for the past few months. The total system storage was 18.89 MAF, or 32% of capacity, which is 2.50 MAF less than system storage at this time last year.

Mr. Juricich reported that as of March 3<sup>rd</sup>, for Water Year-2023 (WY-2023) the forecasted unregulated inflow into Lake Powell is 10.87 MAF, or 113% of normal. He reported that the forecasted April to July inflow into Lake Powell is 8.0 MAF, or 125% of normal. He stated that observed inflow into Lake Powell for February was 74% of normal and the March inflow forecast

was 75% of normal. He added that runoff is below normal in February and March because much of the snowpack in the upper watersheds has not melted yet due to colder temperatures over the past few months.

Mr. Juricich reported that SWE conditions throughout the Colorado River Basin are normal to above normal. Mr. Harris added that SWE conditions in Arizona along the headwaters of Verde, Salt, and Gila River system are above 150% of normal. He added that these systems are important to Arizona's overall portfolio and that the reservoirs in the Salt River Project and Gila River system are expected to receive 250,000 AF of runoff. He stated that the Verde River system is also expected to receive a large portion of the runoff as well. He stated that this is good news for Arizona, and it will expand the state's flexibility over the next couple of years. Mr. Harris added that flood control operations have begun on the Verde River system and the systems of Horseshoe and Bartlett. Responding to a question from Chairman Hamby about Arizona's flood control operations, he stated that the Roosevelt Lake on the Salt River Project can hold a large amount of water and does not have to conduct flood control measures. He added that the Horseshoe reservoir on the Verde River system will need to raise the dam due to sedimentation issues, because it has lost capacity over time. He stated that the large amount of runoff in Arizona may not make it to Painted Rock reservoir but may flow into the reservoir on the upper reach of the San Carlos Reservoir at Coolidge Dam.

Chairman Hamby inquired to Mr. Juricich and Board member Jones about the connection between the atmospheric rivers that California experiences and its impact on the Colorado River Basin. Board member Jones stated that atmospheric rivers (ARs) make up about 40% of California's water supply but declines rapidly as you move eastward because ARs only make it eastward if they can pass through the terrain gaps. Ms. Jones reported that work from NOAA showed that ARs were responsible for 25% to 30% of the Colorado River Basin snowpack, but ARs only account for 10% of runoff. She noted that ARs are more significant to precipitation in Arizona.

Board member Peterson inquired about the impact of El Nino conditions. Ms. Jones remarked that when the science community first discovered ENSO, the El Niño Southern Oscillation, they thought they had solved the problems in terms of forecasting, however, this was incorrect. She stated that ENSO has an effect primarily for the extreme southern tier of the United States, especially Texas and Florida. She added that in California, the only phase of ENSO, that has any impact is La Nina, which usually indicates dry conditions in southern California. She stated that it is a coincidence that that last few El Nino years in California were very wet years, and the news media has held on to that concept for several years. She reported that in reality, El Nino has no signal for the Upper Colorado River Basin. She stated that there is also no relationship

between El Nino and ARs. Mr. Juricich noted that La Nina conditions have ended, and ENSO is moving toward neutral conditions.

Mr. Juricich reported on WY-2023 snowpack conditions, stating that SWE conditions in March were above normal across the Colorado River Basin. He reiterated that runoff conditions are below normal but should increase in the spring as temperatures rise and snowmelt begins.

Mr. Juricich reported on the January and February CRMMS projections, stating that the March 24-Month Study would be released later today. He stated that the March projection for the most probable release from Lake Powell this year has been increased to 7.823 MAF. He added that this is about 100,000 AF more than the previous probable release from the February 24-Month study. He stated that most of the traces for Lake Powell's End-of-Month Elevations are in the Mid-Elevation Release Tier in the first half of 2024 and then the traces move into the Upper Elevation Balancing Tier for the second half of 2024. He stated that Lake Mead's projections have not yet benefited from the improved water supply conditions and the projections are impacted by a Lake Powell projected release of 7.0 MAF in 2022.

Mr. Juricich reported that through the end of February the Brock and Senator Wash regulating reservoirs captured 12,172 AF and 13,164 AF, respectively. He also reported that the excess deliveries to Mexico were 9,913 AF, compared to 643 AF this time last year. Finally, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 28,397 AF.

## **COLORADO RIVER BASIN STATES ACTIVITIES**

### **Status of the Glen Canyon Dam Adaptive Management Program**

Ms. Rapoport reported that the Adaptive Management Work Group (AMWG) of the Glen Canyon Dam Adaptive Management (GCDAMP) held a meeting in Tempe, AZ from February 15 to 16.

Ms. Rapoport reported that the program remains heavily focused on non-native fish and smallmouth bass.

Ms. Rapoport reported that the AMWG advanced a nonnative fish strategic plan to the Secretary of the Interior. The purpose of the plan is to try and keep smallmouth bass from

establishing a population below Glen Canyon Dam and potentially causing problems for endangered fish.

Ms. Rapoport reported that the AMWG discussed the draft Environmental Assessment (EA) for small bass environmental flows that was released by Reclamation. The EA includes four flow options that attempt to prevent smallmouth bass spawning by varying options to cool down temperatures and utilize spike flows to disrupt nesting. The seven basin states submitted a joint comment letter.

Ms. Rapoport reported that the AMWG received a report on an ongoing effort by Reclamation to potentially install a fish exclusion device. Either a net or curtain is being considered to prevent fish passage through the dam. Installation is anticipated in 2024 or 2025, most likely 2025.

Mr. Harris inquired as to how a net would be installed that reached from the water surface to the bottom of the lake. Ms. Rapoport replied that the device would stretch across the lake but would only reach to a depth where fish are found rather than to the bottom of the lake. Ms. Rapoport added that additional understanding is needed regarding how a curtain would not affect flows and would survive the flow through the area. This will be considered further as there are some opinions that a curtain may be more effective at preventing smallmouth passage than a net.

Ms. Rapoport reported that the AMWG directed the Technical Work Group (TWG) to consider options to re-evaluate the triggers for high flow experiments. There is quite a lot of sediment built up in the system since there has not been a high flow experiment for some time. The TWG is looking at how the accounting window can potentially be revised and the best timing for future experiments.

#### Status of the Lower Colorado River Multi-Species Conservation Program

Ms. Rapoport reported that the Financial Work Group of the Lower Colorado River Multi-Species Conservation Program met virtually on February 23. The group went through the FY 2022 budget which was set at \$25.4 million.

Ms. Rapoport reported that the program has had some delays due to staff turnover but remains on track.



Ms. Rapoport reported that overall spending for the program is decreasing as there is less need for research as the program matures and moves into a maintenance phase.

Ms. Rapoport reported that the budget for FY 2023 is \$24 million.

Chairman Hamby inquired regarding a picture in the presentation. Ms. Neuwerth replied that the picture is of the Mohave Valley backwater. It's a fully constructed backwater adjacent to the river and located on the California side of the river.

## **MEMBER AGENCY REPORTS**

### **The Metropolitan Water District of Southern California (MWD)**

Board member Peterson reported that MWD is replacing the overhead bridge cranes for all five Colorado River aqueducts, stating that they were installed over 93 years ago. He reported that the Colorado River Aqueduct shut down was completed in March. He added that 300 hundred employees and contractors successfully coordinated to safely complete the critical work needed to keep the 90-year-old aqueduct system working.

Board member Peterson stated that the MWD Board voted to remove the water shortage emergency conditions for the SWP dependent areas.

Board member Peterson stated that MWD participated in a trip to Washington, D.C. in coordination with the Association of California Water Agencies (ACWA), stating the Colorado River Basin issues were top of mind. He added that it was great to see the California Congress members speaking with one voice on this issue.

Board member Peterson reported that the San Francisco Superior Court ruled in favor for MWD in the case with San Diego County Water Authority regarding offset benefits. He stated that he hopes that the two agencies can have a better relationship with each other as a result of this ruling.

Board member Peterson announced that this is his last meeting, noting that he took Jack Foley's position on the Board when he died. He stated that he will be replaced at the next meeting. He stated that it was a pleasure to work with everyone on the Board. Mr. Harris added that it has been a privilege and honor to work with and collaborate with Mr. Peterson on several important projects that have been good for California. He added that Mr. Peterson has always

been a staunch supporter of the Colorado River Board of California and the staff and has always acknowledged and appreciated them. He stated that he will be missed.

#### California Department of Water Resources

Ms. Jones provided an update to the Board on the recent drought executive order from the Governor. The new order extends the ability to do a temporary urgency change permit to conserve water. The major new feature in the order is for expediting water recharge. Back in the last drought, the State Water Board began a program to allow for temporary urgent recharge projects, generally six months in duration, intended for wet winters, like the one we've just had. DWR will do the water availability analysis part, and the State Water Board will do the regulatory part. The first six-month permit under the program was recently executed. DWR is focusing on the northern end of the San Joaquin Valley where there's a lot of snowpack that's going to cause flood control problems when it melts and is also an area critical for the Sustainable Groundwater Management Act areas.

#### San Diego County Water Authority (SDCWA)

Vice Chairman Madaffer reported that SDCWA finished a relining project on SDCWA's first aqueduct as part of the maintenance program. He stated that the first aqueduct includes two pipelines that were constructed in the 1940s and in the 1950s it delivered the first Colorado River water that flowed into Riverside County. He added that a video entitled "To Quench a Thirst", which is on the SDCWA's website, discusses the development and history of the agency because of the Navy and World War II efforts. He stated the first aqueducts went into San Vicente Reservoir in 1947. He stated that maintenance on the aqueduct was coordinated with all the member agencies to minimize impacts to water delivery.

Vice Chairman Madaffer stated that SDCWA secured a \$3 million grant to increase water affordability for low-income county residents. He stated that the funds will be used to install about 7,300 high efficiency toilets and smart irrigation controllers, which will help resident control water costs while saving 6,000 AF in water annually.

#### Los Angeles Department of Water and Power (LADWP)

Mr. Kwan reported on the development of several capital projects. He stated that the design of the Groundwater Replenishment Project is underway as a design-build contract. He stated that it is anticipated that the project will be at 70% design by the end of the year and that

there is a guarantee maximum price with the design builder. He stated that if this project goes forward there could be 17,000 AF per year of recharge of the San Fernando Groundwater Basin.

Mr. Kwan stated that LADWP also has two construction projects going on at the Hyperion Treatment Plant. He also stated that Membrane Bioreactor (MBR) Pilot Facility is also under construction, noting that the project should be completed by the middle of this year. He stated that data collection for this project is needed over the next couple of months as part of the regulatory process. Mr. Kwan reported that construction of the 1.5 MGD Advanced Water Purification Facility (AWPF) is underway at the Hyperion Treatment Plant and should be completed by the end of this year. He stated that the project will help provide water to the LAX Airport site and potentially offset potable water use at the Hyperion Treatment Plant.

Mr. Kwan reported on LADWP's conservation and stormwater capture efforts. He stated that over 79,000 AF of stormwater was captured this year and during the last week of February, during a storm, it is estimated that 23,000 AF was captured. He added that an equivalent to 25 billion gallons of water has been captured in total. He stated in 2018-2019 Water Year, LADWP captured a little less than 85,000 AF, and with the recent storm activity this record may be superseded.

Responding to a question from Chairman Hamby about how the water is physically captured, Mr. Kwan explained that the majority of the capture is incidental and happens naturally by infiltration underground. He stated that roughly 20% of stormwater capture is created through a partnership with the Los Angeles County Flood Control.

Mr. Kwan reported on the activities of the Water Conservation Response Unit. He stated that this unit patrols the city and conducts ordinance enforcement to prohibit wasteful practices. He noted that LADWP still receives water waste complaints.

Mr. Kwan stated that LADWP is interested in potentially recommending to the Mayor of Los Angeles, Ms. Karen Bass, to change LADWP's outdoor water use ordinance from the current two watering days per week to three watering days per week.

Mr. Kwan reported that LADWP launched a pilot program for a smart home water monitoring device called a "Flume". He stated that LADWP will offset the cost of this device to twenty-five dollars per customer. He explained that the device attaches to the customer's water meter, connects to Wi-Fi, and then downloads to an app that shows real-time water use. He stated that LADWP reached a milestone of receiving 10,000 rebate applications for the device.

### Imperial Irrigation District

Ms. Shields provided an update on the E Lateral Reservoir water conservation project. The 40-acre project has a 400 acre-feet/year conservation yield and provides additional operational flexibility for downstream growers to facilitate on-farm efficiency conservation measures. The project allows for temporary storage of water over night and releases water in the morning when demands increase. The project cost just under \$6 million.

### Palo Verde Irrigation District

Mr. Echard provided an update of a canal break experienced by the district on February 24<sup>th</sup>. The break was thirty feet wide by seven foot deep. It flooded fifty-one acres of farmland on two different landowner's properties, and it took six hours to repair.

Mr. Madaffer asked if the district has calculated how much water might be saved with canal lining. Mr. Echard responded that they have two different engineering firms looking at seepage in the district system. Mr. Echard stated that if the system was lined there would be less diversions from the river even though they get return flow credits.

Mr. Madaffer stated that California needs to get the word out to the rest of the basin about the conservation activities being undertaken. He stated that San Diego and Coachella Valley Water District implemented a project that saves 180,000 acre-feet per year. The project cost \$500 million with \$200 million from the state of California. It lined over 50 miles of canals.

### California Department of Fish and Wildlife

Mr. Harris provided an update for the Department of Fish and Wildlife on the Palo Verde Eco Reserve Restoration and Water Efficiency Improvement Project. The project received a Wildlife Conservation Board award of \$1.8 million to the California Waterfowl Association for habitat enhancement at PVER. The project included leveling 500 acres upland and seasonal wetland habitat; replaced concrete ditches with underground pipes & valves; and engineered and developed 42 acres of mixed Honey Mesquite and Palo Verde corridors that allow for efficient irrigation.

### **BASIN STATES ACTIVITIES**

Mr. Harris displayed a photo of a signing ceremony for the Salton Sea during the Colorado River Water Users Association (CRUWA) conference, which shows several members of the

Imperial Irrigation District, Coachella Valley Water District, Mr. Wade Crowfoot, the Natural Resources Secretary for the California, Mr. Tommy Beaudreau, Secretary of the Interior, Ms. Camille Touton, Commissioner of the Bureau of Reclamation, and Ms. Tanya Trujillo, the Assistant Secretary of Water and Science. He acknowledged that there was a tremendous amount of work that went into the summer of 2022 leading up to signing this agreement between the United States, California, and the agencies.

Mr. Harris reported since January, Reclamation received two competing state proposals, the Six-State Proposal and California Proposal, for the SEIS modeling framework. He stated that since the submission of the proposals, water supply conditions and forecasts have improved across the Colorado River Basin and the Upper Basin States are planning to curtail the last two months of the WY 2023 Drought Response Operations (DROA) releases from the upstream Colorado River Storage Project (CRSP) units down to Lake Powell, terminating about 40,000 AF from the original planned 500,000 AF of water coming from Flaming Gorge. He stated that Commissioner Touton did approve this action and has notified Western Area Power Administration (WAPA) that releases from Flaming Gorge will be reduced. He added that the Upper Basin states would like to recover the DROA water released to Lake Powell by rebuilding storage in Flaming Gorge reservoir from the spring runoff. He stated that DROA recovery should be done in conjunction with recovery of the 480,000 AF held back in Lake Powell from the Lower Basin States.

Mr. Harris stated that the Lower Basin States agreed to reduce water releases out of Glen Canyon Dam in 2022, noting that the Lower Basin was scheduled to receive 7.48 MAF but 480,000 AF was held back in Lake Powell. He stated that the Lower Basin States would also like to recover this water and restore it to Lake Mead, noting that it may be possible due to the improved water supply conditions and projected runoff from Lake Powell. He stated that we need to consider the implications for balancing both Lake Powell and Lake Mead reservoirs. He stated that the current operating tier for Lake Powell is the Lower Elevation Balancing Tier and by the end of WY-2023, the storage and elevation of Lake Powell will rise and exceed Lake Mead's contents. He stated that the February 24-Month Study has a projected release of 7.77 MAF from Glen Canyon Dam, noting that it is likely this value will increase due to increased inflows into Lake Powell. He stated that the 480,000 AF that has been sitting in Lake Powell will not be considered part of balancing operations and if operational neutrality is dropped, it could be considered system water and would then be used in balancing. He added this is an important discussion that the Lower and Upper Basin States must have.

Mr. Harris stated that another important aspect of the DROA recovery that needs to be figured out is how to physically recover the DROA releases in WY-2023 and whether it can be

recovered from the system water account in Lake Powell or if it is part of the system supply. He stated that the only element of the DROA recovery that has been agreed upon is the termination of DROA releases in March and April, noting that the timing of the recovery of 480,000 AF and the total volume of balancing releases remains undetermined. He reported that on March 10<sup>th</sup>, the seven basin states have had an initial discussion on these topics and plan to meet again in late March at the seven states meeting in Phoenix, Arizona. He stated that the Lower Basin states would like to figure out the DROA and Upper Basin balancing issue before there is certainty about moving forward. Other topics that need to be considered are Glen Canyon Dam annual release, so that Lake Mead's operations can be set, as well as how much of the potential conservation will be created under category 1A or 1B and how it impacts projected demands. He added that Reclamation is still assuming that MWD will be recovering Intentionally Create Surplus (ICS), noting that he is unsure if the current 24-Month Study is accurately reflecting California's demands for the remainder of the water year. He stated that several of these issues may be addressed by the April Colorado River Board meeting.

Board member Fisher inquired about who would be contributing to Category 1A, if that amount is fixed and we know who will be contributing. He stated that Category 1B contributions would not be determined until WY-2024. Mr. Harris responded that Commissioner Touton indicated during her public comments at Arizona State University that Reclamation knows the values for 1A and 650,000 AF is anticipated in additional conservation for California and Arizona. He stated that he is not sure how much of that amount is attributed to Category 1A or 1B, but if you assume 35% 1A and then it is an adjustable price for 1B. He added that Reclamation wants to get agreements for this matter finalized soon.

Mr. Harris stated that the Commissioner also indicated that Reclamation wants to develop a Category 2 application process soon for more durable, permanent, large capital improvement-type projects in the urban and agricultural sector, stating that IID's proposed regulating reservoir is an example of a project that would meet this standard. He added that a regulating reservoir would be more efficient and provide growers more flexibility in managing discrete pots of water in IID. Mr. Harris stated that Reclamation is currently developing a Request for Proposals (RFP) to receive and review applications for Category 2 by 2025. He stated that these projects will be supported by the IRA funds that Congressman Peters discussed earlier. He stated that these projects need to be launched during the remaining interim period before the next set of Guidelines. He added that the activities we take today will inform long-term planning.

## **GENERAL ANNOUNCEMENTS AND UPDATES**

Mr. Harris reported that CA DWR announced forecasted delivery allocations of 35% for the State Water Project (SWP). Reclamation announced the forecasted delivery allocations for the Central Valley Project (CVP). He stated that 35% will go to Sacramento River contractors, 75% for municipal and industrial water service contractors north-of-Delta serviced by Folsom reservoir on the American River and south-of-Delta, 100% for Eastside water service contracts, 100% for Class 1 and 20% for Class 2 Friant water users and 100% for Level 2 Wildlife Refuges.

## **WASHINGTON, D.C UPDATES**

Mr. Harris reported that President Biden released his Fiscal Year 2024 (FY-2024) budget to Congress on March 9<sup>th</sup>. He stated that Congress will hold significant oversight hearings in both the Appropriations and Authorizing committees to closely examine various aspects of the budget. He stated that the Monthly report has more detail about various aspects of the budget.

Mr. Harris reported that the FY-2024 budget request for Reclamation is \$1.4 billion for Reclamation to prioritize climate resiliency and drought mitigation, underserved communities, and address aging infrastructure needs.

Mr. Harris reported that on February 27<sup>th</sup>, Congresswoman Napolitano and Congressman Calvert hosted a briefing for all California House members on the status of the Colorado River and ongoing negotiations in the Colorado River Basin. He noted that about twenty staffers, mostly from California offices, attended the event. He stated that Chairman Hamby met with Senator Kelly from Arizona. He stated that he and Chairman Hamby also met with senior staff at the Department of the Interior, Commissioner and Deputy Commissioner of Reclamation and communicated California's desire to continue to work collaboratively and effectively with our sister states, particularly in these challenging times.

Chairman Hamby added that he believed the visit to D.C. was extremely productive. He stated that inner agency coordination that was happening between the agencies that came to D.C. was very compelling. He added that during the meetings, there was a strong amount of support within our delegation, including speaker McCarthy's office as well for the California position. He stated that back in January, there were concerns about the Six-State letter that was circulating and whether it would impact potential legislation, adding that this concern is now largely dispelled. He remarked that he would like to conduct a Zoom session of the information presented during the briefing to a larger audience in the future to help educate and inform others of California's Colorado River Basin story. Mr. Harris stated that a briefing presentation from Ms.

Tina Shields has been made available to the member agency. He also thanked for the assistance of Ms. Sara Tucker, the Six Agency Committee's Washington, DC representative and Ms. Tara Billingsley, IID's Washington, D.C representative for setting up several meetings for them.

### **ADJOURNMENT**

With no further items to be brought before the Board, Chairman Hamby adjourned the meeting at 12:04 p.m.





## Proposed FY 2023/2024 Colorado River Board Budget

The Governor's Proposed Budget for the Colorado River Board of California for Fiscal Year (FY) 2023-2024 is \$2,615,000. Below is the proposed FY 2023-2024 Budget, compared to the budget authorized in FY 2022-2023 and anticipated FY 2022-2023 expenditures.

	Authorized Budget FY 2022-23	Anticipated Expenditures FY 2022-23	<b>Proposed Budget FY 2023-24</b>
<i>Personal Services</i>	\$ 2,147,000		<b>\$ 2,248,000</b>
<i>Operating Expenses and Equipment</i>	\$ 367,000		<b>\$ 367,000</b>
<b>Colorado River Board Total Budget</b>	<b>\$ 2,514,000</b>	<b>\$ 2,250,000</b>	<b>\$ 2,615,000</b>

### 3460 Colorado River Board of California

The Colorado River Board protects California's rights and interests in the water and power resources of the Colorado River system. The Board works with: other Colorado River Basin states (Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming), federal agencies, other state agencies, six local agencies (Palo Verde Irrigation District, Imperial Irrigation District, Coachella Valley Water District, Metropolitan Water District of Southern California, San Diego County Water Authority, Los Angeles Department of Water and Power), Congress, the courts, and Mexico. Its activities include analyses of engineering, legal and economic matters concerning the Colorado River resources of the seven basin states and the 1944 United States-Mexico Water Treaty obligation to deliver Colorado River water to Mexico.

#### 3-YEAR EXPENDITURES AND POSITIONS

	Positions			Expenditures		
	2021-22	2022-23	2023-24	2021-22*	2022-23*	2023-24*
2410 Protection of California's Colorado River Rights and Interests	13.2	13.2	13.2	\$2,513	\$2,612	\$2,615
<b>TOTALS, POSITIONS AND EXPENDITURES (All Programs)</b>	<b>13.2</b>	<b>13.2</b>	<b>13.2</b>	<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>
<b>FUNDING</b>		<b>2021-22*</b>	<b>2022-23*</b>	<b>2023-24*</b>		
0995 Reimbursements		\$2,513	\$2,612	\$2,615		
<b>TOTALS, EXPENDITURES, ALL FUNDS</b>		<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>		

#### LEGAL CITATIONS AND AUTHORITY

##### DEPARTMENT AUTHORITY

California Water Code, Division 6, Part 5, Sections 12500-12553.

#### DETAILED BUDGET ADJUSTMENTS

	2022-23*			2023-24*		
	General Fund	Other Funds	Positions	General Fund	Other Funds	Positions
<b>Workload Budget Adjustments</b>						
<b>Other Workload Budget Adjustments</b>						
• Salary Adjustments	\$-	\$44	-	\$-	\$45	-
• Retirement Rate Adjustments	-	37	-	-	37	-
• Benefit Adjustments	-	17	-	-	19	-
<b>Totals, Other Workload Budget Adjustments</b>	<b>\$-</b>	<b>\$98</b>	<b>-</b>	<b>\$-</b>	<b>\$101</b>	<b>-</b>
<b>Totals, Workload Budget Adjustments</b>	<b>\$-</b>	<b>\$98</b>	<b>-</b>	<b>\$-</b>	<b>\$101</b>	<b>-</b>
<b>Totals, Budget Adjustments</b>	<b>\$-</b>	<b>\$98</b>	<b>-</b>	<b>\$-</b>	<b>\$101</b>	<b>-</b>

#### DETAILED EXPENDITURES BY PROGRAM

		2021-22*	2022-23*	2023-24*
<b>PROGRAM REQUIREMENTS</b>				
<b>2410 PROTECTION OF CALIFORNIA'S COLORADO RIVER RIGHTS AND INTERESTS</b>				
<b>State Operations:</b>				
0995 Reimbursements		2,513	2,612	2,615
<b>Totals, State Operations</b>		<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>
<b>TOTALS, EXPENDITURES</b>				
State Operations		2,513	2,612	2,615
<b>Totals, Expenditures</b>		<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>

#### EXPENDITURES BY CATEGORY

\* Dollars in thousands, except in Salary Range. Numbers may not add or match to other statements due to rounding of budget details.

**3460 Colorado River Board of California - Continued**

1 State Operations	Positions			Expenditures		
	2021-22	2022-23	2023-24	2021-22*	2022-23*	2023-24*
PERSONAL SERVICES						
Baseline Positions	13.2	13.2	13.2	\$1,466	\$1,493	\$1,493
Other Adjustments	-	-	-	-	44	45
<b>Net Totals, Salaries and Wages</b>	<b>13.2</b>	<b>13.2</b>	<b>13.2</b>	<b>\$1,466</b>	<b>\$1,537</b>	<b>\$1,538</b>
Staff Benefits	-	-	-	650	708	710
<b>Totals, Personal Services</b>	<b>13.2</b>	<b>13.2</b>	<b>13.2</b>	<b>\$2,116</b>	<b>\$2,245</b>	<b>\$2,248</b>
OPERATING EXPENSES AND EQUIPMENT				\$397	\$367	\$367
<b>TOTALS, POSITIONS AND EXPENDITURES, ALL FUNDS (State Operations)</b>				<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>

**DETAIL OF APPROPRIATIONS AND ADJUSTMENTS**

1 STATE OPERATIONS	2021-22*	2022-23*	2023-24*
0995 Reimbursements			
APPROPRIATIONS			
Reimbursements	\$2,513	\$2,612	\$2,615
<b>TOTALS, EXPENDITURES</b>	<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>
<b>Total Expenditures, All Funds, (State Operations)</b>	<b>\$2,513</b>	<b>\$2,612</b>	<b>\$2,615</b>

**CHANGES IN AUTHORIZED POSITIONS**

	Positions			Expenditures		
	2021-22	2022-23	2023-24	2021-22*	2022-23*	2023-24*
Baseline Positions	13.2	13.2	13.2	\$1,466	\$1,493	\$1,493
Salary and Other Adjustments	-	-	-	-	44	45
<b>Totals, Adjustments</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>\$-</b>	<b>\$44</b>	<b>\$45</b>
<b>TOTALS, SALARIES AND WAGES</b>	<b>13.2</b>	<b>13.2</b>	<b>13.2</b>	<b>\$1,466</b>	<b>\$1,537</b>	<b>\$1,538</b>

\* Dollars in thousands, except in Salary Range. Numbers may not add or match to other statements due to rounding of budget details.





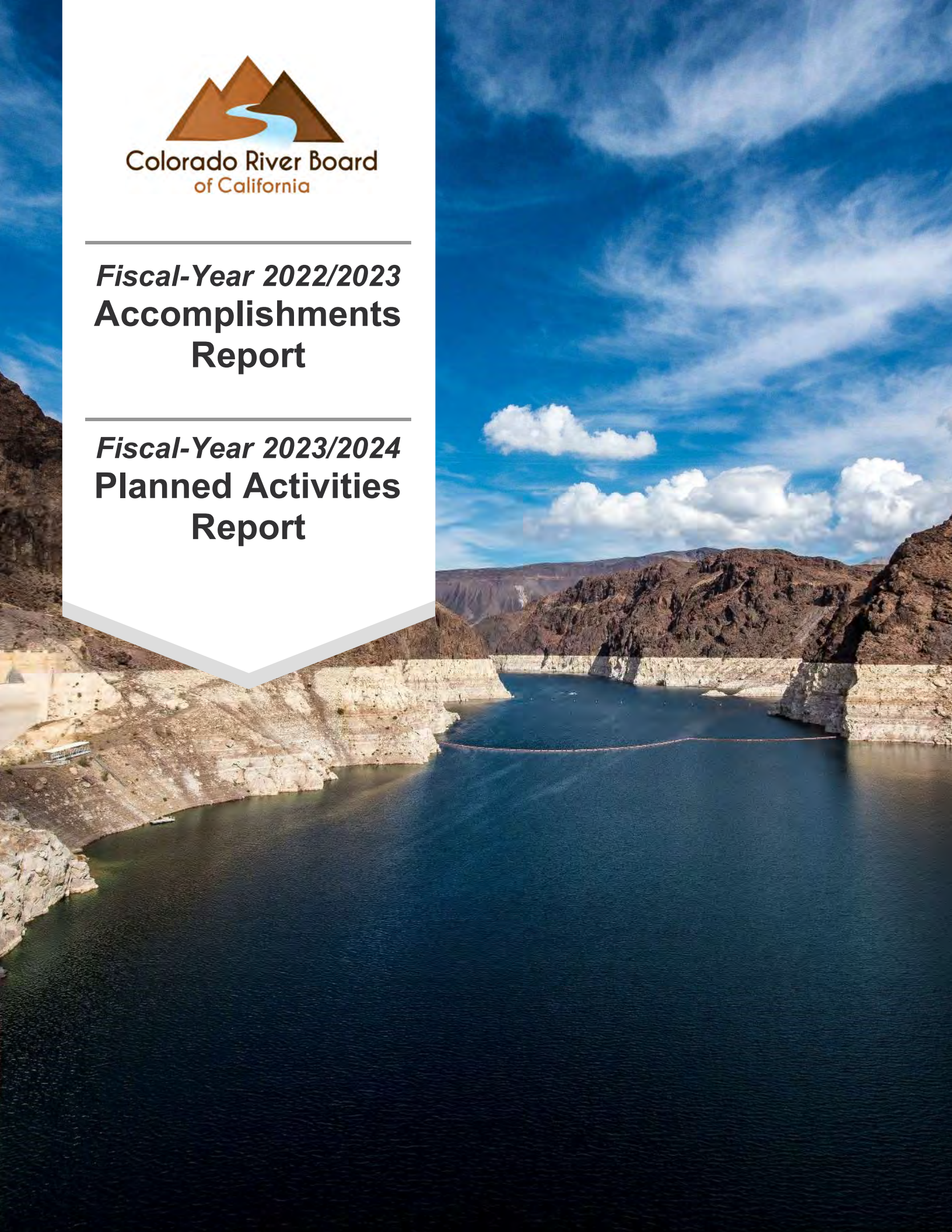
Colorado River Board  
of California

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***Fiscal-Year 2022/2023  
Accomplishments  
Report***

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***Fiscal-Year 2023/2024  
Planned Activities  
Report***



## Fiscal-Year 2022/2023 Budget

The budget for the Colorado River Board of California for Fiscal Year 2022/2023 (FY-22/23) was \$2,514,000, and was adopted by the Board at its June 15, 2022, regularly scheduled meeting.

## Fiscal-Year 2022/2023 Accomplishments

### COVID-19 Operations

During FY-22/23, the staff of the Colorado River Board of California (CRB), operated under the public health guidance and restrictions associated with responding to the COVID-19 pandemic. This included a hybrid work environment with staff working both in the office and remotely in a telework environment. Staff continue to return to the office more regularly. CRB meetings were all conducted in-person and travel has resumed. CRB staff continue to comply with all state, county, and local public health agency guidance and public safety protocols.

### Fiscal-Year 2022/2023 Accomplishments

In FY-22/23 (July 2022 through June 2023), Colorado River Board of California staff participated in the following major programs and activities:

- The Board elected Mr. JB Hamby with the Imperial Irrigation District as Chair and Mr. James Madaffer of the San Diego County Water Authority as Vice-Chair of the Colorado River Board at its January 11, 2023 meeting.
- On April 12, 2023, four new Board Members were sworn in at the Colorado River Board of California meeting. Gina Dockstader is representing Imperial Irrigation District and Gloria Cordero represents The Metropolitan Water District of Southern California. The two public member seats on the Board are now filled by: Jordan D. Joaquin (President, Fort Yuma Quechan Indian Tribe) and Frank Ruiz (Salton Sea Program Director, Audubon).
- Organized California's agencies to respond to historically dry conditions on the Colorado River System including extensive work to review and comment on the Notice of Intent and Draft Supplemental Environmental Impact Statement (SEIS) to modify the 2007 Interim Guidelines for the Operations of Lakes Powell and Mead; these activities included intensive discussion among the Basin States in an attempt to develop a consensus alternative modeling framework; Developed a California modeling framework proposal to protect California's interests that was supported by significant technical analysis by Board staff.

- Continued to provide California representation and coordination associated with the binational implementation of Minute No. 323 with Mexico, including participation in the Minute No. 323 Oversight Group, Salinity Work Group, Hydrology Work Group, Environmental Work Group, and Desalination Work Group;
- Represented California's interests in the ongoing implementation of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), including ongoing discussions with Reclamation and the California Department of Fish and Wildlife regarding the implementation of habitat restoration activities pursuant to the terms and conditions of the California Endangered Species Act Section 2081 permit for California LCR MSCP participants. In FY-22/23, Board staff worked closely with Reclamation to implement necessary changes to the federal LCR MSCP permit in order to allow for greater reductions in flow below Hoover Dam as water conservation activities by the Lower Basin States increase. The CRB contributed approximately \$17,000 in FY-22/23 for LCR MSCP implementation;
- Represented California's interests in the ongoing implementation of the Glen Canyon Dam Adaptive Management Program (GCDAMP), including annual decision-making regarding Glen Canyon Dam operational activities pursuant to implementation of the Long-Term Experimental Management Plan. Represented California through the Planning/Implementation Team of the GCDAMP in making recommendations to the Secretary of the Interior regarding the implementation of flow experiments to benefit the ecosystem below Glen Canyon Dam. Contributed to the development of a Non-Native Fish Strategic Plan to facilitate collaboration and coordination between agencies working to prevent establishment of non-native fish in the Grand Canyon. In July 2022, represented California on a river trip where representatives from federal agencies, Basin States, Native American tribes, and NGOs discussed current environmental and policy issues;
- Represented California's interests in the Colorado River Basin Salinity Control Program where California has three appointed Forum members, including Ms. Jessica Neuwerth representing the Colorado River Board of California, Mr. Joaquin Esquivel representing the California State Water Resources Control Board, and Mr. William Hasencamp representing the Metropolitan Water District of Southern California. Mr. Rich Juricich continues to serve as Work Group Chair; Board staff are working closely with the Basin states to identify a pathway with Reclamation for continued long-term salinity control in Paradox Valley, including a June 1, 2022 restart of brine injection at a limited capacity from the existing Paradox Valley Unit facilities; working with Reclamation to develop a Statement of Objectives for a longer term replacement of the existing PVU deep-injection well. Board staff have continued to work collaboratively with Reclamation and the Salinity Control Forum to develop the 2023 Triennial Review of Water Quality Standards for Salinity, Colorado River Basin; continued participation in and contributed annual cost-share funding of approximately \$45,000 for the Colorado River Basin Salinity Control Program and the



monitoring of other important water quality programs and initiatives including the Topock Hexavalent Chromium, Las Vegas Wash Perchlorate, and Moab Uranium Mill-Tailings remediation efforts;

- Participated in the planning and implementation of ongoing weather modification activities in Colorado, Utah, and Wyoming during the 2022/2023 winter season under the Basin States programmatic funding agreement. California's cost share in FY-22/23 was approximately \$395,000 provided through the Six Agency Committee;
- Continued ongoing annual cost-sharing support for maintenance and operation of Lower Colorado River Basin stream gaging station network with the U.S. Geological Survey;
- Provided California representation on the Colorado River Climate and Hydrology Workgroup to consider climate and hydrology research & modeling projects to benefit decision making in the basin;
- Continued development of the Board's strategy for updating the guidelines for lower basin shortages and coordinated operations for Lake Powell and Lake Mead including development of several technical papers on Colorado River management issues, and continuing focused technical meetings with California agency technical staff;
- Participated in numerous technical- and policy-level Basin states meetings addressing activities and measures to protect critical elevations in the reservoir system and development of additional drought mitigation projects, and provided support to California's Colorado River Commissioner;
- Provided regular updates, briefings, and presentations to staff from the California Natural Resources Agency, Department of Water Resources, and Governor's Office regarding Colorado River Basin issues and activities;
- Regularly hosted virtual meetings with technical staff from the California agencies to share agency perspectives and activities associated with ongoing Colorado River issues and activities;
- Continued to review and track activities associated with the Upper Basin development of the 2022 and 2023 drought response operations plan, and the State of Utah's proposed Lake Powell Pipeline Project; and
- Reviewed applications for use of Lower Colorado River Supply Project water supplies and provided recommendations to Reclamation as to whether subcontracts should be approved.

## Fiscal-Year 2023/2024 Planned Activities

### COVID-19 Operations

Board staff operations have largely moved beyond restrictions associated with the COVID-19 pandemic. Board meetings have resumed in-person without restrictions. Staff will continue to adhere to and implement all applicable public health and safety guidance provided by state, county, and local public health agencies. CRB is continuing to develop long-term post-pandemic teleworking policies and guidance for agency implementation. It is expected that CRB staff will maintain some level of teleworking going forward.

### CRB Planned Activities for FY-2023/2024

With the Governor's proposed FY-23/24 budget of \$2,615,000 for the period July 1, 2023 through June 30, 2024, Colorado River Board of California staff anticipates participating in the following major programs and activities:

- The Board will continue to organize California's agencies to respond to historically dry conditions on the Colorado River System including extensive work and seven state coordination associated with responding to the Draft SEIS to modify the 2007 Interim Guidelines; reviewing and commenting on future Basinwide Drought Contingency Plans; as well as monitoring and evaluating annual water use accounting of mainstream Colorado River water supplies in the Lower Basin;
- Continue providing effective direction, participation and technical support related to the development of the next set of interim operating guidelines for the Colorado River System, including outreach to California agencies and stakeholders, leading and organizing technical and policy webinars for the California agencies;
- Continue to participate in ongoing binational U.S./Mexico activities associated the implementation of Minute No. 323 and associated workgroups;
- Continue participation in the ongoing implementation of the Glen Canyon Dam Adaptive Management Program;
- Continue participation in the Lower Colorado River Multi-Species Conservation Program, including a projected annual contribution of approximately \$17,000 for FY-23/24;
- Continue participation in and cost-share funding of the Colorado River Basin Salinity Control Program including continuing support of the existing limited capacity brine injection operations, and organizing Basin States participation in the development by Reclamation

of a Statement of Objectives for a long-term replacement for PVU; and the monitoring of other ongoing water quality programs and activities;

- Continue participation in the Basin States cost-sharing of winter season weather modification efforts in Colorado, Utah, and Wyoming;
- Continue providing annual financial support to the U.S. Geological Survey to provide effective stream gaging stations in the Lower Colorado Basin;
- Continue participation in the Colorado River Climate and Hydrology Workgroup, which includes planning of the next Climate and Hydrology Symposium, and ongoing development of proposed climate and hydrology research projects;
- Continue to develop and provide effective technical support and modeling expertise to the Board member agencies;
- Continue participation in Basin states principal and technical meetings and continue to provide support to California's Colorado River Commissioner;
- Continue participation by Board staff in advocating and representation of California's positions at conferences and symposia; and
- Review of applications for use of Lower Colorado River Supply Project water supplies.



4/17/2023

## LOWER COLORADO WATER SUPPLY REPORT

River Operations  
Bureau of Reclamation

Questions: [BCOWaterops@usbr.gov](mailto:BCOWaterops@usbr.gov)

(702)293-8373

<http://www.usbr.gov/lc/region/g4000/weekly.pdf>

	PERCENT	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
CURRENT STORAGE	FULL			
LAKE POWELL	23%	5,318	3,521.00	12,200
* LAKE MEAD	29%	7,461	1,046.90	12,800
LAKE MOHAVE	94%	1,709	643.36	14,100
LAKE HAVASU	90%	560	446.95	11,800
TOTAL SYSTEM CONTENTS **	32%	19,131		
As of 4/16/2023				
SYSTEM CONTENT LAST YEAR	35%	20,647		
*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	98%	2,243		
Painted Rock Dam	10%	232	590.48	2716
Alamo Dam	21%	210	1,142.04	907
Forecasted Water Use for Calendar Year 2023 (as of 4/10/2023) (values in kaf)				
NEVADA			219	
SOUTHERN NEVADA WATER SYSTEM				207
OTHERS				12
CALIFORNIA			4,332	
METROPOLITAN WATER DISTRICT OF CALIFORNIA				961
IRRIGATION DISTRICTS				3,354
OTHERS				17
ARIZONA			2,339	
CENTRAL ARIZONA PROJECT				1,149
OTHERS				1,189
TOTAL LOWER BASIN USE				6,889
DELIVERY TO MEXICO - 2023 (Mexico Scheduled Delivery + Preliminary Yearly Excess <sup>1</sup> )				1,416
OTHER SIGNIFICANT INFORMATION				
UNREGULATED INFLOW INTO LAKE POWELL - APRIL MID-MONTH FORECAST DATED 4/5/2023				
		MILLION ACRE-FEET	% of Normal	
FORECASTED WATER YEAR 2023		14.472	151%	
FORECASTED APRIL-JULY 2023		11.300	177%	
MARCH OBSERVED INFLOW		0.573	96%	
APRIL INFLOW FORECAST		1.300	144%	
		Upper Colorado Basin	Salt/Verde Basin	
WATER YEAR 2023 PRECIP TO DATE		127% (23.1")	161% (26.2")	
CURRENT BASIN SNOWPACK		155% (22.1")	N/A (5.2")	

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


**BUREAU OF RECLAMATION**  
**LOWER COLORADO BASIN REGION**  
**CY 2023**

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)

<b>WATER USE SUMMARY</b>	<b>Use To Date CY 2023</b>	<b>Forecast Use CY 2023</b>	<b>Approved Use<sup>2</sup> CY 2023</b>	<b>Excess to Approval CY 2023</b>
Arizona	660,641	2,334,544	2,252,233	<b>82,311</b>
California	1,081,502	4,206,486	4,341,455	(134,969)
Nevada	40,056	215,195	215,195	0
<b>States Total<sup>3</sup></b>	<b>1,782,199</b>	<b>6,756,225</b>	<b>6,808,883</b>	<b>(52,658)</b>
Total Deliveries to Mexico <sup>4</sup>	569,523	1,384,792	1,384,792	
Creation of Mexico's Recoverable Water Savings <sup>5</sup>	0	30,000	30,000	
Creation of Mexico's Water Reserve <sup>6</sup>	11,208	15,208	15,208	
Total to Mexico in Satisfaction of Treaty Requirements <sup>7</sup>	580,731	1,430,000	1,430,000	
To Mexico in Excess of Treaty <sup>8</sup>	14,454	29,213	28,963	
Water Bypassed Pursuant to IBWC Minute 242 <sup>9</sup>	43,862	121,447	117,192	
<b>Total Lower Basin &amp; Mexico <sup>10</sup></b>	<b>2,410,038</b>	<b>8,291,677</b>	<b>8,339,830</b>	

<sup>1</sup> 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 February for users reporting monthly and estimated for users reporting annually.

<sup>2</sup> These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.

<sup>3</sup> 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.

<sup>4</sup> Includes scheduled deliveries to Mexico at the Northerly International Boundary, Southerly International Boundary, Limitrophe, and Diversion Channel Discharge; and diversions at Parker Dam for Emergency Delivery to Tijuana. Volume shown does not include Creation of Mexico's Water Reserve or Creation of Mexico's Recoverable Water Savings.

<sup>5</sup> 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).

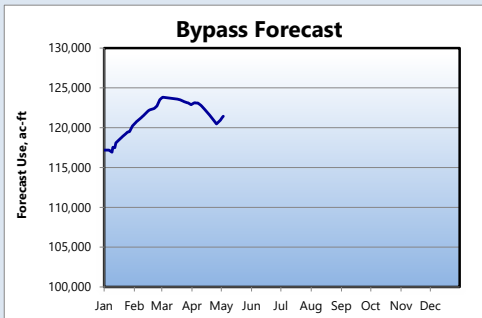
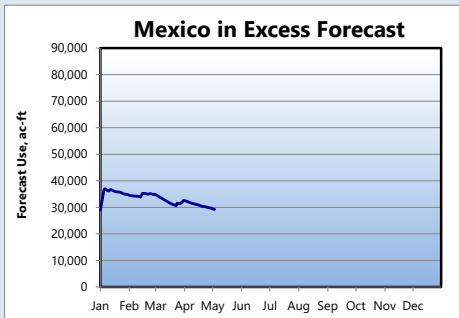
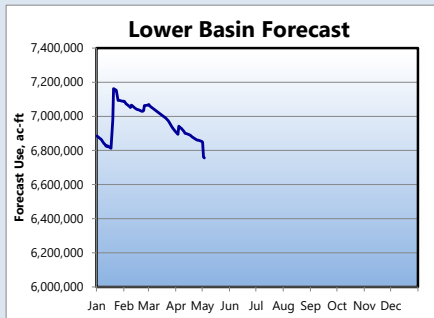
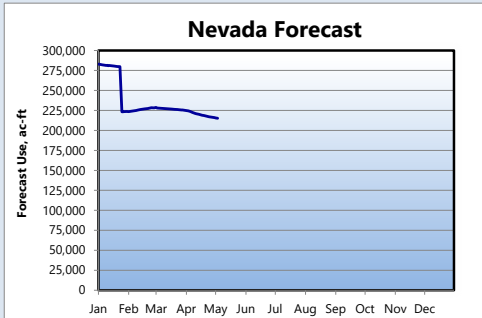
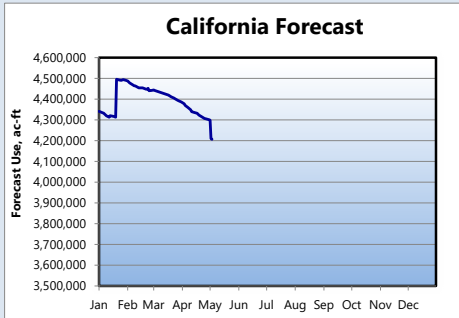
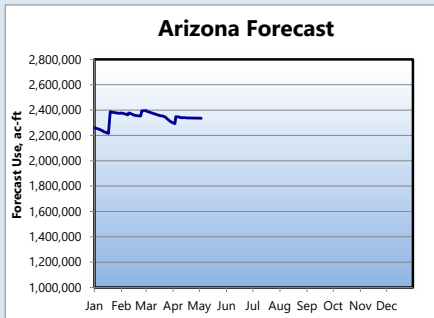
<sup>6</sup> Water deferred by Mexico pursuant to Section V of IBWC Minute 323.

<sup>7</sup> In accordance with Section XI.G.2.D.1.b of the 2007 Interim Guidelines, a Tier 2 Shortage Condition will govern the operation of Lake Mead and the lower Colorado River in 2023. In accordance with Section III.A of Minute 323, Mexico's scheduled deliveries incorporate the required reduction of 70,000 AF from its 1.5 million AF Colorado River water allotment. "Total to Mexico in Satisfaction of Treaty Requirements" adds in creation of Mexico's Recoverable Water Savings and Mexico's Water Reserve.

<sup>8</sup> "To Mexico in Excess of Treaty" forecast is based on the 5-year average for the period 2017-2021.

<sup>9</sup> "Water Bypassed Pursuant to IBWC Minute 242" forecast is based on the average for the period 1990-2021.

<sup>10</sup> Includes States Total, Total Deliveries to Mexico, 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 schedule change or monthly updating of provisional realtime diversions.**



**LOWER COLORADO BASIN REGION  
CY 2023**

ARIZONA WATER USERS

Forecast end of year diversion/consumptive use

Forecast based on use to date and approved annual water orders

[Arizona 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.

WATER USER	Use	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date CY 2023	Use CY 2023	Use CY 2023	Estimated Use CY 2023	To Date CY 2023	Diversion CY 2023	Diversion CY 2023	Diversion CY 2023
TV Marble Canyon, AZ LLC	3	10	10	---	5	15	15	0
Lake Mead NRA, AZ - Diversions from Lake Mead	13	70	68	---	13	70	68	2
Lake Mead NRA, AZ - Diversions from Lake Mohave	59	217	218	---	59	217	218	-1
McAlister Family Trust	2	7	7	---	3	10	10	0
Bureau of Reclamation - Davis Dam Project	1	2	2	---	3	10	10	0
Bullhead City	1,883	8,356	8,699	---	2,968	13,125	13,730	-605
Mohave Water Conservation District	222	755	749	---	330	1,125	1,115	10
Mohave Valley I.D.D. <sup>1</sup>	4,582	18,678	21,209	---	8,485	34,591	39,276	-4,685
Fort Mojave Indian Reservation, AZ	9,589	39,515	44,280	---	17,757	73,176	82,000	-8,824
Golden Shores Water Conservation District	96	287	287	---	145	432	432	0
Havasu National Wildlife Refuge	554	2,954	3,564	---	4,612	32,783	41,835	-9,052
EPCOR Water Arizona, Inc. - CSA No. 1	170	544	527	---	259	834	810	24
Crystal Beach Water Conservation District	25	73	73	---	38	112	112	0
Lake Havasu City	2,472	8,961	9,052	---	3,988	14,454	14,600	-146
Arizona State Parks (Windsor Beach)	4	11	11	---	6	17	17	0
Central Arizona Water Conservation District <sup>2</sup>	351,860	1,151,137		---	351,860	1,151,137		--
Hillcrest Water Company	7	21	21	---	11	32	32	0
Springs Del Sol Domestic Water Improvement District	1	2	2	---	1	3	3	0
Frontier Communications West Coast	0	1	1	---	0	1	1	0
EPCOR Water Arizona, Inc. - CSA No. 2 (formerly Brooke Water, LLC)	91	320	327	---	137	480	489	-9
Town of Parker	74	398	418	---	212	883	912	-29
Colorado River Indian Reservation, AZ	90,716	359,154	360,641	---	135,509	608,294	662,402	-54,108
GM Gabrych Family	982	2,925	2,925	---	1,511	4,500	4,500	0
Ehrenberg Improvement District	87	260	260	---	123	365	365	0
B&F Investment	3	8	8	---	4	11	11	0
North Baja Pipeline	67	200	200	---	103	308	308	0
Arizona State Land Department - Domestic	12	40	40	---	20	62	61	1
Cibola Valley I.D.D.	1,398	5,307	5,322	---	1,956	7,422	7,443	-21
Red River Land Co.	26	207	214	---	37	290	300	-10
Hopi Tribe	421	2,855	3,061	---	589	3,991	4,278	-287
GSC Farms, LLC	223	2,083	2,083	---	313	2,913	2,913	0
Arizona Game & Fish	264	1,995	2,031	---	369	2,788	2,838	-50
Cibola Island	237	705	705	---	331	986	986	0
Cibola National Wildlife Refuge	2,459	14,226	14,264	-38	3,966	22,944	23,005	-61
Western Water, LLC	63	367	379	---	89	514	530	-16
Cibola Sportsmans Club	37	161	154	---	51	225	216	9
Bishop Family Trust	61	302	300	---	87	424	420	4
Cathcarts	20	91	90	---	28	128	126	2
Imperial National Wildlife Refuge	1,268	3,799	3,799	0	2,044	6,128	6,128	0
BLM - Leased by L. Pratt	19	58	58	---	30	89	89	0
BLM Permittees (Parker Dam to Imperial Dam)	427	1,271	1,271	0	657	1,956	1,956	--
Fisher's Landing Water and Sewer, LLC	2	7	7	---	4	11	11	0
Shepard Water Company	6	18	18	---	9	28	28	0
U.S. Army Yuma Proving Grounds	81	462	486	---	81	462	486	-24
JRJ Partners, LLC	224	666	666	---	344	1,025	1,025	0
Cha Cha, LLC	354	1,373	1,365	---	546	2,113	2,100	13
Beattie Farms Southwest	265	728	722	---	409	1,119	1,110	9
Gila Monster Farms	1,330	4,280	4,833	---	2,244	7,440	8,500	-1,060
Wellton-Mohawk I.D.D.	68,146	256,570	278,000	-21,430	105,107	386,660	424,350	-37,690
BLM Permittees (Below Imperial Dam)	37	110	110	0	57	169	169	--
City of Yuma	4,713	14,943	15,151	-208	7,724	26,282	27,500	-1,218
U.S. Marine Corps Air Station Yuma	277	1,193	1,265	---	277	1,193	1,265	-72
Union Pacific Railroad	8	29	29	---	16	48	48	0
University of Arizona	244	889	897	---	244	889	897	-8
Yuma Union High School District	26	142	150	---	34	189	200	-11
Desert Lawn Memorial	9	27	27	---	13	38	38	0
North Gila Valley Irrigation District	2,051	8,720	9,486	---	10,333	40,085	43,500	-3,415
Yuma Irrigation District	10,575	36,367	38,958	---	19,180	67,806	73,100	-5,294

WATER USER	Use	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date	Use	Use	Use	To Date	Diversion	Diversion	Diversion
	CY 2023	CY 2023	CY 2023	CY 2023	CY 2023	CY 2023	CY 2023	CY 2023
Yuma Mesa I.D.D.	18,453	97,948	104,430	---	42,724	208,802	230,252	-21,450
Unit "B" I.D.D.	3,181	13,937	13,421	---	6,225	26,865	28,300	-1,435
Arizona State Land Department - Agriculture	1,323	4,293	4,295	---	2,050	6,619	6,607	12
Ott Family	90	269	269	---	139	414	414	0
Ogram Boys' Enterprises	200	595	595	---	308	916	916	0
Fort Yuma Indian Reservation	1,048	3,123	3,123	---	1,613	4,804	4,804	0
BLM - Leased by M. Lee	49	145	145	---	75	223	223	0
Armon Curtis	43	127	127	---	65	195	195	0
Yuma County Water Users' Association	76,858	256,625	277,259	---	111,984	348,678	367,400	-18,722
R. Griffin	10	30	30	---	15	46	46	0
Power	25	74	74	---	38	114	114	0
Cocopah Indian Tribe (PPR No. 7)	62	184	184	---	95	283	283	0
Griffin Ranches (PPR No. 7)	25	74	74	---	38	114	114	0
Milton Phillips (PPR No. 7)	15	44	44	---	22	67	67	0
Griffin Family Ltd. Partnership (PPR No. 7)	6	17	17	---	9	26	26	0
Cocopah Indian Reservation	268	1,787	1,820	---	306	2,657	2,812	-155
Bureau of Reclamation - Yuma Area Office	69	206	206	---	69	206	206	0
Arizona Public Service Company	0	0	0	---	0	0	0	0
Gary Pasquinelli	70	209	209	---	108	321	321	0
<b>Total Arizona</b>	<b>660,641</b>	<b>2,334,544</b>	<b>2,411,032</b>		<b>851,214</b>	<b>3,124,752</b>	<b>3,307,197</b>	
Central Arizona Project (CAP)	351,860	1,151,137				1,151,137		
All Others	308,781	1,183,407	1,245,812			1,973,600	2,141,972	
Yuma Mesa Division, Gila Project	31,079	143,035	152,874	-9,839		316,693		
Total 242 Well Field Pumping <sup>3</sup>	13,438	42,463	48,129					

#### ARIZONA ADJUSTED APPORTIONMENT CALCULATION

Arizona Basic Apportionment	2,800,000
Reduction for Tier 2a Shortage <sup>4</sup>	(400,000)
Reduction for Arizona DCP Contributions <sup>5</sup>	(192,000)
System Conservation Water - Pilot System Conservation Program <sup>6</sup>	(500)
System Conservation Water - Fort McDowell Yavapai Nation (FMYN) <sup>7,8</sup>	(13,933)
System Conservation Water - Reclamation (Estimated) <sup>9</sup>	(11,334)
Delivery of ICS (CAWCD)	up to 70,000
<b>Total State Adjusted Apportionment</b>	<b>2,252,233</b>
Excess to Total State Adjusted Apportionment	82,311
<b>Estimated Allowable Use for CAP</b>	<b>1,073,387</b>

<sup>1</sup> Approved/forecasted values include up to 1,250 AF of diversion for domestic use pursuant to MVIDD's Subcontract No. 09-101 with the Mohave County Water Authority.

<sup>2</sup> Forecast Use incorporates CAWCD's operational schedule dated January 17, 2023.

<sup>3</sup> In accordance with the Colorado River Water Conservation Letter Agreement 16-XX-30-W0603, Revision No. 1 (Revised Letter Agreement) between Reclamation and the Central Arizona Water Conservation District (CAWCD), pumping above the Historical Average Baseline (31,129 AF), up to 32,000 AF per year, will remain in Lake Mead as Colorado River System water.

<sup>4</sup> In accordance with Section XI.G.2.D.1.b of the 2007 Interim Guidelines, a Tier 2 Shortage Condition will govern the operation of Lake Mead and the lower Colorado River in 2023, resulting in a 400,000 AF reduction to the state of Arizona's Colorado River basic apportionment.

<sup>5</sup> In accordance with Section III.B.1.a of *Lower Basin Drought Contingency Operations* (LBOs), the state of Arizona is required to make DCP Contributions of 192,000 AF in 2023. CAWCD agrees to fulfill Arizona's DCP Contributions in accordance with Section II.3.b of the *Agreement Regarding Lower Basin Drought Contingency Plan Obligations*. In accordance with LBOs, CAWCD anticipates making its required DCP Contributions through the simultaneous creation and conversion of Extraordinary Conservation (EC) ICS to DCP ICS and the creation of Non-ICS Water (reductions in consumptive use). CAWCD has an approved ICS Plan for the creation of up to 100,000 AF of EC ICS in 2023. The actual amount of EC ICS created by CAWCD and converted to DCP ICS and credited toward the DCP Contribution will be based on final accounting and verification. In accordance with Section XI.G.3.B.4 of the 2007 Interim Guidelines and Section IV.B of LBOs, the total amount of EC ICS that may be created by the states of Arizona, California, and Nevada in 2023 will be limited to 625,000 AF. Additionally, the total amount of EC ICS, Binational ICS and DCP ICS accumulated in Arizona, California and Nevada's ICS Accounts will be limited in accordance with Section IV.C. of LBOs.

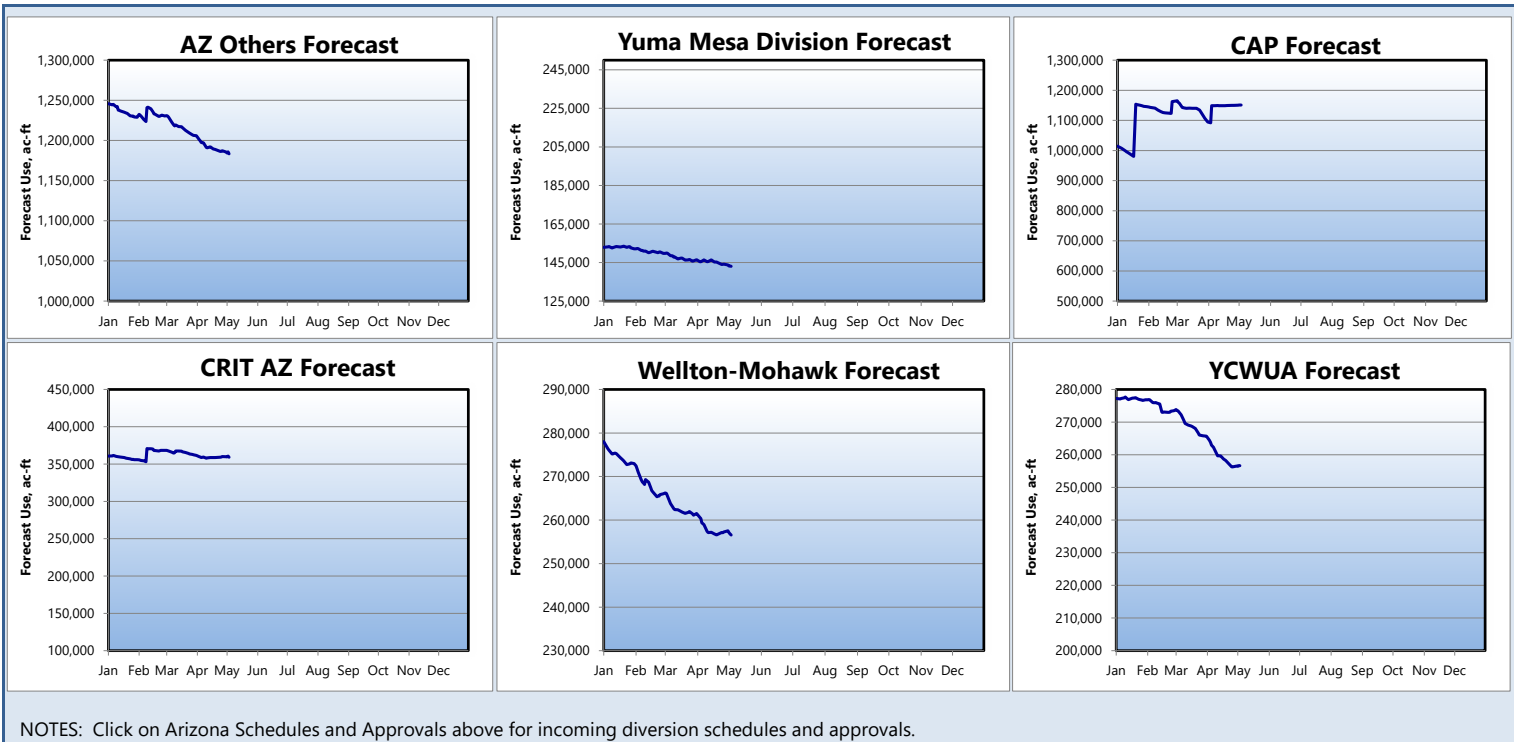
<sup>6</sup> The estimated amount of System Conservation Water that will be created by the City of Bullhead City pursuant to System Conservation Implementation Agreement (SCIA) No. 15-XX-30-W0587, as amended. This System Conservation Water will remain in Lake Mead to benefit system storage.

<sup>7</sup> In accordance with the applicable system conservation agreements and Section 3.b of the *Lower Basin Drought Contingency Plan Agreement*, the Bureau of Reclamation intends to apply all or a portion of this water towards the Secretary of the Interior'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>8</sup> CAP water being created by FMYN pursuant to SCIA No. 23-XX-30-W0750, which will remain in Lake Mead to benefit system storage.

<sup>9</sup> The estimated amount of System Conservation Water that will be created by additional pumping from the 242 Well Field Expansion pursuant to Letter Agreement No. 16-XX-30-W0603, Revision No. 1, which will remain in Lake Mead to benefit system storage.







**LOWER COLORADO BASIN REGION  
CY 2023**

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.

**CALIFORNIA WATER USERS**

Forecast end of year diversion/consumptive use  
 Forecast based on use to date and approved annual water orders  
[California Schedules and Approvals](#)

WATER USER	Use	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date	Use	Use	Estimated	To Date	Diversion	Diversion	Approved
	CY 2023	CY 2023	CY 2023	Use	CY 2023	CY 2023	CY 2023	Diversion
Fort Mojave Indian Reservation, CA	1,435	7,831	8,994	---	2,666	14,557	16,720	-2,163
City of Needles (includes LCWSP use)	338	1,493	1,605	-112	567	2,194	2,261	-67
PPR No. 30 (Stephenson)	6	19	19	---	11	34	34	0
PPR No. 38 (Andrade)	8	25	25	---	15	45	45	---
PPR No. 40 (Cooper)	2	6	6	---	3	10	10	---
Chemehuevi Indian Reservation	61	183	183	---	3,807	11,340	11,340	0
The Metropolitan Water District of Southern California <sup>1</sup>	191,318	845,976	---	---	192,308	848,613	---	---
Colorado River Indian Reservation, CA	1470	4,380	4,380	---	2,437	7,258	7,258	0
Palo Verde Irrigation District	71,203	379,491	423,836	---	191,685	807,492	862,000	-54,508
PPR No. 31 (Mendivil)	1	3	3	---	2	6	6	0
Yuma Project Reseravation Division	11,314	40,964	48,668	---	23,817	86,486	98,898	-12,412
Yuma Project Reservation Division - Bard Unit	---	---	---	---	11,736	45,701	51,500	-5,799
Yuma Project Reservation Division - Indian Unit	---	---	---	---	12,081	40,785	47,398	-6,613
Fort Yuma Indian Reservation - Ranch 5 (Surface Delivery)	383	1,135	1,194	---	693	2,054	2,160	-106
Fort Yuma Indian Reservation - Other Ranches (Pumpers)	382	1,137	1,137	---	691	2,058	2,058	0
Yuma Island Pumpers	491	1,463	1,463	---	889	2,647	2,647	0
Imperial Irrigation District	728,536	2,561,954	2,617,800	-55,846	744,045	2,693,065	2,767,270	---
Coachella Valley Water District	74,358	359,842	389,000	-29,158	78,277	383,046	413,155	---
Other LCWSP Contractors	177	526	526	---	275	819	819	0
City of Winterhaven	19	58	58	---	27	81	81	0
<b>Total California</b>	<b>1,081,502</b>	<b>4,206,486</b>	<b>4,350,109</b>		<b>1,242,215</b>	<b>4,861,805</b>	<b>5,040,587</b>	

**CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION**

California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program <sup>2</sup>	(145)
System Conservation Water - PVID Following Program <sup>3</sup>	(58,400)
<b>Total State Adjusted Apportionment</b>	<b>4,341,455</b>
Excess to Total State Adjusted Apportionment	(134,969)

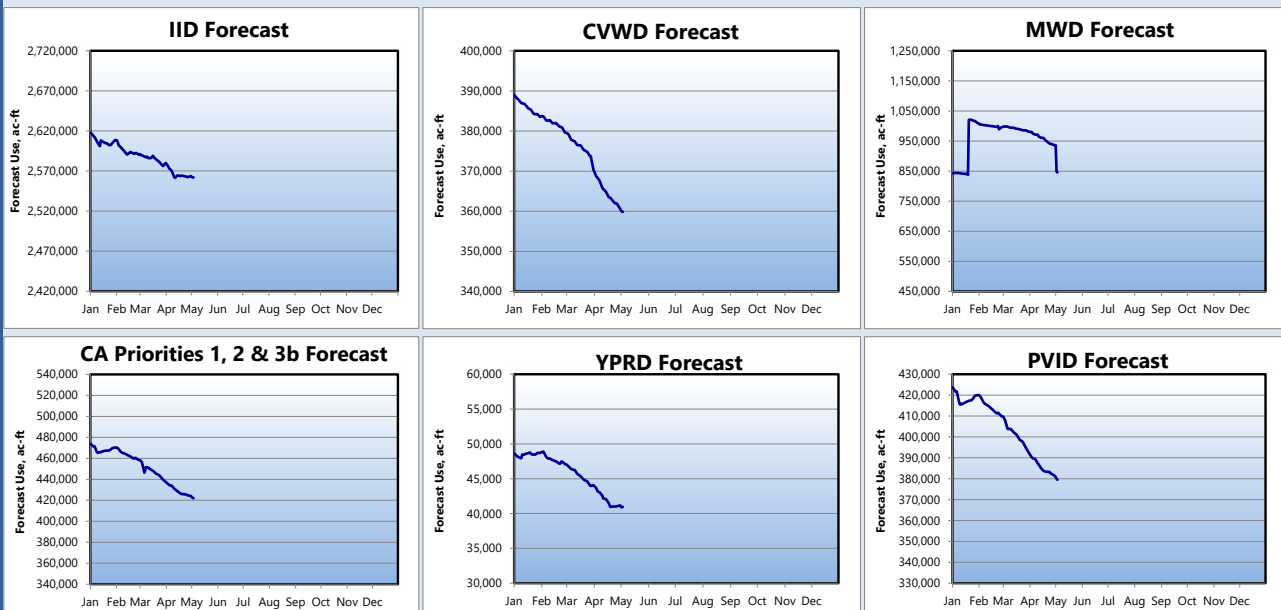
**Estimated Allowable Use for MWD**

**980,945**

<sup>1</sup> Forecast Use is based on MWD's operational projected diversion of 1.023 maf.

<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.

<sup>3</sup> The estimated amount of System Conservation Water that will be created pursuant to Funding Agreement No. 21-XX-30-W0714 (Funding Agreement). This System Conservation Water will remain in Lake Mead to benefit system storage. In accordance with the Funding Agreement, the Bureau of Reclamation intends to apply 50 percent this water towards the Secretary of the Interior's commitment to create or conserve 100,000 AF or more per annum of System Conservation Water pursuant to Section 3.b of the *Lower Basin Drought Contingency Plan Agreement*.



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



**LOWER COLORADO BASIN REGION  
CY 2023**

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

**NEVADA WATER USERS**

Forecast end of year diversion/consumptive use

Forecast based on use to date and approved annual water orders

[Nevada Schedules and Approvals](#)

<b>WATER USER</b>	<b>Use</b>	<b>Forecast</b>	<b>Estimated</b>	<b>Excess to</b>	<b>Diversion</b>	<b>Forecast</b>	<b>Excess to</b>	<b>Excess to</b>
	<b>To Date</b>	<b>Use</b>	<b>Use</b>	<b>Use</b>	<b>To Date</b>	<b>Diversion</b>	<b>Approved</b>	<b>Approved</b>
	<b>CY 2023</b>	<b>CY 2023</b>	<b>CY 2023</b>	<b>CY 2023</b>	<b>CY 2023</b>	<b>CY 2023</b>	<b>Diversion</b>	<b>Diversion</b>
Robert B. Griffith Water Project (SNWS)	120,968	440,367		---	120,968	440,367		---
Lake Mead NRA, NV - Diversions from Lake Mead	269	1,327	1,500	---	269	1,327	1,500	-173
Lake Mead NRA, NV - Diversions from Lake Mohave	119	432	500	---	119	432	500	-68
Basic Management, Inc.	0	0	0	---	0	0	0	0
City of Henderson (BMI Delivery)	0	0	0	---	0	0	0	0
Nevada Department of Wildlife	0	0	0	0	0	0	0	---
Pacific Coast Building Products, Inc.	284	902	928	---	284	902	928	-26
Boulder Canyon Project	59	177	177	---	101	300	300	0
Big Bend Water District	902	4,338	4,688	---	2,055	9,076	10,000	-924
Fort Mojave Indian Tribe	548	3,889	4,624	---	817	5,802	6,900	-1,098
Las Vegas Wash Return Flows	-83,093	-236,237	-231,289	---				
<b>Total Nevada<sup>1</sup></b>	<b>40,056</b>	<b>215,195</b>	<b>223,000</b>	<b>0</b>	<b>124,613</b>	<b>458,206</b>	<b>462,000</b>	<b>-2,289</b>
Southern Nevada Water System (SNWS)	37,875	204,130				440,367		
All Others	2,181	11,065				17,839		
Nevada Uses Above Hoover	38,606	206,968				443,328		
Nevada Uses Below Hoover	1,450	8,227				14,878		

**Tributary Conservation (TC) Intentionally Created Surplus (ICS)**

Southern Nevada Water Authority (SNWA) Creation of TC ICS (Approved)<sup>2</sup> 44,000

**NEVADA ADJUSTED APPORTIONMENT CALCULATION**

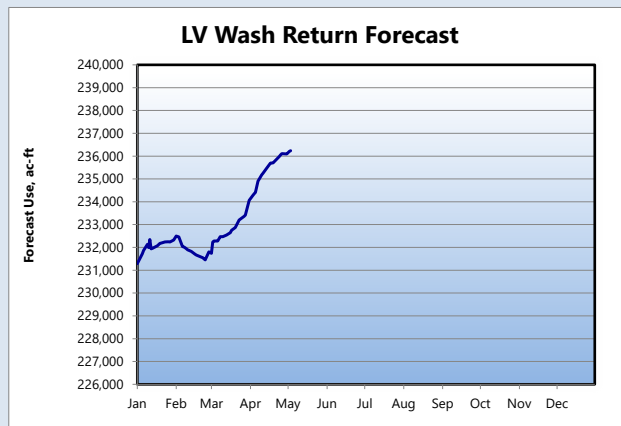
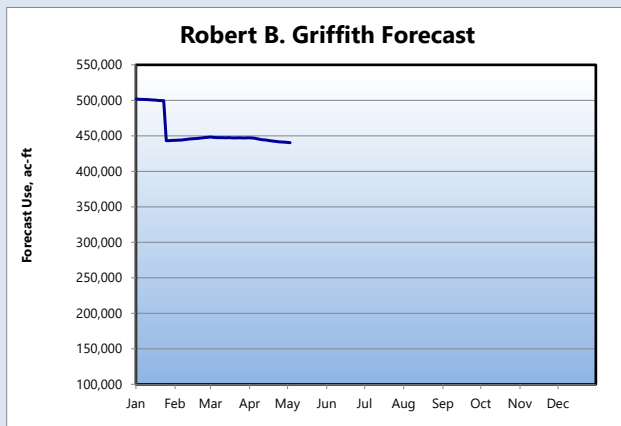
Nevada Basic Apportionment	300,000
Reduction for Tier 2 Shortage <sup>3</sup>	(17,000)
Creation of Extraordinary Conservation ICS - SNWA (Estimated) <sup>4</sup>	(67,805)
<b>Total State Adjusted Apportionment</b>	<b>215,195</b>
Excess to Total State Adjusted Apportionment	0

<sup>1</sup> The State of Nevada has been approved to consumptively use up to 283,000 AF in CY 2023. Forecast Use shown here is based on Nevada's operational projected consumptive use of 223,000 AF.

<sup>2</sup> SNWA has an approved ICS Plan for the creation of up to 44,000 AF of TC ICS in 2023. The actual amount of TC ICS created by SNWA in 2023 will be based on final accounting and verification.

<sup>3</sup> In accordance with Section XI.G.2.D.1.B of the 2007 Interim Guidelines, a Tier 2 Shortage Condition will govern the operation of Lake Mead and the lower Colorado River in 2023, resulting in a 17,000 AF reduction to the state of Nevada's Colorado River basic apportionment.

<sup>4</sup> SNWA has an approved ICS Plan for the creation of up to 100,000 AF of Extraordinary Conservation (EC) ICS in 2023. The actual amount of EC ICS created by SNWA in 2023 will be based on final accounting and verification. In accordance with Section XI.G.3.B.4 of the 2007 Interim Guidelines and Section IV.B of *Lower Basin Drought Contingency Operations* (LBOps), the total amount of EC ICS that may be created by the states of Arizona, California, and Nevada in 2023 will be limited to 625,000 AF. Additionally, the total amount of EC ICS, Binational ICS and DCP ICS accumulated in Arizona, California and Nevada's ICS Accounts will be limited in accordance with Section IV.C. of LBOps.



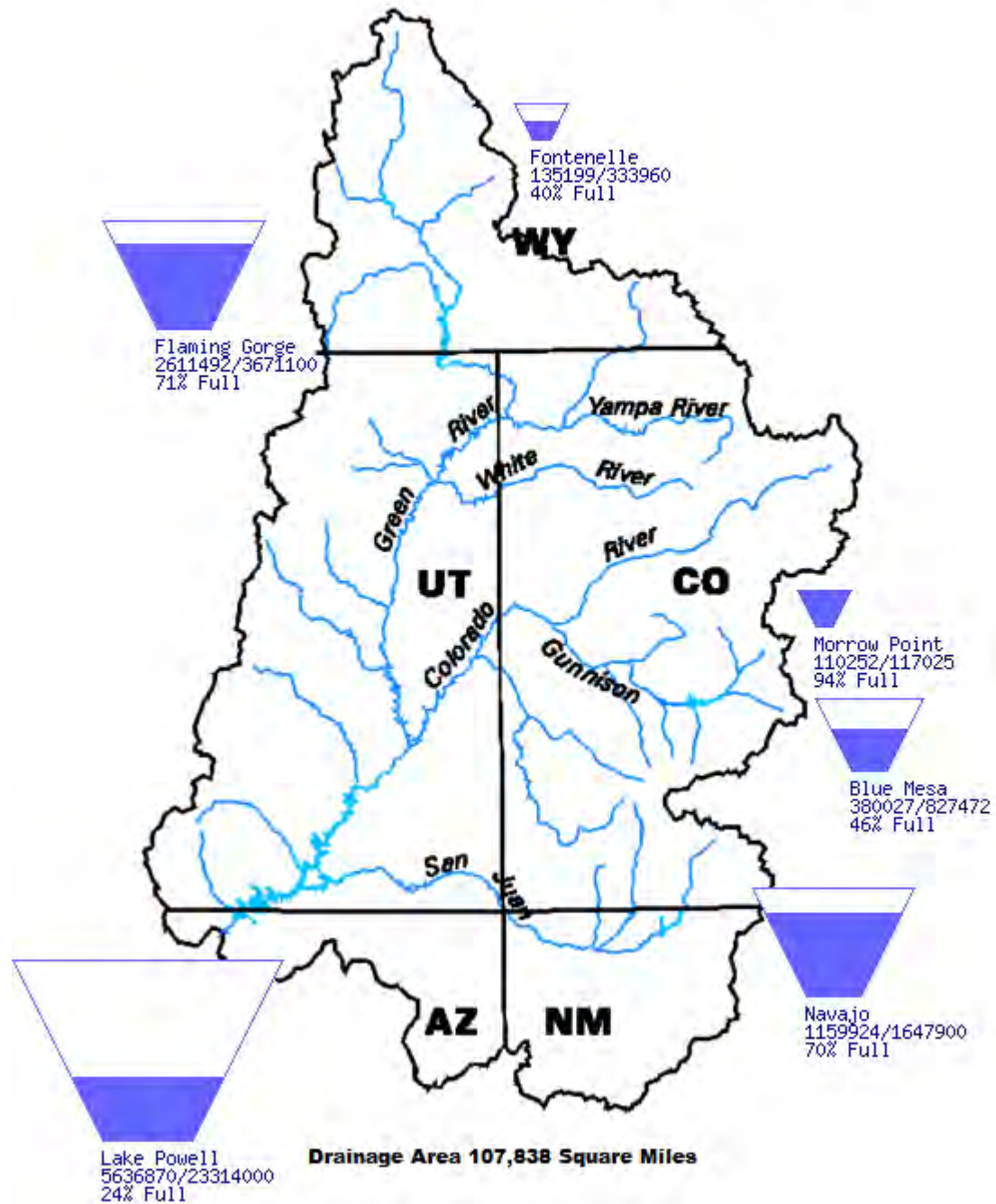
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

# Upper Colorado Region Water Resources Group

## River Basin Tea-Cup Diagrams

Data Current as of:  
05/03/2023

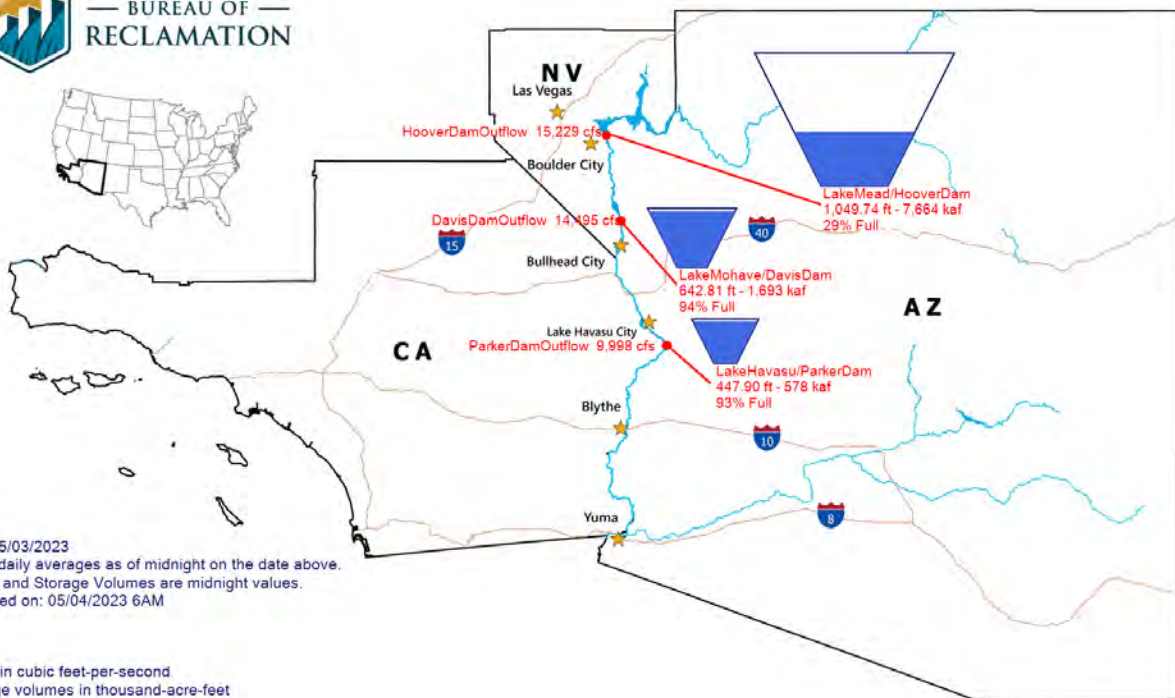
### Upper Colorado River Drainage Basin



# Lower Colorado River Teacup Diagram



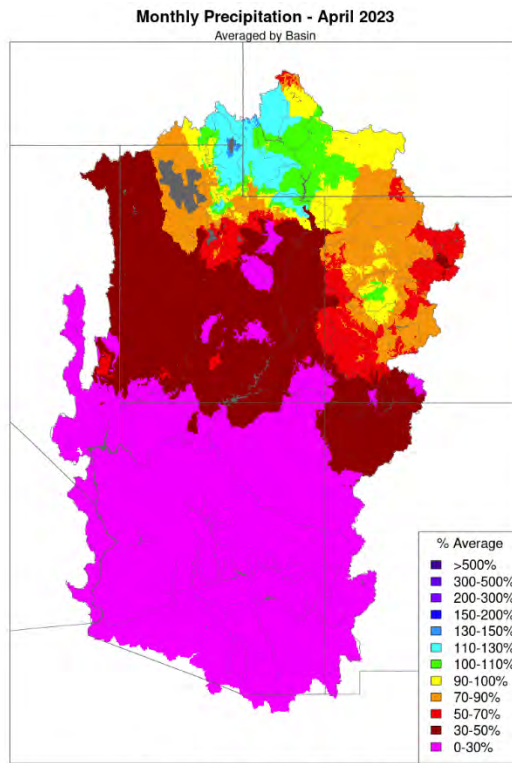
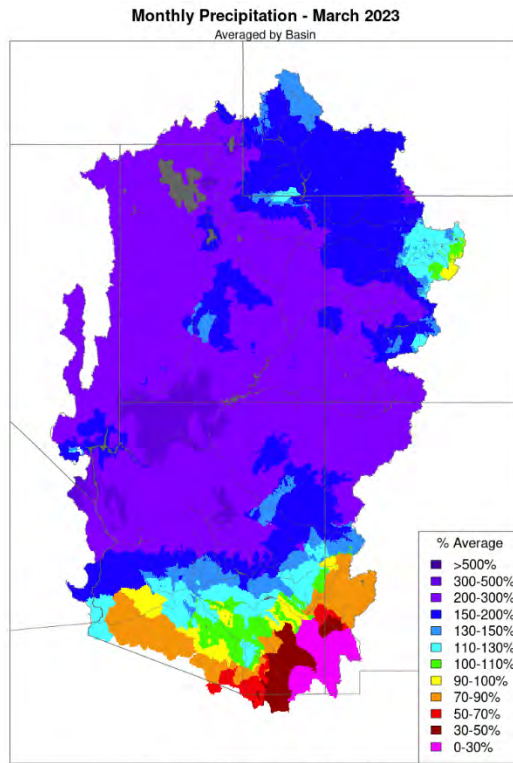
BUREAU OF RECLAMATION



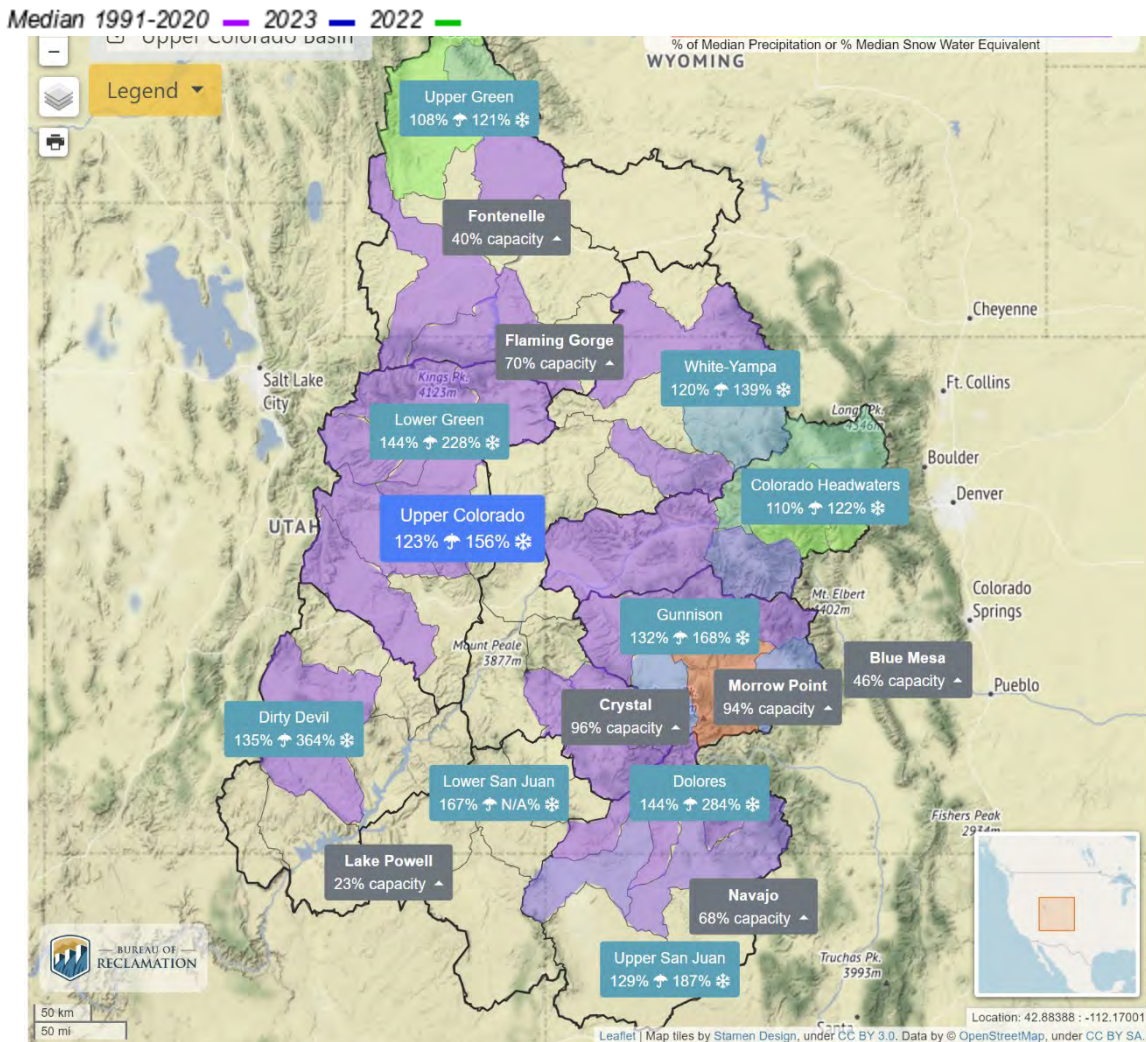
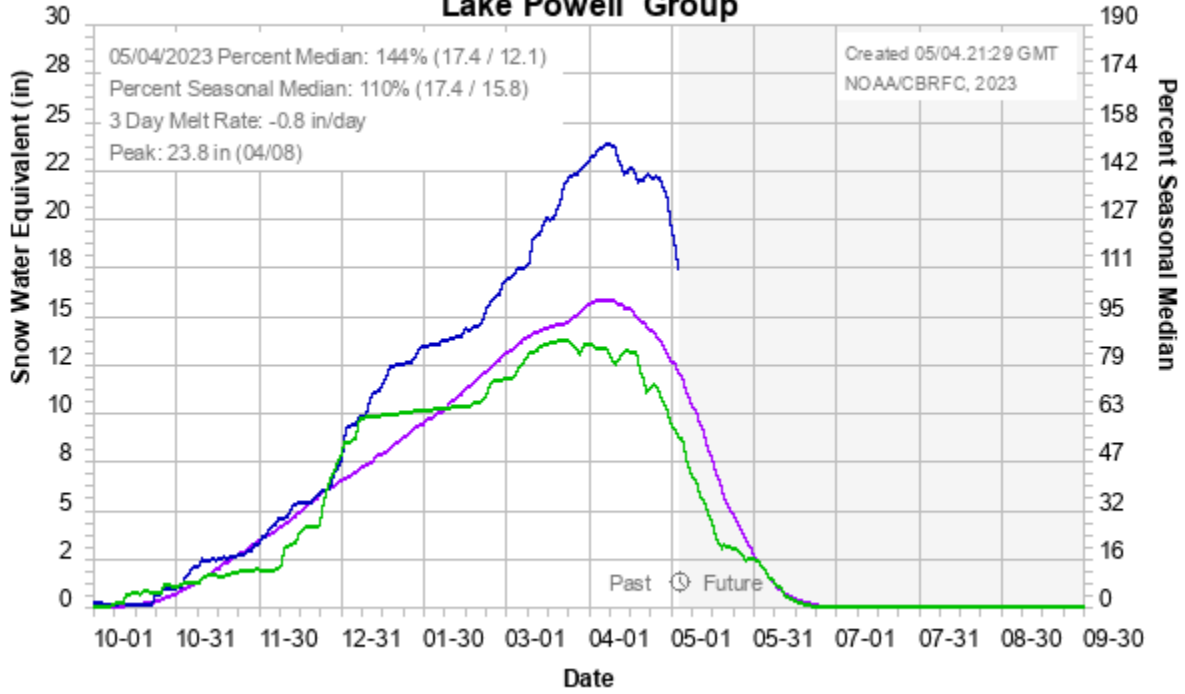
Data for: 05/03/2023  
 Flows are daily averages as of midnight on the date above.  
 Elevations and Storage Volumes are midnight values.  
 Last updated on: 05/04/2023 6AM

LEGEND:  
 cfs: Flows in cubic feet-per-second  
 kaf: Storage volumes in thousand-acre-feet  
 ft: Elevations in feet above mean-sea-level

# NOAA National Weather Service Monthly Precipitation Map March and April 2023

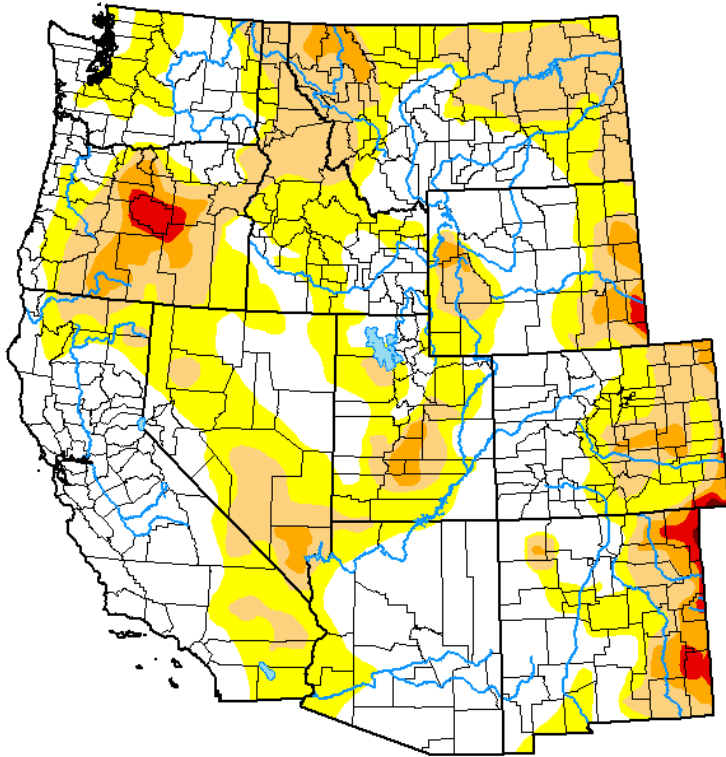


# Colorado Basin River Forecast Center Lake Powell Group



# U.S. Drought Monitor West

**May 2, 2023**  
(Released Thursday, May 4, 2023)  
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	46.41	53.59	25.19	6.17	1.19	0.05
<b>Last Week</b> <i>04-25-2023</i>	46.88	53.12	25.70	6.25	1.40	0.06
<b>3 Months Ago</b> <i>01-31-2023</i>	18.89	81.11	60.55	28.83	6.38	0.14
<b>Start of Calendar Year</b> <i>01-03-2023</i>	12.08	87.92	62.42	38.84	12.41	0.27
<b>Start of Water Year</b> <i>09-27-2022</i>	3.89	96.11	73.90	47.71	19.37	2.63
<b>One Year Ago</b> <i>05-03-2022</i>	4.68	95.32	91.33	72.86	30.69	4.63

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme 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:  
Brad Pugh  
CPC/NOAA



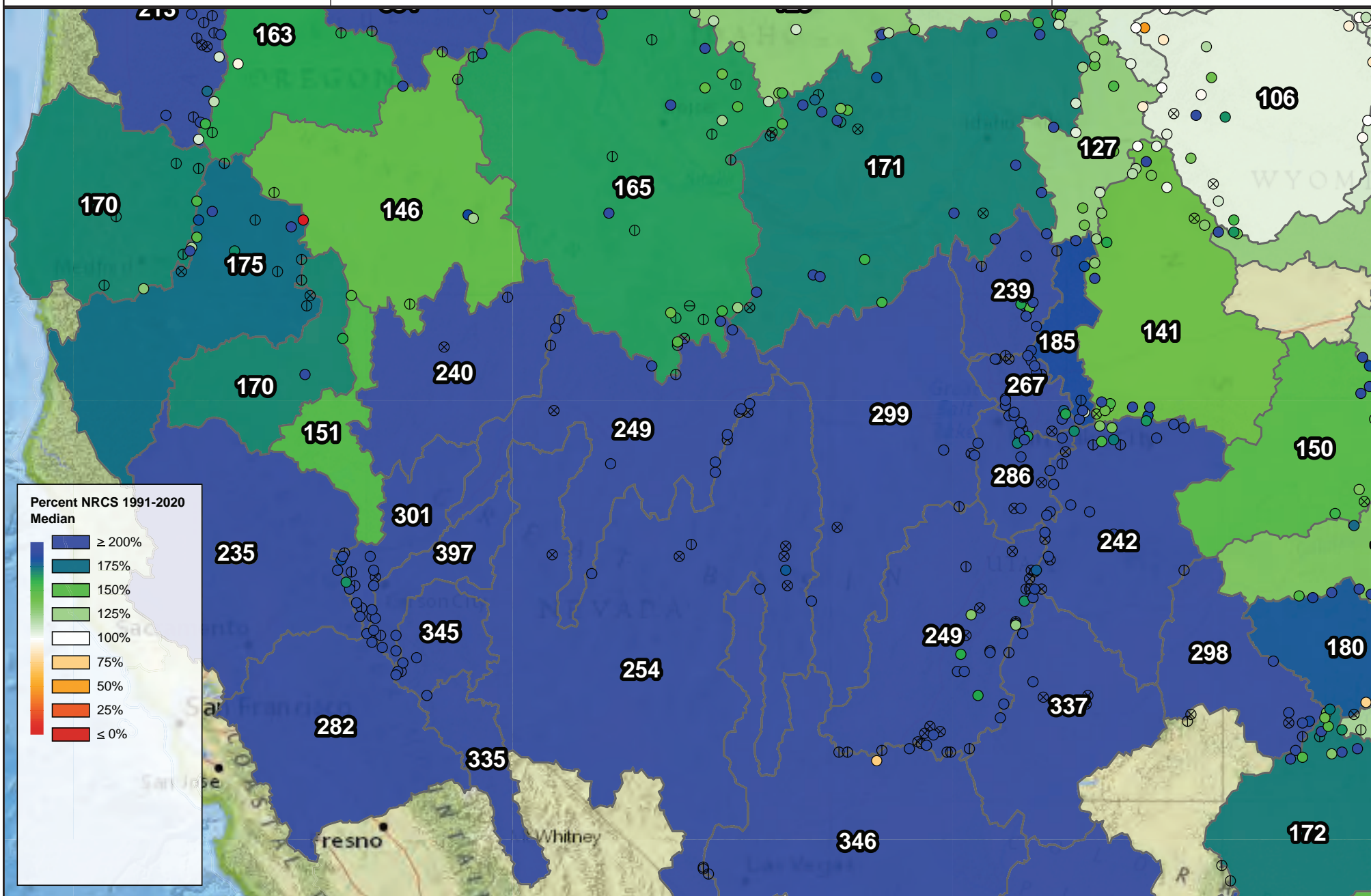
[droughtmonitor.unl.edu](https://droughtmonitor.unl.edu)



Snow Water Equivalent

Percent NRCS 1991-2020 Median

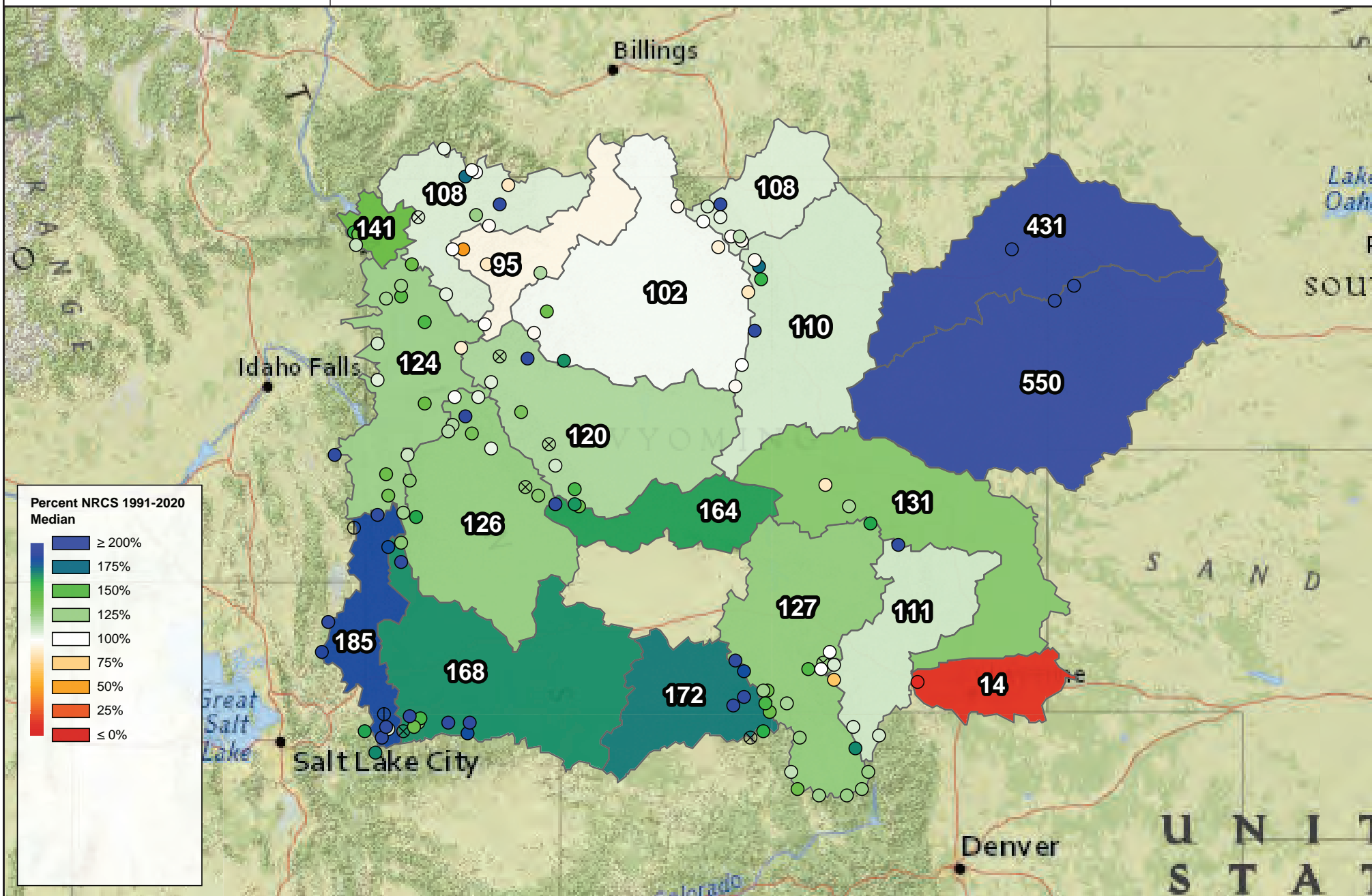
May 1st, 2023



Snow Water Equivalent

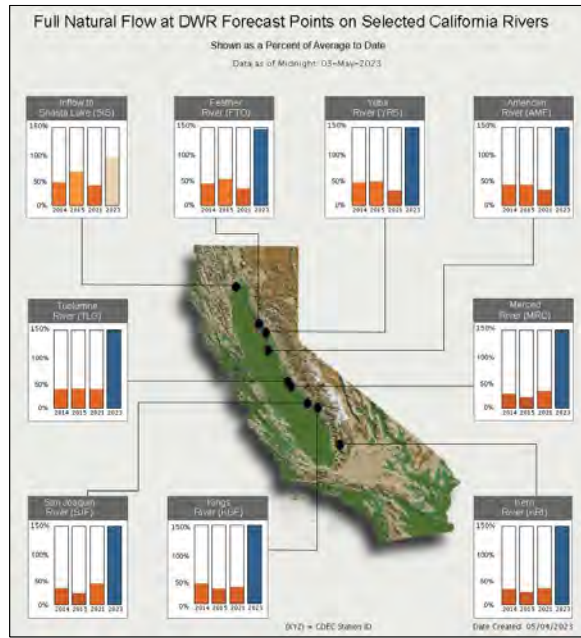
Percent NRCS 1991-2020 Median

May 1st, 2023

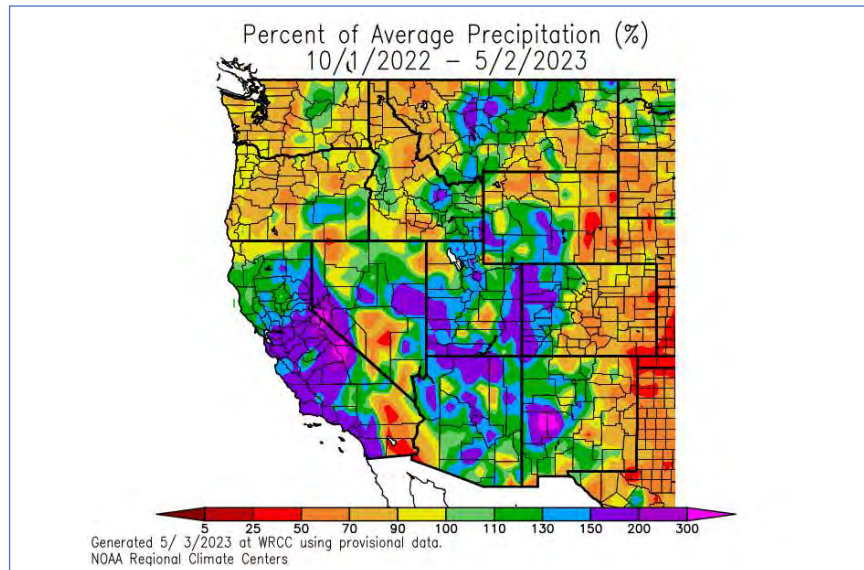


## Current Conditions

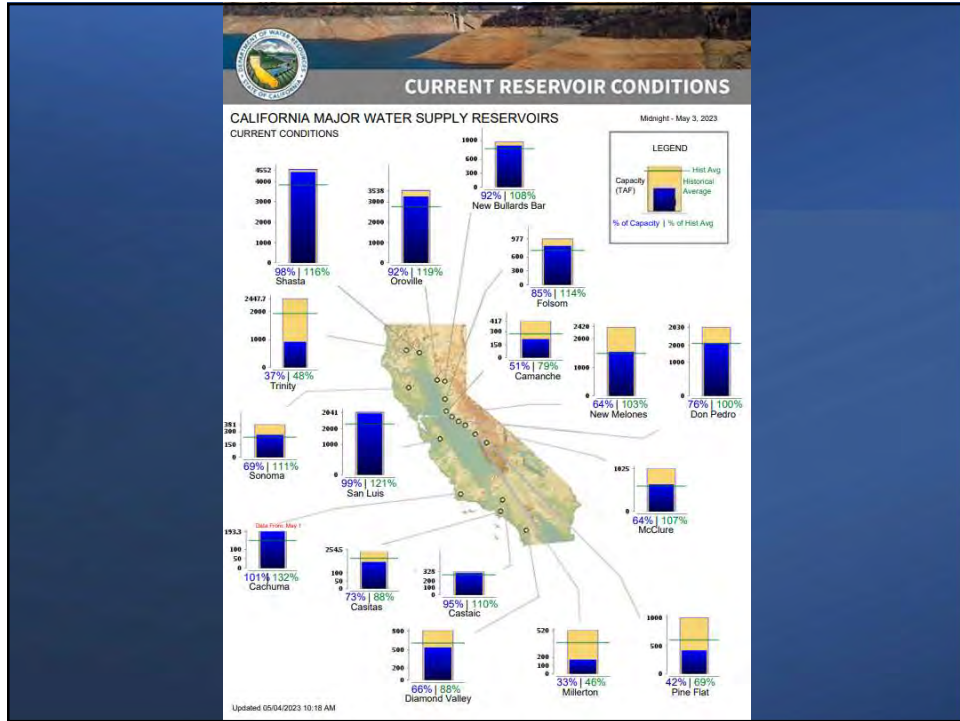
- Statewide precipitation: 141% of average for this date
- Statewide snowpack: 187% of historical April 1<sup>st</sup> average
- Statewide reservoir storage: 105% of average for this date



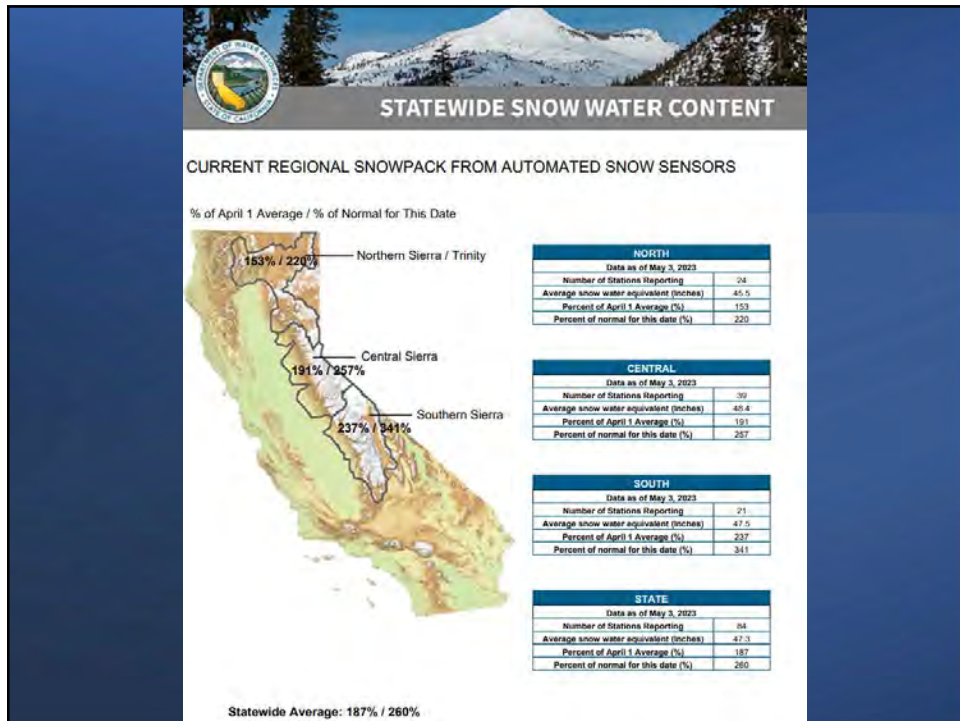
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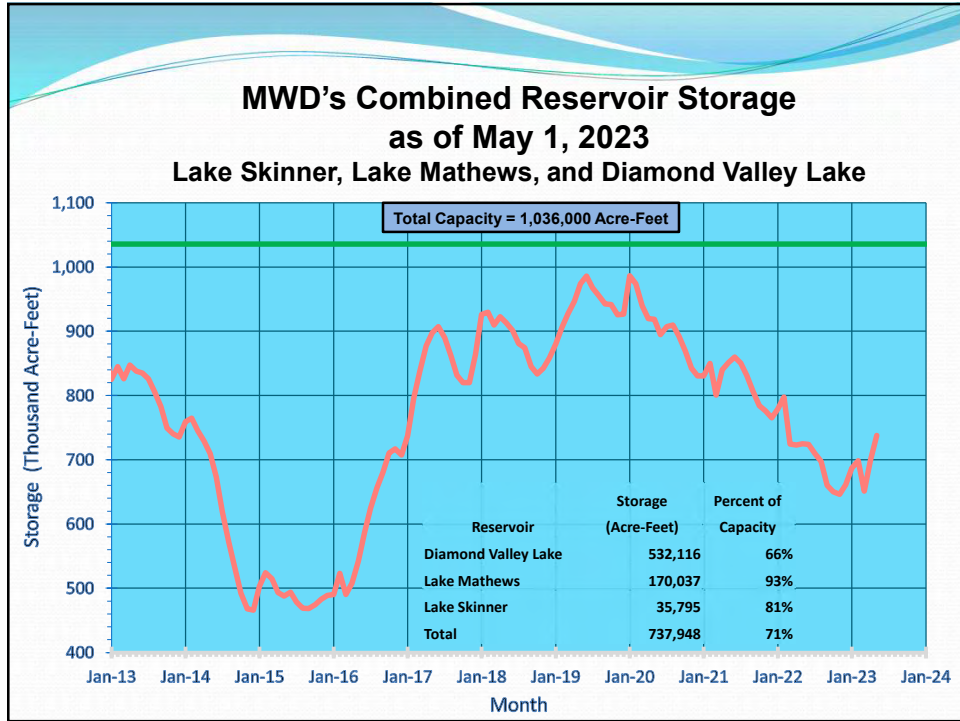
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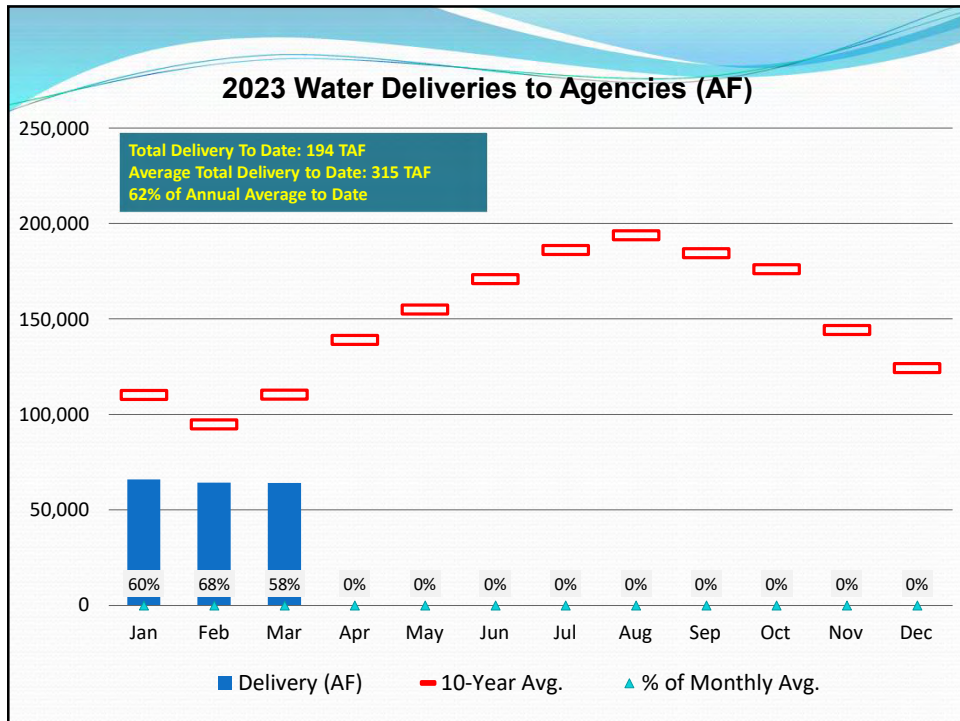
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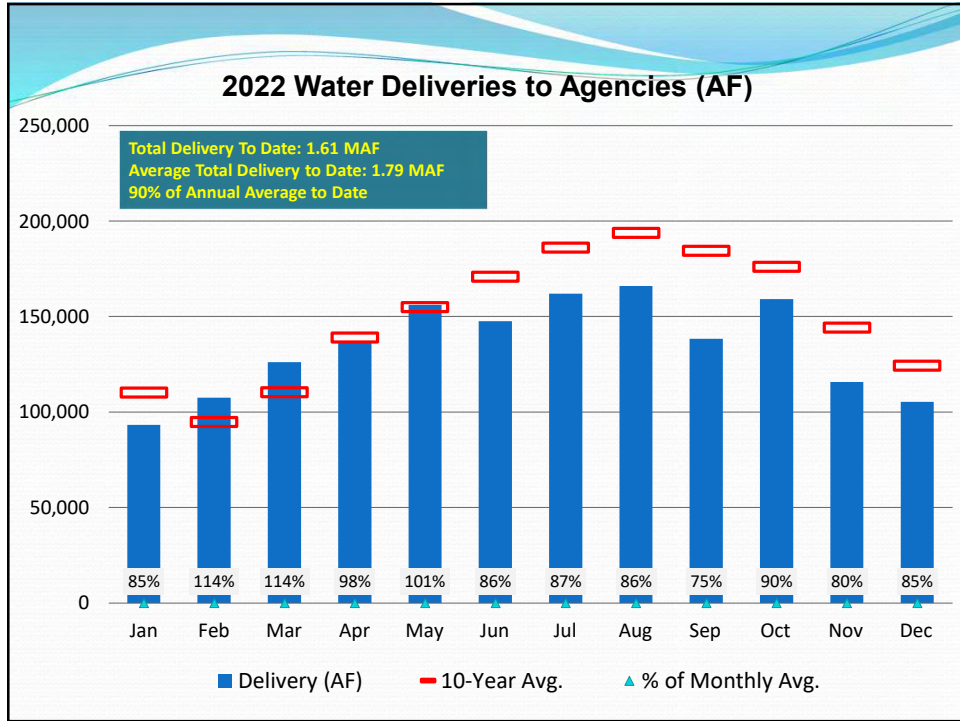
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1

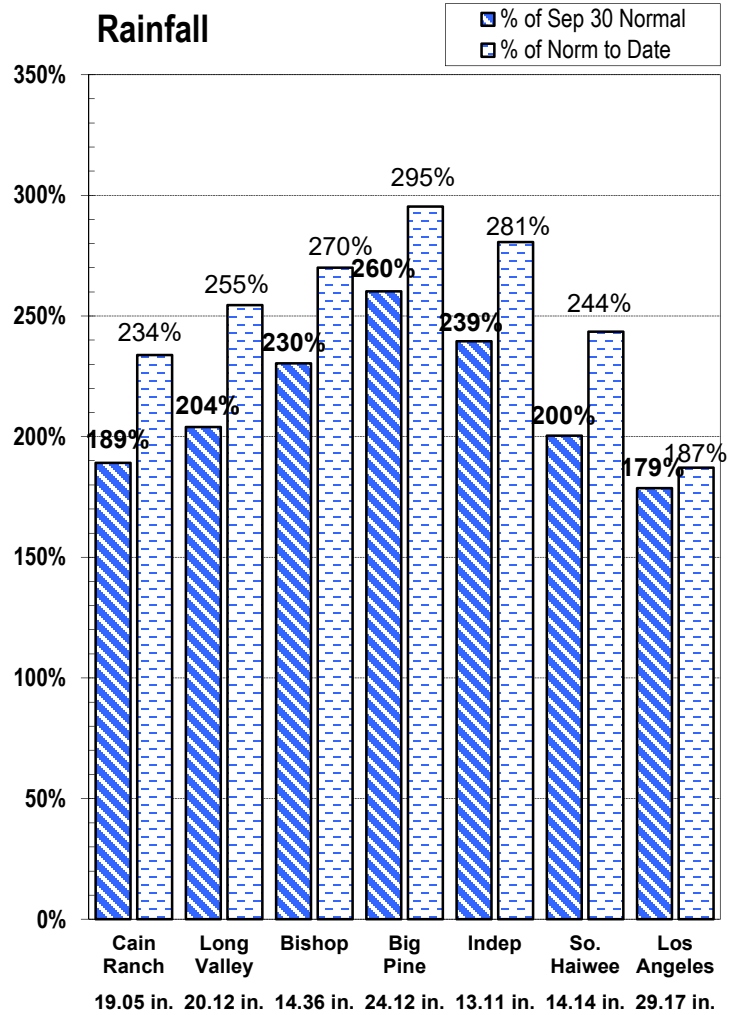
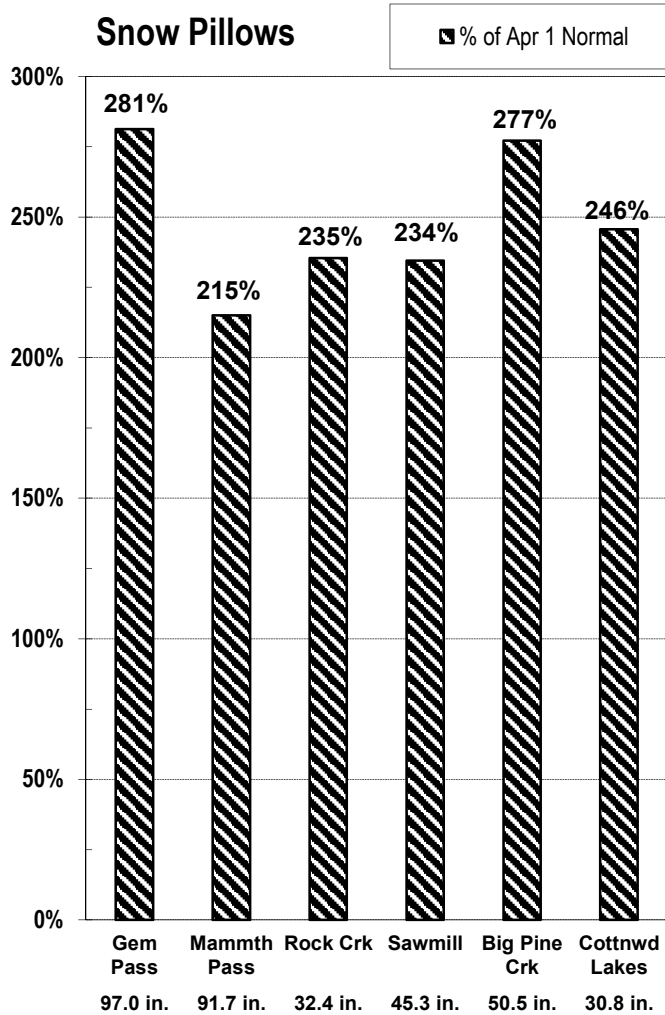
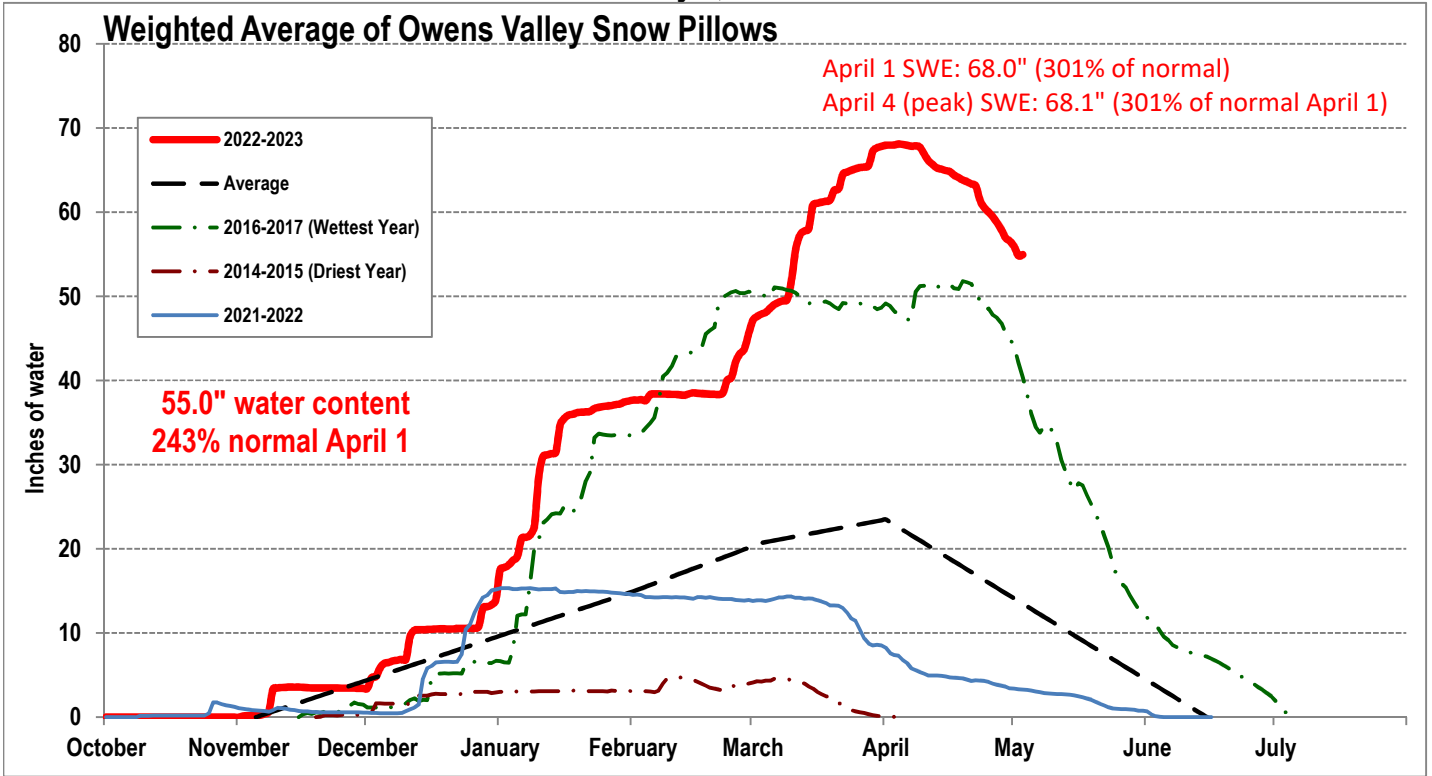


2



3

# EASTERN SIERRA CURRENT PRECIPITATION CONDITIONS May 3, 2023



*Measurement as Inches Water Content; Precipitation totals are cumulative for water year beginning Oct 1*







# United States Department of the Interior

BUREAU OF RECLAMATION  
125 South State Street, Room 8100  
Salt Lake City, UT 84138-1102



IN REPLY REFER TO:

UC-411  
2.1.4.13

VIA ELECTRONIC MAIL ONLY

## Memorandum

To: Chief of Staff  
Office of the Assistant Secretary for Water and Science

From Wayne G. Pullan  
Chair, Glen Canyon Leadership Team  
Secretary's Designee to the Adaptive Management Work Group (acting)

Subject: Notification of Decision to Implement a Spring Flow Experiment at Glen Canyon Dam

On April 10, 2023, the Glen Canyon Planning/Implementation (PI) Leadership Team finalized a majority recommendation to implement a Spring Flow Experiment (2023 Experiment) at Glen Canyon Dam in April 2023. Eight entities recommended the Spring Experiment, and 7 entities abstained from making a recommendation. No members objected to the 2023 Experiment based on information contained within the PI Technical Team Report and Recommendation.

The recommendation was developed and evaluated within the adaptive management framework and provisions of the 2016 Record of Decision (ROD) for the Glen Canyon Dam Long Term Experimental and Management Plan (LTEMP) Final Environmental Impact Statement (LTEMP ROD) concerning annual planning for flow-based experiments.

In accordance with the LTEMP, the Department may make the decision to conduct flow-based experiments (e.g., High Flow Experiments (HFE), Macroinvertebrate Production Flows, Trout Management Flows, and Low Summer Flows) at Glen Canyon Dam if it is determined that there are no unacceptable adverse impacts on other resource conditions. LTEMP states that "Prior to implementation of any experiment, the relative effects of the experiment on the following resource areas will be evaluated and considered: (1) water quality and water delivery, (2) humpback chub, (3) sediment, (4) riparian ecosystems, (5) historic properties and traditional cultural properties,

---

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

(6) Tribal concerns, (7) hydropower production and WAPA's assessment of the status of the Basin Fund, (8) the rainbow trout fishery, (9) recreation, and (10) other resources." Water Year 2023 was the sixth full year of implementing the process for annual experimental planning under the LTEMP ROD. For future experimental planning, the Department welcomes input from each of the Leadership Team members as to whether the current process or another process should be used to satisfy the coordination and communication requirements under the LTEMP ROD.

Traditionally Associated Tribes are notified at least 30 days in advance of planned experimental flows. On February 22, 2023, notification of the possible 2023 Experiment and offer for consultation was emailed to the Tribes and Parties to the LTEMP National Historic Preservation Act Section 106 Programmatic Agreement (LTEMP PA). A follow up letter was sent on March 29, 2023. At this time, no requests for consultation regarding the potential 2023 Experiment have been received.

The LTEMP ROD specifies the representation requirements for planning experiments at Glen Canyon Dam and is based on past successful planning and implementation of flow-based experiments. The PI Technical Team includes technical representatives from the Bureau of Reclamation (Reclamation), the National Park Service (NPS), the U.S. Fish and Wildlife Service (FWS), the Bureau of Indian Affairs (BIA), the U.S. Geological Survey's (USGS) Grand Canyon Monitoring and Research Center (GCMRC), Western Area Power Administration (WAPA), the Arizona Game and Fish Department (AZGFD), the seven Colorado River Basin States (States), and the Upper Colorado River Commission (UCRC). The PI Leadership Team is made up of decision makers from the same organizations.

The 2023 water year was an exceptional hydrological period for the Colorado River basin. High snowpack in the western United States was a welcomed change following multiple years of severe drought conditions. The low annual release volumes for the last year have also enabled the holdover of large amounts of sand in Marble Canyon, which in higher volume release years is quickly washed downstream. The 2023 Experiment takes advantage of that holdover sand and the new sand inputs from the Paria River from 2023 together with an anticipated large annual release volume of up to 9.5 million acre-feet in water year 2023. Focused analysis on the implications of this 2023 Experiment showed that there is no exacerbation of the non-native fish issues in the Colorado River below Glen Canyon Dam. In fact, no unacceptable adverse effects to any LTEMP resources were revealed within the Technical Report for any resources by the Planning and Implementation Technical Team.

Though the sediment triggers outlined by LTEMP ROD were not explicitly met during the accounting window to implement a spring HFE, the unique hydrology and sediment conditions in 2023 presented an exceptional opportunity to implement positive actions on the river, including compliance with the Grand Canyon Protection Act through a high flow action. Thus the 2023 Experiment was proposed and then analyzed under a Supplemental Information Report (SIR), which

concluded that the 2023 Experiment is covered under the analysis of the LTEMP Final Environmental Impact Statement. This type of spring flow action has been promoted by many members of the GCDAMP for years and was planned and will be implemented in a similar manner as a LTEMP spring HFE. The analysis in the SIR was undertaken for this 2023 April Experiment and the unique current conditions. The analysis, including the expedited consideration by the LTEMP PI Team, does not set a precedent for future LTEMP implementation.

Within the LTEMP, fall HFEs were predicted to be conducted frequently (~3 out of every 4 years) and it has been four years since the most recent HFE was triggered and implemented (fall 2018), and no spring HFEs have yet to be triggered. LTEMP anticipated spring HFEs in "26%" of the years covered under the 20-year period (i.e., 5 out of 20 years). The LTEMP anticipated proactive HFEs would occur in 10% of the years, so 2 out of 20. The GCDAMP is generally behind schedule for HFEs according to the above information, and sandbar condition in the Grand Canyon is currently poor owing to lack of HFEs and high monsoonal activity that has created gullies that make many sandbars inhospitable to camping.

This 2023 Experiment will provide a renewal of Grand Canyon beaches, which are used by over 25,000 visitors per year and have not been rebuilt since the last HFE in 2018. The 2023 Experiment creates progress towards a variety of LTEMP resource goals, including but not limited to the Sediment, Recreational Experience, Natural Processes goals.

Though there was majority support for the 2023 Experiment, support from Arizona and California was contingent upon the following qualifications:

Arizona (Department of Water Resources) and California support the 2023 Experiment recognizing the following:

- There are unprecedented and unique water supply and dam operation opportunities on the Colorado River in Water Year 2023, such as delayed balancing releases and the need to release additional water withheld in Lake Powell under modified DROA operations;
- The total actual sand accumulation load upon implementation is ~2.5 million metric tons, and Upper Marble Canyon is projected to receive an additional ~200,000 to ~500,000 metric tons of cumulative sand load for an April 2023 Experiment by the end of the 2023 spring accounting window;
- Reclamation is projecting a total annual release between 9.0 to 9.5 maf from Glen Canyon Dam within the remainder of the 2023 Water Year;

- The experiment is expected to have positive impacts on LTEMP downstream resources in the Grand Canyon;

And conditioned upon the following:

- The experiment does not create precedent for future actions. Future actions will be limited to the express terms of the LTEMP ROD;
- The expedited Planning & Implementation process and stakeholder review will be limited to this experiment and will not become a regular consultation tool;
- That monthly volumes for the remainder of the 2023 Water Year under a 9.0 to 9.5 maf release will not be significantly redistributed from the currently projected release patterns;
- This experiment will not result in lower Lake Powell reservoir elevations below the current projected May 1st elevation on May 1st of 2023;
- Pre- and post-experiment monitoring must occur to fully document and facilitate analysis of the effects of the experiment; and
- This support applies to Water Year 2023, and only to the extent that the experiment is within the scope and authority of the LTEMP ROD.

Based on the identification of high resource benefits by both the PI Technical and Leadership Teams, the determination of no unacceptable adverse impacts, and majority recommendation for the Department to implement a 72-hr duration Spring 2023 Experiment, I concur with the determination, and I have decided to conduct a Spring Experiment for 72-hrs of peak duration beginning on April 24. We will continue to work with our partners on future experimental flows and in the protection of the Grand Canyon and our most important resources.

I am grateful to both the PI Leadership and Technical Teams for their dedication and commitment to the process for annual experimental planning and for your continued support of the Glen Canyon Dam Adaptive Management Program.

For the deaf, hard of hearing or speech impaired, please dial 7-1-1 to access the telecommunications relay system.

Attachment: Final Technical Report and Recommendation Regarding a Spring Flow Experiment at Glen Canyon Dam, April 2023.

cc: Camille Calimlim Touton, Commissioner



# **Biden-Harris Administration Announces Over \$140 Million for Water Conservation and Efficiency Projects in the West**

*84 projects in 15 western states expected to conserve over 230,000 acre-feet annually once completed*

Media Contact: Interior\_Press@ios.doi.gov  
Peter Soeth 303.445.3615 psoeth@usbr.gov  
For Release: Apr 21, 2023



Davis and Weber Counties Canal Company's Small Piping and Hydro Project in Utah, which was an FY 2018 Water and Energy Efficiency Grant project. Photo courtesy of Davis and Weber Counties Canal Company.

**WASHINGTON** – The Department of the Interior today announced a \$140 million investment for water conservation and efficiency projects as part of the President’s Investing in America agenda to enhance the resilience of the West to drought and climate change. Funding for 84 projects in 15 western states, provided through the Bipartisan Infrastructure Law and annual appropriations, will go to irrigation and water districts, states, Tribes and other entities and are expected to conserve over 230,000 acre-feet of water when completed. This is equivalent to 77 billion gallons of water, enough water for more than 940,000 people.

“As we work to address record drought and changing climate conditions throughout the West, we are bringing every resource to bear to conserve local water supplies and support the long-term stability and sustainability of the Colorado River System,” said **Deputy Secretary of the Interior Tommy Beaudreau**. “The projects we are funding today are locally led and will support increased water conservation through innovative efficiency measures.”

“Delivering water more efficiently is key to helping Western communities become more resilient to drought,” said **Bureau of Reclamation Commissioner Camille Calimlim Touton**. “For more than 120 years, Reclamation and its partners have developed sustainable water and power solutions for the West. With increased funding from the Bipartisan Infrastructure Law and Inflation Reduction Act, we’re able to expand that work, extending collaboration and expanding conservation.”

The leaders returned last week from visits across the West as part of the Administration’s Investing in America tour to highlight the opportunities that the Bipartisan Infrastructure Law and Inflation Reduction Act are creating.

The Bipartisan Infrastructure Law includes \$8.3 billion for Reclamation water infrastructure projects over five years to advance drought resilience and expand access to clean water for families, farmers and wildlife. The investment will revitalize water delivery systems, advance water purification and reuse techniques, expand water storage capacities and complete rural water projects. The Inflation Reduction Act is investing another \$4.6 billion to address Western drought. Combined, these laws represent the largest investments in climate resilience in the nation’s history and provide unprecedented resources to support the Administration’s comprehensive, government-wide approach to make Western communities more resilient to drought and climate change.

In the Colorado River Basin, 12 projects will receive more than \$20 million in federal funding from today’s announcement, resulting in more than \$44.7 million in infrastructure investments. Once completed, the projects will result in a combined annual water savings of more than 29,000 acre-feet in the Colorado River System. Another 32 projects selected in California will receive \$46.7 million in federal funding. The projects will result in more than \$164.3 million in infrastructure investments in the state and a combined annual savings of more than 65,000 acre-feet once completed.

Today’s announcement is part of the efforts underway by the Administration to increase water conservation, improve water efficiency, and prevent the Colorado River System’s reservoirs from falling to critically low elevations that would threaten water deliveries and power production. The ongoing implementation and effectiveness of these essential efforts through new investments, as well as any voluntary system conservation agreements between Basin states, will help determine the degree to which revised operations will be implemented.



Selected projects include updating canal lining and piping to reduce seepage losses, installing advanced metering, automated gates and control systems, and programs in urban areas to install residential water meters and other water conservation activities.

One-third of the selected projects advance the Administration's Justice40 initiative, which aims to deliver 40 percent of the overall benefits of climate, clean energy and related investments to disadvantaged communities that are marginalized, overburdened and underserved.

This funding is part of Reclamation's WaterSMART Program, which focuses on collaborative efforts to plan and implement actions to increase water supply sustainability, including investments to modernize infrastructure. More information is available on Reclamation's WaterSMART program webpage.

[Project Descriptions](#)



## Sub-seasonal to Seasonal Precipitation Forecasting for Water Management

April 18, 2023

The Honorable Jeanne Shaheen  
Chairwoman  
Senate Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States Senate  
Washington, DC 20510

The Honorable Jerry Moran  
Ranking Member  
Senate Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States Senate  
Washington, DC 20510

Dear Chairman Rogers and Ranking Member Cartwright:

On behalf of the below-signed water management agencies and organizations, we are writing to request your support for a \$15 million Fiscal Year 2024 (FY24) appropriation to support the pilot for improving sub-seasonal to seasonal (S2S) precipitation forecasting in the western U.S. The National Oceanic and Atmospheric Administration's (NOAA) [2020 report to Congress](#) under Public Law 115-25 recommended the creation of this pilot project.

The purpose of the pilot project is to improve precipitation forecasting for water management in the U.S. As the report notes, NOAA pilot projects were chosen “...based on the existence of major climate phenomena that have huge economic impacts and for which current S2S predictive skill is too low to be effectively used by many stakeholders.”

For many decades the scientific community has not been able to offer dependable forecasts beyond a week or two, and S2S forecasts have the ability to provide state and local water managers with reliable extended precipitation outlooks. These sub-seasonal (2- to 6-week) to seasonal (2- to 12-month) projections fill an important gap between weather and climate forecasting and represent a central component of seamless short-term and long-term predictions that are needed to support water project operations, drought preparedness and response, and innovative water management strategies such as forecast-informed reservoir operations.

NOAA's Climate Prediction Center (CPC) has been issuing S2S precipitation outlooks since the mid- 1990s. Their skill for the western U.S. has been minimal, just slightly better than predicting average weather conditions, and has shown little improvement over time. Forecasting precipitation at S2S timescales is scientifically challenging and has historically received little federal research funding support.

Your support for a \$15 million increase in the U.S. Weather Research Program line item within NOAA's Office of Oceanic and Atmospheric Research (OAR) would begin development of reliable forecasting with longer lead times to provide water managers with critical data to operate infrastructure more efficiently and allocate resources to mitigate and manage impacts of extreme wet and dry conditions. From this amount, we support a FY24 allocation of \$3 million for the Weather Program Office (WPO) for grants, \$4 million to the OAR Labs for product development, \$2 million to the National Weather Service (NWS) CPC for product evaluation and implementation, \$2 million to the NWS Environmental Modeling Center (EMC) for implementation and evaluation of model improvements, and \$4 million for computing resources needed to support the federal efforts at OAR and NWS. The attached proposed committee report language describes how we believe this critical funding should be focused.

We appreciate your consideration and hope you will support S2S pilot project funding in FY24. Please contact Jordan Smith at [jas@vnf.com](mailto:jas@vnf.com) with any questions or to schedule a meeting to discuss this project with your staff.

Sincerely,

*Signature Page Follows*

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



*Matthew Knudson*  
*General Manager*  
**Antelope Valley - East Kern Water Agency**



*David Reynolds*  
*Director of Federal Relations*  
**Association of California Water Agencies**



*Thomas Dobbins*  
*Chief Executive Officer*  
**Association of Metropolitan Water Agencies**



*John A. Coleman*  
*Chief Executive Officer*  
**Bay Planning Coalition**



*Karla A. Nemeth*  
*Director*  
**California Department of Water Resources**



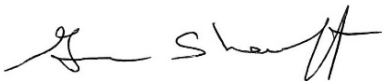
*Aaron A. Avery*  
*Senior Legislative Representative*  
**California Special Districts Association**



*Paul Hutton*  
*Executive Director*  
**California Water & Environmental Modeling Forum**



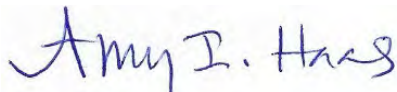
*Joseph Yun*  
*Executive Director*  
**California Water Commission**



*Gene Shawcroft*  
*General Manager*  
**Central Utah Water Conservancy District**



*J.M. Barrett*  
*General Manager*  
**Coachella Valley Water District**



*Amy Haas*  
*Executive Director*  
**Colorado River Authority of Utah**



*Andrew A. Mueller*  
*General Manager*  
**Colorado River Water Conservation District**

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



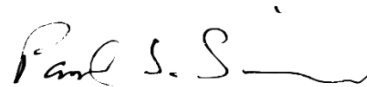
*Dan Keppen*  
*Executive Director*  
**Family Farm Alliance**



*Jason Phillips*  
*Chief Executive Officer*  
**Friant Water Authority**



*Beth Callaway*  
*Executive Director*  
**Interstate Council on Water Policy**



*Paul Simmons*  
*Executive Director*  
**Klamath Water Users Association**



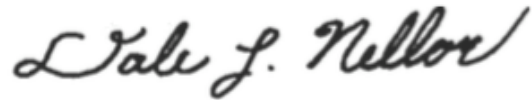
*Anselmo G. Collins, P.E.*  
*Senior Assistant General Manager – Water System*  
**Los Angeles Department of Water and Power**



*Adel Hagekhalil*  
*General Manager*  
**Metropolitan Water District of Southern California**



*Matthew Chase*  
*Executive Director*  
**National Association of Counties**



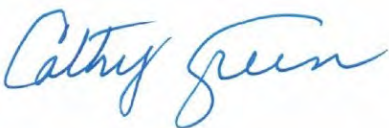
*Dale Nellor*  
*Executive Vice President*  
**National Water Resources Association**



*Adam Sullivan*  
*Nevada State Engineer*  
**Nevada Department of Conservation and Natural Resources**



*David J. Guy*  
*President*  
**Northern California Water Association**

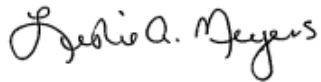


*Cathy Green*  
*Board President*  
**Orange County Water District**



*Mary-Ann Warmerdam*  
*Senior Vice President, Governmental Affairs*  
**Regional Council of Rural Counties**

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



*Leslie A. Meyers, PE*  
*Associate General Manager & Chief Water Resources Executive*  
**Salt River Project**



*Sandra L. Kerl*  
*General Manager*  
**San Diego County Water Authority**



*J. Scott Peterson*  
*Water Policy Director*  
**San Luis & Delta-Mendota Water Authority**



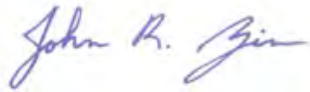
*Chris Harris*  
*Secretary*  
**Six Agency Committee**



*Grant Davis*  
*General Manager*  
**Sonoma Water**



*Jennifer Pierre*  
*General Manager*  
**State Water Project Contractors**



*John R. Zimmerman*  
*General Manager*  
**Truckee Meadows Water Authority**



*Lisa Wallace*  
*Executive Director*  
**Truckee River Watershed Council**



*Michelle Reimers*  
*General Manager*  
**Turlock Irrigation District**



*Tony Willardson*  
*Executive Director*  
**Western States Water Council**

Cc: The Honorable Alex Padilla



## Sub-seasonal to Seasonal Precipitation Forecasting for Water Management

April 18, 2023

The Honorable Hal Rogers  
Chairman  
House Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States House of Representatives  
Washington, DC 20515

The Honorable Matt Cartwright  
Ranking Member  
House Appropriations Subcommittee on  
Commerce, Justice, and Science  
United States House of Representatives  
Washington, DC 20515

Dear Chairman Rogers and Ranking Member Cartwright:

On behalf of the below-signed water management agencies and organizations, we are writing to request your support for a \$15 million Fiscal Year 2024 (FY24) appropriation to support the pilot for improving sub-seasonal to seasonal (S2S) precipitation forecasting in the western U.S. The National Oceanic and Atmospheric Administration's (NOAA) [2020 report to Congress](#) under Public Law 115-25 recommended the creation of this pilot project.

The purpose of the pilot project is to improve precipitation forecasting for water management in the U.S. As the report notes, NOAA pilot projects were chosen “...based on the existence of major climate phenomena that have huge economic impacts and for which current S2S predictive skill is too low to be effectively used by many stakeholders.”

For many decades the scientific community has not been able to offer dependable forecasts beyond a week or two, and S2S forecasts have the ability to provide state and local water managers with reliable extended precipitation outlooks. These sub-seasonal (2- to 6-week) to seasonal (2- to 12-month) projections fill an important gap between weather and climate forecasting and represent a central component of seamless short-term and long-term predictions that are needed to support water project operations, drought preparedness and response, and innovative water management strategies such as forecast-informed reservoir operations.

NOAA's Climate Prediction Center (CPC) has been issuing S2S precipitation outlooks since the mid- 1990s. Their skill for the western U.S. has been minimal, just slightly better than predicting average weather conditions, and has shown little improvement over time. Forecasting precipitation at S2S timescales is scientifically challenging and has historically received little federal research funding support.

Your support for a \$15 million increase in the U.S. Weather Research Program line item within NOAA's Office of Oceanic and Atmospheric Research (OAR) would begin development of reliable forecasting with longer lead times to provide water managers with critical data to operate infrastructure more efficiently and allocate resources to mitigate and manage impacts of extreme wet and dry conditions. From this amount, we support a FY24 allocation of \$3 million for the Weather Program Office (WPO) for grants, \$4 million to the OAR Labs for product development, \$2 million to the National Weather Service (NWS) CPC for product evaluation and implementation, \$2 million to the NWS Environmental Modeling Center (EMC) for implementation and evaluation of model improvements, and \$4 million for computing resources needed to support the federal efforts at OAR and NWS. The attached proposed committee report language describes how we believe this critical funding should be focused.

We appreciate your consideration and hope you will support S2S pilot project funding in FY24. Please contact Jordan Smith at [jas@vnf.com](mailto:jas@vnf.com) with any questions or to schedule a meeting to discuss this project with your staff.

Sincerely,

*Signature Page Follows*



**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



*Matthew Knudson*  
*General Manager*  
**Antelope Valley - East Kern Water Agency**



*David Reynolds*  
*Director of Federal Relations*  
**Association of California Water Agencies**



*Thomas Dobbins*  
*Chief Executive Officer*  
**Association of Metropolitan Water Agencies**



*John A. Coleman*  
*Chief Executive Officer*  
**Bay Planning Coalition**



*Karla A. Nemeth*  
*Director*  
**California Department of Water Resources**



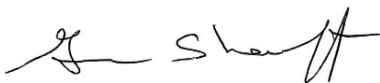
*Aaron A. Avery*  
*Senior Legislative Representative*  
**California Special Districts Association**



*Paul Hutton*  
*Executive Director*  
**California Water & Environmental Modeling Forum**



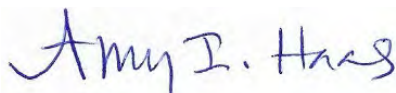
*Joseph Yun*  
*Executive Director*  
**California Water Commission**



*Gene Shawcroft*  
*General Manager*  
**Central Utah Water Conservancy District**



*J.M. Barrett*  
*General Manager*  
**Coachella Valley Water District**



*Amy Haas*  
*Executive Director*  
**Colorado River Authority of Utah**



*Andrew A. Mueller*  
*General Manager*  
**Colorado River Water Conservation District**

**Sub-seasonal to Seasonal Precipitation Forecasting for Water Management**



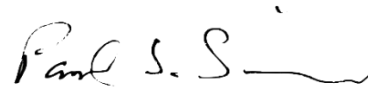
*Dan Keppen*  
*Executive Director*  
**Family Farm Alliance**



*Jason Phillips*  
*Chief Executive Officer*  
**Friant Water Authority**



*Beth Callaway*  
*Executive Director*  
**Interstate Council on Water Policy**



*Paul Simmons*  
*Executive Director*  
**Klamath Water Users Association**



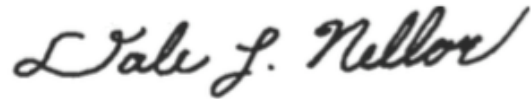
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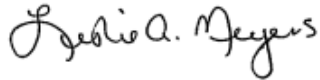


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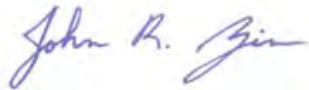
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**Western States Water Council**

Cc: The Honorable Grace Napolitano