MONTHLY REPORT TO THE
COLORADO RIVER BOARD OF CALIFORNIA

August 20, 2021

ADMINISTRATION

Board staff are evaluating the logistics of hosting an in-person meeting in September, but because of the current spiking of COVID-19 infections in southern California it may be necessary to hold the September Board meeting virtually. Board staff continue to carefully monitor and consider all applicable public health and safety information and guidance and will coordinate with the Chair before making a final decision.

COLORADO RIVER BASIN WATER SUPPLY CONDITIONS REPORT

As of August 16,th, the surface water elevation at Lake Powell was 3,551.22 feet with 7.67 million-acre feet (MAF) of storage, or 32% of capacity. The surface water elevation at Lake Mead was 1,067.68 feet with 9.02 MAF of storage, or 35% of capacity. As of August 15th, the total system storage was 23.80 MAF, or 40% of capacity, which is about 6.36 MAF less than the total system storage at this same time last year.

As of August 14th, the Upper Basin reservoirs, excluding Lake Powell, were 74% of capacity at Fontenelle Reservoir in Wyoming; 82% of capacity at Flaming Gorge Reservoir in Wyoming and Utah; 94% of capacity at Morrow Point, and 42% of capacity at Blue Mesa Reservoir in Colorado; and 62% of capacity at Navajo Reservoir in New Mexico.

As of August 2nd, the forecasted unregulated inflow into Lake Powell for Water Year (WY) 2021 is 3.44 MAF (32% of normal). The preliminary observed April through July 2021 runoff into Lake Powell for Water Year-2021 is 1.85 MAF (26% of normal). For WY-2021, the July observed Lake Powell inflow was 0.21 MAF (19% of normal), and the August Lake Powell inflow forecast is 0.18 MAF (36% of normal). To date, WY-2021 precipitation is 78% of normal in the Upper Colorado River Basin.

August 24-Month Study Report

Reclamation held a webinar to roll-out the results of the August 2021 24-Month Study on Monday, August 16, 2021. Pursuant to the 2007 Interim Guidelines, the August 2021 24-Month Study projections for January 1, 2022, system storage and reservoir water surface elevations are

utilized in determining the operational tiers for the coordinated operations of Lakes Powell and Mead during 2022. The August 2021 24-Month Study also sets operational targets for Lake Mead operations pursuant to the Lower Basin Drought Contingency Plan (DCP) Agreement and Minute No. 323.

The study projects Lake Powell's January 1, 2022, elevation to be 3,535.40 feet. This elevation is about 165 feet below full pool elevation of 3,700 feet, and is approximately 45 feet above the minimum power pool elevation of about 3,490 feet. Based on this projection, Lake Powell will operate in the Mid-Elevation Release Tier in water year 2022. Under this tier, Lake Powell will release 7.48 million acre-feet in Water Year-2022 without the potential for a mid-year adjustment in April 2022. In July 2021, supplementary drought operations to protect Lake Powell from going below elevation 3,525 feet were implemented under the Upper Basin Drought Response Operations Agreement (DROA) which project releasing up to an additional 181,000-acre-feet of water from upstream initial units of the Colorado River Storage Project to Lake Powell between July and December 2021. Specifically, these releases will be made from Flaming Gorge Reservoir, Aspinall Unit, and Navajo Reservoir during the July-December timeframe.

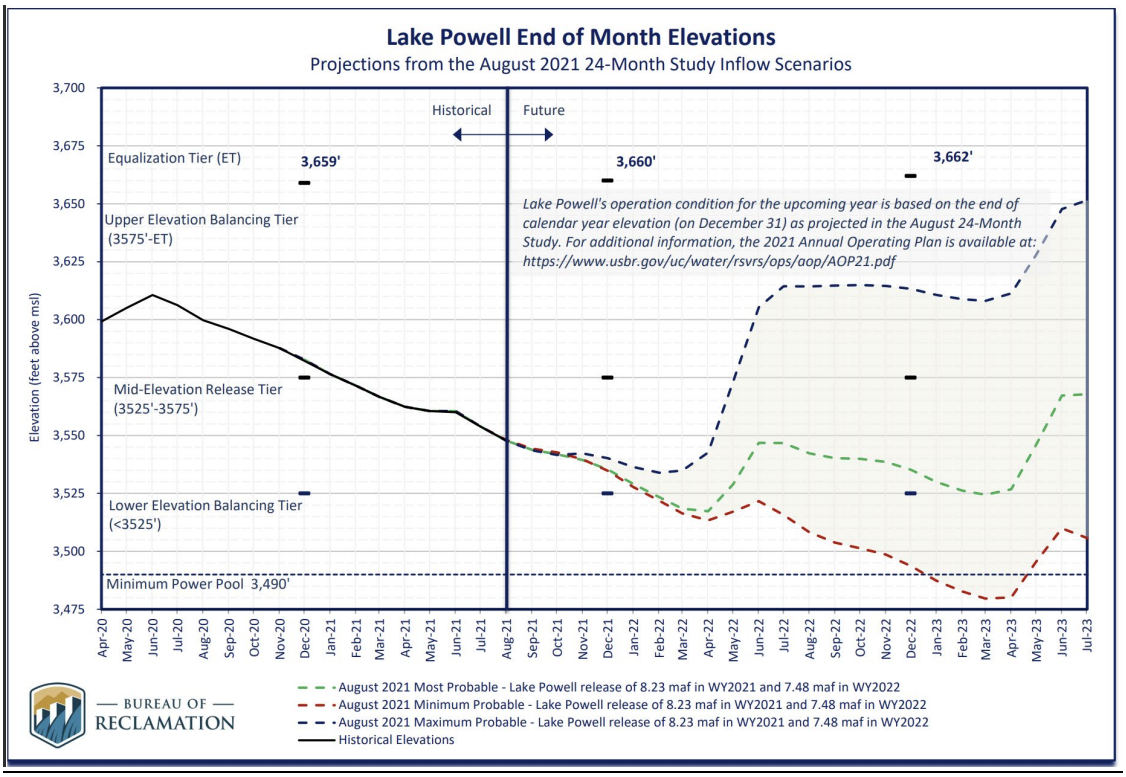
The study projects Lake Mead's January 1, 2022, elevation to be 1,065.85 feet, which is about 9 feet below the Lower Basin shortage determination trigger of 1,075 feet and about 24 feet below the drought contingency plan initial trigger of 1,090 feet. Based on this projection, Lake Mead will operate in a Level 1 Shortage Condition for the first time ever. The required shortage reductions and water savings contributions under the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead, 2019 Lower Basin Drought Contingency Plan, and Minute No. 323 to the 1944 Water Treaty with Mexico are:

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

Additionally, the August 2021 Minimum Probable 24-Month Study projects Lake Mead's elevation to be below 1,030 feet (1,026.96 feet) in July 2023. Consistent with Section V.B.2. of the Lower Basin Drought Contingency Operations Agreement, "if any 24-Month Study for the minimum probable inflows projects that Lake Mead elevations will be at or below 1,030 feet anytime within the succeeding two years, the Secretary and Lower Division States shall consult and determine what additional measures will be taken by the Secretary and Lower Division States to avoid and protect against the potential for Lake Mead to decline below 1,020 feet."

Reclamation's press release on the August 2021 24-Month study roll-out is available at https://www.usbr.gov/newsroom/#/news-release/3950 and is attached to this report. Additionally, Reclamation held a press event, which included statements from Reclamation Deputy Commissioner Camille Touton, Assistant Secretary for Water and Science Tanya Trujillo,

Upper Colorado Basin Region Director Wayne Pullan, Lower Colorado Basin Region Director Jacklynn Gould, and statements from several Basin States principals, including Board Chair Peter Nelson.



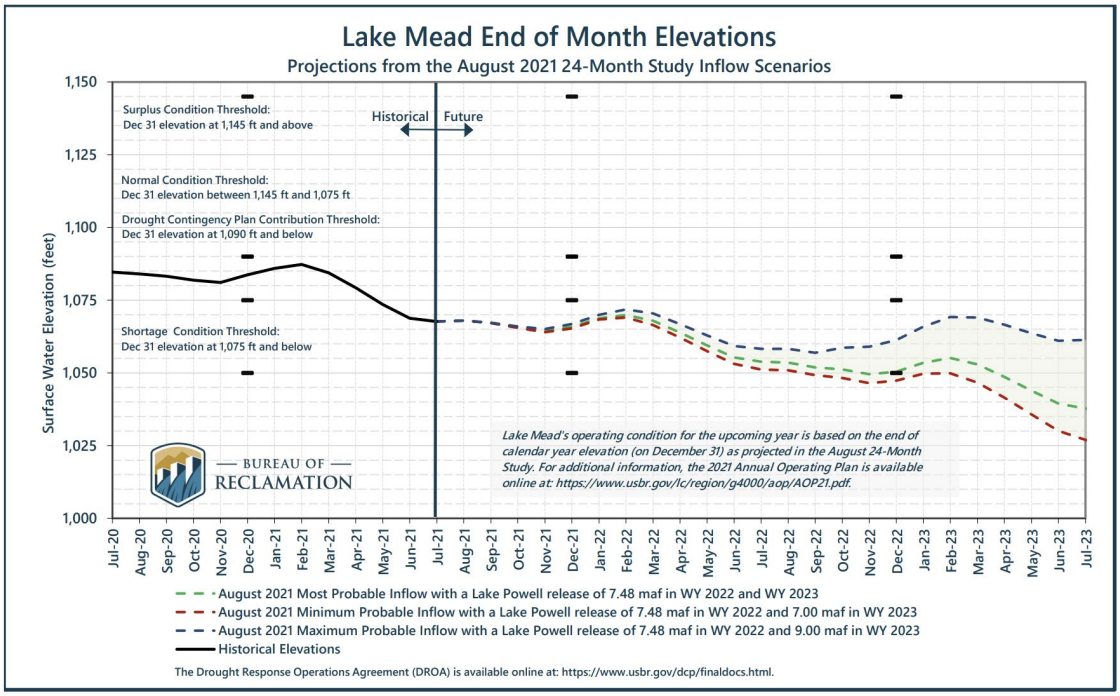


Figure 1: Lakes Powell and Mead End of Month Elevations, August 2021 24-Month Study Inflow Scenarios

Third and Final Annual Operating Plan Consultation

Reclamation has scheduled the third consultation for the 2022 Annual Operating Plan (AOP) for Tuesday August 31, 2021, from 11:00 am to 2:00 pm PDT. The second draft of the 2022 AOP is available on Reclamation's Upper and Lower Colorado Basin Region's webpages at https://www.usbr.gov/lc/region/g4000/AOP2022/2022AOP_2021-07-16_Consultation-2.pdf. A copy of Reclamation's presentation from the second AOP consultation meeting, held on July 22nd, has been posted at:
https://www.usbr.gov/lc/region/g4000/AOP2022/2022AOP_2021-07-22_Slides.pdf.

COLORADO RIVER BASIN PROGRAM UPDATES

Basin States Principals Meeting, August 9-10, Salt Lake City, Utah

Representatives of the seven Basin States and Department of the Interior met in Salt Lake City, Utah, on August 9-10. The Department of Interior shared updated System conditions and hydrological information with the group, which demonstrated that Colorado River System reservoir conditions have significantly worsened over the course of WY-2021 as the result of low runoff, with WY-2021 shaping up to be the second driest year on record. Basin State representatives discussed (1) messaging associated with the August 16th August 2021 24-Month Study Report roll-out; (2) potential for initiation of the "1030 Consultation" provision of the Lower Basin DCP; (3) consideration of additional measures to protect critical elevations in Lakes Powell and Mead; and (4) the need for close coordination and information-sharing with Mexico and the Basin's Native American tribes, as well as with the public and other stakeholders. The Basin states representatives also committed to meeting regularly to discuss reservoir conditions, hydrologic and water supply forecasts, and additional measures that could be implemented to bolster storage in the reservoir system and protect critical elevations.

Status of Minute No. 323

The binational Minute No. 323 (M323) Oversight Group (MOG), responsible for providing oversight and management related to implementation of Minute No. 323 held a short MOG webinar on August 12th. The purpose of the webinar was to ensure that the two countries were fully briefed and coordinated regarding the roll-out of the August 2021 24-Month Study Report on August 16th. The U.S. and Mexican Sections of the International Boundary and Water Commission (IBWC) have been closely coordinating data and information-sharing related to the continuing drought and water supply conditions in the Basin, particularly through the M323 Hydrology work group, over the past several months. Both Sections of the IBWC prepared a press release that would be issued by the two countries on August 16th that described the results of

the August 24-Month Study and the implications for water users in both countries. Pursuant to M323, Mexico incurs a delivery reduction of 50 KAF and an obligation to make a 30 KAF contribution to Lake Mead storage under the Binational Water Scarcity Contingency Plan. The total annual commitment for Mexico between Lake Mead elevations 1,075' and 1,050' is 80 KAF during CY-2022.

The Mexican participants in the MOG webinar were very complimentary regarding the professionalism and thoroughness of Reclamation's System conditions presentation as well as information and data sharing between the two countries. Mexican Commissioner Humberto Marengo indicated that Mexico looked forward to continuing the collaborative partnership with the U.S. to identify additional measures to protect critical elevations in the reservoirs. Finally, Commissioner Marengo reported that he has accepted a new senior leadership position with CONAGUA (Federal Water Commission) and will be leaving CILA in the near future, but that in his new position with CONAGUA, he would be closely coordinating with CILA and the Mexican water districts using Colorado River water supplies.

GENERAL ANNOUNCEMENTS AND UPDATES

Reclamation selects Jacklynn Gould as Lower Colorado Basin regional director

On August 6, 2021, Reclamation Deputy Commissioner Camille Touton today named Ms. Jacklynn (Jaci) L. Gould as regional director for the Lower Colorado Basin Region. Ms. Gould has more than 29 years of experience with Reclamation. As regional director, Ms. Gould will lead over 800 employees in the region, which encompasses the last 700 miles of the Colorado River to the Mexican border, southern Nevada, southern California, and most of Arizona. She will oversee hydropower operations and maintenance for 15 facilities, including Hoover Dam, as well as the implementation of the Lower Colorado River Multi-Species Conservation Program, a multi-agency effort to conserve and work towards the recovery of endangered species and to protect and maintain wildlife habitat on the lower Colorado River.

Ms. Gould most recently served as deputy regional director, joining the Lower Colorado Basin Region in May 2016. Prior to that she served in various management positions in Reclamation's Great Plains Region, Eastern Colorado Area Office. As area manager, she was responsible for all

aspects of the extensive Colorado-Big Thompson and Fryingpan-Arkansas projects. Additionally, Ms. Gould's leadership in Reclamation's Upper Colorado Region's Albuquerque area office was instrumental in the development of the Middle Rio Grande Collaborative Program.

California Senators Seek to Expand Federal Authority Over Threatened Salton Sea

California U.S. Senators Alex Padilla and Dianne Feinstein introduced a bill on Friday, August 13th to expand federal investment in the ecological improvement projects at the Salton Sea. The Salton Sea Projects Improvements Act would significantly expand the ability of Reclamation to partner with state, local, and tribal governments to address the public health and environmental crisis at the Salton Sea. The bill also increases the amount the Bureau of Reclamation is authorized to spend towards these efforts from $10 million to $250 million. The legislation was originally introduced in the House of Representatives by Rep. Raul Ruiz of Coachella earlier this year. More information is available on the legislation at the August 13, 2021, press release at the link below.

https://www.feinstein.senate.gov/public/index.cfm/press-releases?id=641E50FE-DAEB-4EA5-BBE1-630178299B5D

U.S. Geological Survey Webinar on Integrated Water Science in the Upper Colorado River Basin

On September 1, 2021, from 8:00 a.m. to 11:00 a.m., Pacific, the U.S. Geological Survey (USGS) will host a webinar to discuss its planned activities in the Upper Colorado River Basin. USGS water-science programs are collectively addressing regional water-availability issues with a goal of improving water predictions, assessments, and data delivery for this important water resource. Within the Upper Colorado River Basin, the Colorado River Headwaters and Gunnison River subbasins provide an opportunity to develop high-fidelity observations in a snowmelt-dominated system and so were chosen as the focus for implementing the Next Generation Water Observing System (NGWOS) program. With an increase in Federal appropriations in 2021, NGWOS and other USGS projects are addressing a variety of water-availability issues in the Upper Colorado River Basin, and the webinar will provide an update on those activities. Registration for the event is available at: https://forms.office.com/g/vTvTsp0vkF

Washington, D.C. Report

Appropriations

Last week, the U.S. House of Representatives passed a "minibus" of seven of the twelve appropriations bills which will provide funding for the Bureau of Reclamation and the EPA. The Senate is behind the House in the appropriations process and is just starting to release the text

of any of some of its appropriations bills and has only scheduled a few of its markups. Relevant highlights for both the House and Senate can be found below:

Bureau of Reclamation

- $50 million (House) vs. $40 million (Senate) to implement the Colorado River Drought Contingency Plan
- $67 million (House) vs. $134 (Senate) for the WIIN Act Storage Account
- $75 million (House) vs. $48 million (Senate) for WaterSMART
- $15.5 million (House) vs. $19.85 million (Senate) for desalination and water purification research program

EPA

- $72 million (House) vs. $14.2 million (Senate) for WIFIA

Infrastructure Negotiations

The bipartisan group of Senators reached agreement on an infrastructure bill and is voting this week to advance the bill out of the Senate prior to breaking for the August Recess. Final passage of the bill could occur this weekend, but the timing is fluid. Relevant to Western Water are the following accounts, in addition to the ongoing appropriations cycle mentioned above:

- $1.15 billion for water storage, groundwater storage, and conveyance
- $100 million carve out for small surface and groundwater storage
- $3.2 billion for Reclamation aging infrastructure
    - $100 million for reserved or transferred works that have suffered critical failure
    - $100 million for rehabilitation, reconstruction, or replacement of a dam
- $1 billion for water recycling
- $550 million for projects authorized by Congress or have received competitive grant funding through the WIIN Act
- $450 million for large scale water recycling projects
- $250 million for desalination
- $500 million for safety of dams
- $400 million for WaterSMART
- $100 million for nature-based projects
- $300 million to implement Colorado River Drought Contingency Plan
- $50 million for upper basin
- $100 million for cooperative watershed management projects
- $250 million for aquatic ecosystem restoration projects
- $100 million for multi-benefit projects to improve watershed health
- $50 million for endangered species recovery and conservation programs in the Colorado River Basin

The infrastructure package will also include the text of S. 914, the Drinking Water and Wastewater Infrastructure Act of 2021. Over a five-year period, this bipartisan bill authorizes:

- $14.7 billion for the Drinking Water State Revolving Funding
- $14.7 billion for the Clean Water State Revolving Fund
- $250 million for WIFIA
- $500 million for EPA's lead reduction projects grant program

Waters of the United States Rule

The Biden administration officially announced its plans for scrapping and replacing the Navigable Waters Protection Rule that pulled back federal protections for millions of streams and wetlands. EPA and the U.S. Army Corps of Engineers said it will follow a two-pronged approach to revoke the prior administration's Navigable Waters Protection Rule while revising the definition of "Waters of the United States," or WOTUS, which defines which waters fall under federal protection. It is expected that the EPA will issue a draft rule pulling back the previous Administration's regulation by year's end.

***

8/16/2021

LOWER COLORADO WATER SUPPLY REPORT

River Operations

Bureau of Reclamation

Questions: BCOOWaterops@usbr.gov

(702)293-8373

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

CURRENT STORAGE	PERCENT FULL	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
LAKE POWELL	32%	7,673	3,551.22	12,600
* LAKE MEAD	35%	9,016	1,067.68	12,300
LAKE MOHAVE	95%	1,714	643.57	12,300
LAKE HAVASU	95%	588	448.40	8,700
TOTAL SYSTEM CONTENTS **	40%	23,799		
As of 8/15/2021				
SYSTEM CONTENT LAST YEAR	51%	30,160		

* Percent based on capacity of 26,120 kaf or elevation 1,219.6 feet.

control space.

Salt/Verde System	68%	1,566		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	10%	105	1,114.88	25

Forecasted Water Use for Calendar Year 2021 (as of 8/16/2021) (values in kaf)

NEVADA	264	
SOUTHERN NEVADA WATER SYSTEM		237
OTHERS		26
CALIFORNIA	4,423	
METROPOLITAN WATER DISTRICT OF CALIFORNIA		1,085
IRRIGATION DISTRICTS		3,322
OTHERS		17
ARIZONA	2,507	
CENTRAL ARIZONA PROJECT		1,410
OTHERS		1,097
TOTAL LOWER BASIN USE		7,194
DELIVERY TO MEXICO - 2021 (Mexico Scheduled Delivery + Preliminary Yearly Excess)		1,489

OTHER SIGNIFICANT INFORMATION

UNREGULATED INFLOW INTO LAKE POWELL - AUGUST FINAL FORECAST DATED 8/2/2021

	MILLION ACRE-FEET	% of Normal
FORECASTED WATER YEAR 2021	3.437	32%
PRELIMINARY OBSERVED APRIL-JULY 2021	1.850	26%
JULY OBSERVED INFLOW	0.209	19%
AUGUST INFLOW FORECAST	0.180	36%

	Upper Colorado Basin	Salt/Verde Basin
WATER YEAR 2021 PRECIP TO DATE	78% (22.1")	74% (18.1")
CURRENT BASIN SNOWPACK	NA% (NA)	NA% (NA)

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

Aug 17, 2021 03:52:30 PM

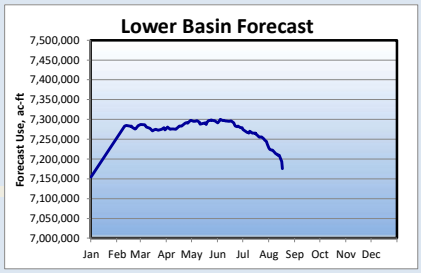
BUREAU OF RECLAMATION

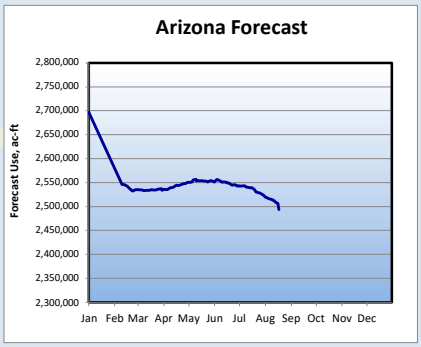
LOWER COLORADO BASIN REGION
CY 2021

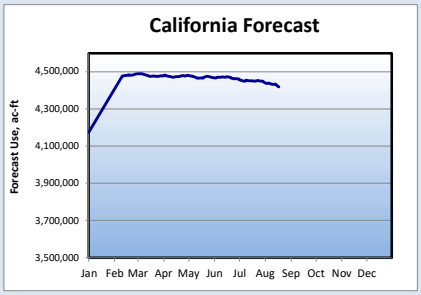
ARIZONA, CALIFORNIA, NEVADA, MEXICO
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS [1]
(ACRE-FEET)

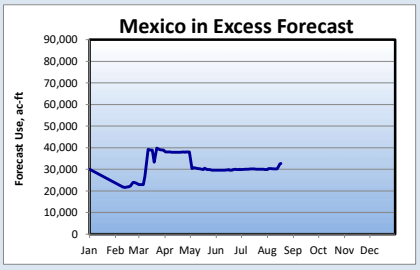
WATER USE SUMMARY	Use To Date CY 2021	Forecast Use CY 2021	Approved Use [2] CY 2021	Excess to Approval CY 2021
ARIZONA	1,624,240	2,493,460	2,480,705	**12,755**
CALIFORNIA	2,903,038	4,418,842	4,398,276	**20,566**
NEVADA	163,028	263,498	336,502	(73,004)
STATES TOTAL [3]	4,690,306	7,175,800	7,215,483	(39,683)
TOTAL DELIVERIES MEXICO IN SATISFACTION OF TREATY REQUIREMENTS [4]	1,067,705	1,456,682		
CREATION OF MEXICO'S RECOVERABLE WATER SAVINGS [5]	4,268	41,000		
CREATION OF MEXICO'S WATER RESERVE [6]	36,994	37,341		
DELIVERY OF MEXICO'S WATER RESERVE [7]	(26,407)	(35,023)		
TOTAL TO MEXICO IN SATISFACTION OF TREATY REQUIREMENTS [8]	1,082,560	1,500,000		
TO MEXICO IN EXCESS OF TREATY [9]	20,676	32,711		
WATER BYPASSED PURSUANT TO IBWC MINUTE NO. 242 [10]	73,214	116,950		
TOTAL LOWER BASIN & MEXICO [11]	5,851,901	8,782,143		

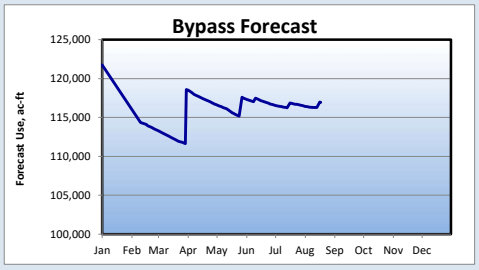
[1] Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date has been updated through April for users reporting monthly and estimated for users reporting annually.
[2] These values reflect adjusted apportionments. See Adjusted 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.

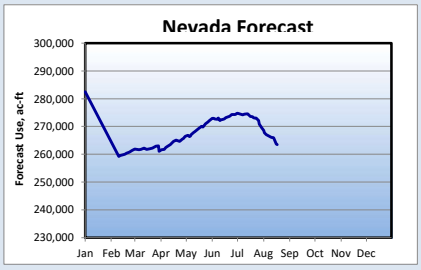


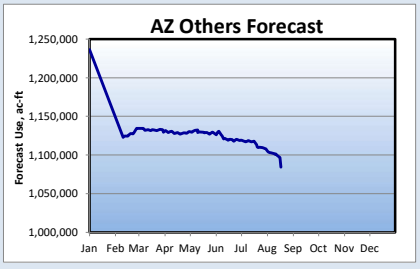


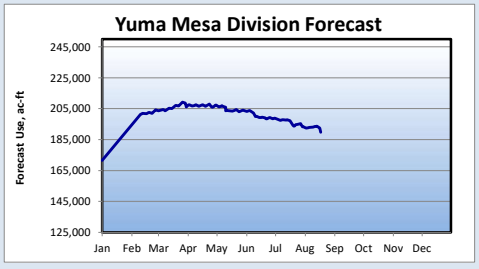


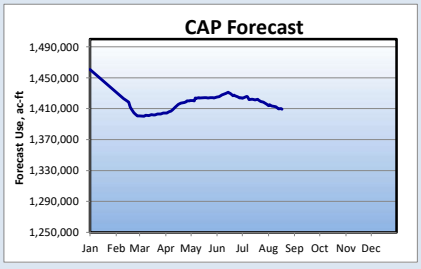


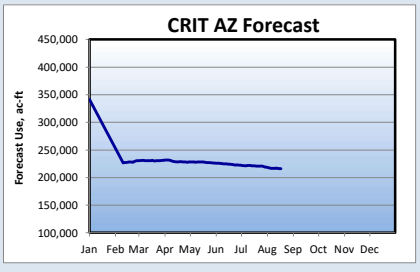


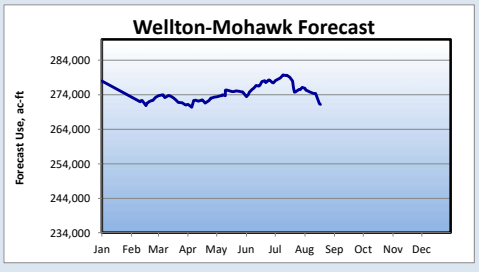


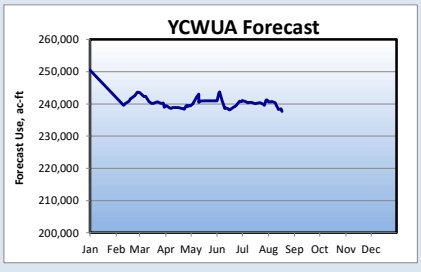












Graph notes: January 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates 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.

Aug 17, 2021 03:52:30 PM

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 overr
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	Excess to Approved Diversion CY 2021
ARIZONA PUMPERS	11,168	15,828	15,828	---	17,181	24,351	24,351	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	51	74	74	---	51	74	74	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	138	220	220	---	138	220	220	0
DAVIS DAM PROJECT	1	2	2	---	12	17	17	0
BULLHEAD CITY	4,780	7,896	8,163	---	7,480	12,330	12,720	-390
MOHAVE WATER CONSERVATION DISTRICT	477	676	676	---	713	1,010	1,010	0
BROOKE WATER LLC	198	321	323	---	297	482	485	-3
MOHAVE VALLEY I.D.D.	9,234	14,706	15,932	---	17,098	27,229	29,503	-2,274
FORT MOJAVE INDIAN RESERVATION, AZ	25,748	37,001	44,550	---	47,681	68,520	82,500	-13,980
GOLDEN SHORES WATER CONSERVATION DISTRICT	202	286	286	---	301	427	427	0
HAVASU NATIONAL WILDLIFE REFUGE	3,278	4,094	3,564	---	27,313	36,878	41,835	-4,957
LAKE HAVASU CITY	5,010	8,451	9,021	---	8,081	13,631	14,550	-919
CENTRAL ARIZONA PROJECT	879,248	1,409,320		---	879,248	1,409,320		--
TOWN OF PARKER	357	508	430	---	538	875	917	-42
COLORADO RIVER INDIAN RESERVATION, AZ	169,080	215,898	226,280	---	340,973	495,536	509,647	-14,111
EHRENBURG IMPROVEMENT ASSOCIATION	164	232	232	---	229	325	325	0
CIBOLA VALLEY [1]	10,165	14,720	15,618	---	14,216	20,588	21,843	-1,255
CIBOLA NATIONAL WILDLIFE REFUGE	9,915	14,264	14,264	0	15,992	23,005	23,005	0
IMPERIAL NATIONAL WILDLIFE REFUGE	2,415	3,799	3,799	0	3,896	6,128	6,128	0
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	596	844	844		917	1,299	1,299	0
CHA CHA, LLC	780	1,257	1,365	---	1,201	1,934	2,100	-166
BEATTIE FARMS	522	774	722	---	804	1,193	1,110	**83**
YUMA PROVING GROUND	325	492	516	---	325	492	516	-24
GILA MONSTER FARMS	3,046	4,344	5,273	---	5,537	7,819	9,156	-1,337
WELLTON-MOHAWK IDD	185,538	271,210	278,000	-6,790	268,856	409,015	412,965	-3,950
BLM PERMITEES (BELOW IMPERIAL DAM)	52	74	74	0	80	114	114	0
CITY OF YUMA	8,684	14,701	16,201	-1,500	15,835	26,356	27,500	-1,144
MARINE CORPS AIR STATION YUMA	806	1,265	1,320	---	806	1,265	1,320	-55
UNION PACIFIC RAILROAD	17	27	29	---	30	48	48	0
UNIVERSITY OF ARIZONA	620	948	898	---	620	948	898	**50**
YUMA UNION HIGH SCHOOL DISTRICT	84	137	150	---	114	185	200	-15
DESERT LAWN MEMORIAL	16	23	23	---	23	33	33	0
NORTH GILA VALLEY IRRIGATION DISTRICT	7,097	10,204	11,563	---	29,510	44,023	44,200	-177
YUMA IRRIGATION DISTRICT	24,722	37,462	37,835	---	47,581	71,842	69,900	**1,942**
YUMA MESA I.D.D.	88,013	142,143	150,455	---	143,687	230,116	242,080	-11,964
UNIT "B" IRRIGATION DISTRICT	11,832	18,935	20,816	---	16,895	26,634	29,400	-2,766
FORT YUMA INDIAN RESERVATION	1,054	1,494	1,494	---	1,622	2,299	2,299	0
YUMA COUNTY WATER USERS' ASSOCIATION	158,290	237,651	242,377	---	217,526	343,539	360,400	-16,861
COCOPAH INDIAN RESERVATION	357	952	1,686	---	435	1,347	2,585	-1,238
RECLAMATION-YUMA AREA OFFICE	160	227	227	---	160	227	227	0
RETURN FROM SOUTH GILA WELLS								
TOTAL ARIZONA	1,624,240	2,493,460	2,555,630		2,134,002	3,311,674	3,402,407	
CAP	879,248	1,409,320				1,409,320		
ALL OTHERS	744,992	1,084,140	1,131,130			1,902,354	1,977,907	
YUMA MESA DIVISION, GILA PROJECT	119,832	189,809	199,853	-10,044		345,981		

ARIZONA ADJUSTED APPORTIONMENT CALCULATION	
Arizona Basic Apportionment	2,800,000
System Conservation Water - Pilot System Conservation Program [2]	(360)
System Conservation Water - Colorado River Indian Tribes (CRIT) [3]	(50,000)
System Conservation Water - Fort McDowell Yavapai Nation (FMYN) [4]	(13,933)
System Conservation Water - Mohave Valley I.D.D. (MVIDD) [5]	(6,925)
Creation of Extraordinary Conservation ICS - CRIT (Estimated) [6,8]	(4,685)
Creation of Extraordinary Conservation ICS - GRIC (Estimated) [7,8]	(40,000)
Arizona DCP Contribution [9]	(203,392)
Total State Adjusted Apportionment	2,480,705
Excess to Total State Adjusted Apportionment	12,755
Estimated Allowable Use for CAP	1,396,292

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] 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.

[3] System Conservation Water to be created by CRIT pursuant to the *Agreement Among the United States of America, Through the Department of the Interior, Bureau of Reclamation, the State of*

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.

[4] CAP water being conserved by FMYN pursuant to SCIA No. 20-XX-30-W0688, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of the Lower

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.

[5]

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.

[6] 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.

[7] 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.

[8]

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*
Arizona's ICS accounts will be limited in accordance with Section IV.C. of LBOps.

[9] 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 Deficiency amount of 11,392 AF, as shown in Table 24 in the 2020 *Colorado River Accounting and Water Use Report*. In accordance with the *Agreement Regarding Lower Basin Drought Contingency Plan Obligations*, it is currently anticipated that the required DCP Contribution will be made by the Central

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

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

Aug 17, 2021 03:52:30 PM

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.

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	1,033	1,464	1,464	---	1,867	2,646	2,646	0
FORT MOJAVE INDIAN RESERVATION, CA	4,978	6,864	8,996	---	9,254	12,758	16,720	-3,962
CITY OF NEEDLES (includes LCWSP use)	807	1,391	1,605	-214	1,322	2,144	2,261	-117
METROPOLITAN WATER DISTRICT	637,388	1,084,991		---	639,213	1,087,745		---
COLORADO RIVER INDIAN RESERVATION, CA	3,538	5,014	5,014	---	5,861	8,307	8,307	0
PALO VERDE IRRIGATION DISTRICT	264,649	375,916	428,620	---	540,591	814,397	865,000	-50,603
YUMA PROJECT RESERVATION DIVISION	23,629	39,053	46,687	---	49,242	81,136	90,394	-9,258
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	27,507	42,195	45,384	-3,189
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	21,735	38,941	45,010	-6,069
YUMA ISLAND PUMPERS	1,249	1,770	1,770	---	2,257	3,199	3,199	0
FORT YUMA INDIAN RESERVATION - RANCH 5	784	1,143	938	---	1,421	2,068	1,696	**372**
IMPERIAL IRRIGATION DISTRICT [1]	1,730,147	2,532,841	2,622,800	-89,959	1,762,290	2,603,632	2,694,973	---
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	---
COACHELLA VALLEY WATER DISTRICT	234,273	367,596	379,000	-11,404	247,146	387,395	390,812	---
OTHER LCWSP CONTRACTORS	372	527	527	---	651	922	922	0
CITY OF WINTERHAVEN	44	63	63	---	64	91	91	0
CHEMEHUEVI INDIAN RESERVATION	147	209	209	---	8,001	11,340	11,340	0
TOTAL CALIFORNIA	2,903,038	4,418,842			3,269,180	5,017,780	5,158,514	

CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION

California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program [2]	(145)
IID Creation of Extraordinary Conservation ICS - Stored in Lake Mead (Estimated) [3]	(1,579)
MWD Creation of Extraordinary Conservation ICS (Estimated) [4]	0
Total State Adjusted Apportionment	4,398,276
Excess to Total State Adjusted Apportionment	20,566

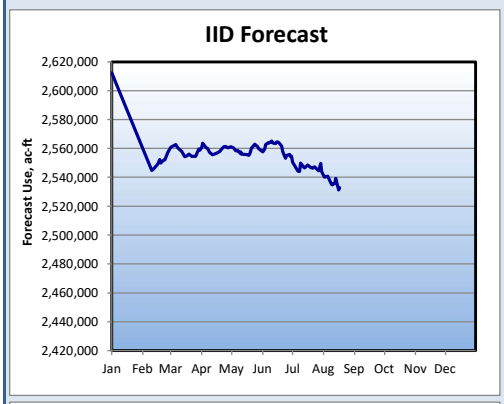
Estimated Allowable Use for MWD 1,064,425

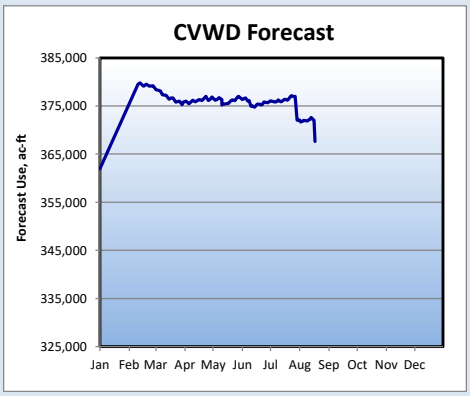
[1] As shown here, IID's Approved Diversion and Estimated Use values reflect the maximum amount of Colorado River water available to IID in 2021.

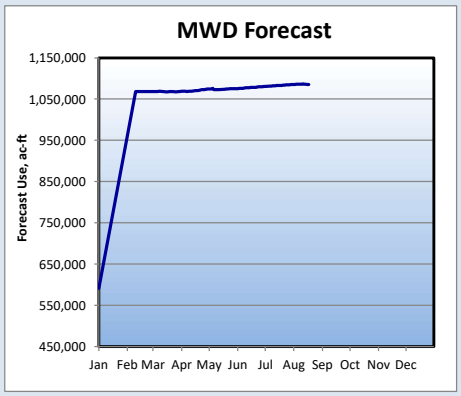
[2] System Consevation Water to be conserved by the City of Needles pursuant to System Conservation Implementation Agreement No. 15-XX-30-W0596, executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

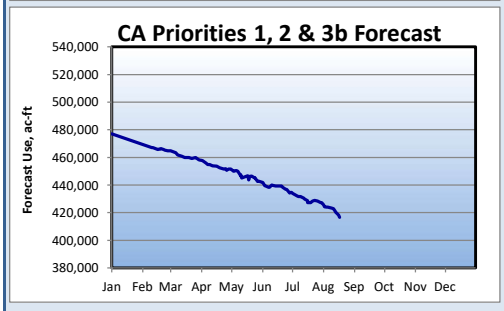
[3] IID has been approved to create up to 62,000 AF of "Additional Conserved Water" in 2021 for purposes including, but not limited to, the creation of ICS. Due to limitations set forth in the California ICS Agreement, IID may currently only store up to 1,579 AF in its Lake Mead ICS Account. Should IID 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.

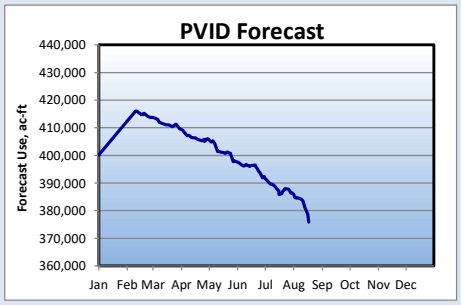
[4] MWD has been approved to create up to 450,000 AF of EC ICS in 2021, less the amount of EC ICS created by IID, and further limited to the amount that, when added to the EC ICS created by the states of Arizona and Nevada, does not exceed 625,000 AF. The actual amount of EC ICS created by MWD will be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











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

Aug 17, 2021 03:52:30 PM

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)	295,403	466,697	440,686	**26,011**	295,402	466,696	440,686	**26,010**
LAKE MEAD NRA, NV - Diversions from Lake Mead	289	861	1,500	---	289	861	1,500	-639
LAKE MEAD NRA, NV - Diversions from Lake Mohave	141	307	500	---	141	307	500	-193
BASIC MANAGEMENT INC.	3,383	6,832	8,208	---	3,383	6,832	8,208	-1,376
CITY OF HENDERSON (BMI DELIVERY)	5,728	11,186	15,878	---	5,728	11,186	15,878	-4,692
NEVADA DEPARTMENT OF WILDLIFE	8	12	12	0	564	1,030	1,000	---
PACIFIC COAST BUILDING PRODUCTS INC.	599	915	928	---	599	915	928	-13
BOULDER CANYON PROJECT	121	172	172	---	212	300	300	0
BIG BEND WATER DISTRICT	1,122	2,904	4,733	---	2,369	6,090	10,000	-3,910
FORT MOJAVE INDIAN TRIBE	1,918	3,016	4,020	---	2,863	4,502	6,000	-1,498
LAS VEGAS WASH RETURN FLOWS	-145,684	-229,404	-221,394	---				
TOTAL NEVADA	163,028	263,498	255,243	26,011	311,550	498,719	485,000	13,689
SOUTHERN NEVADA WATER SYSTEM (SNWS)	149,719	237,293				466,696		
ALL OTHERS	13,309	26,205				32,023		
NEVADA USES ABOVE HOOVER	159,988	257,578				488,127		
NEVADA USES BELOW HOOVER	3,040	5,920				10,592		

Tributary Conservation (TC) Intentionally Created Surplus (ICS)

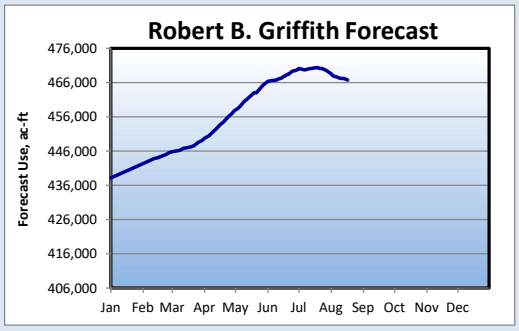
Southern Nevada Water Authority (SNWA) Creation of TC ICS (Approved) [1]	43,000

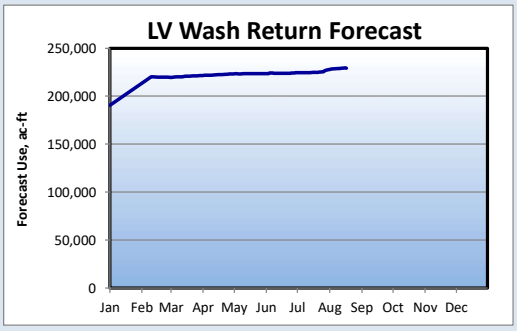
NEVADA ADJUSTED APPORTIONMENT CALCULATION

Nevada Basic Apportionment	300,000
SNWA Creation of Extraordinary Conservation (EC) ICS (Estimated) [2]	36,502
Total State Adjusted Apportionment	336,502
Excess to Total State Adjusted Apportionment	(73,004)

[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* .





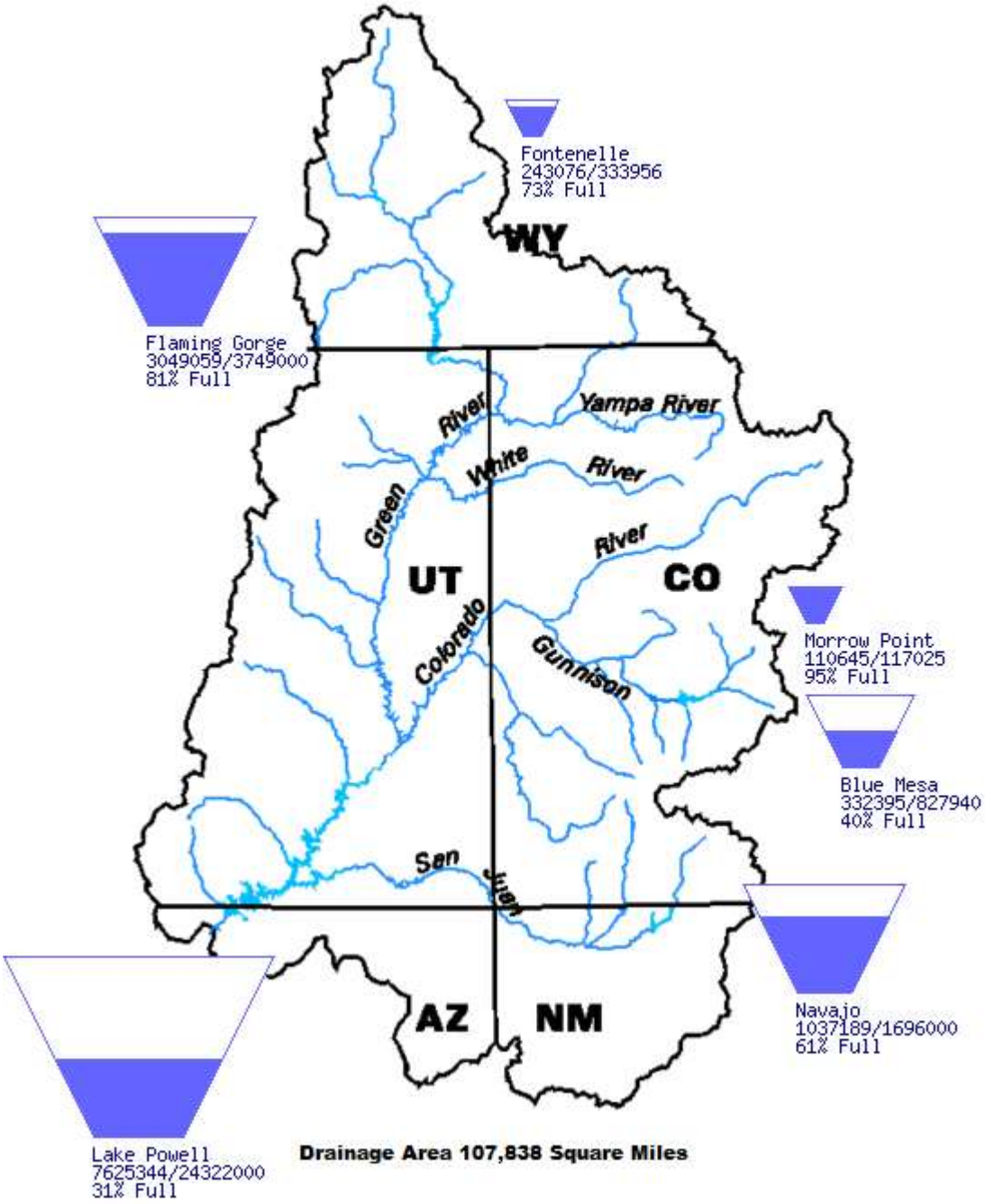
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

Upper Colorado Region Water Resources Group

River Basin Tea-Cup Diagrams

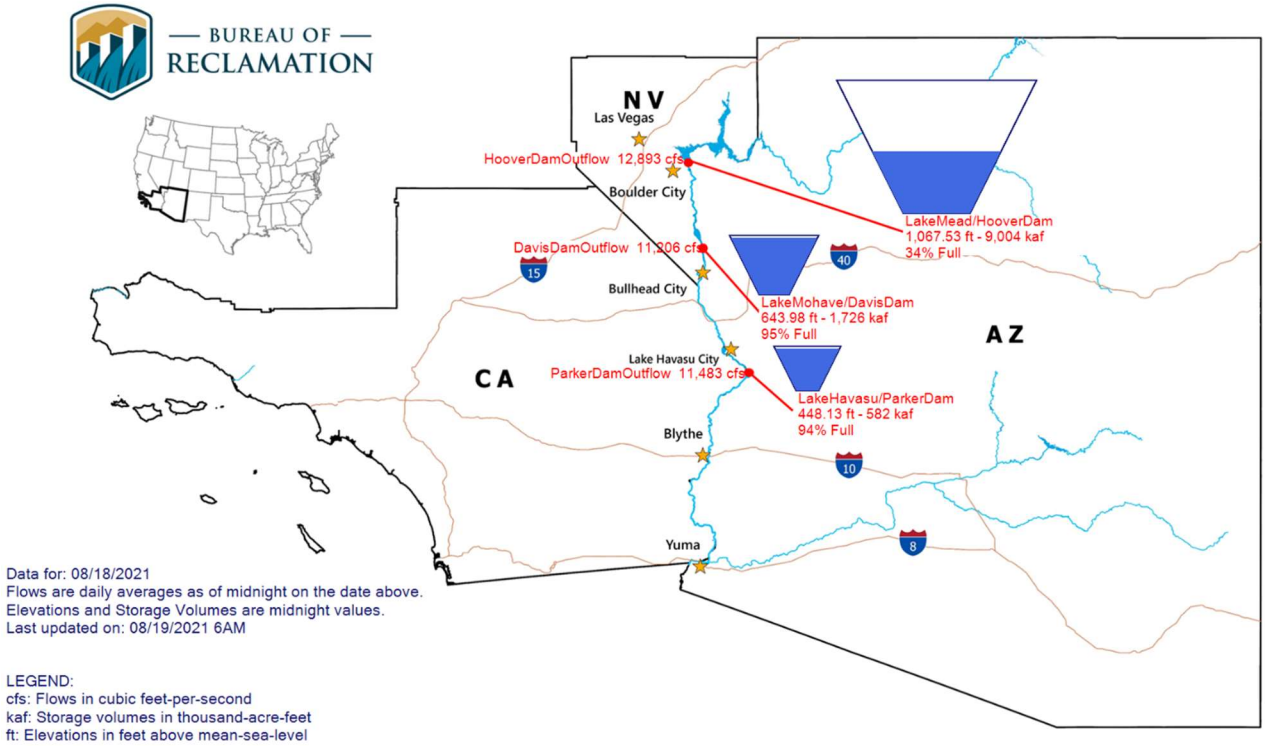
Data Current as of:
08/18/2021

Upper Colorado River Drainage Basin



Drainage Area 107,838 Square Miles

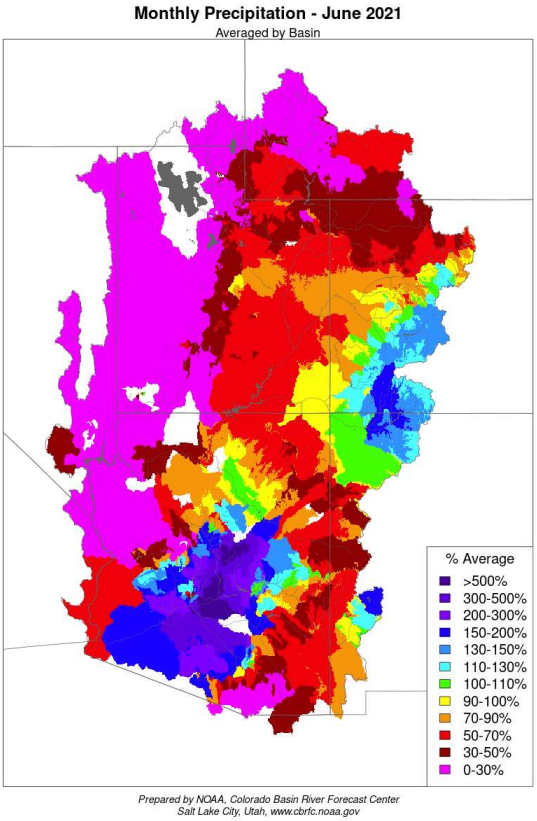
Lower Colorado River Teacup Diagram

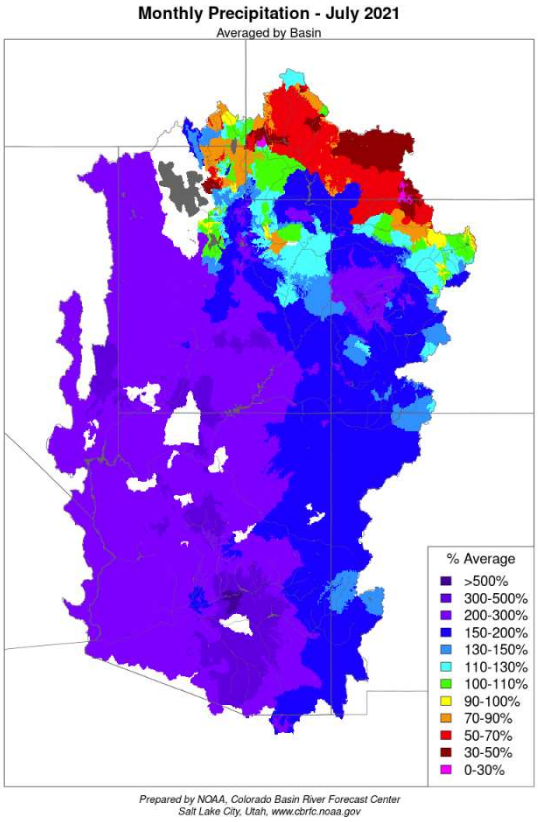


Data for: 08/18/2021
Flows are daily averages as of midnight on the date above.
Elevations and Storage Volumes are midnight values.
Last updated on: 08/19/2021 6AM

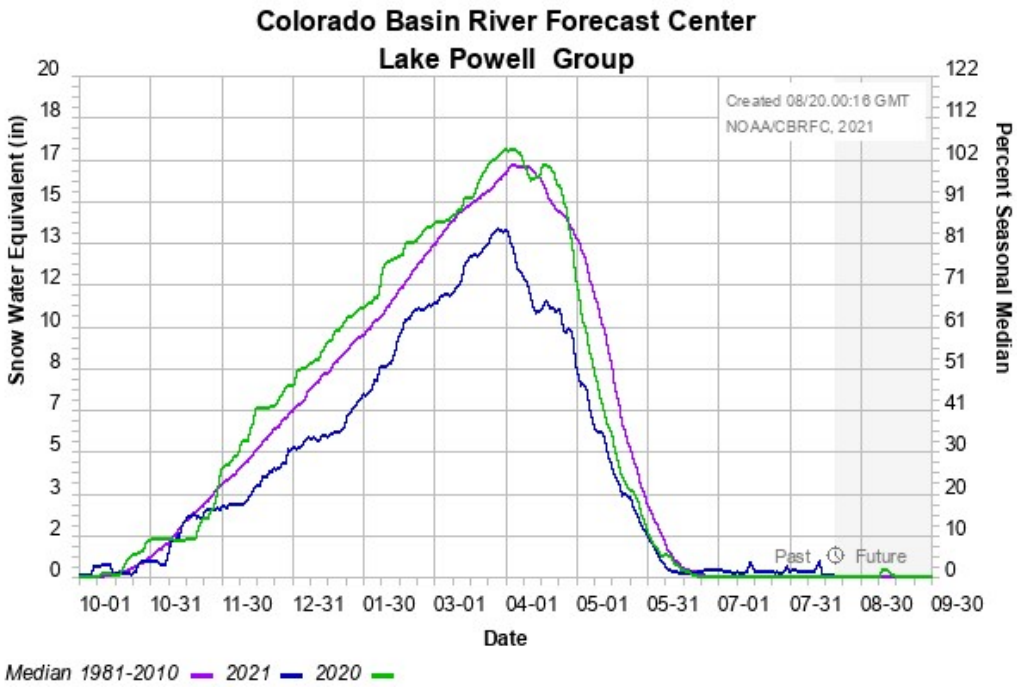
LEGEND:
cfs: Flows in cubic feet-per-second
kaf: Storage volumes in thousand-acre-feet
ft: Elevations in feet above mean-sea-level

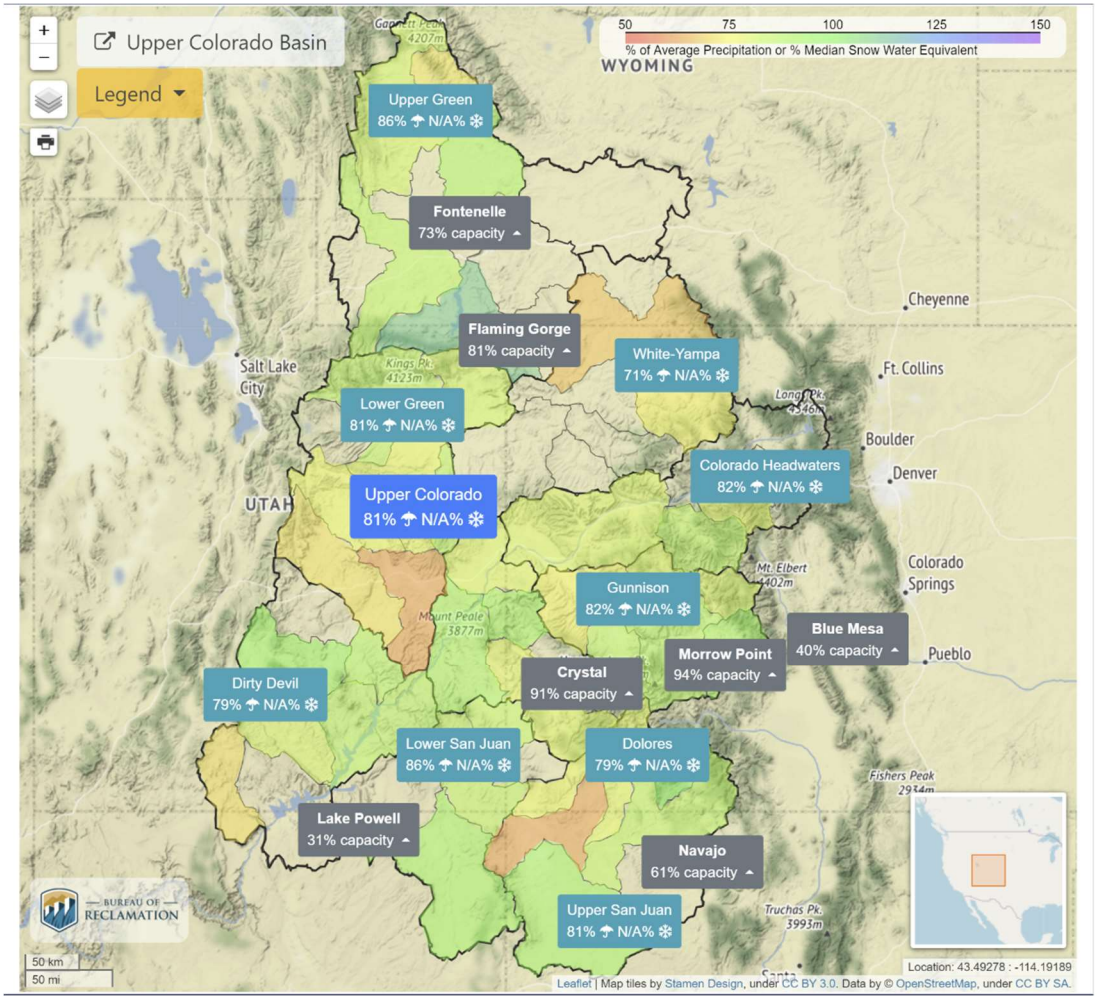
NOAA National Weather Service Monthly Precipitation Map June and July 2021



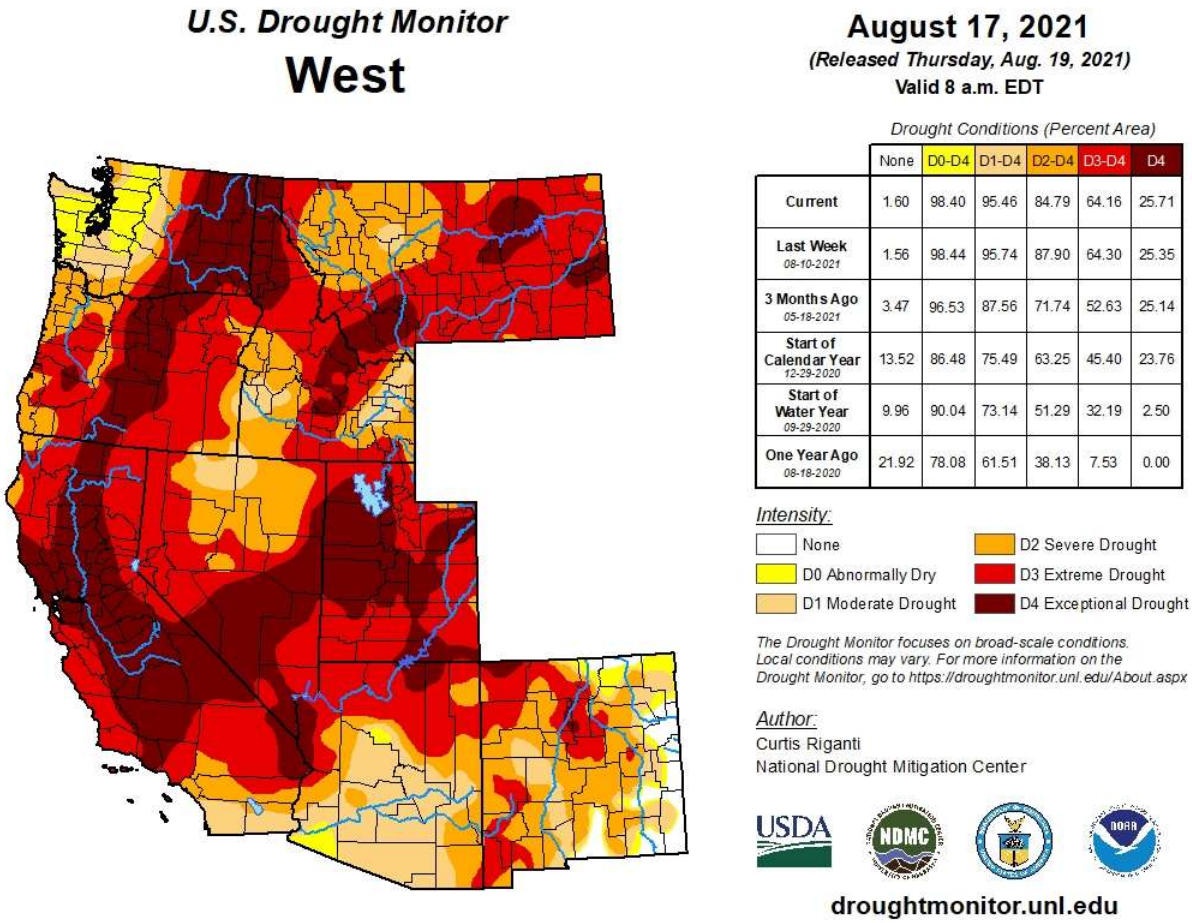


Snow Pack Conditions Map
Upper Colorado Region

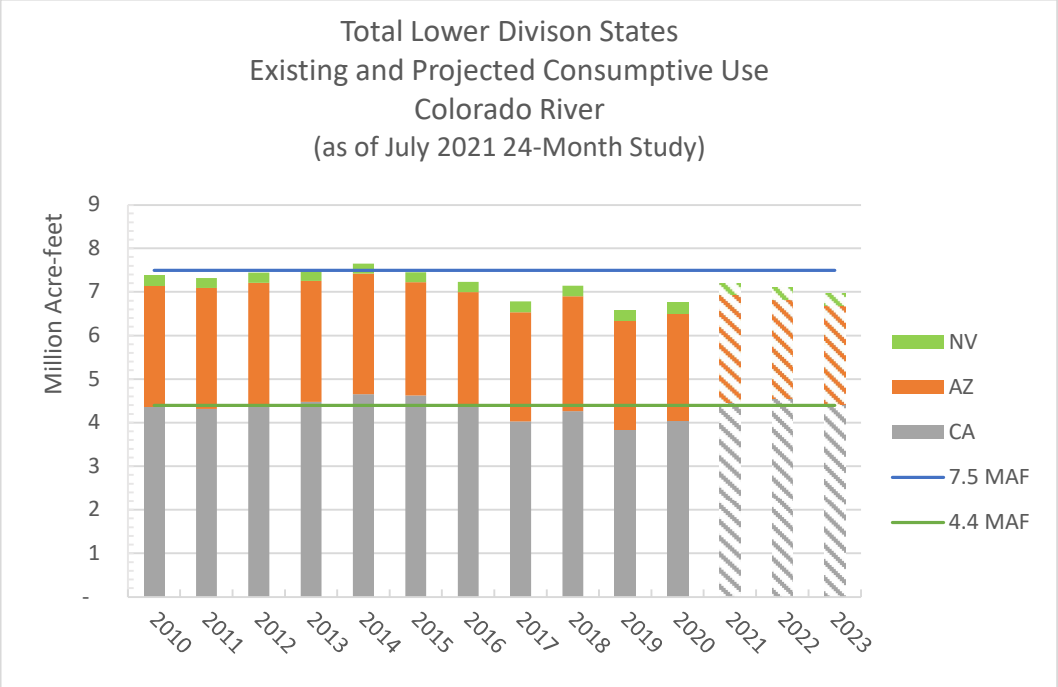




USDA United States Drought Monitor Map



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.60	98.40	95.46	84.79	64.16	25.71
Last Week 08-10-2021	1.56	98.44	95.74	87.90	64.30	25.35
3 Months Ago 05-18-2021	3.47	96.53	87.56	71.74	52.63	25.14
Start of Calendar Year 12-29-2020	13.52	86.48	75.49	63.25	45.40	23.76
Start of Water Year 09-29-2020	9.96	90.04	73.14	51.29	32.19	2.50
One Year Ago 08-18-2020	21.92	78.08	61.51	38.13	7.53	0.00



August 2021 24-Month Study Projections
Lake Powell and Lake Mead: End of Month Elevation Charts

Explanation of Hydrologic Scenarios

In addition to the August 2021 24-Month Study based on the Most Probable inflow scenario, Reclamation has conducted model runs in August to determine a possible range of reservoir elevations under Probable Minimum and Probable Maximum inflow scenarios. Probable Minimum and Probable Maximum model runs are conducted in January, April, August, and October. The Probable Minimum inflow scenario reflects a dry hydrologic condition which statistically would be exceeded 90% of the time. The Most Probable inflow scenario reflects a median hydrologic condition which statistically would be exceeded 50% of the time. The Probable Maximum inflow scenario reflects a wet hydrologic condition which statistically would be exceeded 10% of the time. There is approximately an 80% probability that a future elevation will fall inside the range of the minimum and maximum inflow scenarios. Additionally, there are possible inflow scenarios that would results in reservoir elevations falling outside the ranges indicated in these reports.

Consistent with the Upper Basin DROA provisions to protect a target elevation at Lake Powell of 3,525 feet, this August 2021 24-Month Study includes releases from the upstream initial units of the Colorado River Storage Project Act to deliver an additional 181 thousand acre-feet (kaf) to Lake Powell by the end of December 2021 and is included in all three model runs described above. The additional releases began in July and will continue to be implemented on the following schedule:

Upper Basin Drought Response Operations Releases

	Jul (kaf)	Aug (kaf)	Sep (kaf)	Oct (kaf)	Nov (kaf)	Dec (kaf)	Total (kaf)
Flaming Gorge Reservoir	13	42	43	27	0	0	125
Blue Mesa Reservoir	0	14	18	4	0	0	36
Navajo Reservoir	0	0	0	0	10	10	20
Total	13	56	61	31	10	10	181

The releases detailed above are in addition to the already established releases determined by operational plans for each of the identified facilities. The additional delivery of 181 kaf is expected to raise Lake Powell's elevation by approximately three feet. Releases from Lake Powell to Lake Mead will not be adjusted in water year 2021 as those releases are determined by annual release volumes consistent with the Interim Guidelines.

The most probable (median) water year 2021 unregulated inflow forecast for Lake Powell, issued by the Colorado Basin River Forecast Center on August 3, 2021, is 3.44 maf or 32% of average. The August Most Probable 24-Month Study projects Lake Powell to end the calendar year at elevation 3,535.40 feet (6.59 maf, 27% of live storage). Consistent with Section 6.C.1 of the Interim Guidelines the operational tier for Lake Powell in water year 2022 will be the Mid-Elevation Release Tier and the water year release volume from Lake Powell will be 7.48 maf.

With intervening flows between Lake Powell and Lake Mead of 0.652 maf in calendar year 2021, the August Most Probable 24-Month Study projects Lake Mead to end the calendar year at elevation 1,065.85 feet (8.87 maf, 34% of live storage). Consistent with Section 2.D.1 of the Interim Guidelines, a Shortage Condition consistent with Section 2.D.1.a will govern the operation of Lake Mead for calendar year 2022. In addition, Section III.B of Exhibit 1 to the Lower Basin Drought Contingency Plan (DCP) Agreement will also govern the operation of Lake Mead for calendar year 2022.

August 2021 Probable Minimum 24-Month Study

The water year 2022 unregulated inflow in the Probable Minimum inflow scenario is 4.67 million acre-feet (maf), or 43% of average. Consistent with the Interim Guidelines, the August Probable Minimum 24-Month Study includes release volumes from Glen Canyon Dam of 8.23 maf in water year 2021 and 7.48 maf in water year 2022. Under the probable minimum scenario, Lake Powell's elevation is projected to be 3,493.67 feet on December 31, 2022. With intervening flows between Lake Powell and Lake Mead of 0.764 maf in calendar year 2022, Lake Mead's elevation is projected to be 1,047.31 feet on December 31, 2022.

August 2021 Most Probable 24-Month Study

The water year 2022 unregulated inflow into Lake Powell in the August Most Probable inflow scenario is 8.20 maf, or 76% of average. Consistent with the Interim Guidelines, the August Most Probable 24-Month Study results in release volumes from Glen Canyon Dam of 8.23 maf in water year 2021 and 7.48 maf in water year 2022. Under the most probable scenario, Lake Powell's elevation is projected to be 3,535.21 feet on December 31, 2022. With intervening flows between Lake Powell and Lake Mead of 0.875 maf in calendar year 2022, Lake Mead's elevation is projected to be 1,050.42 feet on December 31, 2022.

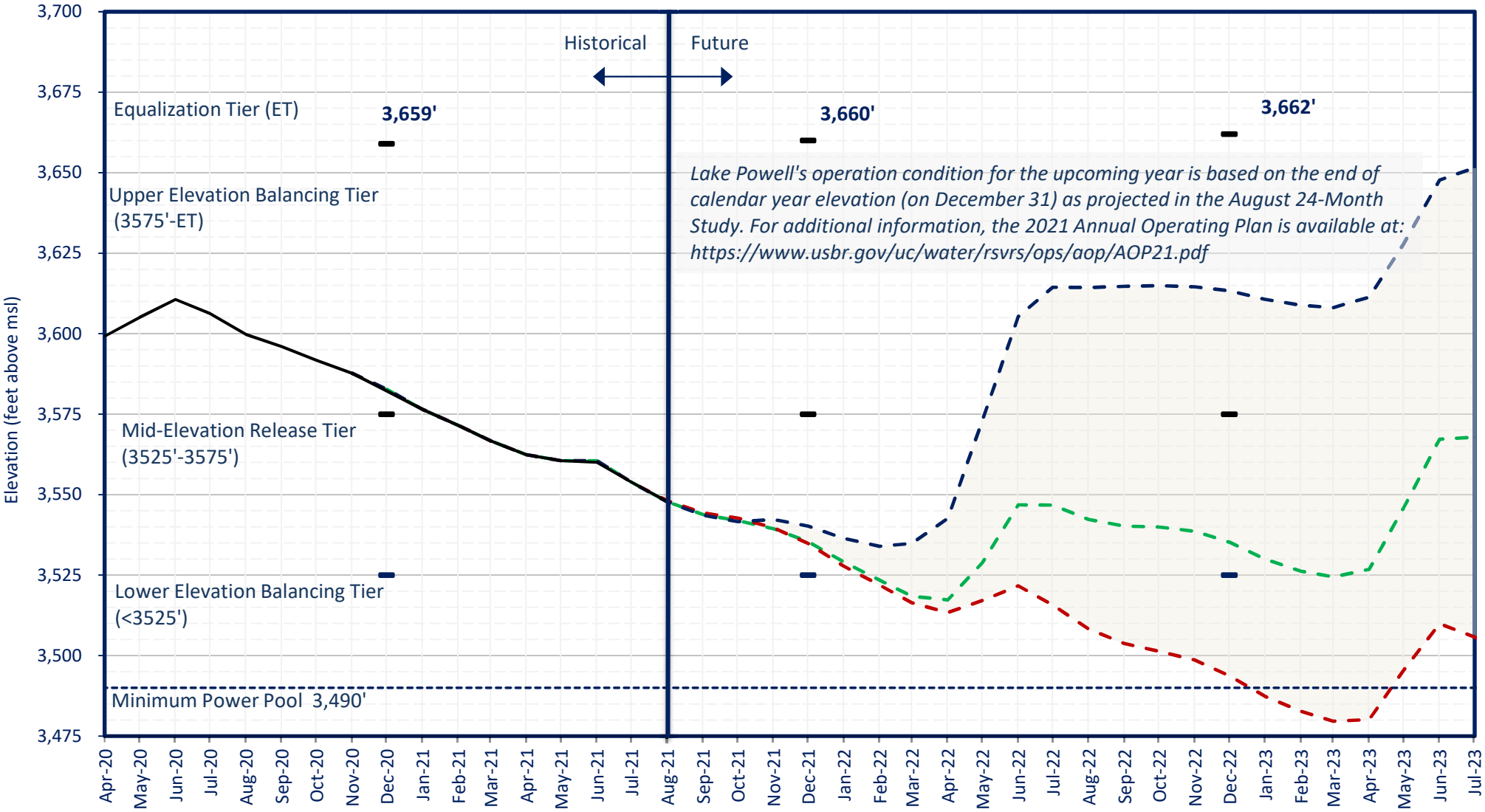
August 2021 Probable Maximum 24-Month Study

The water year 2022 unregulated inflow in the Probable Maximum inflow scenario is 15.90 maf, or 147% of average. Consistent with the Interim Guidelines, the August Probable Maximum 24-Month Study includes release volumes from Glen Canyon Dam of 8.23 maf in water year 2021 and 7.48 maf in water year 2022. Under the probable maximum scenario, Lake Powell's elevation is projected to be 3,613.29 feet on December 31, 2022. With intervening flows between Lake Powell and Lake Mead of 0.994 maf in calendar year 2022, Lake Mead's elevation is projected to be 1,061.28 feet on December 31, 2022.

The 2021 AOP is available for download at: https://www.usbr.gov/uc/water/rsvrs/ops/aop/AOP21.pdf.
The Interim Guidelines are available for download at: https://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.
The Colorado River DCPs are available for download at: https://www.usbr.gov/dcp/finaldocs.html.
The Upper Basin Hydrology Summary can be found at: https://www.usbr.gov/uc/water/crsp/studies/24Month_08_ucb.pdf.

Lake Powell End of Month Elevations

Projections from the August 2021 24-Month Study Inflow Scenarios

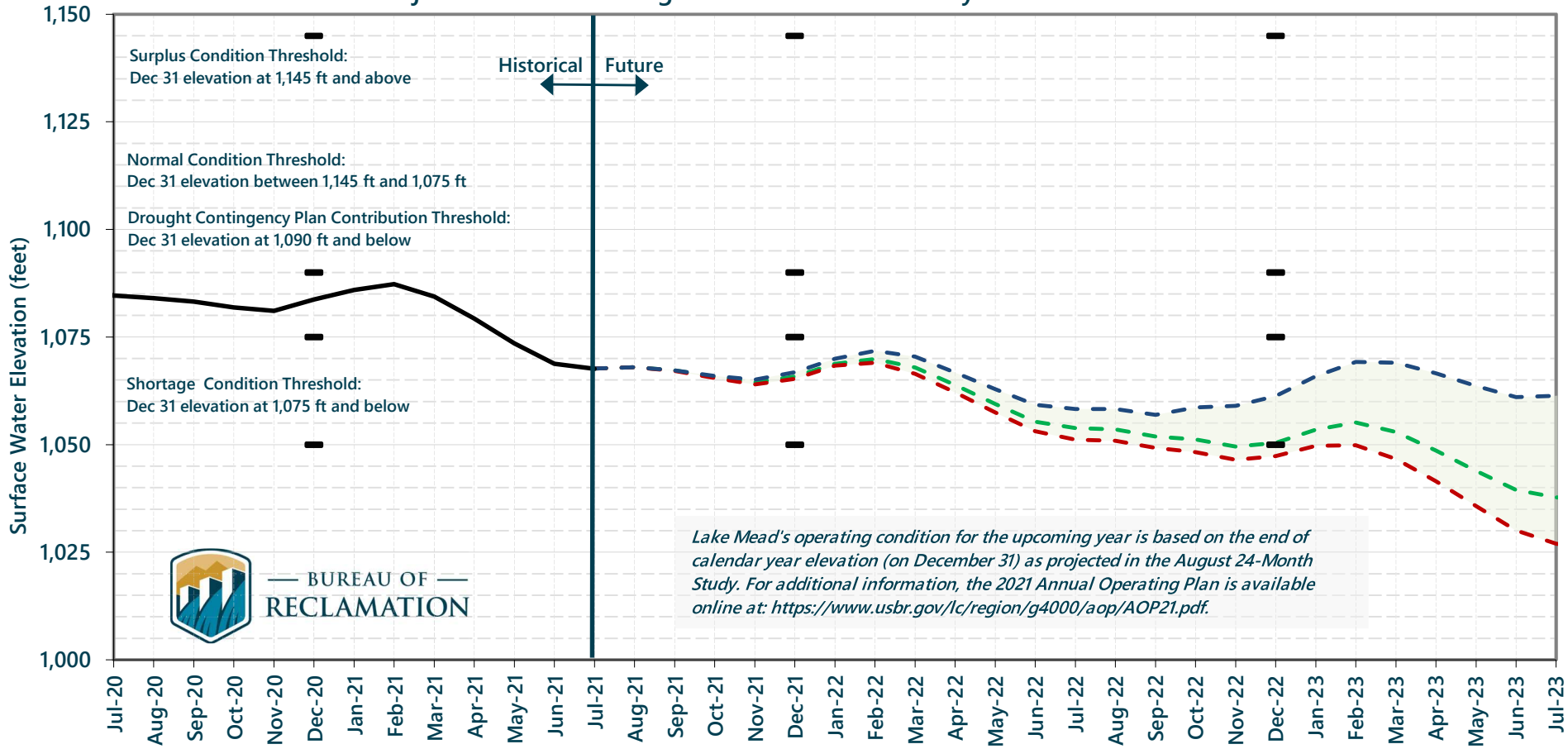


BUREAU OF RECLAMATION

- August 2021 Most Probable - Lake Powell release of 8.23 maf in WY2021 and 7.48 maf in WY2022
- August 2021 Minimum Probable - Lake Powell release of 8.23 maf in WY2021 and 7.48 maf in WY2022
- August 2021 Maximum Probable - Lake Powell release of 8.23 maf in WY2021 and 7.48 maf in WY2022
- Historical Elevations

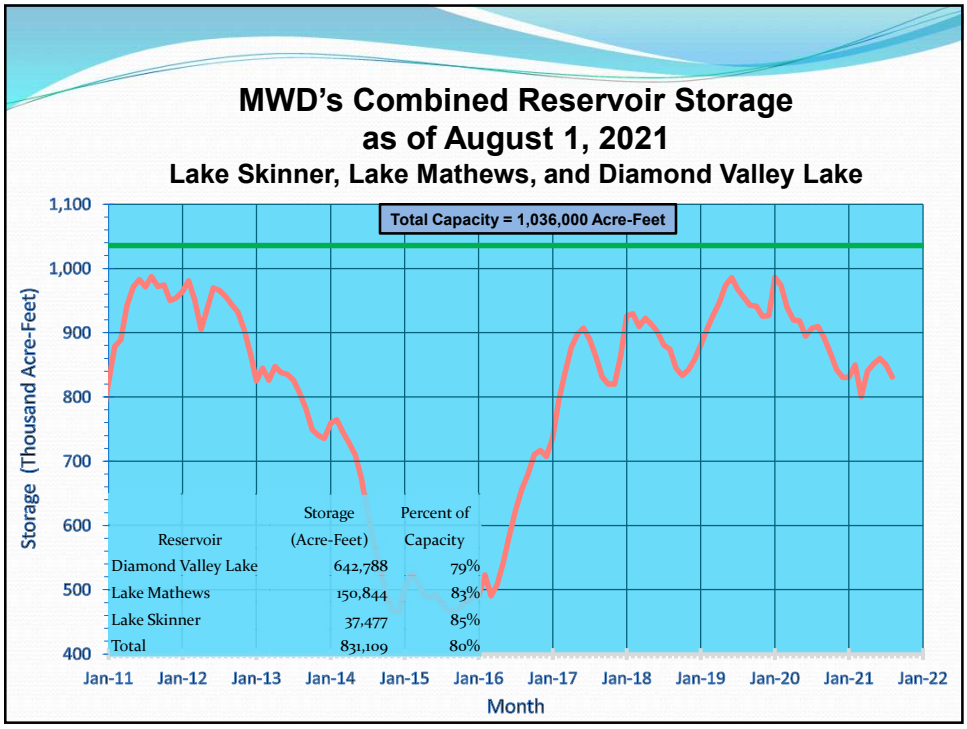
Lake Mead End of Month Elevations

Projections from the August 2021 24-Month Study Inflow Scenarios

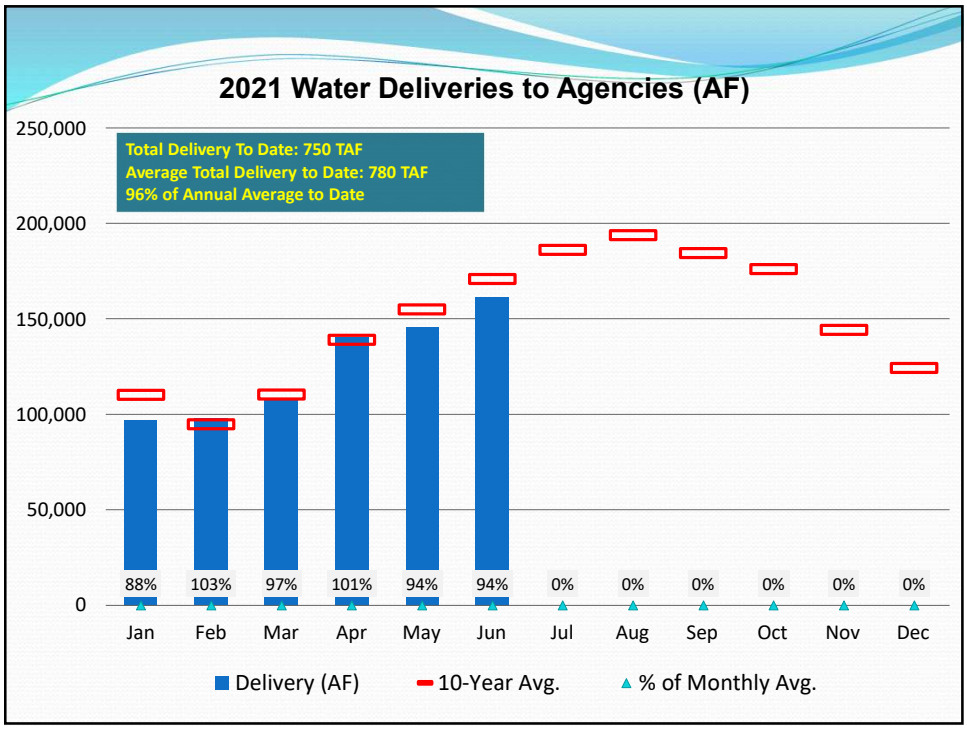


- August 2021 Most Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and WY 2023
- August 2021 Minimum Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and 7.00 maf in WY 2023
- August 2021 Maximum Probable Inflow with a Lake Powell release of 7.48 maf in WY 2022 and 9.00 maf in WY 2023
- Historical Elevations

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

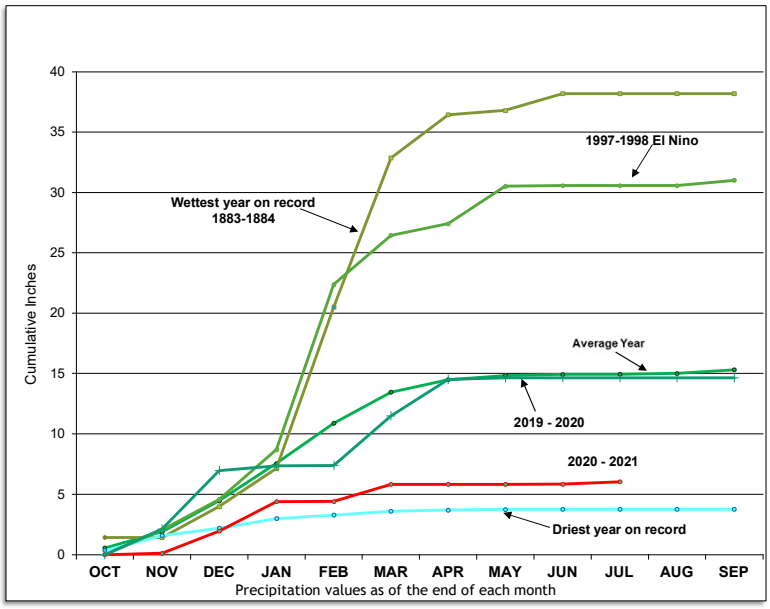

MWD's Combined Reservoir Storage
as of August 1, 2021
Lake Skinner, Lake Mathews, and Diamond Valley Lake
Total Capacity = 1,036,000 Acre-Feet
Storage (Thousand Acre-Feet)
1,100
1,000
900
800
700
600
500
400
Reservoir | Storage (Acre-Feet) | Percent of Capacity
Diamond Valley Lake | 642,788 | 79%
Lake Mathews | 150,844 | 83%
Lake Skinner | 37,477 | 85%
Total | 831,109 | 80%
Jan-11
Jan-12
Jan-13
Jan-14
Jan-15
Jan-16
Jan-17
Jan-18
Jan-19
Jan-20
Jan-21
Jan-22
Month

1


2021 Water Deliveries to Agencies (AF)
Total Delivery To Date: 750 TAF
Average Total Delivery to Date: 780 TAF
96% of Annual Average to Date
250,000
200,000
150,000
100,000
50,000
0
88%
103%
97%
101%
94%
94%
0%
0%
0%
0%
0%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Delivery (AF)
10-Year Avg.
% of Monthly Avg.

2

Los Angeles Civic Center Precipitation



1

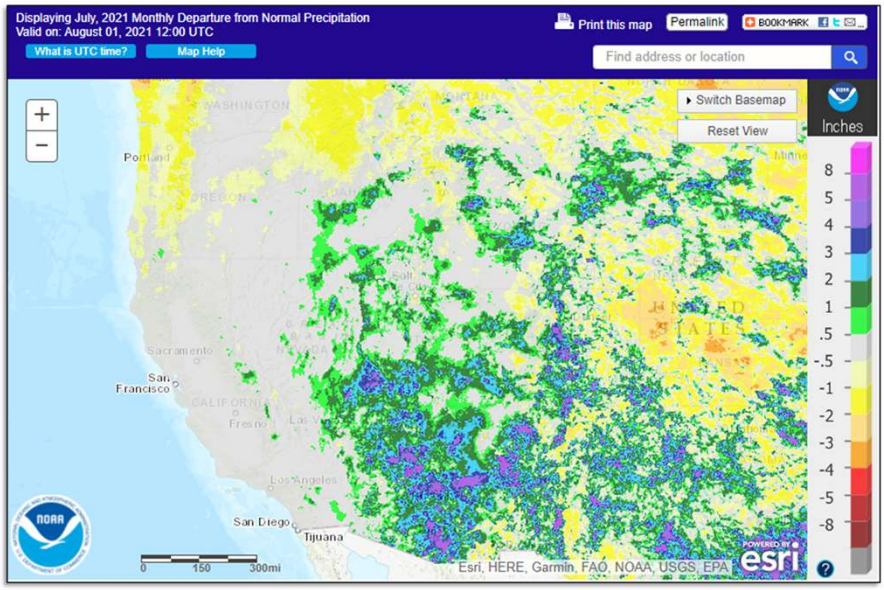
Precipitation at Six Major Stations in Southern California

From October 1, 2020 to July 31, 2021

Station	Precipitation in inches: Jul	Precipitation in inches: Oct 1 to Jul 31	Average to Date	Percent of Average
San Luis Obispo	0.01	8.32	22.14	38%
Santa Barbara	0.00	5.96	17.54	34%
Los Angeles	0.22	6.06	14.94	41%
San Diego	0.00	4.39	9.92	44%
Blythe	0.21	1.15	2.81	41%
Imperial	0.00	0.00	2.28	0%

2

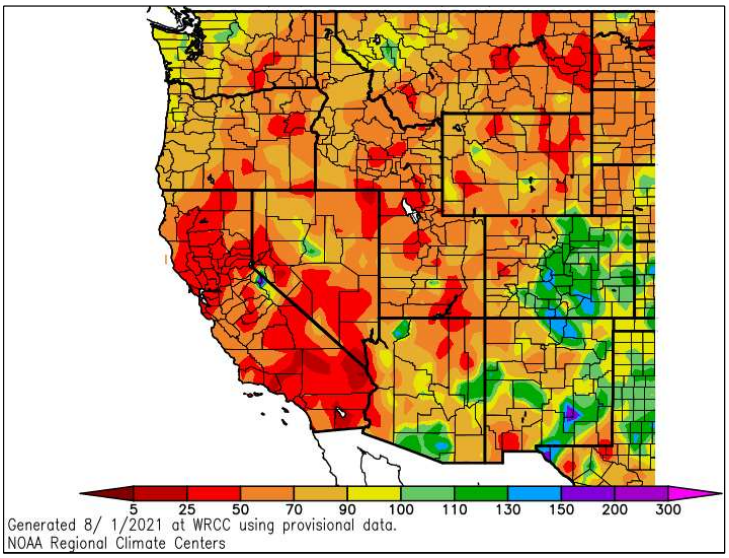
Monthly Departure From Normal Precipitation (inches)
July 2021



https://water.weather.gov/precip/

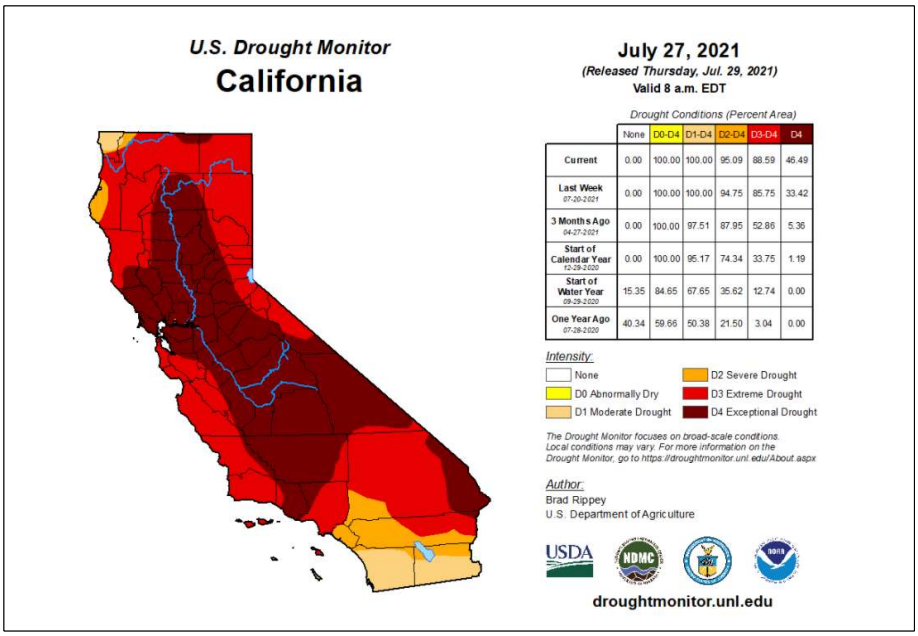
3

Percent of Average Precipitation (%)
10/1/2020 – 8/1/2021



Western Regional Climate Center
https://wrcc.dri.edu/cgi-bin/anomimage.pl?wrcOctPpct.png

4

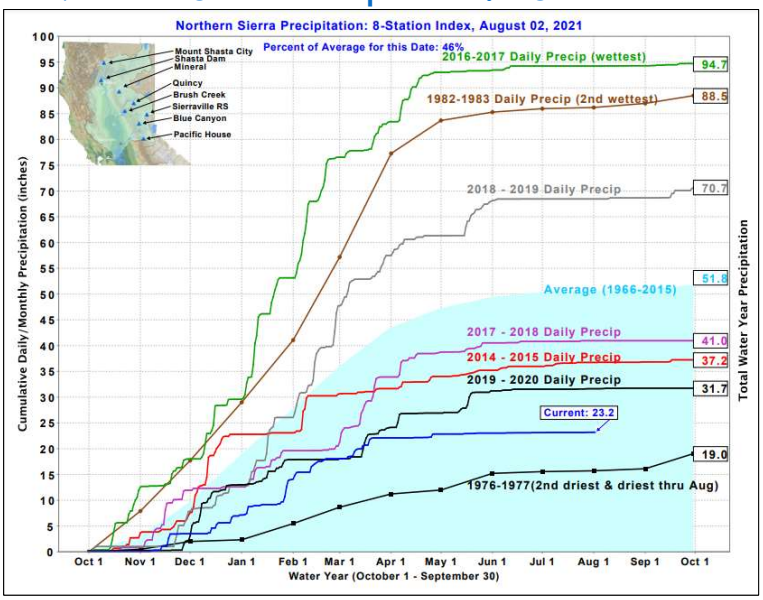


	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	95.09	88.59	46.49
Last Week 07-20-2021	0.00	100.00	100.00	94.75	85.75	33.42
3 Months Ago 04-27-2021	0.00	100.00	97.51	87.95	52.86	5.36
Start of Calendar Year 12-29-2020	0.00	100.00	95.17	74.34	33.75	1.19
Start of Water Year 09-29-2020	15.35	84.65	67.65	35.62	12.74	0.00
One Year Ago 07-28-2020	40.34	59.66	50.38	21.50	3.04	0.00

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

5

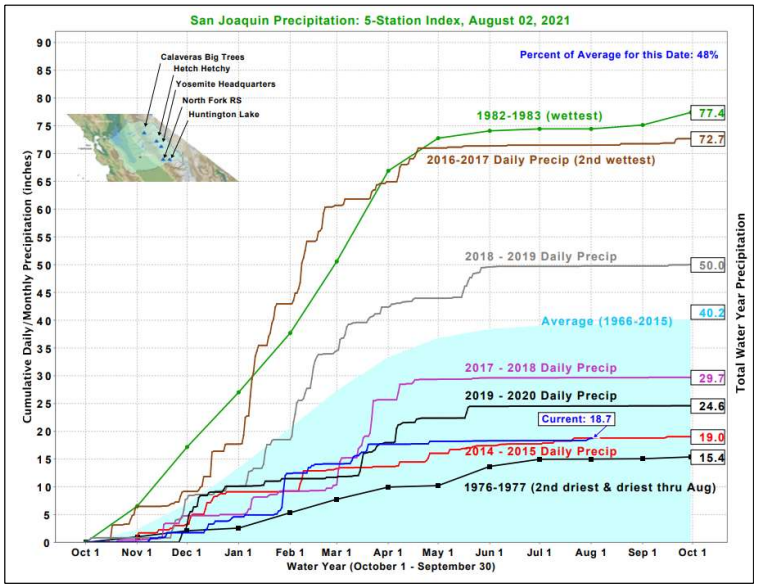
Northern Sierra Precipitation: 8 Station Index



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

6

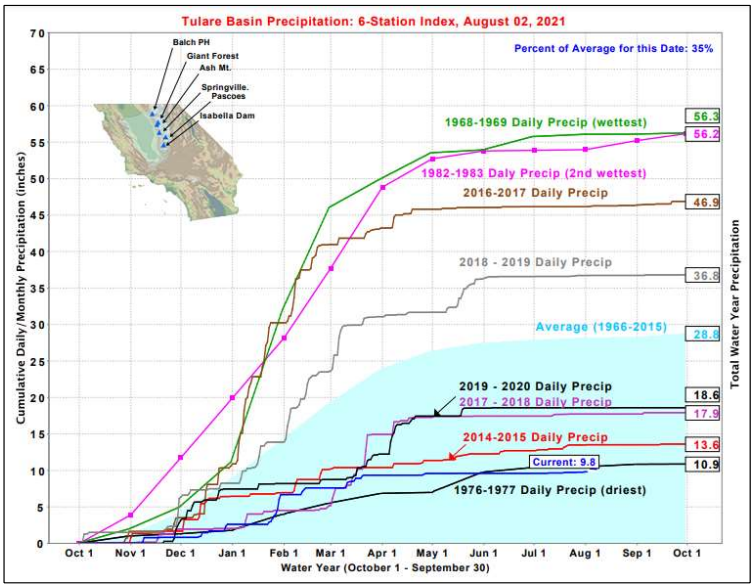
San Joaquin Precipitation: 5 Station Index



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

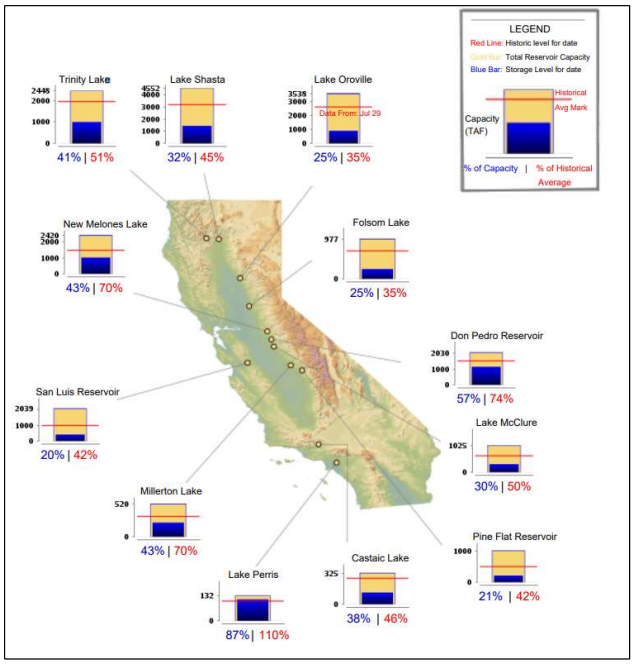
Comparison of SWP Water Storage

Reservoir	Capacity	2020 Storage (acre-feet) As of Aug 1	2020 Storage (acre-feet) % of Cap.	2021 Storage (acre-feet) As of Aug 1	2021 Storage (acre-feet) % of Cap.
Frenchman	55,475	40,332	73%	29,677	53%
Lake Davis	84,371	58,541	69%	45,040	53%
Antelope	22,564	19,594	87%	14,906	66%
Oroville	3,553,405	1,861,254	52%	881,498	25%
TOTAL North	3,715,815	1,979,721	53%	971,121	26%
Del Valle	39,914	35,835	90%	35,078	88%
San Luis	2,027,835	960,395	47%	412,940	20%
Pyramid	169,901	168,472	99%	164,460	97%
Castaic	319,247	301,863	95%	124,890	39%
Silverwood	74,970	68,763	92%	66,603	89%
Perris	132,614	123,964	93%	113,748	86%
TOTAL South	2,764,481	1,659,292	60%	917,719	33%

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

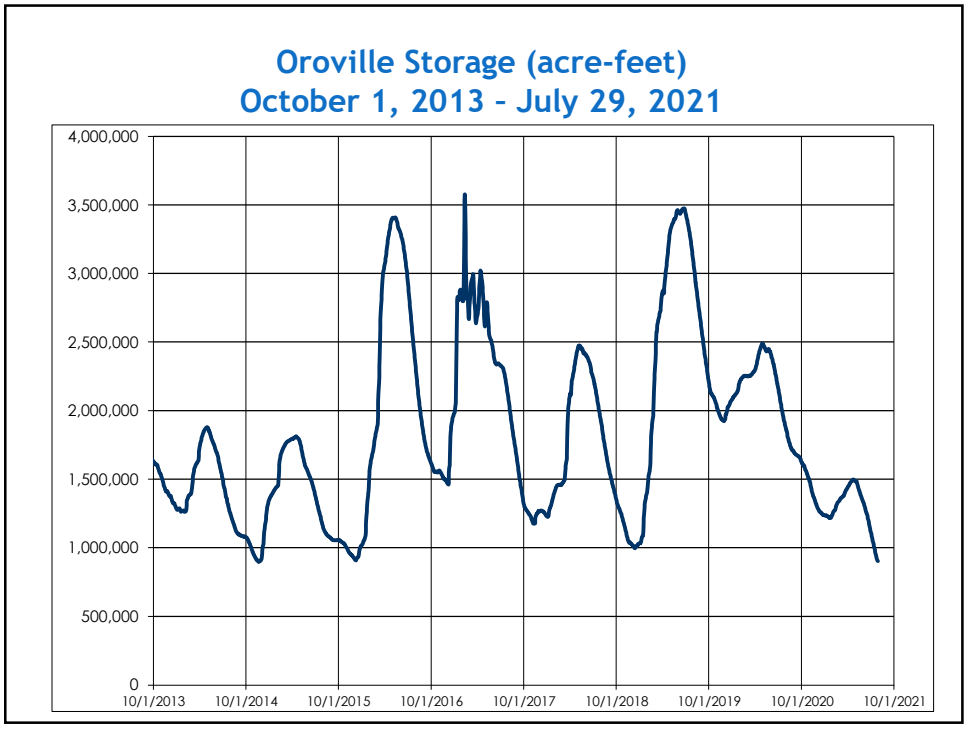
9

Reservoir Current Conditions as of 8/2/2021



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

10


Oroville Storage (acre-feet)
October 1, 2013 – July 29, 2021
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
10/1/2013
10/1/2014
10/1/2015
10/1/2016
10/1/2017
10/1/2018
10/1/2019
10/1/2020
10/1/2021

11

Reclamation announces 2022 operating conditions for Lake Powell and Lake Mead

Historic Drought Impacting Entire Colorado River Basin

Media Contact: Patti Aaron 702-726-1921 paaron@usbr.gov
Becki Bryant 801-524-3659 ucbpao@usbr.gov
For Release: Aug 16, 2021

Glen Canyon Dam in Arizona holding back Lake Powell.

BOULDER CITY, Nev. - The Bureau of Reclamation today released the Colorado River Basin August 2021 24-Month Study. This month's study projections are used to set annual operations for Lake Powell and Lake Mead in 2022. Releases from these massive reservoirs are determined by anticipated reservoir elevations.

Most of the flow of the Colorado River originates in the upper portions of the Colorado River Basin in the Rocky Mountains. The Upper Basin experienced an exceptionally dry spring in 2021, with April to July runoff into Lake Powell totaling just 26% of average despite near-average snowfall last winter. The projected water year 2021 unregulated inflow into Lake Powell—the amount that would have flowed to Lake Mead without the benefit of storage behind Glen Canyon Dam—is approximately 32% of average. Total Colorado River system storage today is 40% of capacity, down from 49% at this time last year.

Given ongoing historic drought and low runoff conditions in the Colorado River Basin, downstream releases from Glen Canyon Dam and Hoover Dam will be reduced in 2022 due

to declining reservoir levels. In the Lower Basin the reductions represent the first “shortage” declaration—demonstrating the severity of the drought and low reservoir conditions.

“Like much of the West, and across our connected basins, the Colorado River is facing unprecedented and accelerating challenges,” said **Assistant Secretary for Water and Science Tanya Trujillo**. “The only way to address these challenges and climate change is to utilize the best available science and to work cooperatively across the landscapes and communities that rely on the Colorado River. That is precisely the focus of the White House Interagency Drought Working Group—a multi-agency partnership created to collaborate with States, Tribes, farmers and communities impacted by drought and climate change to build and enhance regional resilience.”

“Today’s announcement of a Level 1 Shortage Condition at Lake Mead underscores the value of the collaborative agreements we have in place with the seven basin states, Tribes, water users and Mexico in the management of water in the Colorado River Basin,” said **Reclamation Deputy Commissioner Camille Touton.** “While these agreements and actions have reduced the risk, we have not eliminated the potential for continued decline of these critically important reservoirs. Reclamation is committed to working with all of our partners in the basin and with Mexico in continuing to implement these agreements and the ongoing work ahead.”

Plans that have been developed over the past two decades lay out detailed operational rules for these critical Colorado River reservoirs:

- Based on projections in the study, Lake Powell will operate in the Mid-Elevation Release Tier in water year 2022 (October 1, 2021 through September 30, 2022), and Lake Mead will operate in its first-ever Level 1 Shortage Condition in calendar year 2022 (January 1, 2022 through December 31, 2022).
- Lake Powell Mid-Elevation Release Tier: The study projects Lake Powell’s January 1, 2022, elevation to be 3,535.40 feet - about 165 feet below full and about 45 feet above minimum power pool. Based on this projection, Lake Powell will operate in the Mid-Elevation Release Tier in water year 2022. Under this tier, Lake Powell will release 7.48 million acre-feet in water year 2022 without the potential for a mid-year adjustment in April 2022.

- Lake Mead Level 1 Shortage Condition: The study projects Lake Mead's January 1, 2022, elevation to be 1,065.85 feet - about 9 feet below the Lower Basin shortage determination trigger of 1,075 feet and about 24 feet below the drought contingency plan trigger of 1,090 feet. Based on this projection, Lake Mead will operate in a Level 1 Shortage Condition for the first time ever. The required shortage reductions and water savings contributions under the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations of Lake Powell and Lake Mead, 2019 Lower Basin Drought Contingency Plan and Minute 323 to the 1944 Water Treaty with Mexico are:

- Arizona: 512,000 acre-feet, which is approximately 18% of the state's annual apportionment

- Nevada: 21,000 acre-feet, which is 7% of the state's annual apportionment

- Mexico: 80,000 acre-feet, which is approximately 5% of the country's annual allotment

In July 2021, drought operations to protect Lake Powell were implemented under the Upper Basin Drought Response Operations Agreement which project releasing up to an additional 181,000-acre feet of water from upstream initial units of the Colorado River Storage Project to Lake Powell.

Relying on the best available scientific information to guide operations, investing in water conservation actions, maximizing the efficient use of Colorado River water and being prepared to adopt further actions to protect the elevations of Lake Powell and Lake Mead remains Reclamation's priority and focus.

# # #

The Bureau of Reclamation is a federal agency under the U.S. Department of the Interior and is the nation's largest wholesale water supplier and second largest producer of hydroelectric power. Our facilities also provide substantial flood control, recreation opportunities, and environmental benefits. Visit our website at https://www.usbr.gov and follow us on Twitter @USBR; Facebook @bureau.of.reclamation; LinkedIn @Bureau of Reclamation; Instagram @bureau_of_reclamation; and YouTube @reclamation.

International Boundary and Water Commission
United States and Mexico

For immediate release
August 16, 2021

COLORADO RIVER DROUGHT TRIGGERS WATER DELIVERY REDUCTIONS IN THE UNITED STATES AND MEXICO IN 2022

Colorado River water allocations to users in the United States and Mexico will be reduced in 2022 for the first time since the signing of the 1944 Water Treaty. Reservoir elevation projections by the United States Department of the Interior, Bureau of Reclamation for the Colorado River Basin reservoirs indicate the reductions will go into effect next year following the worst 22-year long drought on record, with Lake Mead (Hoover Dam) at its lowest level since it was initially filling in the late 1930s.

The reduction in the allocations will be in accordance with Minute 323, an agreement signed in 2017 by the International Boundary and Water Commission, United States and Mexico (IBWC).

The international agreements adopted in Minute 323 recognize that both countries will reduce the use of their annual allotment of Colorado River waters when the January 1 Lake Mead elevation is projected to be at or below 1,075 feet. This is in addition to water savings starting at elevation 1,090 feet or below that will be recoverable when reservoir conditions improve. Today, Reclamation released the August 2021 24-Month Study, which determines the distribution of volumes under low elevation reservoir conditions for 2022, projecting Lake Mead's January 1, 2022 elevation to be 1065.85 feet or 34% full, a level that triggers both reductions and recoverable savings for both countries.

In 2022, Mexico's allotment will be reduced by 50,000 acre-feet (62 million cubic meters [mcm]) and, in addition, Mexico will contribute 30,000 acre-feet (37 mcm) of recoverable water savings under the Minute's Binational Water Scarcity Contingency Plan (BWSCP). Lower Basin users in the United States will see a reduction of 333,000 acre-feet (411 mcm) and recoverable water savings of 200,000 acre-feet (247 mcm) under domestic policies, known as the 2007 Interim Guidelines and the 2019 Lower Basin

Drought Contingency Plan (DCP). Through these combined binational efforts, Colorado River water deliveries will be decreased by a total of 613,000 acre-feet (757 mcm) in 2022, representing 6.8% of the total normal allotment to Lower Basin users in the United States and Mexico. Through other conservation actions and programs, there will be additional water savings in the United States in 2022 and users in both countries are exploring other opportunities to save or conserve more water.

The agreements reached for reduced allocations and recoverable savings reflect U.S.-Mexico cooperation on the Colorado River since 2007 led by the IBWC in collaboration with the U.S. Department of the Interior, Mexico's National Water Commission, U.S. and Mexico Colorado River Basin States, and other institutions in both countries. These agreements reflect a shared commitment of the Governments and their partners in both countries to work proactively to address the potential for unprecedented reductions on the Colorado River as a result of hydrologic conditions, meeting system demands, and increased temperatures in the basin.

"The International Boundary and Water Commission and our partners have been working on drought management strategies for years now. We have a plan in place to help us through this drought in a way that's fair to both countries," said Acting U.S. Commissioner Daniel Avila.

Mexican Commissioner Humberto Marengo said, "The agreements that have been established by the IBWC allow us to proactively address the water shortage conditions in the Colorado River Basin, by having certainty for the actions that should be taken to address this problem." He added, "All these efforts have been made in a framework of equity and in compliance with the provisions of the 1944 Water Treaty."

"The conservation actions taken between our two countries are critical to preserving our water supplies," said Bureau of Reclamation Lower Colorado Basin Regional Director Jacklynn Gould. "We applaud the work and partnership that went into developing Minute 323. The health and well-being of the Colorado River Basin depends on it."

Director General of the Baja California Peninsula Basin Organization of Mexico's National Water Commission (CONAGUA), Engineer Miguel Angel Rodriguez Todd, said, "It is a challenge to face these shortage scenarios, given that water demands are approaching their limit, therefore communication and working together among Colorado River users in Baja California and Sonora

becomes essential, with actions directed toward planning and balance among allotments to optimize use of the available water."

The State of Arizona will see the biggest impact, with a reduction of 320,000 acre-feet (395 mcm) and savings of 192,000 acre-feet (237 mcm).

The Director of the Arizona Department of Water Resources, Tom Buschatzke, said, "Arizona is conserving additional volumes of water in Lake Mead over and above those reductions and savings. Those actions combined with other actions in the United States and Mexico are critical to collaboratively managing the impacts to the Colorado River from this extended drought."

In Baja California, the Secretary of Water Management, Sanitation, and Protection (SEPROA) for the state, Salomon Faz Apodaca, said, "Based on the results of the analyses presented jointly by the federal governments of Mexico and the United States of America, it is evident that the prevention strategies to improve efficient water use in the public urban and agricultural sectors are becoming more relevant in order to prevent and mitigate the effects of the Colorado River basin drought."

For information:

Lori Kuczmanski
(915) 494-6027
Lori.Kuczmanski@ibwc.gov

Sally Spener
(915) 832-4175
Sally.Spener@ibwc.gov