Colorado River Board of California

February 24, 2022

NOTICE OF REGULAR MEETING OF THE COLORADO RIVER BOARD

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

Date: Wednesday, March 9, 2022
Time: 10:00 a.m.
Place: Pursuant to Governor Newsom's Executive Order N-1-22 issued on January 5, 2022, this meeting will be held virtually via Zoom Webinar. Board members will receive instructions separately. The public are welcome to attend. Attendees may access this meeting using the following:
Webinar Link: https://us02web.zoom.us/j/88032754518
Telephone: US: +1 669 900 9128, enter Meeting ID: 880 3275 4518, followed by #; then press # again to connect.

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

If accommodations from individuals with disabilities are required, such persons should provide a request at least 24 hours in advance of the meeting by electronic mail to Board staff at 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.

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

Christopher S. Harris
Executive Director

Regular Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, March 9, 2022
10:00 a.m.

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

COVID-19 BOARD OPERATIONS NOTICE

The Board is following guidance provided by Governor Newsom, pursuant to Executive Order N-1-22 (January 5, 2022), for adhering to the Bagley-Keene Act's open meeting requirements.

1. **Call to Order**

2. **Opportunity for the Public to Address the Board**[1] (Limited to 5 minutes)

3. **Administration**

   a. Consideration and approval of February 9, 2022, Board meeting Minutes (**Action**)
   b. Consideration and approval of letter to U.S. Bureau of Reclamation supporting action on Paradox Valley Unit salinity control project (**Action**)
   c. Consideration and approval of resolution on application for Lower Colorado River Water Supply Project (**Action**)

4. **Colorado River Basin and Local Water Supply and Operations Reports**

5. **Colorado River Basin Programs Staff Reports**

6. **Executive Session**[2]

7. **Other Business**

8. **Future Agenda Items/Announcements**

Next Scheduled Board Meeting: April 13, 2022
10:00 a.m., Pacific
Ontario/Remote

[1] In accordance with California Government Code, Section 54954.3(a).

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

Minutes of Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, February 9, 2022

A meeting of the Colorado River Board of California (Board) was held on Wednesday, February 9, 2022, in a hybrid format, with in-person and webinar options available, pursuant to Governor Newsom's Executive Order N-1-22 issued on January 5, 2022.

Board Members and Alternates Present:

David De Jesus (MWD Alternate)
Dana B. Fisher, Jr. (PVID)
John B. Hamby (IID)
James Hanks (IID Alternate)
Jeanine Jones (DWR Designee)
Delon Kwan (LADWP Alternate)
Jim Madaffer (SDCWA)
Peter Nelson, Chairman (CVWD)
Glen D. Peterson (MWD)
David R. Pettijohn, Vice Chairman (LADWP)
Jack Seiler (PVID Alternate)
David Vigil (DFW Alternate)

Board Members and Alternates Absent:

Castulo Estrada (CVWD Alternate)
Christopher Hayes (DFW Designee)
Henry Kuiper (Public Member)
Mark Watton (SDCWA Alternate)

Others Present:

Steve Abbott
Brian Alvarez
Justina Arce
Jim Barrett
Bert Bell
Robert Cheng
Gary Croucher
Dennis Davis
Dan Denham
JR Echard
Adel Hagekhalil
Chris Harris
Bill Hasencamp
Joanna Hoff
Michael Hughes
Ned Hyduke
Rich Juricich
Laura Lamdin
Tom Levy
Victor Lujan
Enrique Martinez
Aaron Mead
Jessica Neuwerth
Kay Pricola
Jessica Rangel
Shana Rapoport
Angela Rashid
David Rheinheimer
Kelly Rodgers
Shanti Rosset
Tom Ryan
Roberta Saligumba

Alexi Schnell
Keith Scoular
Tina Shields
Darren Simon
AJ Slagan
Gary Tavetian
Sara Tucker
Petya Vasileva
Cherie Watte
Jerry Zimmerman

CALL TO ORDER

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

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

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

ADMINISTRATION

Vice Chairman Pettijohn asked for a motion to approve the December 14, 2021, meeting minutes. Mr. Hamby moved that the minutes be approved, seconded by Mr. Peterson. By roll-call vote, the minutes were approved. Ms. Jones and Mr. Vigil abstained.

COLORADO RIVER BASIN WATER REPORTS

Colorado River Basin Report

Mr. Juricich reported that as of February 7th, the water level at Lake Powell was 3,530.43 feet with 6.27 million-acre feet (MAF) of storage, or 26% of capacity. The water level at Lake Mead was 1,067.00 feet with 8.96 MAF of storage, or 34% of capacity. The total system storage was 21.76 MAF, or 36% of capacity, which is 5.50 MAF less than system storage at this time last year.

Mr. Juricich reported that as of February 2nd, for Water Year-2022 (WY-2022), the observed January inflow to Lake Powell was 0.25 MAF, or 74% of normal. The February inflow

forecast to Lake Powell is 0.24 MAF, or 66% of normal. The forecasted unregulated inflow into Lake Powell for WY-2022 is 7.26 MAF, or 76% of normal and the WY-2022 forecasted April to July inflow to Lake Powell is 5.0 MAF, or 78% of normal. Mr. Juricich reported that overall precipitation conditions in the Upper Colorado River Basin were 108% of normal and the current Basin snowpack is 100% of normal.

Mr. Juricich presented a graphic displaying WY-2022 precipitation conditions. He stated that precipitation conditions in October and December 2021 were well above average for most of the Basin, while conditions in November 2021 and January 2022 were below average throughout the Basin. He added that February's precipitation conditions appear to be starting off dry as well. Mr. Juricich reported on current snow water equivalent (SWE) conditions across the Basin, noting that current snowpack conditions are doing well due to above average precipitation that the Basin received in December.

Mr. Juricich reported on the Colorado Basin River Forecast Center (CBRFC) February 1st Water Supply forecasts for the April to July runoff period. He stated that across the Upper Basin the forecasts ranged from 65% to 95% in the Upper Green Basin, 80% to 105% in the Upper Colorado Basin to 78% of normal for Lake Powell River Basin. He noted that the forecast assumes normal precipitation conditions moving forward for the rest of the year.

Mr. Juricich reported on the January 24-Month Study projections for reservoir elevations for Lakes Powell and Mead. He stated that the projections include the implementation of the 500-Plus Plan and the assumptions also include approximately 125,000 AF of additional conservation in 2021, which was not part of the original ICS plan, an additional 125,000 AF of new conservation in 2022, and 90,000 AF of additional conservation in 2023. He noted that the projections show that Lake Powell's elevation is very close to its critical elevation of 3,525 feet and is projected to receive 7.2 MAF of unregulated inflow and a projected release of 7.48 MAF in WY-2022. For Lake Mead, the projections show that Lake Mead will hover around the Tier II elevation of 1,050 feet for the remainder of 2022, even with the inclusion of the 500-plus plan actions.

Mr. Juricich reported that through February 3rd, the Brock and Senator Wash regulating reservoirs captured 10,865 AF and 6,722 AF, respectively. He also reported that the excess deliveries to Mexico were 380 AF, compared to 5,322 AF this time last year. Finally, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 135,117 AF, through December 31, 2021.

Mr. Juricich reported on the CBRFC's analysis that compared the April to July streamflow volumes for the climate normal periods of 1981 to 2010 and 1991 to 2020. He stated that the averages based on the new normal period were 4% to 20% lower across different watersheds.

Vice Chairman Pettijohn inquired about whether there has been a study developed to determine how much water is needed in the Cienega de Santa Clara to keep the environment in a healthy condition. Mr. Harris stated that to his knowledge, there has never been a study done that has directly examined this issue. He added that close to 50% of the current flow would probably be needed to maintain some level of marsh habitat and healthy aquatic water quality. He stated that the region has Desert Pupfish, and two species of Clapper Rail and a whole host of waterfowl. Ms. Neuwerth noted that flow to the Cienega was restricted for six months in 2020 and scientists are still evaluating how the Cienega was impacted from it and that their evaluation is likely to yield good data on the issue. Mr. Harris added that the Cienega is hydraulically attached to the estuary in the region and without the flow to the Cienega, saltwater intrusion would be an issue. He stated that he believes that 50,000 to 60,000 AF of the minimal flow is needed to maintain a healthy habitat.

State and Local Report

Ms. Jones, representing the California Department of Water Resources (DWR), reported that precipitation conditions in December were great and brought the State to over 150 percent of average at the end of December. She noted that precipitation conditions have dropped closer to normal in January. Ms. Jones added that normally, reservoir storage reflects hydrology, but due to the very wet December, reservoir storage conditions are almost the same level as over a year ago. She noted that December's precipitation wiped out the water year declines that occurred over the past full year. Ms. Jones stated that the snow water content at the end of December was above average, but currently, conditions have declined to 90% of average at a statewide level because of the lack of precipitation. She stated that the first half of February is expected to be dry.

Ms. Jones reported on DWR's new website called California Water Watch. She explained that it was launched in response to the California Natural Resources Agency (CNRA) drought report and the Governor's drought emergency proclamation. She stated that it draws from DWR's and others' websites to collect hydrologic data in one place and make it user friendly for the public and media. She explained that it uses gridded spatial precipitation and temperature data to support various climate analyses.

Ms. Jones also reported the website's GIS tool that examines and compares drought risk across the State. She explained that the tool can be used to look at drought conditions going back to 1900 and can be used to compare current periods as well. She stated that the website can also be used to examine data on snowpack and reservoir storage. In addition, the website utilizes USGS streamflow data, as well as satellite-based soil moisture and vegetation conditions using the Evaporative Stress Index.

Ms. Jones reported on DWR's Aerial Remote Sensing of Snowpack (ARSS) project and showed a short video about the Airborne Snowpack Observatory (ASO) research project. She explained that using aircraft to monitor snowpack is a new technology that NASA has been piloting for a while and DWR has been contributing funding to the effort with NASA and with a few watersheds in California. She stated that the data is great, but expensive. She explained that DWR's current snow surveying project called the California Cooperative Snow Survey Program, which coordinates the manual measure of snow survey data, cost about $1 million a year. For comparison, if DWR were to buy ASO data for the entire Central Valley watersheds, it would cost between $15 to $25 million a year. She added that historical funding level for purchasing this data on an experimental basis is $4 million a year. She stated that the ASO data produces better data coverage and can improve runoff forecasts. Ms. Jones added that the long-term benefit of the ASO data is to improve modeling techniques for runoff, which is needed in the Colorado River Basin. She added that during NASA's work, several agencies in Colorado contributed funding to pilot projects in some watersheds like the Gunnison. Ms. Jones explained further that the spatial snowpack data supports physically based watershed models to improve snowmelt runoff forecasting.

Vice Chairman Pettijohn remarked that he supported DWR's efforts to utilize ASO technology and the technology's ability to make informed water management decisions that can save water and money. He added that the technology costs are expensive, but the opportunity costs of lost water are quite significant as well. Mr. Pettijohn stated that utilizing this technology in the Upper Basin watersheds might improve forecasting and management of drought operations.

Responding to a question from Mr. Zimmerman about whether the efficacy of the ASO has been quantified, Ms. Jones stated to get a good runoff forecast, you need good data and good modeling capability. She stated that currently, most people are utilizing old-fashioned statistical regression equation approaches and those with more funding are switching to physically based watershed models. She explained that with the combination of data and modeling you can get within 3% of accuracy of a Basin's actual runoff, which is lucky due to the limits of accuracy of this type of work. She added that it also depends on the watershed, stating

that the statistical regression approach works better if watershed conditions are close to the long term historical average, but works poorly, in cases like last year, when conditions diverged greatly from average. Ms. Jones further explained that DWR has been funding ASO in the San Joaquin Valley for several years, noting that the value has been to provide short term reservoir guidance, more than using the water supply forecasting data. She stated that the information on snowpack coverage alone is great for improving forecast for approving operations of dams and managing releases more closely. She explained that there has been very little work done to measure the efficiency of improving a runoff forecast because so few people are using basin models at this time, noting that to get the "biggest bang for the buck," better data must be combined with a good model. Ms. Jones explained further that due to climate change it is best to move away from the old statistical regression approach. She added that DWR's approach to runoff forecasting is more of an art than science noting that probably 30% to 50% of the process is based on good judgement and not math. She concluded her response by stating that the long-term goal is to move to a more modeling approach to see real improvements in the runoff forecast.

Mr. Harris remarked on ASO's ability to improve reservoir and water management. Ms. Jones explained that DWR is funding ASO in the San Joaquin River Basin because it is a high elevation watershed, and it is not covered by manual snow survey measurements. She stated that the Colorado River Basin does not have the same tension between water supply and flood forecasting compared to the San Joaquin Basin and the contributions of individual reservoir operations is less necessary than it is in the San Joaquin. She concluded that the benefits of ASO in the Basin would be to improve runoff forecasting rather than improving operations.

Mr. Pettijohn added that Colorado has been adamant about improving the accuracy of forecasting to efficiently allocate water during the season and better manage water deliveries. Mr. Harris added that Colorado is working to improve USGS stream gauging accuracy to better refine the consumptive use model that is used to regulate water rights over the course of an irrigation season or water year. He stated that Colorado's work will bring improved accuracy to the consumptive use reporting that Reclamation compiles in the five-year Consumptive Uses and Losses Report. Mr. Harris reported that there is a pilot project in the San Juan Mountains in southwestern Colorado to collect ASO data and look at broader applicability, adding that the states involved in weather modification have also been look at the applicability. He remarked that the Lower Basin States are collectively funding $600,000 annually for weather modification which would not cover the cost for ASO data. Mr. Harris remarked that Reclamation is starting to stand up grant programs to scale up ASO data collection efforts, noting that it may be worthwhile to use ASO in the Upper Green basin and headwaters.

Ms. Jones remarked that the price for ASO has come down quite a bit coming from a NASA operated project to the private sector. She explained that LIDAR is a commercially available surveying technology, but it is expensive. She stated that she does not see the cost decreasing substantially so it needs to be used where it can have the most impact.

Mr. Peterson, representing The Metropolitan Water District of Southern California (MWD), reported that as of February 1st, reservoir storage is 77% of capacity. The Colorado River Aqueduct is shut down for annual maintenance until February 28th and will ramp up to an eight-pump flow through March. He stated that the 2022 diversion target is 1.089 MAF and as of February 2nd, MWD has 800,000 AF in storage which is about half of the amount typically required in a year. He added that deliveries for the year were 93% of the 10-year average and 15,083 AF of water was delivered to Desert Water Agency and Coachella Valley Water District in 2021. Mr. Peterson concluded that MWD has a 15% allocation for State Water Project supplies.

Vice Chairman Pettijohn, representing the Los Angeles Department of Water and Power (LADWP), reported that precipitation conditions in the Eastern Sierra in December were currently good but conditions in January were below average. Mr. Pettijohn stated that the SWP exclusive areas of MWD's service territories areas can now rely on a 15% allocation for the SWP, instead of only health and safety allocations. He noted that it was a "wakeup call" for LADWP after experiencing two dry years on the SWP and that MWD is taking proactive measures to address issues with system reliability. Chairman Nelson commented that both municipal districts and agricultural contractors are dependent on SWP supplies, and it has been interesting to see the State prioritize municipal health and safety issues over food production.

STATUS OF COLORADO RIVER BASIN PROGRAMS

Status of the Glen Canyon Dam Adaptive Management Program

Ms. Neuwerth reported that the Glen Canyon Dam Adaptive Management Program (GCDAMP) held its annual science meeting for three days in January.

Ms. Neuwerth shared a slide showing native and non-native fish presence below Glen Canyon Dam to Lake Mead. The figure showed that near Glen Canyon Dam the fish population is dominated by non-native trout. The Little Colorado River has historically been the stronghold for humpback chub. The middle third of the river area shown in the figure is almost completely native fish habitat. Ms. Neuwerth reported that as the water level in Lake Mead has dropped over the last ten years, the area above Pearce Ferry rapid has become dominated by native fish while Lake

Mead remains dominated by non-native fish. Pearce Ferry rapid has emerged as the water level in Lake Mead has fallen and appears to be serving as a barrier for fish passage.

Ms. Neuwerth reported that there tend to be non-native fish in both reservoirs. The fish are in the top 20 to 25 feet of the water column. As the reservoir elevations decline, those fish are getting closer to the intakes. A concern for the GCDAMP is that as the lake level gets closer to the intakes, more non-native fish may pass through the dam. Ms. Neuwerth reported that a lot of fish die passing through the dam but that as more fish pass through the dam, the likelihood increases that enough fish will survive the passage to start a new population below the dam.

Ms. Neuwerth reported on experimental actions at Glen Canyon Dam. Researchers reported on the spring disturbance flow conducted last year, which consisted of a low flow from the dam during a repair to the apron of the dam followed by a maximum release within the power plant capacity. Ms. Neuwerth reported that it does not appear that the experiment had any negative effects, but there does not appear to have been a strong biological response.

Ms. Neuwerth stated that researchers reported on what the program refers to as "bug flow" experiments conducted in 2018, 2019, and 2020. The purpose of bug flows is to provide periods of low, steady flow to help insect reproduction. Ms. Neuwerth reported that the results of bug flows have been mixed, with some insect species responding, although not necessarily in ways that were predicted. Ms. Neuwerth reported that it is likely there will be more Bug Flows happening going forward.

Ms. Neuwerth reported that funding for the program has been see-sawing. The program has traditionally been funded by power revenues from the Colorado River Storage Project in the Upper Basin. However, recently funding for the GCDAMP has been going back and forth between hydropower revenues and appropriations. GCDAMP was anticipated to be funded through appropriations in FY2022; however, the federal government has not currently passed a budget for FY2022 and is relying on a continuing resolution, which funds programs at the prior years' funding level. However, in FY2021, the GCDAMP received hydropower funding rather than appropriated funding, and therefore is not supported by the continuing resolution. Ms. Neuwerth reported that Reclamation has been able to continue the program at its budgeted level in the interim, but passage of a FY2022 budget will provide greater certainty for FY2022 program operations.

Mr. Harris asked if going forward the program is likely to be funded through the appropriations process. Ms. Neuwerth responded that she thinks it will likely be a mix of hydropower and appropriations going forward.

Mr. Tavetian provided a brief update on the status of the ongoing Long-Term Experimental and Management Plan (LTEMP) litigation. The suit was filed in 2019 by a group of NGOs. The fundamental argument brought by the NGOs was that the Bureau of Reclamation and National Park Service violated NEPA by failing to consider new evidence about climate change and its effect on the flows of the Colorado River below Glen Canyon Dam. The plaintiffs also claim that the alternatives considered in the LTEMP were too narrow. In particular, the NGOs wanted more consideration given to the Fill Mead First proposal, operating Glen Canyon Dam as a run-of-the-river facility, and decommissioning Glen Canyon Dam. The plaintiffs recently filed a motion for summary judgement, and the United States is expected to file its opposition to that motion by March 11, along with a cross-motion for summary judgement. Motions for summary judgement by the U.S. and other interveners are expected to be completed by June 10. Mr. Tavetian reported that the court will be looking at these summary judgements and making a determination.

Status of the Lower Colorado River Multi-Species Conservation Program

Ms. Neuwerth reported that Laura Vecerina, long time deputy director of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) retired at the end of January.

Ms. Neuwerth reported that the LCR MSCP held its annual research meeting on January 27. Ms. Neuwerth reported that there was much discussion of the monitoring occurring in Mexico associated with the Delta and that it has been helpful in providing comparable results regarding species and habit use in the U.S. and Mexico.

Ms. Neuwerth reported that the Financial Work Group of the LCR MSCP will hold a meeting later in the month to go through the budget, work plan, and previous expenditures.

GENERAL ANNOUNCEMENTS

Weather Modification Program Cloud Seeding Operations

Mr. Harris provided an update on the Weather Modification Program, and current cloud seeding operations in the Upper Basin. Season-to-date cloud seeding operations resulted in close to 6000 hours of operations in the State of Colorado, 4000 hours in Utah, and 1000 hours in Wyoming. A question was asked about what the hours signify, and Mr. Harris clarified that the hours represent operation of cloud seeding equipment.

Drought Response Operations Plan Framework

Mr. Harris provided an update to the Board on the Upper Colorado River Draft Drought Response Operations Plan Framework. Reclamation and the Upper Basin States held a webinar on January 28, 2022, to discuss the draft drought operations response framework. The goal of the Framework is to minimize the risk of Lake Powell declining below a target elevation of 3,525 feet. Board and California agencies provided comments to Reclamation and Upper Basin States. Mr. Harris reported that collectively, within California, the agencies collaborated to compile a uniform California package of comments that was sent to Reclamation and the Upper Division states. Reclamation and the Upper Division states spent the past couple of weeks looking over those comments and recently provided an initial response back. Reclamation and the Upper Division States need to have their proposed calendar year 2022 plan ready to roll out by the end of the April time frame with the April 24-month study report.

Washington D.C. Updates

Mr. Harris reported that the federal government continues to operate under a Continuing Resolution that expires on February 18th. There are some efforts underway that could lead to some west wide and Colorado River Basin focused Water Resources Development activities and legislation. The Supreme Court will once again interpret the reach of the Clean Water Act. The Justices agreed to hear Sackett v. EPA, a case in which an Idaho couple is arguing for a more limited definition of the law.

Next Scheduled Board Meeting

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be held on March 9, 2022, and would be held in a hybrid format, with in-person and webinar options available, pursuant to Governor Newsom's Executive Order N-1-22 issued on January 5, 2022.

ADJOURNMENT

With no further items to be brought before the Board, Vice Chairman Pettijohn adjourned the meeting at 11:19 a.m.

RESOLUTION
of the
COLORADO RIVER BOARD OF CALIFORNIA
Regarding
Potential Applicant to Receive
Lower Colorado Water Supply Project Water
2022-1

WHEREAS, the United States Congress, on November 14, 1986, enacted the Lower Colorado Water Supply Act (P.L. 99-655) (amended through P.L. 109-103), to authorize the construction and operation of the Lower Colorado Water Supply Project (Project) to provide a limited amount of Colorado River water to be made available on an exchange basis to entities in California, whose lands are located adjacent to the Colorado River, and who either do not have any, or do not have a sufficient, contractual entitlement to use Colorado River water; and

WHEREAS, the City of Needles has agreed to assume the administrative responsibility for Project beneficiaries in San Bernardino, Riverside, and Imperial Counties; and

WHEREAS, the Colorado River Board provides recommendations to the U.S. Bureau of Reclamation (Reclamation) regarding the eligibility of non-federal applicants to receive Project water; and

WHEREAS, the Colorado River Board on September 14, 2001, notified owners of property within the Colorado River flood plain and/or the accounting surface as delineated by the U.S. Geological Survey in California of the availability of Project water; and

WHEREAS, the staff of the Colorado River Board on March 9, 2022, submitted the eligible applicant to the Board for its recommendation;

NOW, THEREFORE, BE IT RESOLVED THAT the Colorado River Board hereby recommends a subcontract for Project water be offered to the applicant listed on the attachment and directs the Executive Director to forward the application to Reclamation with its recommendation with the following provisos:

(1) The applicant appears to be eligible to receive Project water, as shown in the attached table and summarized below:

County	Numbers of Parcels	Current Use (AF/YR)	Future Use (AF/YR)	Total Use (AF/YR)
Imperial	1	0	1	1

(2) At the time a subcontract is prepared, the annual quantity of water to be diverted, consumptively used, and returned will be refined to specify quantities of water to be

reported in accordance with Article V in the Consolidated Decree in *Arizona v. California, et al.* entered March 27, 2006, (547 U.S. 150 (2006));

(3) Reclamation should include provisions in the subcontract that the water to be put to reasonable beneficial use within a ten-year period of time, subject to renewal for another ten-year period.

THE FOREGOING RESOLUTION is approved and adopted by the Colorado River Board, this 9th day of March 2022.

_____

Peter Nelson, Chairman

APPLICATION FOR LOWER COLORADO WATER SUPPLY PROJECT WATER

(Please print or type. Complete the information requested, or place an "X" in the appropriate box.)

1. **Property Assessor Parcel Number :** (056 - 440 - 015 - 009, IMPERIAL
County

2. **Are you submitting an application for other parcels?** ☐ Yes ☒ No
If "Yes," please attach a list of all parcels.

3. **Parcel Address:** N/A
Number Street City State Zip Code

4. **Parcel Legal Description:** W 1/2 OF SW 1/4 OF NE 1/4 SEC 15 T16S R21E 20AC

5. **Owner Information:**

Name: LAURIE MARIE ESTES
First Middle Last

Address: [redacted]
Number Street City State Zip Code

Telephone Number (with area code): [redacted] Fax No.: N/A

Is there a co-owner? ☐ Yes ☒ No
If Yes, please provide co-owner name and address:

Name:
First Middle Last

Number Street City State Zip Code

Telephone Number (with area code): Fax No.:

NOTE: Please provide a complete listing of co-owners. Attach additional sheets if necessary.

6. **Owner Occupied or Owner Used:** ☐ Yes ☐ No ☒ Not Developed

If "No," please provide the information requested below: ☐ Tenant ☐ Lessee ☐ Operator

Name:
First Middle Last

Mailing address:
Number Street City Zip Code

Telephone Number: Area Code First, Fax Number: Area Code First

7. **Date Property Acquired:** Month / Day / Year

8. **Date Property Developed:** Month / Day / Year

9. **Source of Water (Month and Year):**

	Prior to Nov. 15, 1986	11/15/86 - 11/13/01	After 11/13/01
• Diverted from River			
• Well			
• Other			

If "Other," please explain:

* *

FOR OFFICIAL USE ONLY

Date Received: ______ **Date Reviewed:** ______ **Reviewed by:** ______ **Approved:** ☐ Yes ☐ No

10. **Type of Use (Check Where Appropriate):**

	Prior to Nov. 15, 1986	11/15/86 - 11/13/01	After 11/13/01
• Residential	☐	☐	☐
• Commercial			
• Industrial			
• Recreational			
• Vacant			
• Other			

11. **Annual Water Use:**	Prior to Nov. 15, 1986	11/15/86 - 11/13/01	After 11/13/01
a). Pumped or diverted volume (Use acre-feet, gallons, or other accepted unit of measure.)			
b). Percentage of pumped or diverted water consumptively used (Use percentage, i.e., %)			

12. **Location of each Diversion Facility** (A map, illustration, and/or drawing may be attached.):

13. **Parcels served by each Diversion Facility** (if more than one, list on a separate sheet):

14. **Maximum capacity of each diversion facility (well and/or pump).** (Use gallons per minute, or other accepted unit of measure.)

NOTE: Documentation for **Items 8 through 13** should be attached; you should include, as applicable, copies of one or more of the following items: city or county approved subdivision plan or state subdivision white paper; county or city installation/building permit for diversion or pumping facilities; well log reported to California Department of Water Resources; construction or installation agreement/receipt with a valid California licensed well driller or contractor; equipment purchase receipt; or other document that will show starting date of diversion or pumping.

15. **Natural or propane gas service on site?** ☐ Yes ☒ No

16. **Electricity service on site?** ☐ Yes ☒ No

17. **Any water service to the site?** ☐ Yes ☒ No

If "No," on what date will future water use begin? _____
Month / Day / Year

18. **Any sewer service on site?** ☐ Yes ☒ No

19. **Any septic tank on site:** ☐ Yes ☒ No

If "Yes," how far away from the River bank? _____

20. I would like a subcontract for Project water on the parcel identified in **Item 1** above as follows:

a). within the next calender year: 1 (Number) ACRE FOOT (Volume (in acre-feet, gallons, etc.)) annually, and

b). future additional water: _____ (Number) _____ (Volume (in acre-feet, gallons, etc.)) annually.

Submitted by: LAURIE M. ESTES (Print Name) _____ (Signature) Date: NOV 30, 2021
11/30, 2021

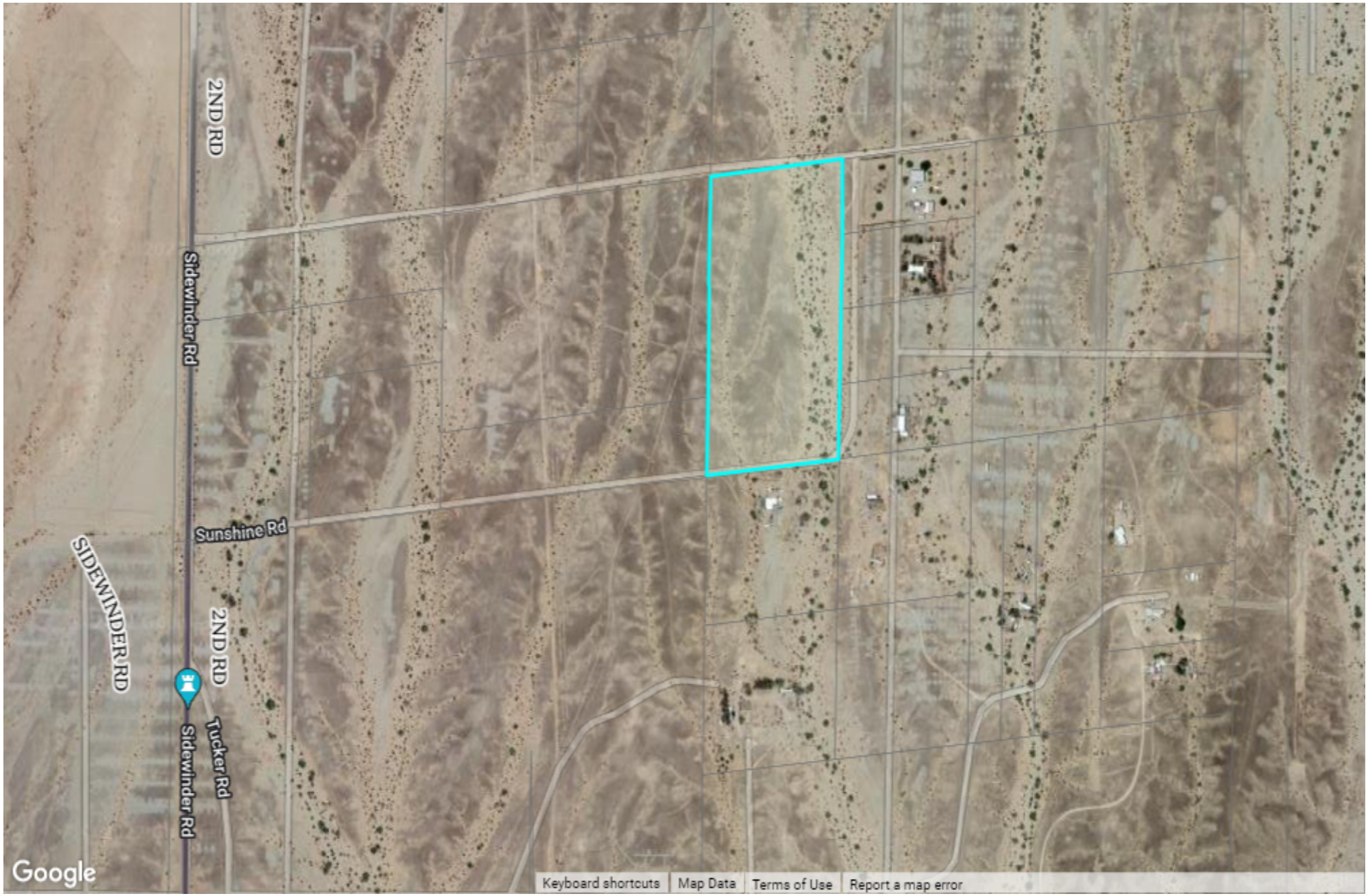
Mail to: Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, CA 91203-1035
(NOTE: An incomplete application will delay the processing of your request.)

APN 056-440-015 000

1" = 3009 ft	Sub Title	02/24/2022		

This map may represents a visual display of related geographic information. Data provided here on is not guarantee of acutual field conditions. To be sure of complete accuracy, please contact the responsible staff for most up to date information.

APN 056-440-015 000



1" = 752 ft	Sub Title	02/24/2022		

This map may represents a visual display of related geographic information. Data provided here on is not guarantee of acutual field conditions. To be sure of complete accuracy, please contact the responsible staff for most up to date information.

2/22/2022

LOWER COLORADO WATER SUPPLY REPORT

River Operations

Bureau of Reclamation

Questions: BCOOWaterops@usbr.gov

(702)293-8373

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

	PERCENT FULL	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
CURRENT STORAGE				
LAKE POWELL	25%	6,120	3,528.12	9,800
* LAKE MEAD	34%	8,966	1,067.04	10,900
LAKE MOHAVE	92%	1,663	641.68	10,600
LAKE HAVASU	90%	556	446.72	8,400
TOTAL SYSTEM CONTENTS **	36%	21,585		
As of 2/21/2022				
SYSTEM CONTENT LAST YEAR	45%	27,074		

*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	71%	1,637		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	9%	92	1,110.53	25

Forecasted Water Use for Calendar Year 2021 (as of 1/1/2022) (values in kaf)

NEVADA	243	
SOUTHERN NEVADA WATER SYSTEM		218
OTHERS		25
CALIFORNIA	4,409	
METROPOLITAN WATER DISTRICT OF CALIFORNIA		1,075
IRRIGATION DISTRICTS		3,317
OTHERS		17
ARIZONA	2,432	
CENTRAL ARIZONA PROJECT		1,359
OTHERS		1,073
TOTAL LOWER BASIN USE		7,084
DELIVERY TO MEXICO - 2021 (Mexico Scheduled Delivery + Preliminary Yearly Excess)		1,485

OTHER SIGNIFICANT INFORMATION

UNREGULATED INFLOW INTO LAKE POWELL - FEBRUARY MID-MONTH FORECAST DATED 2/16/2022

	MILLION ACRE-FEET	% of Normal
FORECASTED WATER YEAR 2022	6.362	66%
FORECASTED APRIL-JULY 2022	4.200	66%
JANUARY OBSERVED INFLOW	0.249	74%
FEBRUARY INFLOW FORECAST	0.195	54%

	Upper Colorado Basin	Salt/Verde Basin
WATER YEAR 2022 PRECIP TO DATE	98% (13.0")	69% (8.5")
CURRENT BASIN SNOWPACK	91% (10.5")	67% (3.1")

[1]Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.

Jan 01, 2022 11:22:37 AM

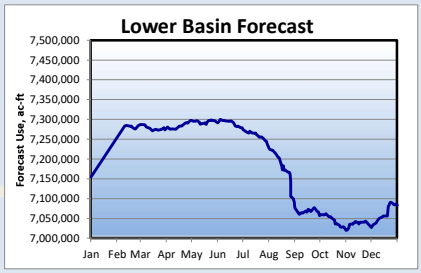
BUREAU OF RECLAMATION

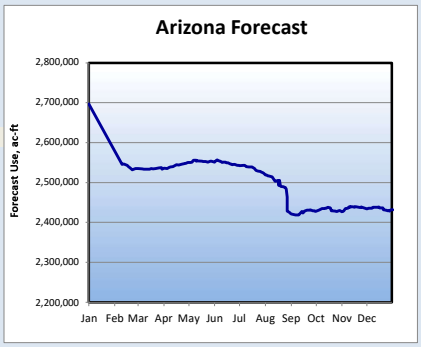
LOWER COLORADO BASIN REGION
CY 2021

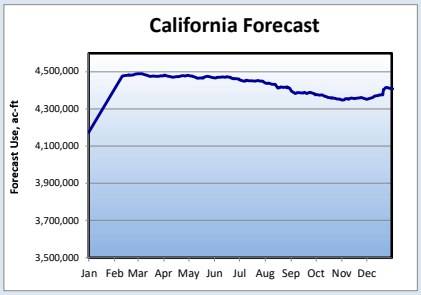
ARIZONA, CALIFORNIA, NEVADA, MEXICO
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS [1]
(ACRE-FEET)

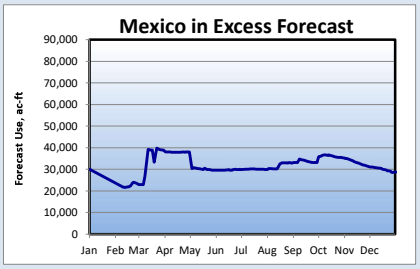
WATER USE SUMMARY	Use To Date CY 2021	Forecast Use CY 2021	Approved Use [2] CY 2021	Excess to Approval CY 2021
ARIZONA	2,428,614	2,431,728	2,428,629	**3,099**
CALIFORNIA	4,408,448	4,408,780	4,408,780	0
NEVADA	240,308	243,152	243,152	0
STATES TOTAL [3]	7,077,370	7,083,660	7,080,561	**3,099**
TOTAL DELIVERIES MEXICO IN SATISFACTION OF TREATY REQUIREMENTS [4]	1,485,361	1,456,683		
CREATION OF MEXICO'S RECOVERABLE WATER SAVINGS [5]	40,489	41,000		
CREATION OF MEXICO'S WATER RESERVE [6]	38,669	37,340		
DELIVERY OF MEXICO'S WATER RESERVE [7]	(35,023)	(35,023)		
TOTAL TO MEXICO IN SATISFACTION OF TREATY REQUIREMENTS [8]	1,529,496	1,500,000		
TO MEXICO IN EXCESS OF TREATY [9]	28,619	28,694		
WATER BYPASSED PURSUANT TO IBWC MINUTE NO. 242 [10]	135,117	135,431		
TOTAL LOWER BASIN & MEXICO [11]	8,726,467	8,704,468		

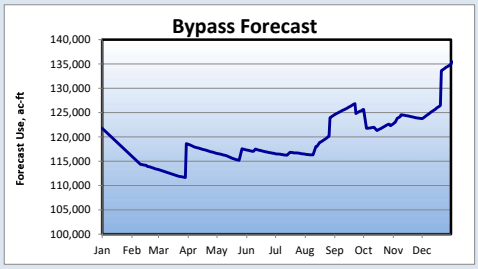
[1] Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date has been updated through September for users reporting monthly and estimated for users reporting annually.
[2] These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.
[3] 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.
[4] Includes deliveries to Mexico at the Northerly International Boundary (including delivery from Mexico's Water Reserve), Southerly International Boundary, Limitrophe, and Diversion Channel Discharge; and diversions at Parker Dam for Emergency Delivery to Tijuana; does not include Creation of Mexico's Water Reserve or Creation of Mexico's Recoverable Water Savings.
[5] Water deferred by Mexico pursuant to Section IV of IBWC Minute 323 and the Joint Report of the Principal Engineers with the Implementing Details of the Binational Water Scarcity Contingency Plan in the Colorado River Basin, dated July 11, 2019. (Mexico's required Binational Water Scarcity Contingency Plan Contribution).
Water deferred by Mexico pursuant to Section V of IBWC Minute 323.
Delivery from Mexico's Water Reserve pursuant to Section V.E.13 of IBWC Minute 323. Pursuant to Sections VIII.A and VIII.B of IBWC Minute 323, this water is being delivered for environmental purposes within Mexico.
In accordance with the procedure documented in USIBWC's letter to the Mexican Section of the IBWC dated July 25, 2017 regarding the the calculation process applied when accounting for the quantity and quality of the volumes of Mexico's Water Reserve and Mexico's Recoverable Water Savings during creation and delivery, "Total Delivery to Mexico in Satisfaction of Treaty Requirements" adds in Mexico's Water Reserve and Mexico's Recoverable Water Savings creation and subtracts out Mexico's Water Reserve and Mexico's Recoverable Water Savings delivery.
Mexico excess forecast is based on the 5-year average for the period 2015-2019.
Bypass forecast is based on the average for the period 1990-2019.
Includes States Total, Deliveries to Mexico in Satisfaction of Treaty, To Mexico in Excess of Treaty, and Water Bypassed Pursuant IBWC Minute 242.

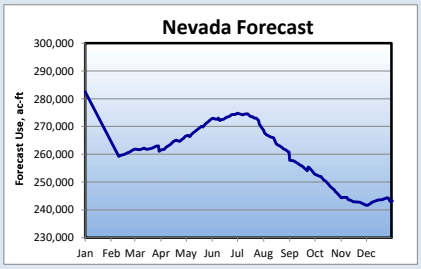


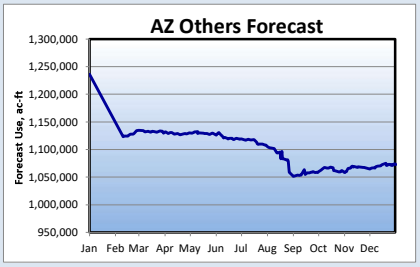


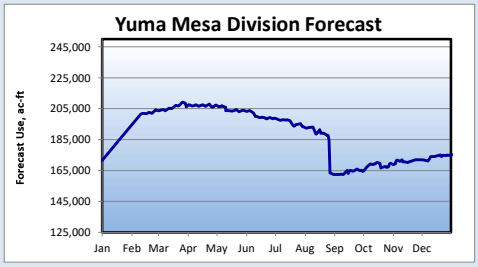


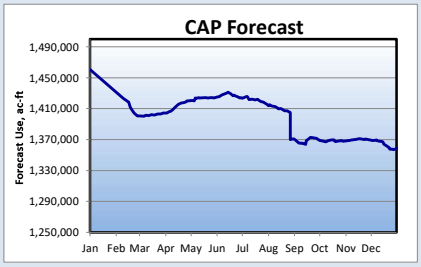


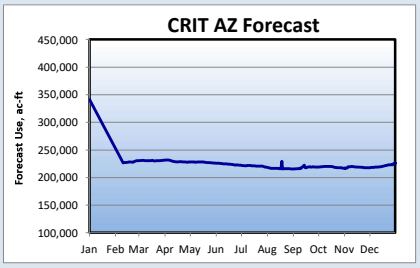


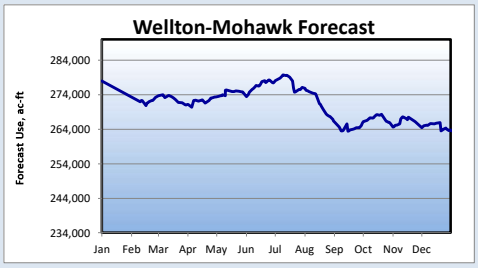


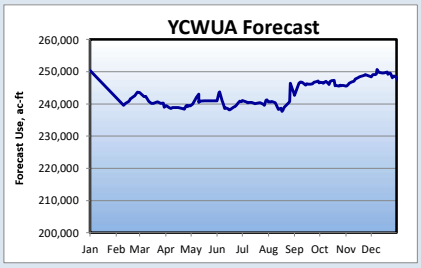












Graph notes: January 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates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

Jan 01, 2022 11:22:37 AM

— BUREAU OF — RECLAMATION

LOWER COLORADO BASIN REGION
CY 2021

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

ARIZONA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS
Arizona Schedules and Approvals
Historic Use Records (Water Accounting Reports)

WATER USER	Use To Date CY 2021	Forecast Use CY 2021	Estimated Use CY 2021	Excess to Estimated Use CY 2021	Diversion To Date CY 2021	Forecast Diversion CY 2021	Approved Diversion CY 2021
ARIZONA PUMPERS	15,828	15,828	15,828	---	24,351	24,351	24,351
LAKE MEAD NRA, AZ - Diversions from Lake Mead	78	80	80	---	78	80	80
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	207	225	225	---	207	225	225
DAVIS DAM PROJECT	2	2	2	---	17	17	17
BULLHEAD CITY	7,224	7,871	8,163	---	11,296	12,306	12,720
MOHAVE WATER CONSERVATION DISTRICT	676	676	676	---	1,010	1,010	1,010
BROOKE WATER LLC	303	330	332	---	453	493	497
MOHAVE VALLEY I.D.D.	11,976	12,901	15,932	---	22,176	23,885	29,503
FORT MOJAVE INDIAN RESERVATION, AZ	37,894	37,894	44,550	---	70,173	70,173	82,500
GOLDEN SHORES WATER CONSERVATION DISTRICT	286	286	286	---	427	427	427
HAVASU NATIONAL WILDLIFE REFUGE	3,868	3,868	3,564	---	32,233	32,233	41,835
LAKE HAVASU CITY	7,429	8,049	9,021	---	11,983	12,983	14,550
CENTRAL ARIZONA WATER CONSERVATION DISTRICT (CAWCD)	1,358,726	1,358,726		---	1,358,726	1,358,726	
TOWN OF PARKER	352	372	430	---	775	834	917
COLORADO RIVER INDIAN RESERVATION, AZ	225,831	225,831	226,280	---	489,620	489,620	509,647
EHRENBURG IMPROVEMENT ASSOCIATION	232	232	232	---	325	325	325
CIBOLA VALLEY [1]	13,769	13,838	15,618	---	19,257	19,354	21,843
CIBOLA NATIONAL WILDLIFE REFUGE	14,092	14,263	14,264	-1	22,730	23,005	23,005
IMPERIAL NATIONAL WILDLIFE REFUGE	2,293	2,605	3,799	-1,194	3,697	4,200	6,128
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	844	844	844		1,299	1,299	1,299
CHA CHA, LLC	846	923	1,365	---	1,302	1,420	2,100
BEATTIE FARMS	541	581	722	---	832	896	1,110
YUMA PROVING GROUND	481	523	536	---	481	523	536
GILA MONSTER FARMS	4,373	4,373	5,273	---	7,919	7,919	9,156
WELLTON-MOHAWK IDD	263,496	263,496	278,000	-14,504	393,169	393,169	423,333
BLM PERMITEES (BELOW IMPERIAL DAM)	74	74	74	0	114	114	114
CITY OF YUMA	12,410	12,410	16,201	-3,791	24,230	24,230	27,500
MARINE CORPS AIR STATION YUMA	1,239	1,239	1,320	---	1,239	1,239	1,320
UNION PACIFIC RAILROAD	20	29	29	---	40	48	48
UNIVERSITY OF ARIZONA	904	1,021	1,050	---	904	1,021	1,050
YUMA UNION HIGH SCHOOL DISTRICT	110	128	150	---	148	172	200
DESERT LAWN MEMORIAL	23	23	23	---	33	33	33
NORTH GILA VALLEY IRRRIGATION DISTRICT	9,066	9,066	12,061	---	43,497	43,497	*46,478*
YUMA IRRIGATION DISTRICT	37,677	37,677	39,648	---	70,578	70,578	73,192
YUMA MESA I.D.D.	128,562	128,562	134,696	---	223,527	223,527	242,080
UNIT "B" IRRIGATION DISTRICT	16,836	16,836	18,036	---	26,190	26,190	29,400
FORT YUMA INDIAN RESERVATION	1,494	1,494	1,494	---	2,299	2,299	2,299
YUMA COUNTY WATER USERS' ASSOCIATION	247,602	247,602	246,447	---	348,804	348,804	360,400
COCOPAH INDIAN RESERVATION	723	723	1,686	---	948	948	2,585
RECLAMATION-YUMA AREA OFFICE	227	227	227	---	227	227	227
TOTAL ARIZONA	2,428,614	2,431,728	2,477,164		3,217,314	3,222,400	3,352,040
CAWCD	1,358,726	1,358,726				1,358,726	
ALL OTHERS	1,069,888	1,073,002	1,119,164			1,863,674	1,994,040
YUMA MESA DIVISION, GILA PROJECT	175,305	175,305	186,405	-11,100		337,602	
TOTAL 242 WELL FIELD PUMPING	39,705	39,705	40,803				

ARIZONA ADJUSTED APPORTIONMENT CALCULATION	
Arizona Basic Apportionment	2,800,000
System Conservation Water - Pilot System Conservation Program [3]	(360)
System Conservation Water - Colorado River Indian Tribes (CRIT) [4]	(50,000)
System Conservation Water - Fort McDowell Yavapai Nation (FMYN) [5]	(13,933)
System Conservation Water - Mohave Valley I.D.D. (MVIDD) [6]	(6,925)
System Conservation Water - Gila River Indian Community (GRIC) [7]	(40,000)
System Conservation Water - Reclamation [8]	(8,576)
Creation of Extraordinary Conservation ICS - CRIT (Estimated) [9,12]	(4,685)
Creation of Extraordinary Conservation ICS - GRIC (Estimated) [10,12]	(40,000)
Creation of Extraordinary Conservation ICS - CAWCD (Estimated) [11,12]	(3,500)
Arizona DCP Contribution [11,12,13]	(203,392)
Total State Adjusted Apportionment	2,428,629
Excess to Total State Adjusted Apportionment	3,099
Estimated Allowable Use for CAP	1,355,626

[1] Includes the following water users within the Cibola Valley: Cibola Valley IDD, Arizona Game and Fish Commission, GSC Farms, Red River Land Co., Western Water, and the Hopi Tribe.

[2] In accordance with the *Colorado River Water Conservation Letter Agreement 16-XX-30-W0603, Revision No. 1* 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.

[3] 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.

[4] System Conservation Water to be created by CRIT pursuant to the *Through the Arizona Department of Water Resources, the Central Arizona Water Conservation District, and the Colorado River Indian Tribes to Fund the Creation of Colorado River System Water Through Voluntary Water Conservation and Reductions in use During Calendar Years 2020-2022*. This System Conservation Water will remain in Lake Mead to benefit system storage.

[5]

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.

[6] System Conservation Water to be created by MVIDD pursuant to SCIA No. 20-XX-30-W0686, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of

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

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

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

[8] System Conservation Water to be created by additional pumping from the 242 Well Field Expansion Project. In accordance with Section 3.b of the LB DCP Agreement, Reclamation intends to apply this water towards the Secretary's commitment to create or conserve 100,000 AF per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin.

[9] CRIT has been approved to create up to 4,685 AF of Extraordinary Conservation (EC) ICS in 2021. The actual amount of EC ICS created by CRIT will be based on final accounting and verification.

[10] CAP water being conserved by GRIC in 2021 to create EC ICS. The actual amount of EC ICS created by GRIC will be based on final accounting and verification.

[11] CAWCD has been approved to create up to 60,500 AF of EC ICS in 2021. Of this amount, 57,000 AF will be converted to DCP ICS to meet a portion of Arizona's required 2021 DCP Contribution. The remaining 3,500 AF will remain in Lake Mead as EC ICS. The actual amount of EC ICS created by CAWCD will be based on final accounting and verification.

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

[13] In accordance with Sections III.B.1.a and III.E.4 of LBOps, the state of Arizona is required to make a DCP Contribution in the total amount of 203,392 AF in 2021. This includes the annual contribution amount required under Section III.B.1.a of LBOps (192,000 AF) and the state's 2020 DCP Contribution Deficiency amount of 11,392 AF, as shown in Table 23 in the 2020 *Colorado River Accounting and Water Use Report*. In accordance with the *Agreement Regarding Lower Basin Drought Contingency Plan Obligations*

ICS in 2021. The actual amount of EC ICS created by CAWCD and credited toward the DCP Contribution will be based on final accounting and verification.

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

Jan 01, 2022 11:22:37 AM

BUREAU OF RECLAMATION

LOWER COLORADO BASIN REGION
CY 2021

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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.

CALIFORNIA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS
California Schedules and Approvals
Historic Use Records (Water Accounting Reports)

WATER USER	Use To Date CY 2021	Forecast Use CY 2021	Estimated Use CY 2021	Excess to Estimated Use CY 2021	Diversion To Date CY 2021	Forecast Diversion CY 2021	Approved Diversion CY 2021	Excess to Approved Diversion CY 2021
CALIFORNIA PUMPERS	1,464	1,464	1,464	---	2,646	2,646	2,646	0
FORT MOJAVE INDIAN RESERVATION, CA	7,099	7,099	8,996	---	13,195	13,195	16,720	-3,525
CITY OF NEEDLES (includes LCWSP use)	1,030	1,234	1,605	-371	1,689	1,975	2,261	-286
METROPOLITAN WATER DISTRICT	1,075,397	1,075,397		---	1,078,231	1,078,231		---
COLORADO RIVER INDIAN RESERVATION, CA	5,014	5,014	5,014	---	8,307	8,307	8,307	0
PALO VERDE IRRIGATION DISTRICT	367,431	367,431	379,549	---	808,522	808,522	*821,400*	-12,878
YUMA PROJECT RESERVATION DIVISION	37,133	37,133	46,687	---	78,113	78,113	90,394	-12,281
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	42,117	42,117	45,384	-3,267
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	35,996	35,996	45,010	-9,014
YUMA ISLAND PUMPERS	1,770	1,770	1,770	---	3,199	3,199	3,199	0
FORT YUMA INDIAN RESERVATION - RANCH 5	1,094	1,222	938	---	1,981	2,211	1,696	515
IMPERIAL IRRIGATION DISTRICT [1]	2,552,674	2,552,674	2,622,800	-70,126	2,630,090	2,630,090	2,694,973	---
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	---
COACHELLA VALLEY WATER DISTRICT	357,543	357,543	379,000	-21,457	385,156	385,156	390,812	---
OTHER LCWSP CONTRACTORS	527	527	527	---	922	922	922	0
CITY OF WINTERHAVEN	63	63	63	---	91	91	91	0
CHEMEHUEVI INDIAN RESERVATION	209	209	209	---	11,340	11,340	11,340	0
TOTAL CALIFORNIA	4,408,448	4,408,780			5,023,482	5,023,998	5,122,974	

CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION	
California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program [2]	(145)
System Conservation Water - PVID Fallowing Program [3]	(12,650)
IID Creation of Extraordinary Conservation ICS - Stored in Lake Mead (Estimated) [4]	(1,579)
MWD Delivery of ICS (Estimated) [5]	23,154
MWD Creation of Extraordinary Conservation ICS (Estimated) [6]	0
Total State Adjusted Apportionment	4,408,780
Excess to Total State Adjusted Apportionment	0

Estimated Allowable Use for MWD 1,052,243

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

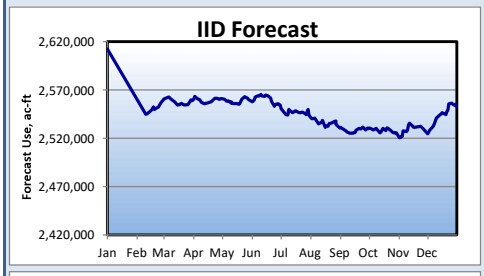
[2] System Consevation Water to be conserved by the City of Needles pursuant to System Conservation Implementation Agreement No. 15-XX-30-W0596, executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

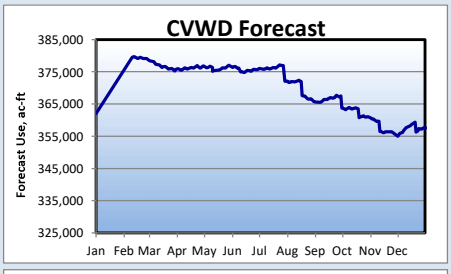
[3] The estimated amount of System Conservation Water that will be created pursuant to Funding Agreement No. 21-XX-30-W0714 (Funding Agreement). This System Conservation Water will remain in Lake Mead to benefit system storage. In accordance with the Funding Agreement, the Bureau of Reclamation intends 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*.

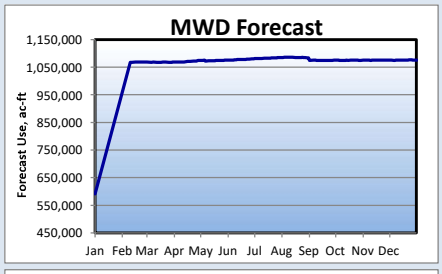
[4] IID has been approved to create up to 62,000 AF of "Additional Conserved Water" in 2021 for purposes including, but not limited to, the creation of ICS. Due to limitations set forth in the California ICS Agreement, IID may currently only store up to 1,579 AF in its Lake Mead ICS Account. Should IID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

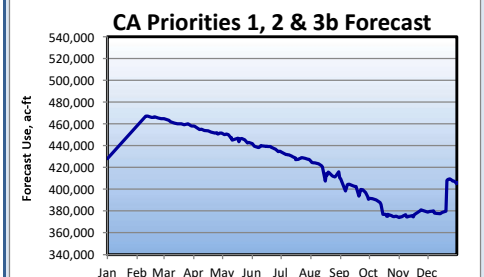
[5] MWD has been approved to take delivery of up to 75,000 AF of ICS in 2021. The actual amount of ICS delivered will be based on final accounting records.

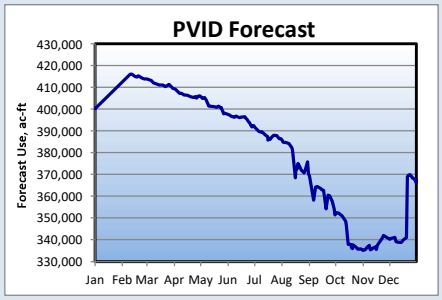
[6] MWD has been approved to create up to 450,000 AF of EC ICS in 2021, less the amount of EC ICS created by IID, and further limited to the amount that, when added to the EC ICS created by the states of Arizona and Nevada, does not exceed 625,000 AF. The actual amount of EC ICS created by MWD will be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











Jan 01, 2022 11:22:37 AM

— BUREAU OF —
RECLAMATION

LOWER COLORADO BASIN REGION
CY 2021

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

NEVADA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS
Nevada Schedules and Approvals
Historic Use Records (Water Accounting Reports)

WATER USER	Use To Date CY 2021	Forecast Use CY 2021	Estimated Use CY 2021	Excess to Estimated Use CY 2021	Diversion To Date CY 2021	Forecast Diversion CY 2021	Approved Diversion CY 2021	Excess to Approved Diversion CY 2021
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	453,223	453,223	453,223	0	453,223	453,223	453,223	0
LAKE MEAD NRA, NV - Diversions from Lake Mead	326	416	1,500	---	326	416	1,500	-1,084
LAKE MEAD NRA, NV - Diversions from Lake Mohave	178	216	500	---	178	216	500	-284
BASIC MANAGEMENT INC.	4,188	4,796	8,208	---	4,188	4,796	8,208	-3,412
CITY OF HENDERSON (BMI DELIVERY)	11,790	13,535	15,878	---	11,790	13,535	15,878	-2,343
NEVADA DEPARTMENT OF WILDLIFE	11	12	12	0	951	1,066	1,000	---
PACIFIC COAST BUILDING PRODUCTS INC.	860	939	928	---	860	939	928	**11**
BOULDER CANYON PROJECT	172	172	172	---	300	300	300	0
BIG BEND WATER DISTRICT	1,391	1,674	4,733	---	2,931	3,604	10,000	-6,396
FORT MOJAVE INDIAN TRIBE	2,961	2,961	4,020	---	4,422	4,422	6,000	-1,578
LAS VEGAS WASH RETURN FLOWS	-234,792	-234,792	-229,923	---				
TOTAL NEVADA	240,308	243,152	259,251	0	479,169	482,517	497,537	-15,086
SOUTHERN NEVADA WATER SYSTEM (SNWS)	218,431	218,431				453,223		
ALL OTHERS	21,877	24,721				29,294		
NEVADA USES ABOVE HOOVER	235,956	238,517				474,491		
NEVADA USES BELOW HOOVER	4,352	4,635				8,026		

Tributary Conservation (TC) Intentionally Created Surplus (ICS)

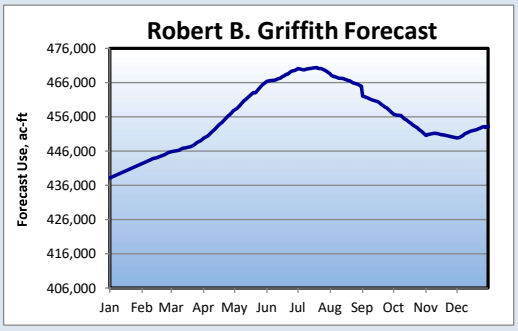
Southern Nevada Water Authority (SNWA) Creation of TC ICS (Approved) [1]	43,000

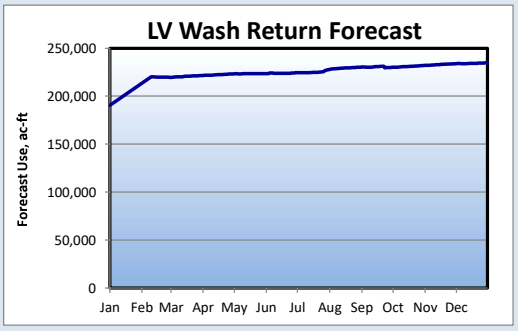
NEVADA ADJUSTED APPORTIONMENT CALCULATION

Nevada Basic Apportionment	300,000
SNWA Creation of Extraordinary Conservation (EC) ICS (Estimated) [2]	(56,848)
Total State Adjusted Apportionment	243,152
Excess to Total State Adjusted Apportionment	0

[1] SNWA has been approved to create up to 43,000 AF of TC ICS in 2021. The actual amount of TC ICS created by SNWA will be based on final accounting and verification.

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

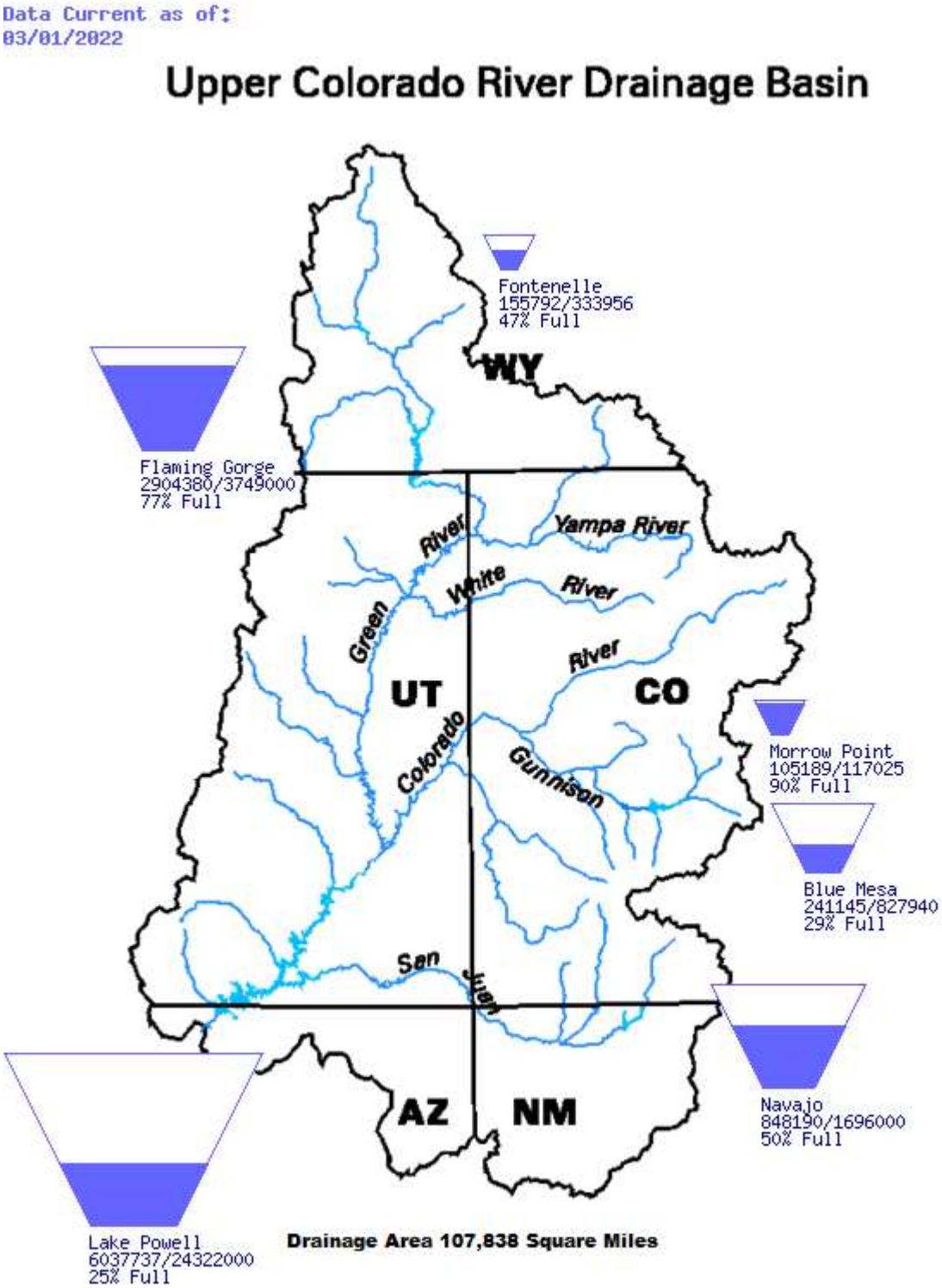




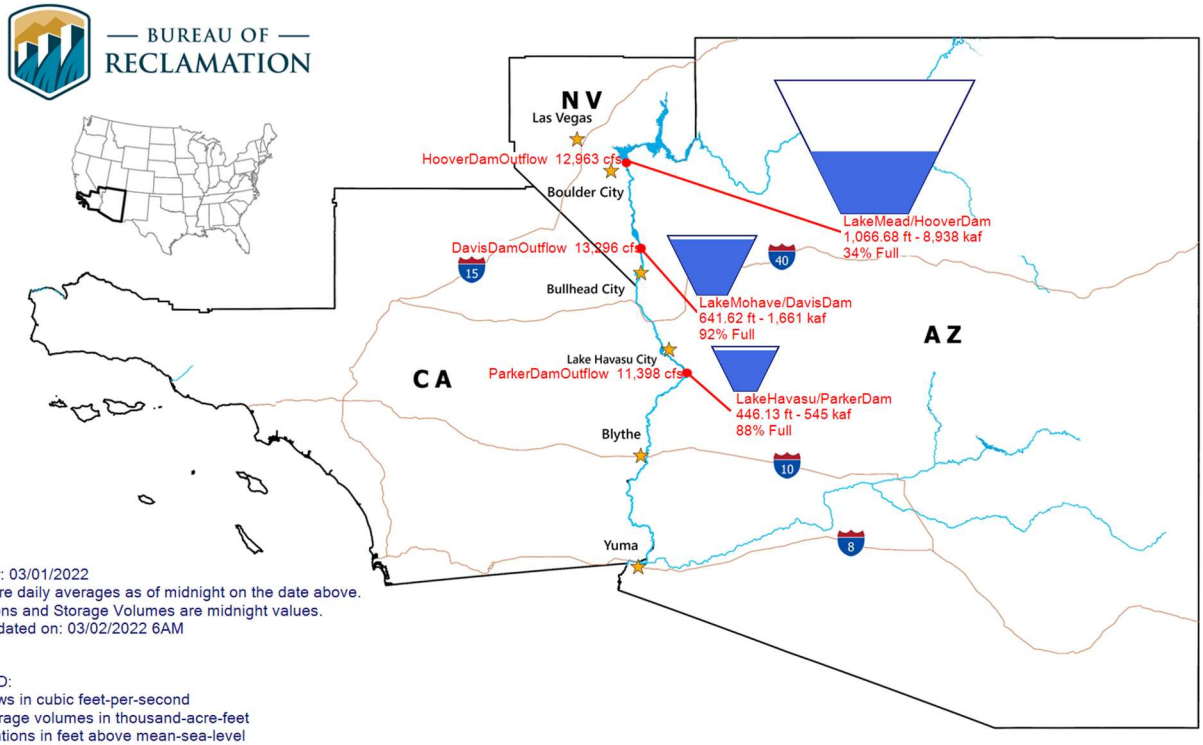
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

Upper Colorado Region Water Resources Group

River Basin Tea-Cup Diagrams



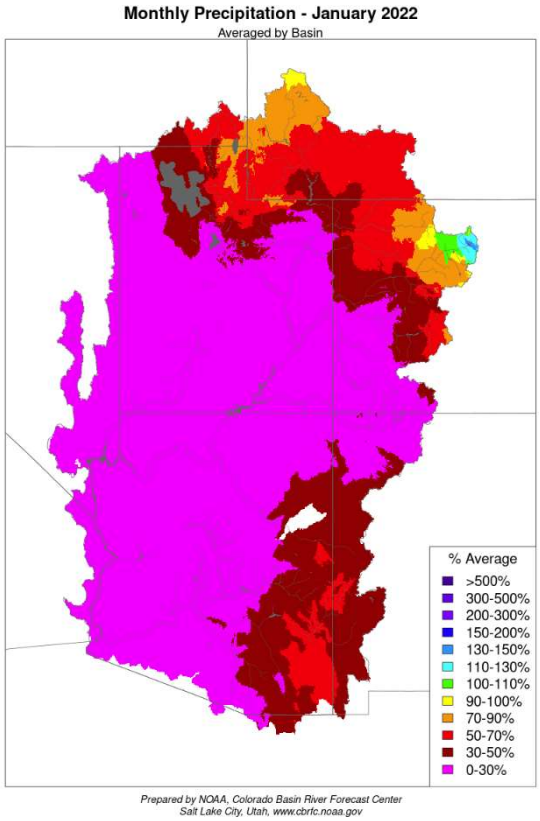
Lower Colorado River Teacup Diagram

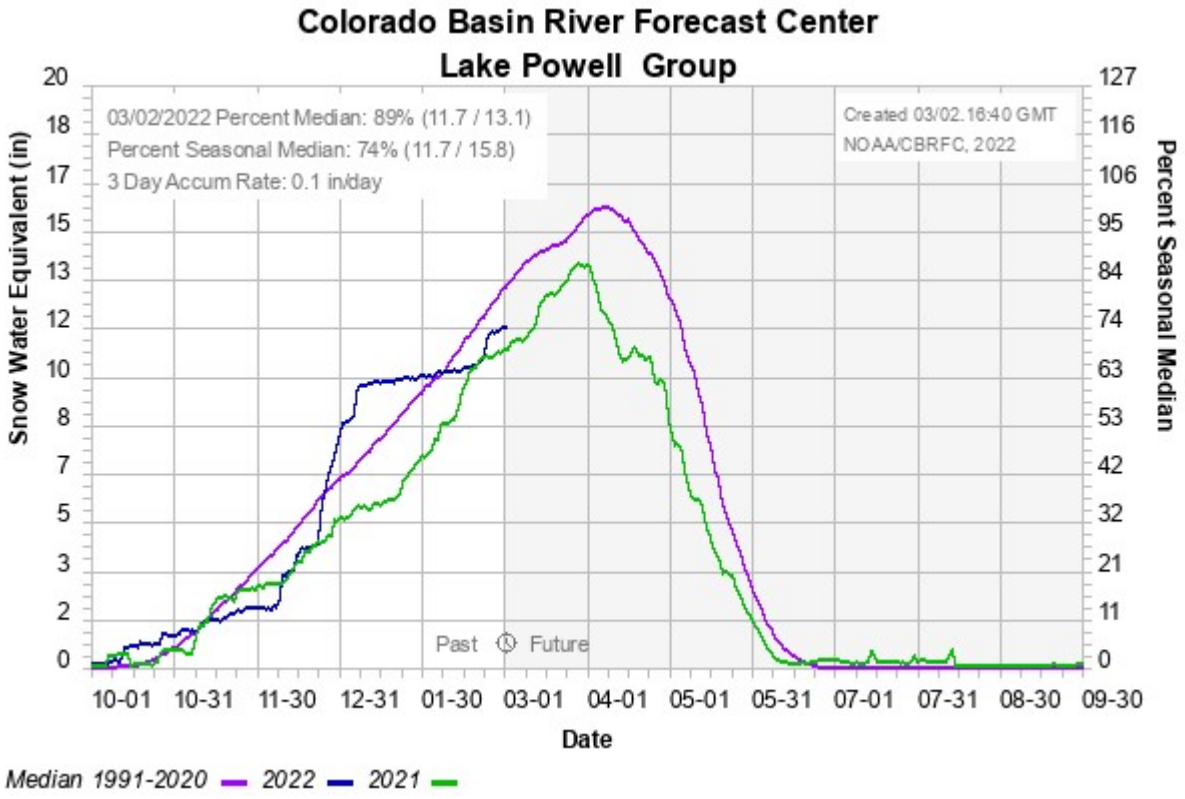


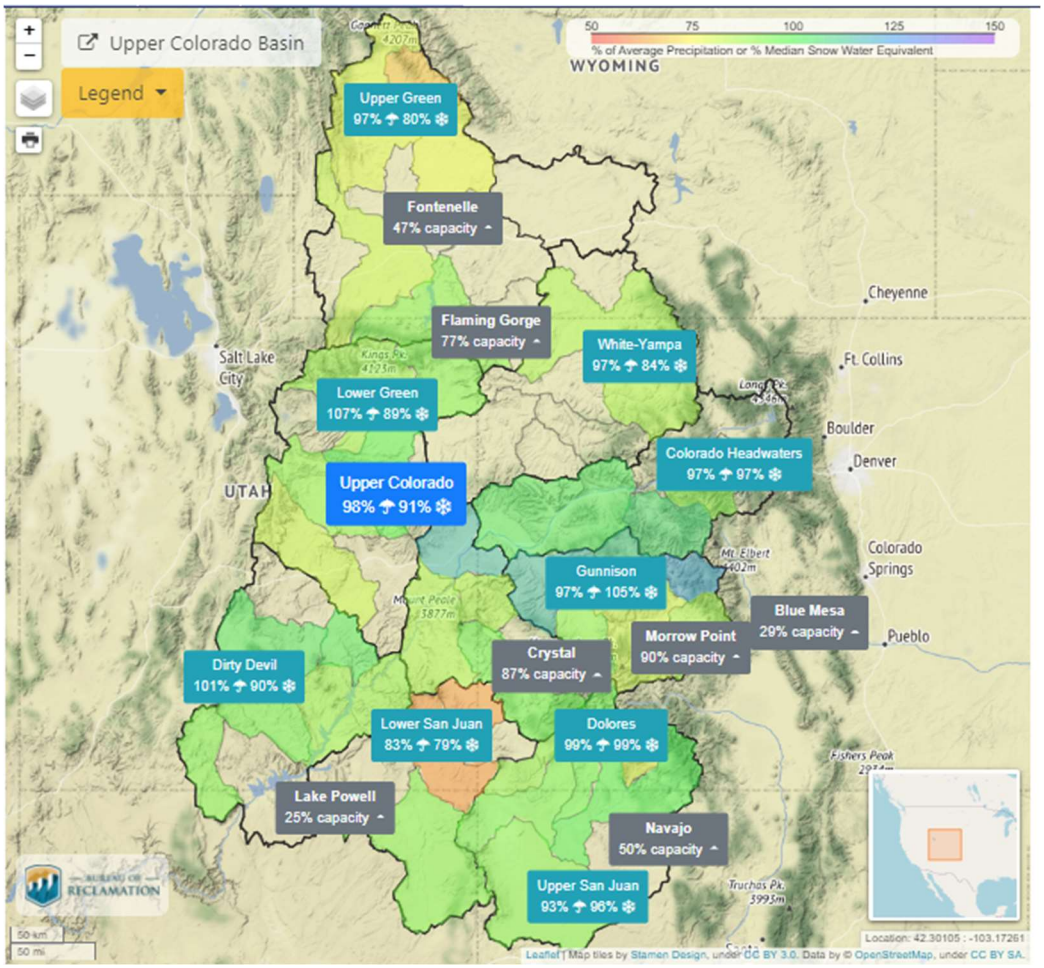
Data for: 03/01/2022
Flows are daily averages as of midnight on the date above.
Elevations and Storage Volumes are midnight values.
Last updated on: 03/02/2022 6AM

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

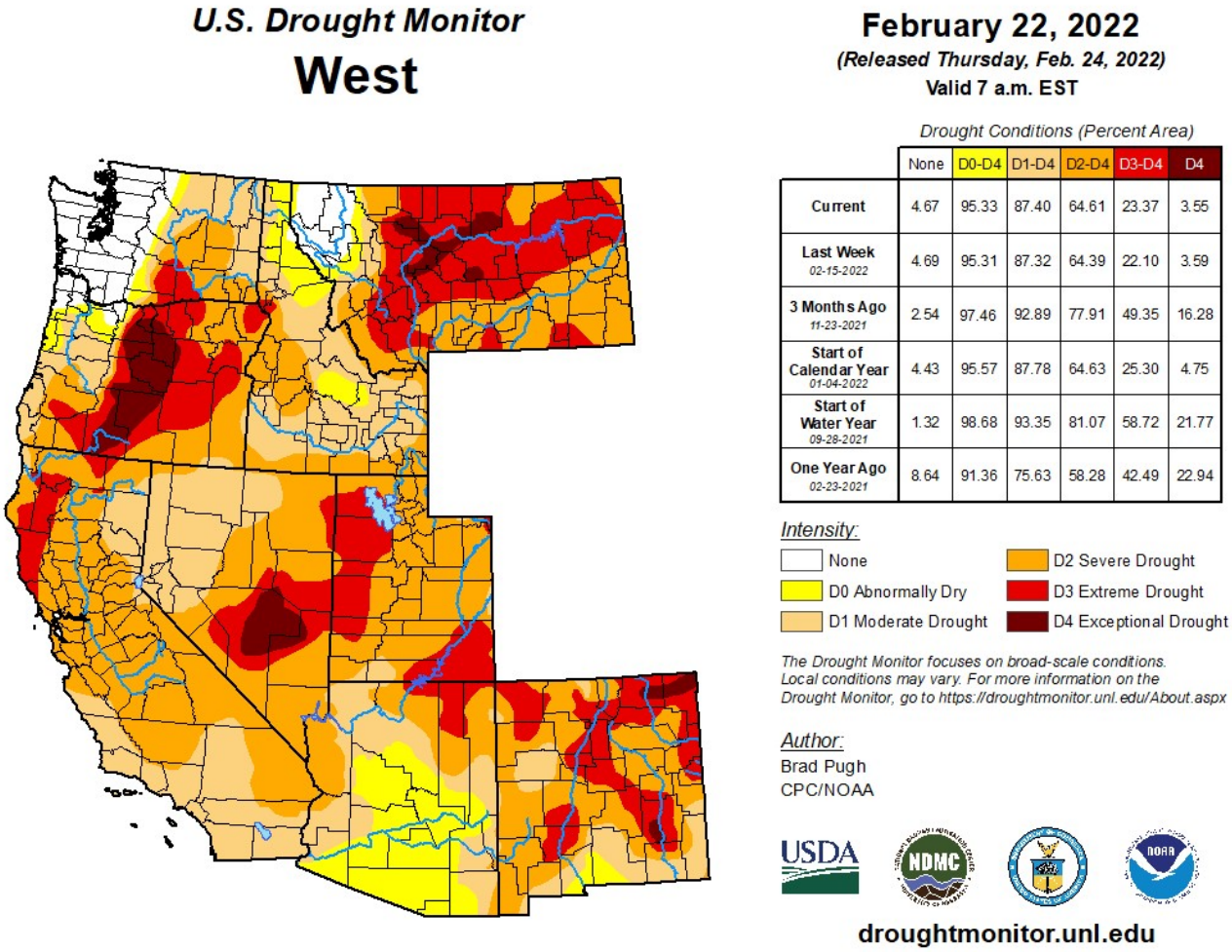
NOAA National Weather Service Monthly Precipitation Map January 2022

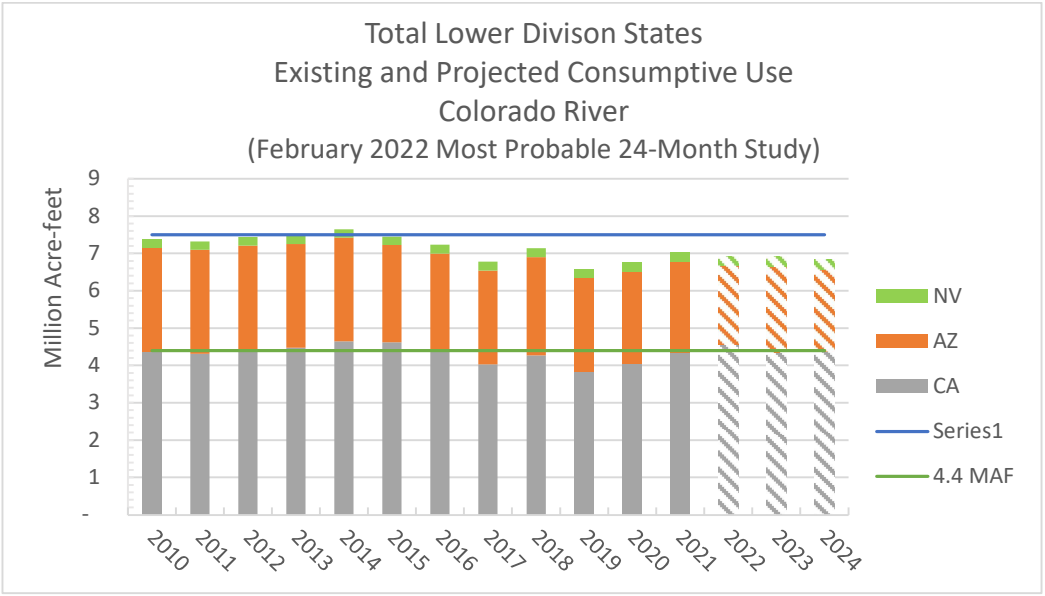



Colorado Basin River Forecast Center
Lake Powell Group
03/02/2022 Percent Median: 89% (11.7 / 13.1)
Percent Seasonal Median: 74% (11.7 / 15.8)
3 Day Accum Rate: 0.1 in/day
Created 03/02.16:40 GMT
NOAA/CBRFC, 2022
Snow Water Equivalent (in)
Percent Seasonal Median
Past
Future
Date
Median 1991-2020
2022
2021

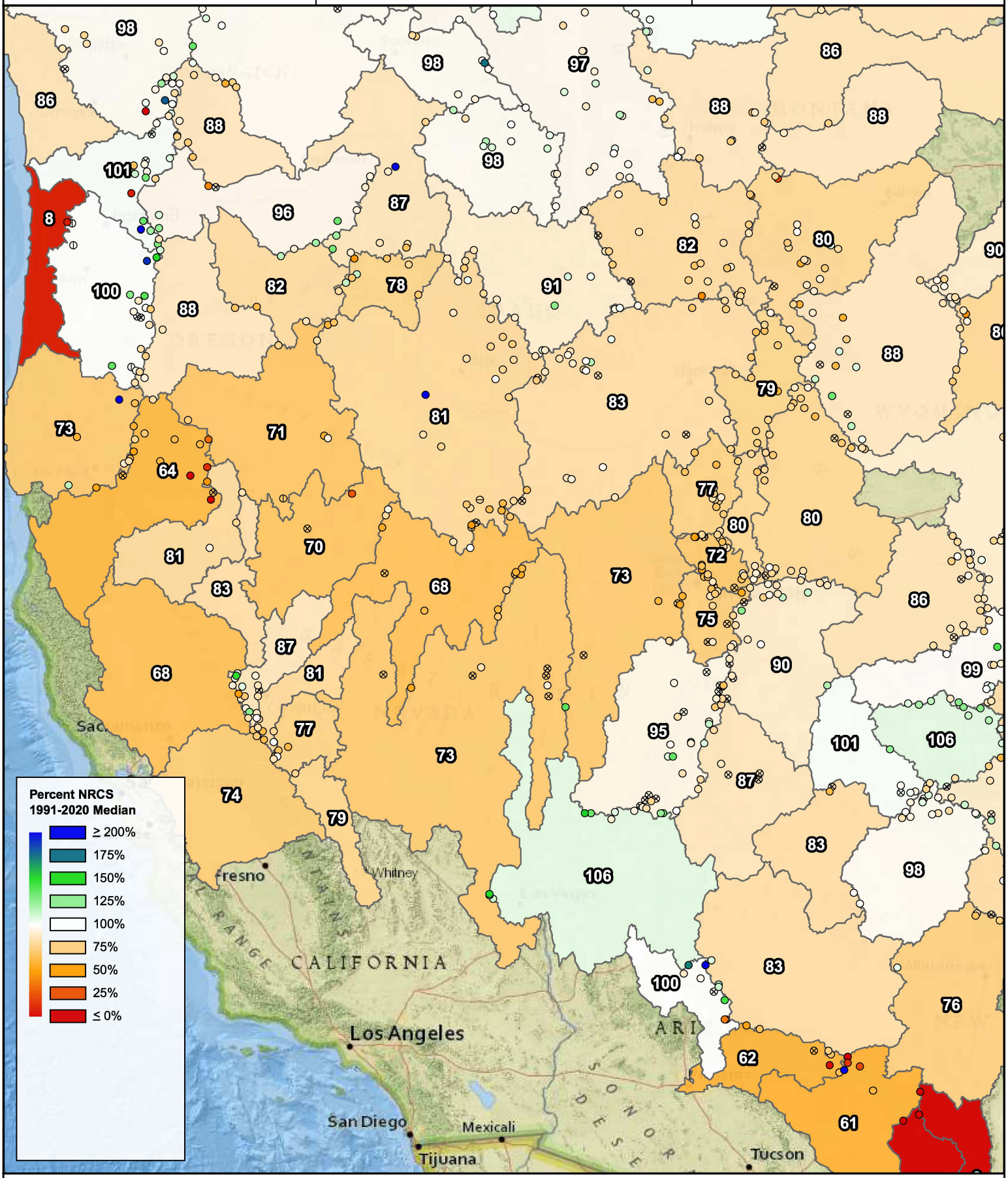

Upper Colorado Basin
Legend
% of Average Precipitation or % Median Snow Water Equivalent
WYOMING
Upper Green
97% 80%
Fontenelle
47% capacity
Flaming Gorge
77% capacity
White-Yampa
97% 84%
Lower Green
107% 89%
Upper Colorado
98% 91%
Colorado Headwaters
97% 97%
Gunnison
97% 105%
Blue Mesa
29% capacity
Morrow Point
90% capacity
Crystal
87% capacity
Dirty Devil
101% 90%
Lower San Juan
83% 79%
Dolores
99% 99%
Lake Powell
25% capacity
Navajo
50% capacity
Upper San Juan
93% 96%
Salt Lake City
UTAH
Cheyenne
Ft. Collins
Boulder
Denver
Colorado Springs
Pueblo
BUREAU OF RECLAMATION

USDA United States Drought Monitor Map

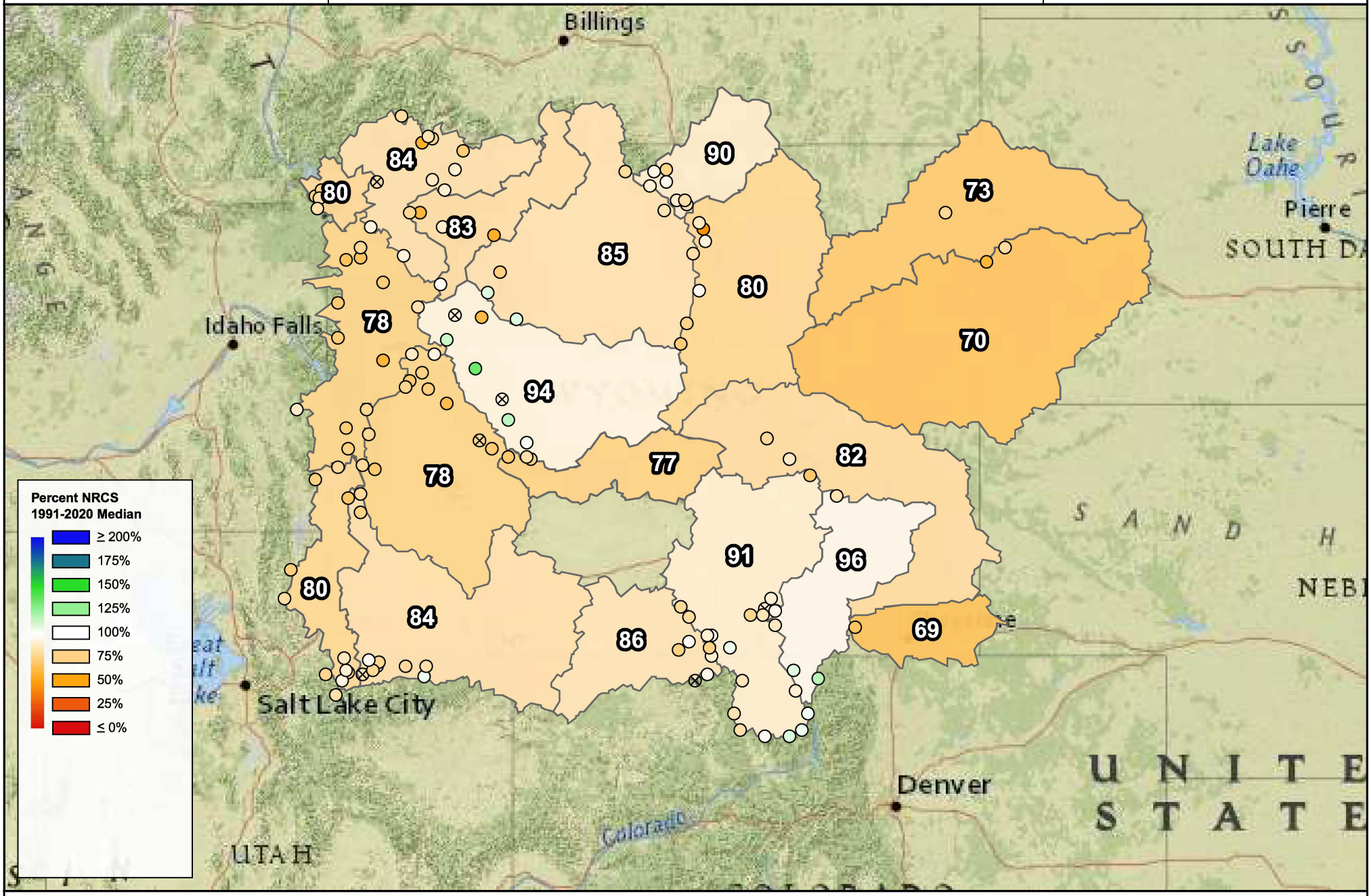




Snow Water Equivalent	Percent NRCS 1991-2020 Median	March 1st, 2022

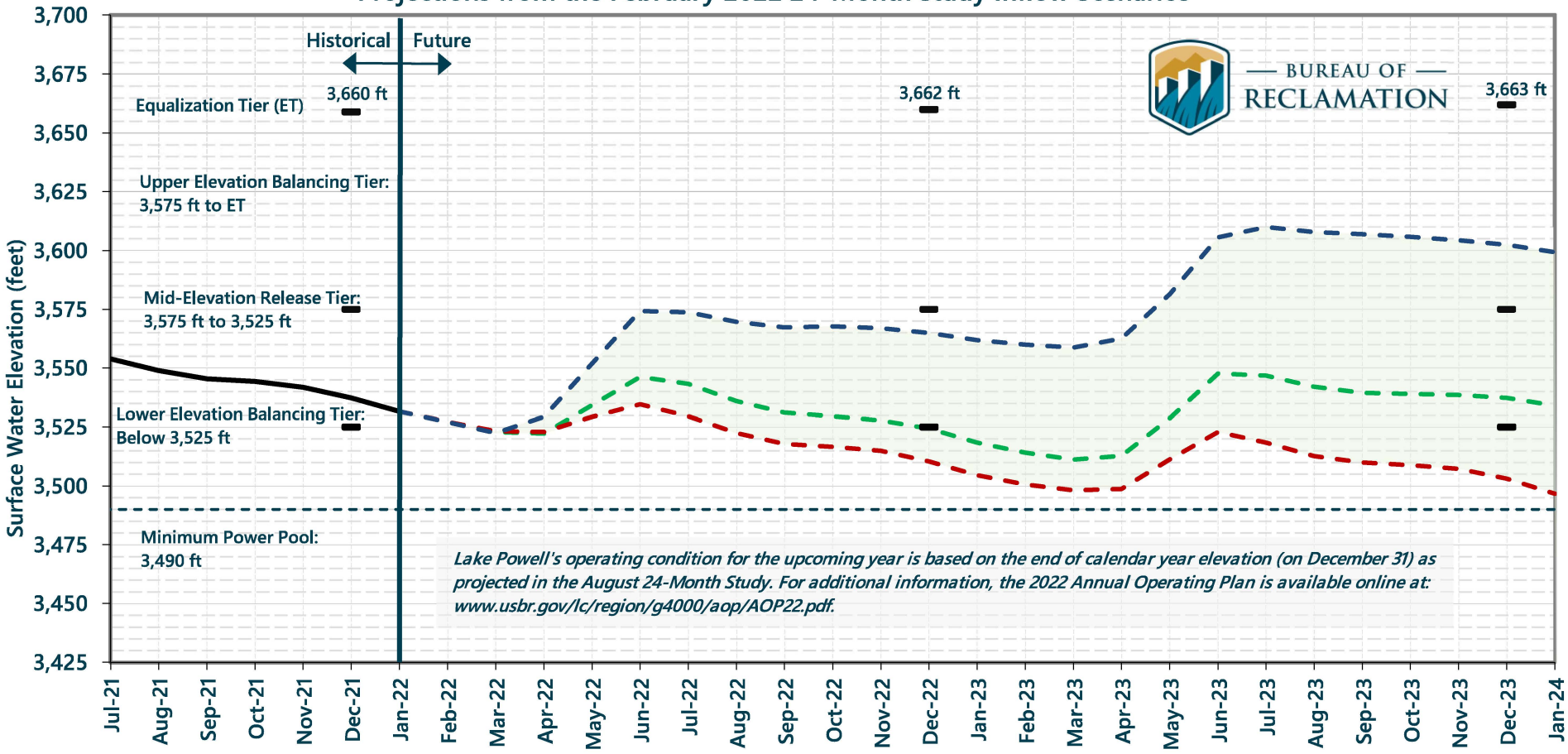


Snow Water Equivalent	Percent NRCS 1991-2020 Median	March 1st, 2022



Lake Powell End of Month Elevations

Projections from the February 2022 24-Month Study Inflow Scenarios



BUREAU OF RECLAMATION

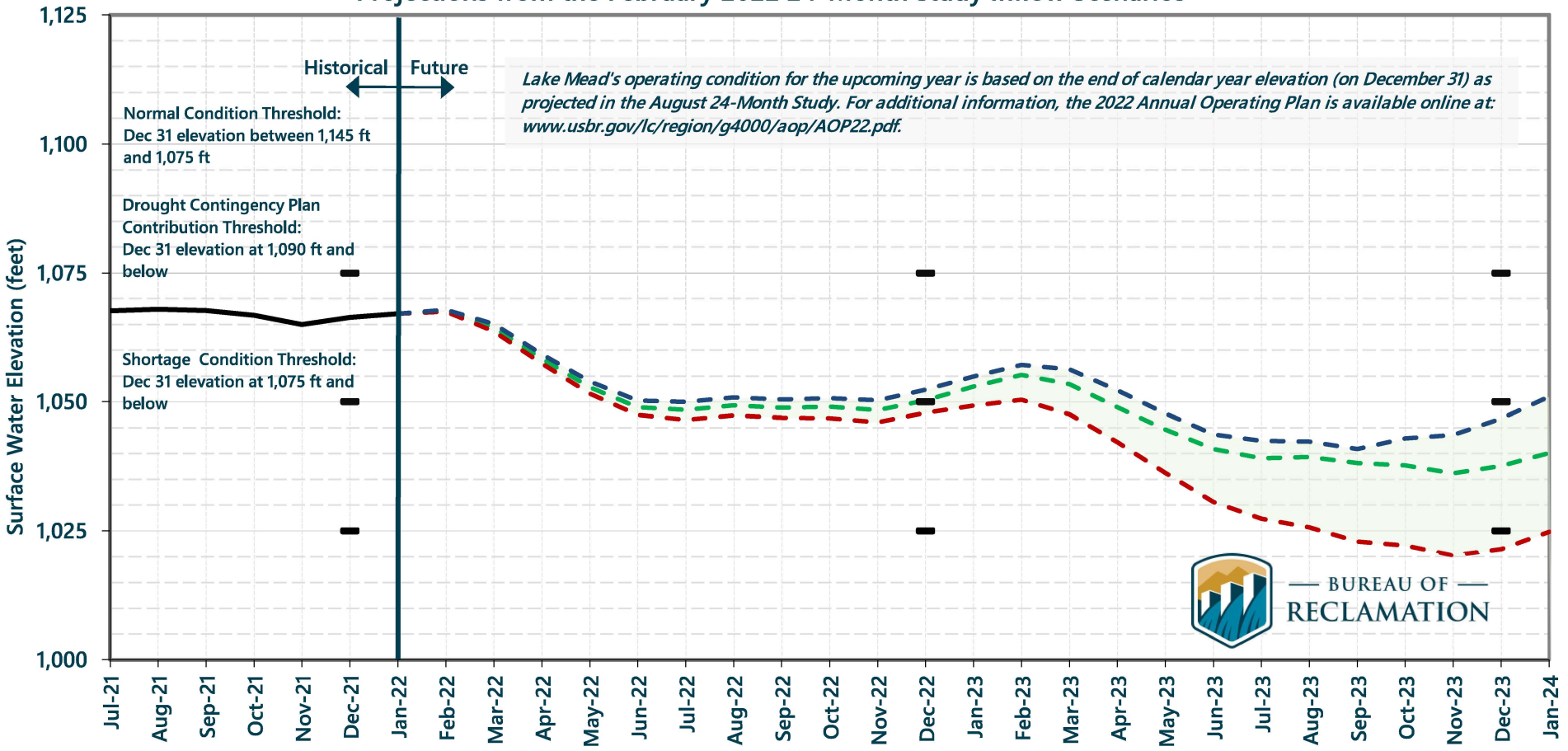
Lake Powell's operating condition for the upcoming year is based on the end of calendar year elevation (on December 31) as projected in the August 24-Month Study. For additional information, the 2022 Annual Operating Plan is available online at: www.usbr.gov/lc/region/g4000/aop/AOP22.pdf.

- February 2022 Most Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and 7.72 maf in WY 2023
- February 2022 DROA Minimum Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and 7.00 maf in WY 2023
- February 2022 DROA Maximum Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and 7.48 maf in WY 2023
- Historical Elevations

The Drought Response Operations Agreement (DROA) is available online at: https://www.usbr.gov/dcp/finaldocs.html.

Lake Mead End of Month Elevations

Projections from the February 2022 24-Month Study Inflow Scenarios



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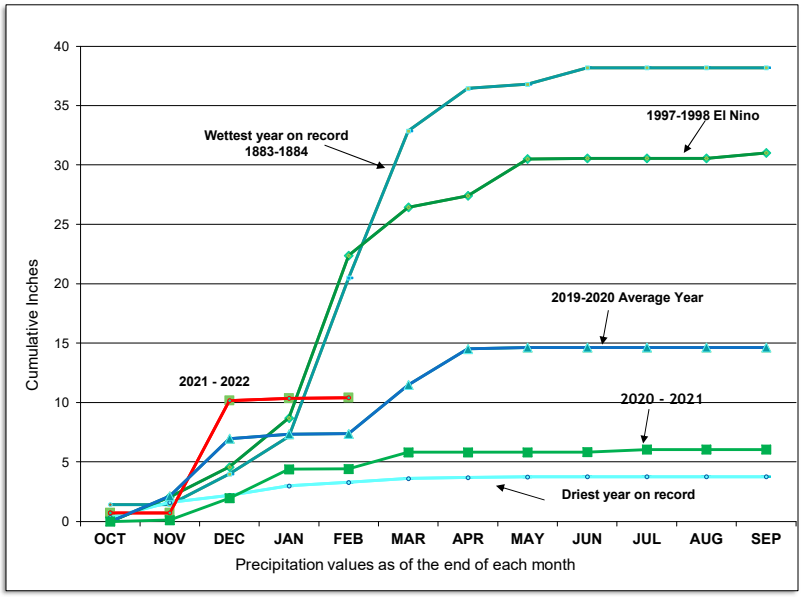
Los Angeles Civic Center Precipitation



1

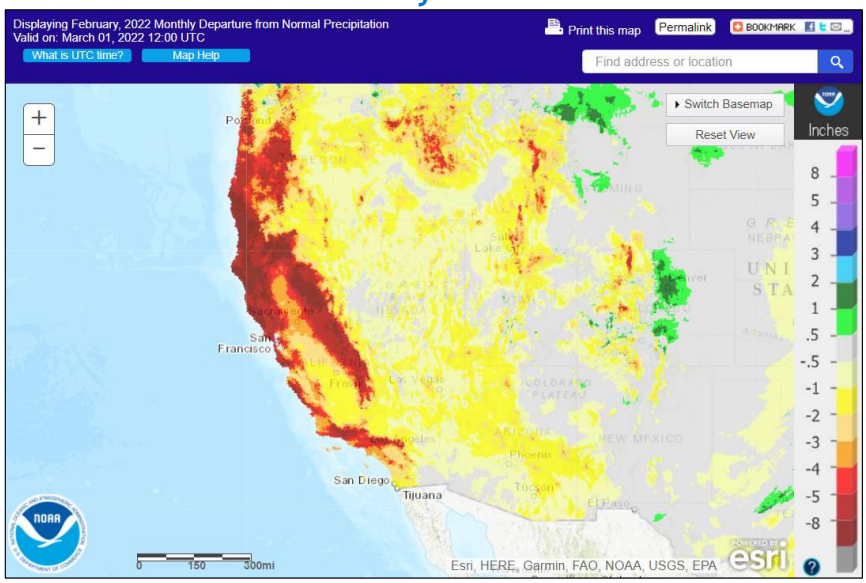
Precipitation at Six Major Stations in Southern California

From October 1, 2021 to February 28, 2022

Station	Precipitation in inches		Average to Date	Percent of Average
	Feb	Oct 1 to Feb 28		
San Luis Obispo	0.03	7.93	16.69	48%
Santa Barbara	0.03	6.18	12.91	48%
Los Angeles	0.06	10.42	10.88	96%
San Diego	0.7	4.45	7.23	62%
Blythe	0.00	0.23	2.08	11%
Imperial	0.00	0.02	1.81	1%

2

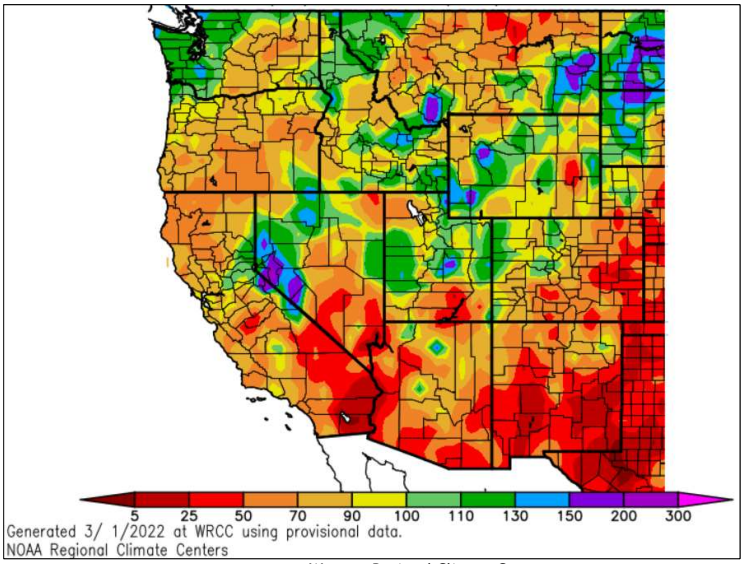
Monthly Departure From Normal Precipitation (inches)
February 2022



NOAA – National Weather Service
https://water.weather.gov/precip/

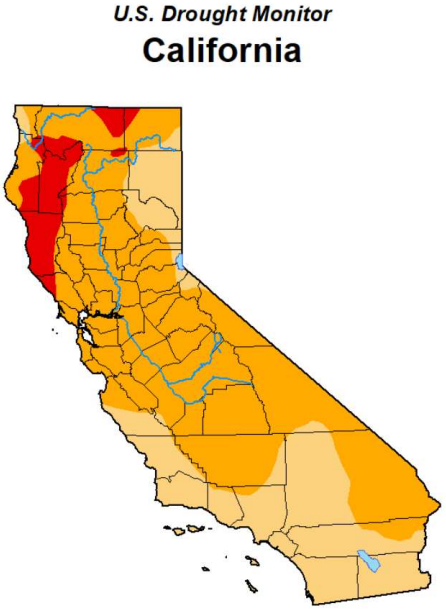
3

Percent of Average Precipitation (%)
10/01/2021 - 03/01/2022



Western Regional Climate Center
https://wrcc.dri.edu/

4



U.S. Drought Monitor
California

February 22, 2022
(Released Thursday, Feb. 24, 2022)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	68.77	6.70	0.00
Last Week 02-15-2022	0.00	100.00	99.57	66.39	1.39	0.00
3 Months Ago 11-23-2021	0.00	100.00	100.00	92.43	80.28	28.27
Start of Calendar Year 01-04-2022	0.00	100.00	99.30	67.62	16.60	0.84
Start of Water Year 09-28-2021	0.00	100.00	100.00	93.93	87.88	45.66
One Year Ago 02-23-2021	0.70	99.30	84.88	56.98	29.54	3.75

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

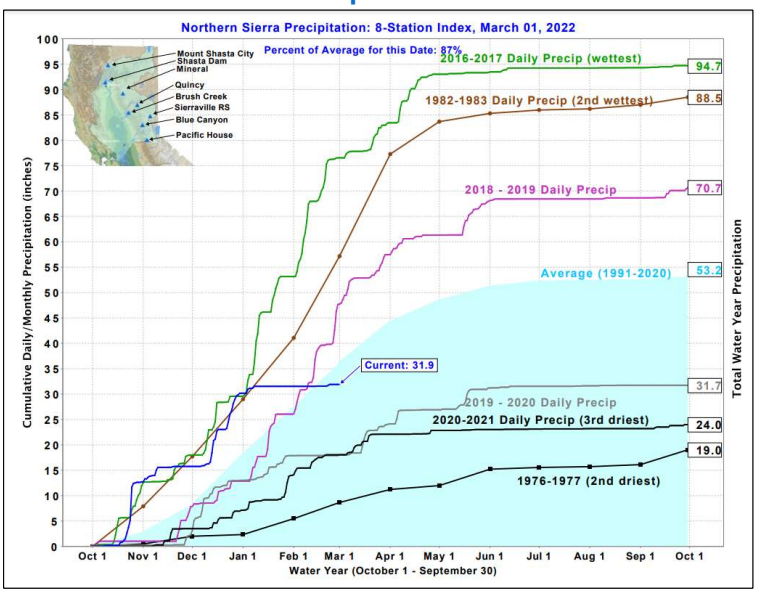
USDA NDMC

droughtmonitor.unl.edu

https://droughtmonitor.unl.edu/Maps/MapArchive.aspx

5

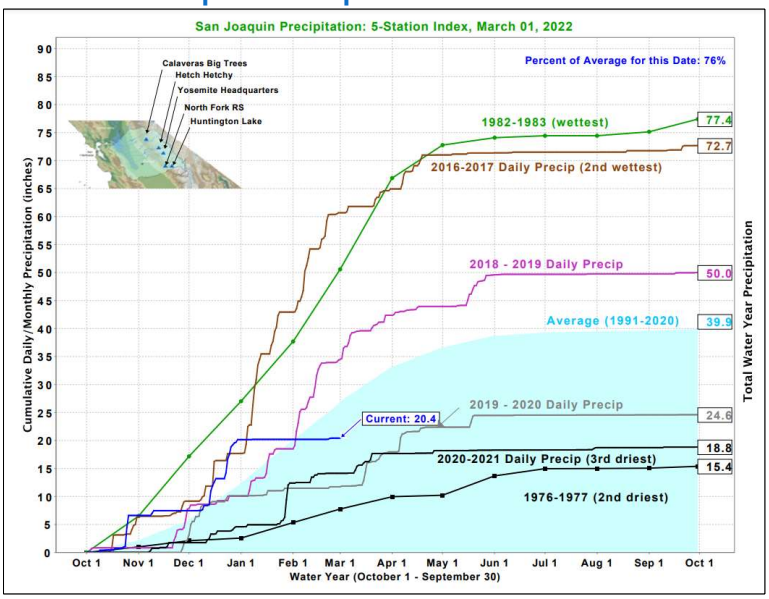
Northern Sierra Precipitation: 8 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf

6

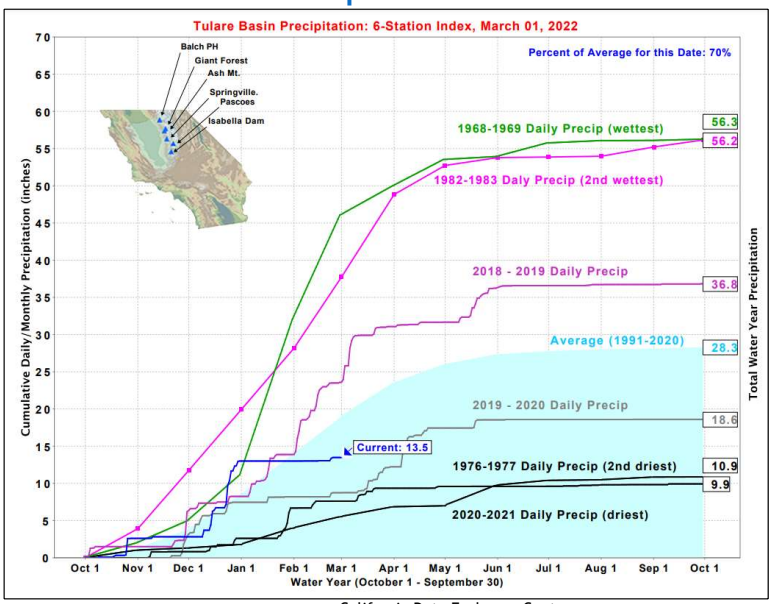
San Joaquin Precipitation: 5 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/reportapp/javareports?name=PLOT_FSI.pdf

7

Tulare Basin Precipitation: 6 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_TSI.pdf

8

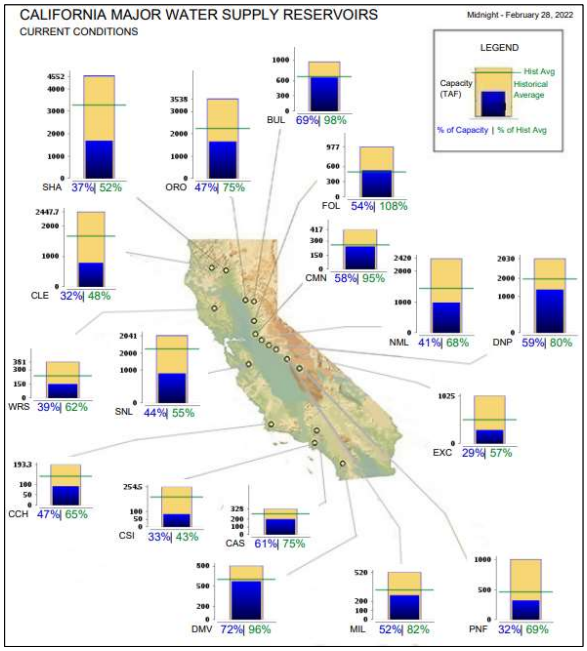
Comparison of SWP Water Storage

Reservoir	Capacity	2021 Storage (acre-feet) As of 1-Mar	2021 % of Cap.	2022 Storage (acre-feet) As of 1-Mar	2022 % of Cap.
Frenchman	55,475	36,140	65%	33,989	61%
Lake Davis	84,371	51,887	61%	45,239	54%
Antelope	22,564	13,011	58%	17,038	76%
Oroville	3,553,405	1,348,273	38%	1,650,194	46%
TOTAL North	3,715,815	1,449,311	39%	1,746,460	47%
Del Valle	39,914	30,574	77%	38,425	96%
San Luis	2,027,835	1,178,895	58%	896,355	44%
Pyramid	169,901	154,066	91%	154,770	91%
Castaic	319,247	244,711	77%	196,805	62%
Silverwood	74,970	65,554	87%	67,116	90%
Perris	132,614	119,766	90%	105,154	79%
TOTAL South	2,764,481	1,793,566	65%	1,458,625	53%

As of January 20, 2022, the Table A allocations for SWP contractors is 15%.

9

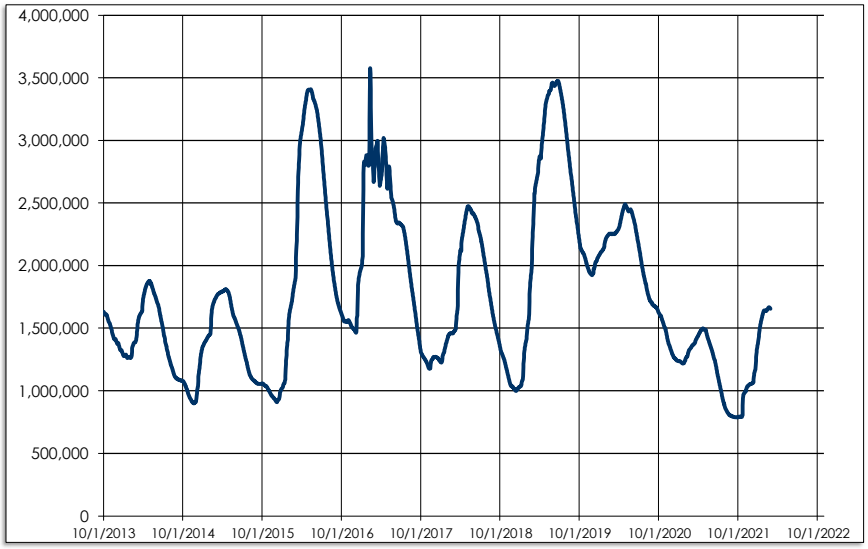
Reservoir Current Conditions as of 03/01/2022



California Data Exchange Center
https://cdec.water.ca.gov/reportapp/javareports?name=rescond.pdf

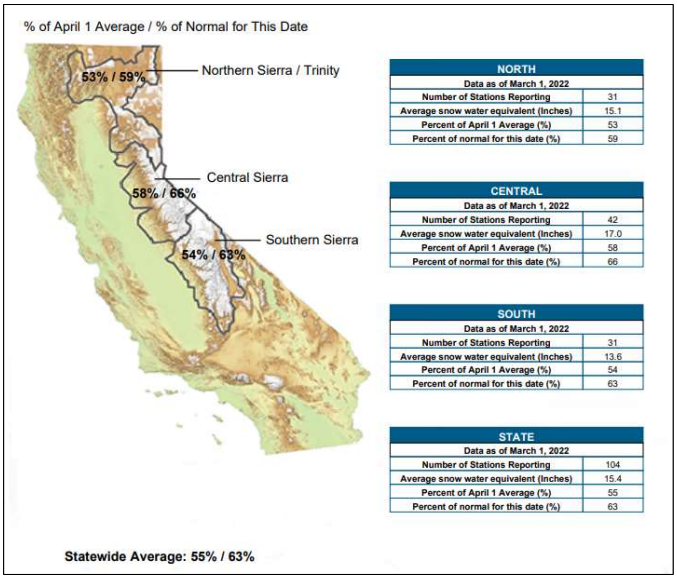
10

Oroville Storage (acre-feet)
October 1, 2013 – March 1, 2022



11

Statewide Summary of Snow Water Content
As of March 1, 2022



NORTH	
Data as of March 1, 2022	
Number of Stations Reporting	31
Average snow water equivalent (inches)	15.1
Percent of April 1 Average (%)	53
Percent of normal for this date (%)	59

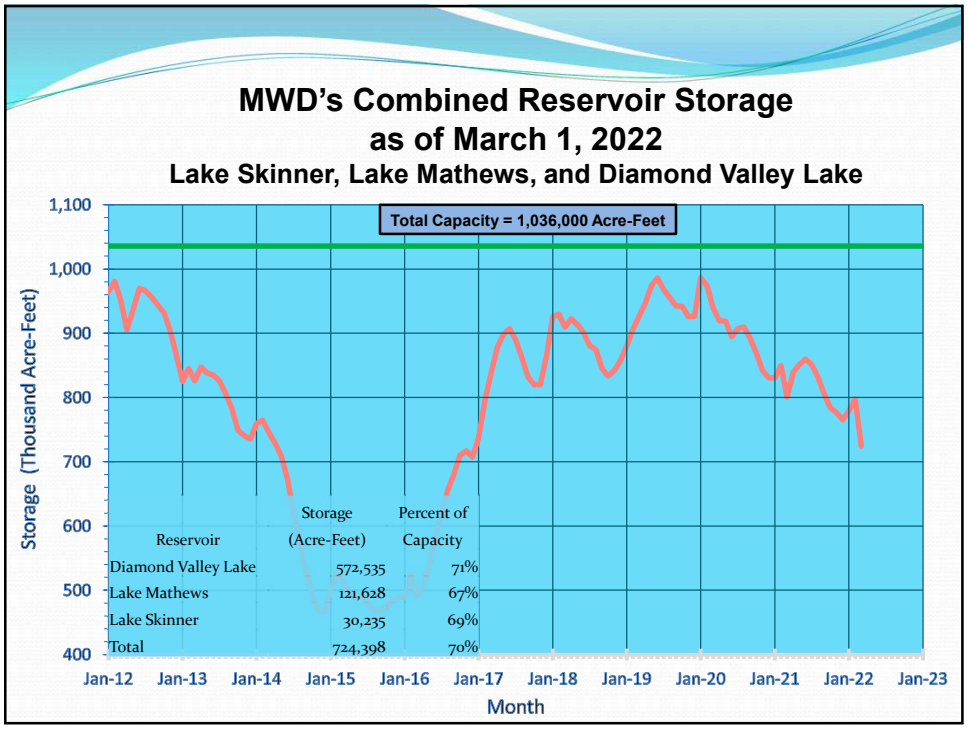
CENTRAL	
Data as of March 1, 2022	
Number of Stations Reporting	42
Average snow water equivalent (inches)	17.0
Percent of April 1 Average (%)	58
Percent of normal for this date (%)	66

SOUTH	
Data as of March 1, 2022	
Number of Stations Reporting	31
Average snow water equivalent (inches)	13.6
Percent of April 1 Average (%)	54
Percent of normal for this date (%)	63

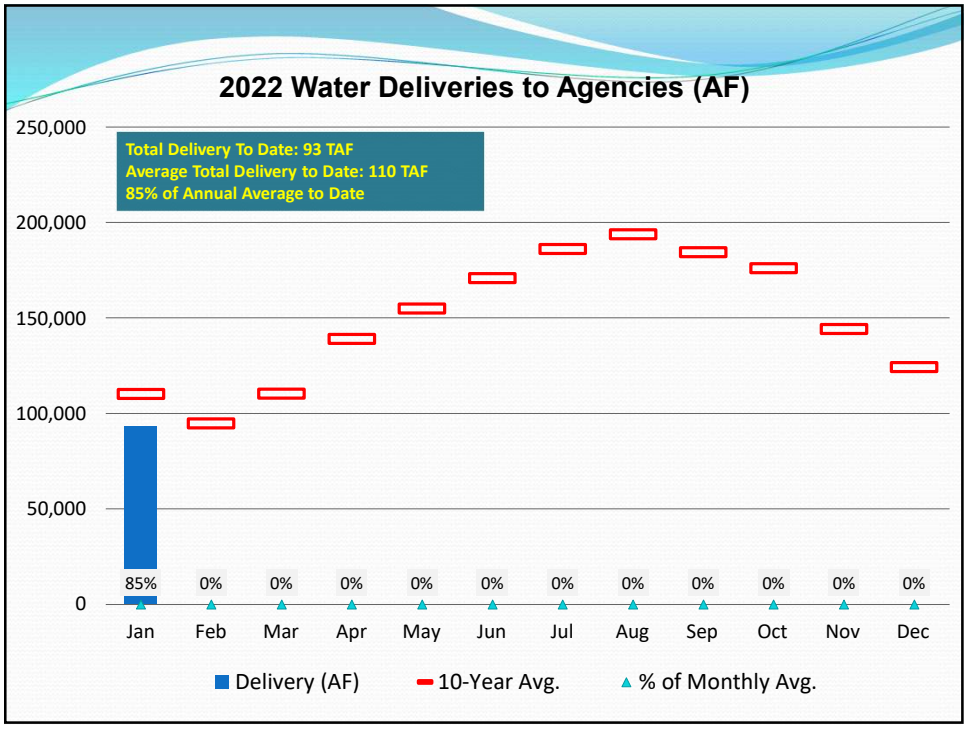
STATE	
Data as of March 1, 2022	
Number of Stations Reporting	104
Average snow water equivalent (inches)	15.4
Percent of April 1 Average (%)	55
Percent of normal for this date (%)	63

California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/swccond.pdf

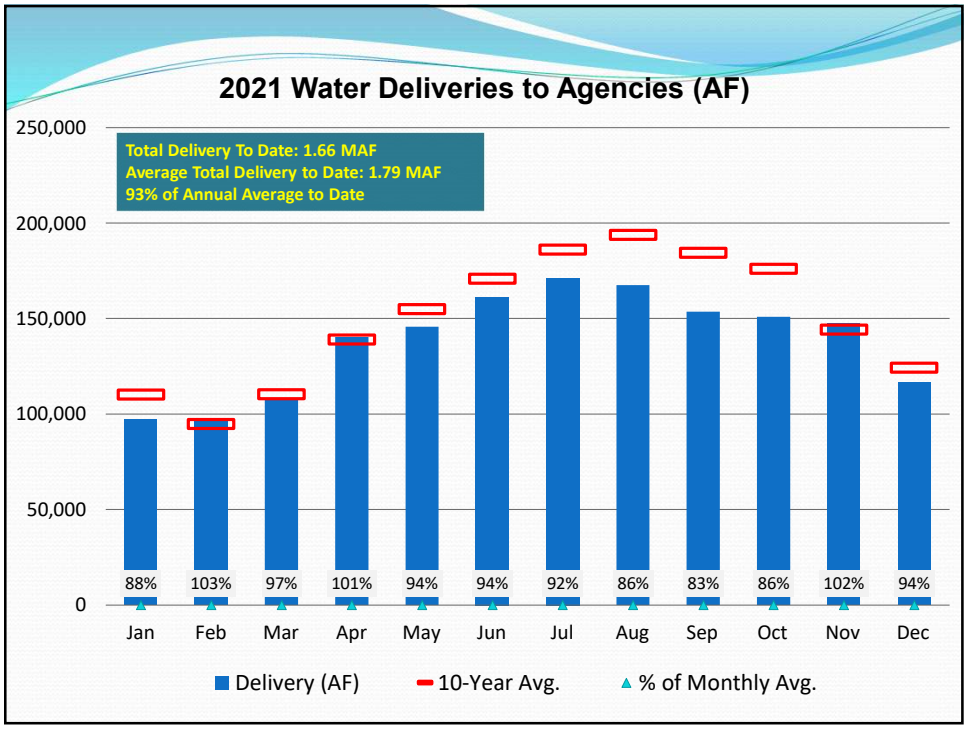
12


MWD's Combined Reservoir Storage
as of March 1, 2022
Lake Skinner, Lake Mathews, and Diamond Valley Lake
Total Capacity = 1,036,000 Acre-Feet
Storage (Thousand Acre-Feet)
1,100
1,000
900
800
700
600
500
400
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Jan-20
Jan-21
Jan-22
Jan-23
Month
Reservoir | Storage (Acre-Feet) | Percent of Capacity
Diamond Valley Lake | 572,535 | 71%
Lake Mathews | 121,628 | 67%
Lake Skinner | 30,235 | 69%
Total | 724,398 | 70%

1

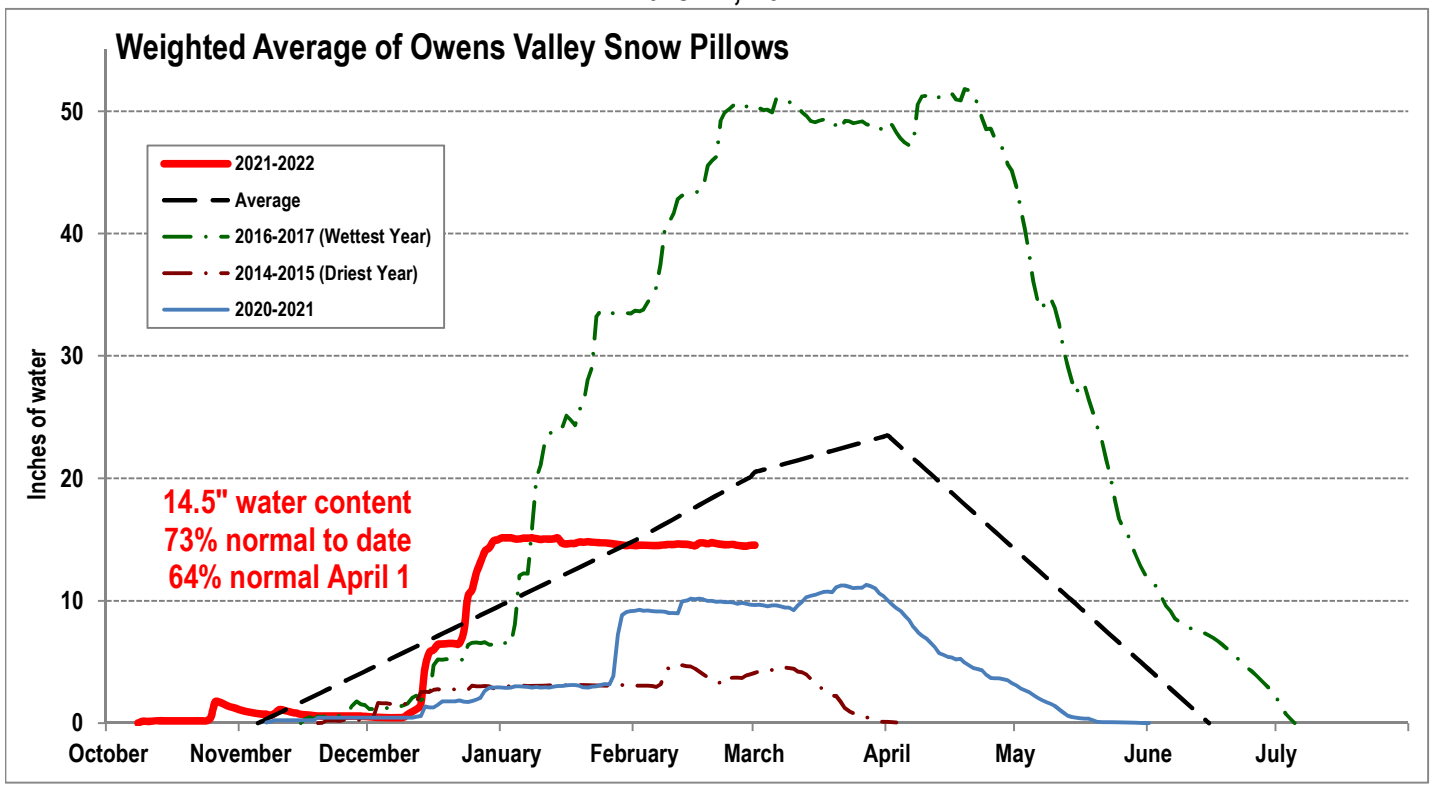

2022 Water Deliveries to Agencies (AF)
Total Delivery To Date: 93 TAF
Average Total Delivery to Date: 110 TAF
85% of Annual Average to Date
250,000
200,000
150,000
100,000
50,000
0
85%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Delivery (AF)
10-Year Avg.
% of Monthly Avg.

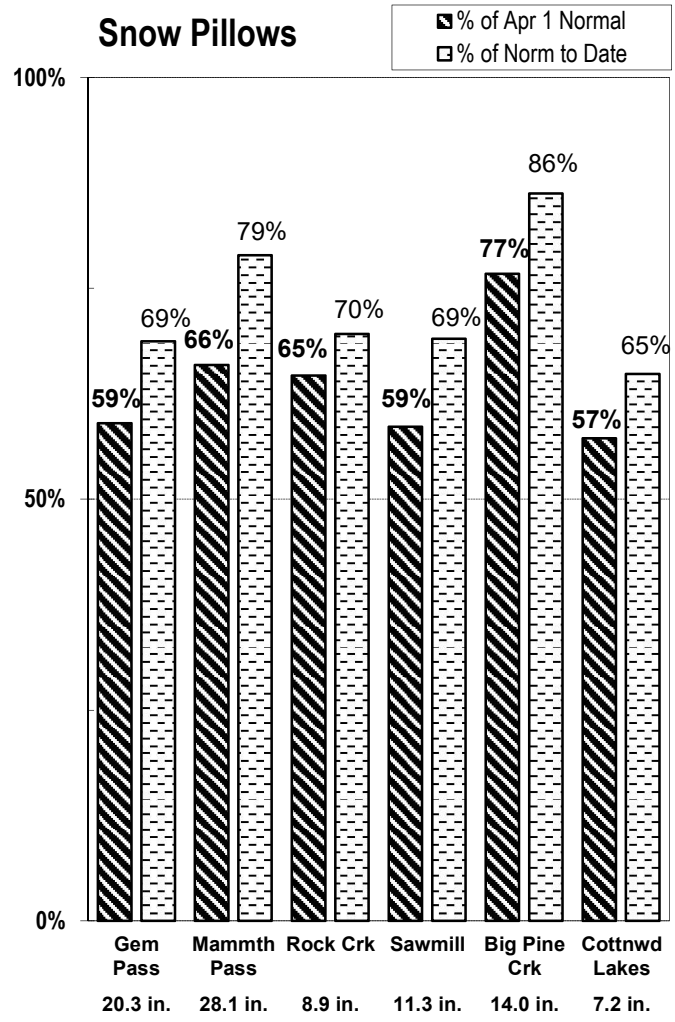
2

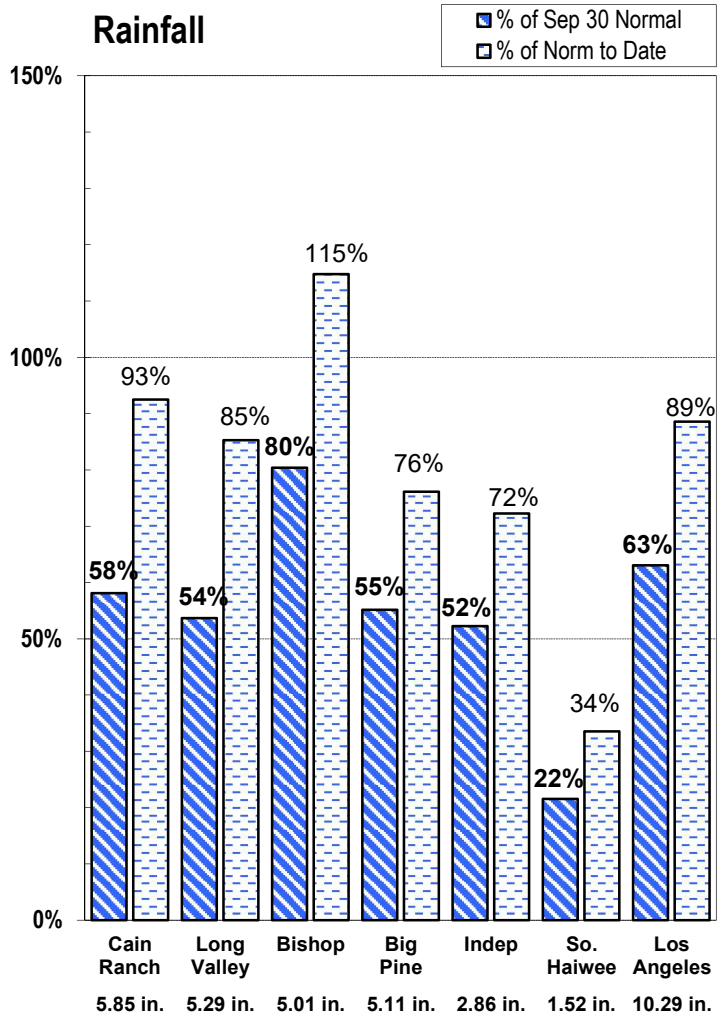

2021 Water Deliveries to Agencies (AF)
Total Delivery To Date: 1.66 MAF
Average Total Delivery to Date: 1.79 MAF
93% of Annual Average to Date
250,000
200,000
150,000
100,000
50,000
0
88%
103%
97%
101%
94%
94%
92%
86%
83%
86%
102%
94%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Delivery (AF)
10-Year Avg.
% of Monthly Avg.

3

EASTERN SIERRA
CURRENT PRECIPITATION CONDITIONS
March 1, 2022







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

Colorado River Board of California

February 15, 2022

California Natural Resources Agency
715 P Street
Sacramento, CA 95814

Re: Comments on “Pathways to 30x30: Accelerating Conservation of California’s Nature”

Dear Secretary Crowfoot:

Thank you for the opportunity to provide feedback regarding the December 15, 2021 draft document “Pathways to 30x30: Accelerating Conservation of California’s Nature (Pathways to 30x30)”. The Colorado River Board of California (Board) protects the interests and rights of the State of California, its agencies and citizens, in the water and power resources of the Colorado River System. A portion of the Board’s work includes implementing the terms and conditions of incidental take authorization permits pursuant to the Endangered Species Act (ESA) and California Endangered Species Act (CESA) related to California’s Colorado River management activities on the Colorado River. The following suggestions are provided to improve clarity in the document and aid in achieving consistency across statewide programs.

Clarification is requested regarding how determinations will be made regarding whether or not habitats are protected in “perpetuity.” Pathways to 30x30 includes a statement asking Californians to “envision a California with healthy and balanced ecosystems, sustained in perpetuity.” Similarly, incidental take permits authorized under CESA include a requirement that habitat established within California as mitigation required under the terms and conditions of an incidental take authorization permit be protected in perpetuity. Clarity regarding how “perpetuity” will be evaluated will help ensure both programs are implementing this goal consistently and provide clear direction for project proponents.

The Board requests clarification in Pathways to 30x30 regarding how private and federal lands that have been obligated to meet conservation and habitat restoration goals will be evaluated to determine their potential inclusion toward achieving specified 30x30 goals. For example, the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) (https://lcrmscp.gov/) is one of the nation’s largest multi-stakeholder partnerships, and includes water users and natural resources agencies in Arizona, California, and Nevada, Native American Tribes, non-governmental organizations, and a number of federal agencies. This partnership, established in 2005, is responsible for the implementation of habitat restoration and management and species conservation activities along the Lower Colorado River from Lake Mead to the Southerly International Boundary with Mexico pursuant to the terms and conditions of incidental take authorizations provided under both CESA and the ESA. Ensuring consistency between CESA mitigation requirements and the guidance specified in Pathways to 30x30 regarding the use of private and federal lands set aside for conservation would increase clarity and ensure CESA mitigation projects contribute to 30x30 goals.

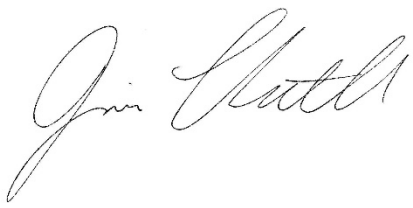
Furthermore, the Board suggests enhancing the strategic actions to "Align Investments to Maximize Conservation Benefits" beginning on page 55 of Pathways to 30x30. In particular, the Board recommends building upon Pathways to 30x30 strategic action #13.3: "Strengthen understanding of how environmental conservation helps us to achieve California's climate goals among policy makers, scientists and academia, as well as philanthropic, civil society, and industry groups." In addition to climate benefits, actions taken to achieve 30x30 are likely to benefit water supply reliability and water quality. Research regarding potential contributions of 30x30 towards improving water supply and water quality, including achieving salinity water quality standards, would be useful for statewide planning efforts and enhance the ability to evaluate potential multi-benefit projects.

In addition to the specific comments above, please consider the following general additions to Pathways to 30x30:

- Coordination of 30x30 water quality efforts with the State Water Resources Control Board and Regional Water Quality Control Boards, including coordinate with the Nonpoint Source Program;
- Coordination between 30x30 efforts and the California State Lands Commission regarding invasive species; and
- Addition to Appendix B of Nonpoint Source Program-approved watershed plans.

The Board looks forward to contributing to the statewide efforts detailed in Pathways to 30x30 and implementing nature-based solutions through Executive Order N-82-20. Please contact Ms. Shana Rapoport at 818-254-3210 or srapoport@crb.ca.gov with questions or for further discussion.

Sincerely,



Jessica Neuwerth
Deputy Director