

October 31, 2019

**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, November 13, 2019
Time: 10:00 a.m.
Place: Orchid Room Sheraton Ontario Airport Hotel 429 North Vineyard Avenue Ontario, CA 91764

The Colorado River Board of California welcomes any comments from members of the public pertaining to items included on this agenda and related topics. Oral comments can be provided at the beginning of each Board meeting; while written comments may be sent to Mr. Peter Nelson, Chairperson, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, California, 91203-1068.

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

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



Christopher S. Harris  
Executive Director

**Regular Meeting**  
**COLORADO RIVER BOARD OF CALIFORNIA**  
**Wednesday, November 13, 2019**  
**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.

**1. Call to Order**

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

In accordance with California Government Code, Section 54954.3(a)

**3. Administration**

- a. Consideration and approval of the Minutes of the meeting held October 9, 2019 (Action)

**4. Water Supply and Operations Reports**

- a. Colorado River Basin Report
- b. State and Local Reports

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

- a. Minute No. 323 Implementation
- b. Salinity Control Program
- c. Basin States Climate and Hydrology Workgroup
- d. Glen Canyon Dam Adaptive Management Program
- e. Lower Colorado River Multi-Species Conservation Program
- g. General announcements

**6. Executive Session**

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 other states or the federal government.

**7. Other Business**

**8. Future Agenda Items/Announcements**

**Next Scheduled Board Meeting:**

December 11, 2019  
10:00 a.m.  
Bally's Las Vegas Hotel and Casino  
Skyview 3 Room  
3645 South Las Vegas Blvd  
Las Vegas, NV 89109

Minutes of Meeting  
COLORADO RIVER BOARD OF CALIFORNIA  
Wednesday, October 9, 2019

A meeting of the Colorado River Board (Board) of California was held on Wednesday, October 9, 2019 at the Sheraton Ontario Airport Hotel, 429 North Vineyard Avenue, Ontario, California 91764.

Board Members and Alternates Present:

David DeJesus (MWD Alternate)  
Dana B. Fisher, Jr. (PVID)  
James Hanks (IID)  
Henry Kuiper (Public Member)  
Jim Madaffer (SDCWA)

Peter Nelson, Chairman (CVWD)  
Glen D. Peterson (MWD)  
David R. Pettijohn (LADWP)  
Jack Seiler (PVID Alternate)  
David Vigil (DFW Alternate)

Board Members and Alternates Absent:

Nicole Neeman-Brady (Public Member)  
Evelyn Cortez-Davis (LADWP Alternate)  
Norma Sierra Galindo (IID Alternate)  
Christopher Hayes (DFW Designee)

Jeanine Jones (DWR Designee)  
John Powell, Jr. (CVWD Alternate)  
Mark Watton (SDCWA Alternate)

Others Present:

Steve Abbott  
Brian Alvarez  
Melissa Baum Haley  
Christopher Harris  
Michael Hughes  
Lisa Johansen  
Rich Juricich  
Tom Levy  
Dylan Mohamed  
Jessica Neuwerth  
Ivory Reyburn  
Dan Robinson

Kelly Rodgers  
Shanti Rosset  
Tom Ryan  
Kimberlyn Velasquez  
Margaret Vick  
Jerry Zimmerman

## **CALL TO ORDER**

Chairman Nelson 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**

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

## **ADMINISTRATION**

Chairman Nelson asked for a motion to approve the September 11, 2019, Board meeting minutes. Mr. Fisher moved that the minutes be approved, seconded by Mr. Pettijohn. By roll-call vote, the minutes were unanimously approved.

## **COLORADO RIVER BASIN WATER REPORTS**

### **Colorado River Basin Report**

Mr. Harris reported that October 1<sup>st</sup> was the beginning of Water Year-2020. He reported that the water level at Lake Powell was 3,614.9 feet with 13.20 million-acre feet (MAF) of storage, or 54% of capacity. The water level at Lake Mead was 1,083.5 feet with 10.3 MAF of storage, or 39% of capacity. Mr. Harris reported that as of October 6<sup>th</sup>, the total system storage was 31.6 MAF, or 53% of capacity, which is about 3.6 MAF more than system storage at this same time last year.

Mr. Harris reported that the preliminary observed Water Year-2019 Lake Powell inflow is 12.9 MAF, or 120% of normal. The Observed April to July 2019 Lake Powell inflow is 10.41 MAF, or 145% of normal. The September 2019 observed Lake Powell inflow was 0.14 MAF, or 35% of normal, and the September forecasted Lake Powell inflow is 0.38 MAF, or 74% of normal. To date, the Water Year-2019 precipitation is 15% of normal.

Mr. Harris reported that precipitation conditions were below average in August throughout the Basin. In September, precipitation conditions slightly improved in the Upper Green River Basin as well as the southern Arizona, due to monsoonal activity.

Mr. Harris reported that as of October 1<sup>st</sup>, the Upper Basin reservoirs were close to capacity, noting that the reservoirs continued to benefit from the above average precipitation that occurred during the winter of Water Year-2019. He also reported that on the regulatory storage conditions in the Lower Basin. As of October 3<sup>rd</sup>, Brock and Senator Wash reservoirs captured 99,231 AF

and 82,614 AF, respectively. Mr. Harris reported excess flows to Mexico were 14,151 AF through October 6<sup>th</sup>. As of October 2<sup>nd</sup>, the total bypassed to the Cienega de Santa Clara in Mexico was 70,984 AF.

### **State and Local Report**

Mr. Harris reported that California's precipitation conditions were above average for Water Year-2019. Mr. Harris also reported that California's reservoir storage conditions were also above average.

Board member Peterson, representing The Metropolitan Water District of Southern California (MWD), reported that as of October 1<sup>st</sup>, the combined reservoir storage is 91% of capacity.

### **STATUS OF COLORADO RIVER BASIN PROGRAMS**

#### **Minute No. 323 Implementation**

Mr. Harris provided the Board with an update on the status of the various work groups established under Minute 323. He noted that work group membership typically comprises a small group of state and federal representatives from the U.S. and Mexico.

Mr. Harris reported that the Hydrology Work Group recently met in Tijuana, Mexico, and approved its proposed work and communication plan, which will ensure that Mexican stakeholders will receive information on hydrology and water use. Mr. Harris reported that the Salinity Work Group is evaluating the initial results of a real-time monitoring and data collection and archival system for binational salinity management. He noted that the consulting team for the Desalination Work Group recently completed a preliminary draft feasibility assessment of desalination options along the Sonoran Coast. The Desalination Work Group will be exploring other areas with the potential for desalination, including along the Pacific and Gulf of California coasts of Baja. Mr. Harris noted that the Environmental Work Group has been moving forward with habitat restoration projects but has yet to receive any federal water, which is dependent on outside factors, including the progress of water conservation projects managed by the Projects Work Group. The Projects Work Group recently met in Mexicali, Mexico to discuss completion of the Minute 319 projects and targets for the Minute 323 projects. Mr. Harris reported that two additional work groups, the All-American Canal Turnout and Flow Variability groups, have yet to meet.

Finally, Mr. Harris reported on the Minute Oversight Group, which meets twice a year and discusses overall Minute implementation and the activities of the various work groups. He noted that the group would be meeting October 16<sup>th</sup> and would discuss the progress of the Projects Work Group in particular. In response to a question from Chairman Nelson, Mr. Harris noted that these

water savings projects could include a range of activities, including canal lining, on-farm efficiency, and fallowing. Chairman Nelson requested that an overview of the different federal and local organizations in Mexico participating in the implementation of Minute 323 be prepared for the next meeting of the Board.

Board Member Fisher noted that the Hydrology Work Group and binational efforts in general over the past several years have increased Mexican stakeholders' comfort with the use of both hydrology and reservoir volumes in determining annual water availability. Mr. Harris reported that the Bureau of Reclamation has recently begun including Mexican stakeholders in the hydrology and water supply briefings provided to U.S. stakeholders.

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

Board Staff Ms. Neuwerth reported that the High Flow Experiment (HFE) Technical Team had determined that no fall HFE would be conducted at Glen Canyon Dam this year due to limited monsoonal activity and sediment input to the system. Ms. Neuwerth noted that the potential to conduct an HFE will be available every fall and spring through the duration of the Long-Term Experimental and Management Plan (LTEMP). Ms. Neuwerth also reported that the Technical Work Group (TWG) of the Glen Canyon Dam Adaptive Management Program would be meeting October 21-22 in Phoenix, Arizona.

Ms. Neuwerth reported that a lawsuit against the LTEMP EIS was filed on October 1<sup>st</sup> by Save the Colorado, Center for Biological Diversity, and Living Rivers, alleging that the plan failed to consider the impacts of climate change on the operation of Glen Canyon Dam. The suit seeks to invalidate the LTEMP and prompt consideration of alternative management scenarios for Glen Canyon Dam, including "Fill Mead First", decommissioning the dam, and run-of-the-river operations. Ms. Neuwerth noted that annual operations and release volumes for Glen Canyon Dam are set by the 2007 Interim Guidelines as modified by the recent Drought Contingency Plan. The LTEMP uses this annual release volume as an input to determine monthly, daily, and hourly release volume. In addition, local resource conditions are used to determine whether any experimental releases will be conducted. Ms. Neuwerth noted that the LTEMP was developed to avoid affecting the annual release volume from Glen Canyon Dam and other matters related to the conjunctive management of Lakes Powell and Mead.

In response to a question on whether similar arguments could be leveled against other Colorado River programs, Mr. Harris noted that the LTEMP may have been uniquely vulnerable as a recently completed environmental process that focused on resources of particular concern to certain groups. Mr. Harris also noted that recent changes in Council on Environmental Quality guidelines and regulations had introduced additional uncertainty on how to address climate change in NEPA documents.

## **ANNOUNCEMENTS**

### **Washington D.C. Updates**

Mr. Harris reported that the Senate committees approved several appropriations bills, with an increase of \$4 billion over last year's funding levels, including funding for Lower Colorado River operations, Salinity Control, and Salton Sea research. Mr. Harris noted that the government is funded through November 21<sup>st</sup> by continuing resolution.

Mr. Harris reported that the Administration recently repealed the Obama Administration's Waters of the United States rule; the application and administration of the Clean Water Act will therefore revert to the determinations made in 1986 as later modified in 2008.

Mr. Harris also noted that the U.S. Department of Energy has awarded \$100 million in desalination research to the National Alliance of Water Innovation to explore more efficient and cost-effective technologies to treat saline or brackish water.

### **California Department of Water Resources Updates**

#### *Climate Change Vulnerability Assessment and Adaptation Summit and Workshop*

Mr. Harris reported that Board staff recently attended a DWR-hosted Climate Change Summit and Workshop, at which water managers and climate experts discussed future climate change challenges and uncertainties, potential impacts to California systems, and Governor Newsom's Executive Order 10-19 on climate resiliency. Through this workshop, DWR intends to develop a policy recommendation to be included in the Governor's Water Resilience Portfolio. Mr. Harris noted that the Board will distribute copies of the workshop presentations as requested.

#### *California Natural Resources Agency All-Directors Workshop*

Mr. Harris reported that California Natural Resources Agency (CNRA) Secretary Wade Crowfoot hosted a workshop for CNRA agency directors on September 19-20 in Sacramento. Mr. Harris reported that the workshop focused on the key priorities of Secretary Crowfoot, including climate resilience, protecting and enhancing California's biodiversity, developing a "California Access for All" agenda, and cutting agency red tape. Mr. Harris noted that the workshop was a good chance for agency directors to discuss intersecting issues.

#### *Governor Newsom Appoints New Assistant Secretary for Salton Sea Policy*

Mr. Harris reported that Governor Newsom appointed Mr. Arturo Delgado as the Assistant Secretary of Resources for Salton Sea Policy on September 25<sup>th</sup>. Mr. Harris noted that Mr.

Delgado had been involved in development of the California permit for the Lower Colorado River Multi-Species Conservation Program and has recently worked for the California Department of Fish and Wildlife and the U.S. Forest Service.

### **Upcoming Events**

Mr. Harris described several upcoming events that might be of interest to the Board, including:

- Salton Sea Symposium, October 17-18, Palm Desert, California
- Salinity Control Forum/Advisory Council Meetings, October 22-25, Phoenix, Arizona
- Colorado River Conversations Scenario Planning Workshop, October 28-31, Tucson, Arizona
- Basin States Climate and Hydrology Workgroup Meeting, November 12, Salt Lake City, Utah

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be held November 13<sup>th</sup>.

### **ADJOURNMENT**

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:01 a.m.





11/4/2019

## LOWER COLORADO WATER SUPPLY REPORT

River Operations  
Bureau of Reclamation

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

(702) 293-8373

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

	PERCENT	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
CURRENT STORAGE	FULL			
LAKE POWELL	54%	13,019	3,612.85	10,300
* LAKE MEAD	39%	10,239	1,082.74	10,500
LAKE MOHAVE	86%	1,559	637.80	9,800
LAKE HAVASU	92%	573	447.62	6,300
TOTAL SYSTEM CONTENTS **	52%	31,197		
As of 11/3/2019				
SYSTEM CONTENT LAST YEAR	46%	27,681		
* 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	67%	1,526		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam <sup>1</sup>	13%	127	1,115.64	25
Forecasted Water Use for Calendar Year 2019 (as of 11/4/2019) (values in kaf)				
NEVADA			232	
SOUTHERN NEVADA WATER SYSTEM				204
OTHERS				28
CALIFORNIA			3,966	
METROPOLITAN WATER DISTRICT OF CALIFORNIA				503
IRRIGATION DISTRICTS				3,450
OTHERS				13
ARIZONA			2,577	
CENTRAL ARIZONA PROJECT				1,463
OTHERS				1,114
TOTAL LOWER BASIN USE				6,776
DELIVERY TO MEXICO - 2019				1,516
(Mexico Scheduled Delivery + Preliminary Yearly Excess <sup>2</sup> )				
OTHER SIGNIFICANT INFORMATION				
UNREGULATED INFLOW INTO LAKE POWELL - NOVEMBER FINAL FORECAST DATED 11/1/2019				
		MILLION ACRE-FEET	% of Normal	
OBSERVED WATER YEAR 2019		12.951	120%	
OBSERVED APRIL-JULY 2019		10.410	145%	
OCTOBER OBSERVED INFLOW		0.265	52%	
NOVEMBER INFLOW FORECAST		0.350	74%	
WATER YEAR 2020 PRECIP TO DATE <sup>3</sup>		Upper Colorado Basin 66% (1.9")	Salt/Verde Basin 14% (0.3")	
CURRENT BASIN SNOWPACK		NA% (NA)	NA% (NA)	

<sup>1</sup> Alamo data as of 10/28/19.

<sup>2</sup> Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.

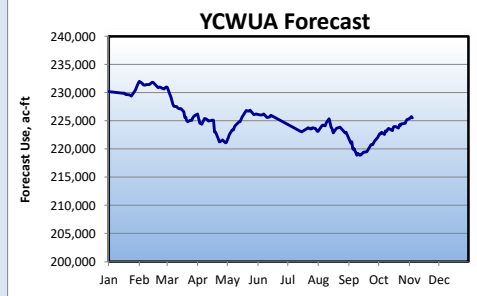
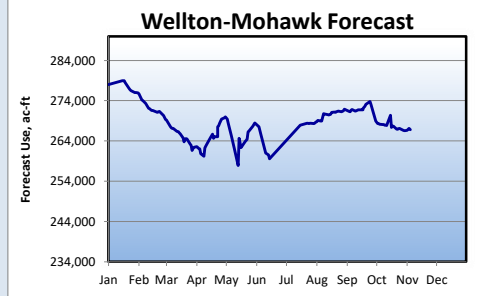
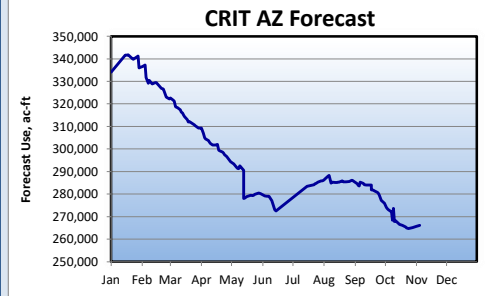
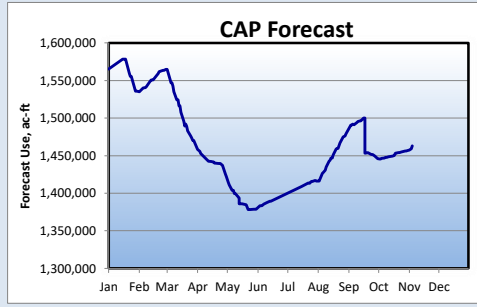
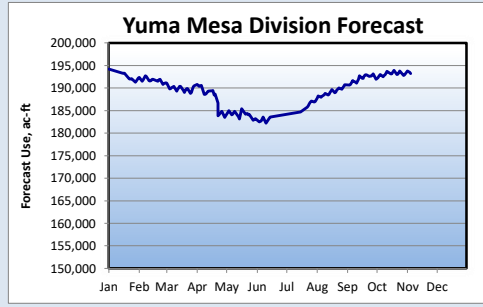
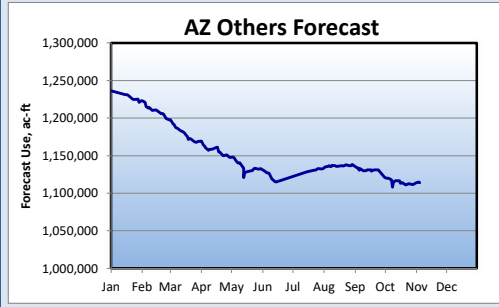
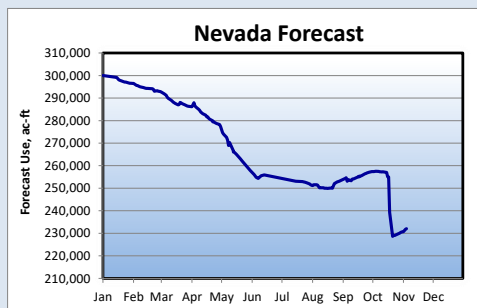
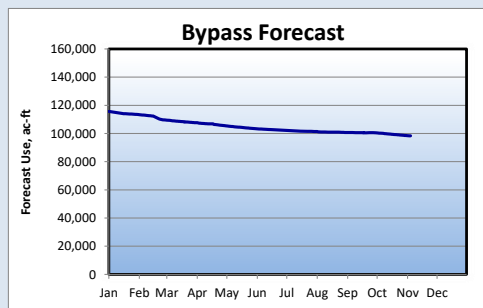
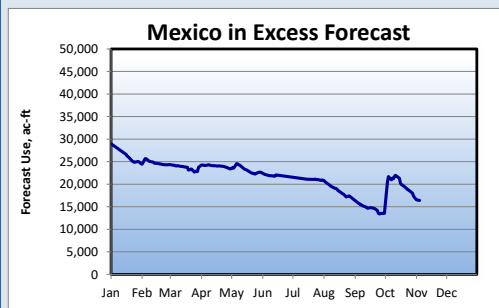
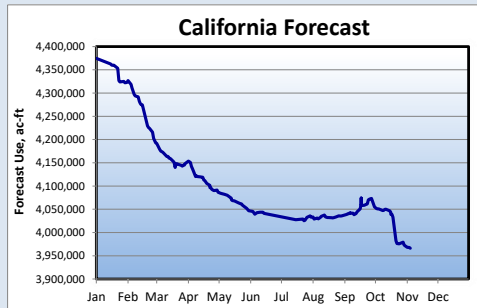
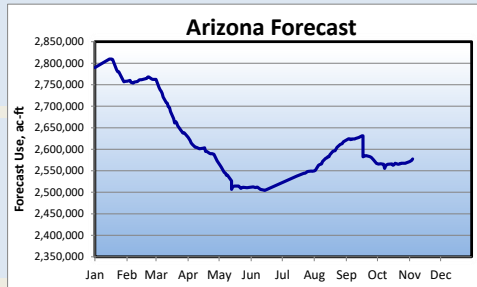
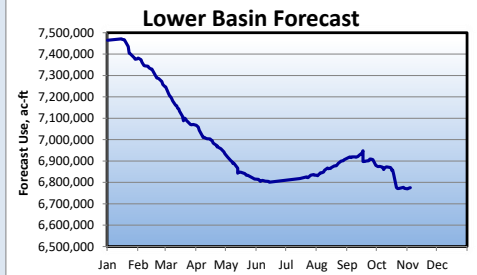
<sup>3</sup> Precipitation values may vary significantly from week-to-week early in the water year.

**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2019**

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

<b>WATER USE SUMMARY</b>	<b>Use To Date CY2019</b>	<b>Forecast Use CY2019</b>	<b>Approved Use<sup>2</sup> CY2019</b>	<b>Excess to Approval CY2019</b>
ARIZONA	2,264,261	2,577,442	2,577,442	0
CALIFORNIA	3,574,778	3,966,178	3,966,178	0
NEVADA	218,367	232,060	232,060	0
<b>STATES TOTAL<sup>3</sup></b>	<b>6,057,406</b>	<b>6,775,680</b>	<b>6,775,680</b>	<b>0</b>
MEXICO IN SATISFACTION OF TREATY (Including downward delivery) TO MEXICO AS SCHEDULED	1,312,653 1,299,118	1,516,406 1,500,000	1,500,000	<b>16,406</b>
MEXICO IN EXCESS OF TREATY <sup>4</sup>	13,535	16,406		
BYPASS PURSUANT TO MINUTE 242 <sup>5</sup>	80,061	98,362		
<b>TOTAL LOWER BASIN &amp; MEXICO</b>	<b>7,450,120</b>	<b>8,390,448</b>		

<sup>1</sup> Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date for monthly reporters incorporates provisional data through August. Use to date for users reporting annually is estimated.  
<sup>2</sup> These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.  
<sup>3</sup> Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona Department of Water Resources, Colorado River Board of California, and Reclamation.  
<sup>4</sup> Mexico excess forecast is based on the 5-year average for the period 2013-2017.  
<sup>5</sup> Bypass forecast is based on the average for the period 1990-2017.



Graph notes: Jan 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and overrun 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 Robert 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.

**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2019**

**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	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date CY2019	Use CY2019	Use CY2019	Estimated Use CY2019	To Date CY2019	Diversion CY2019	Diversion CY2019	Approved Diversion CY2019
ARIZONA PUMPERS	13,114	14,444	14,444	---	20,206	22,255	22,255	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	64	73	111	---	64	73	111	-38
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	172	196	196	---	172	196	196	0
DAVIS DAM PROJECT	2	2	2	---	18	20	20	0
BULLHEAD CITY	5,881	7,034	7,683	---	9,257	11,176	12,720	-1,544
MOHAVE WATER CONSERVATION DISTRICT	574	632	632	---	857	944	944	0
BROOKE WATER LLC	286	315	315	---	431	475	475	0
MOHAVE VALLEY IDD	17,950	20,545	21,464	---	33,240	38,043	39,746	-1,703
FORT MOJAVE INDIAN RESERVATION, AZ	31,667	34,205	44,550	---	58,261	62,961	82,500	-19,539
GOLDEN SHORES WATER CONSERVATION DISTRICT	243	268	268	---	365	402	402	0
HAVASU NATIONAL WILDLIFE REFUGE	2,466	2,651	3,563	---	20,556	22,733	41,820	-19,087
LAKE HAVASU CITY	6,843	8,133	8,928	---	11,037	13,117	14,400	-1,283
CENTRAL ARIZONA PROJECT	1,248,560	1,463,235	---	---	1,248,560	1,463,235	---	---
TOWN OF PARKER	336	386	430	---	727	847	933	-86
COLORADO RIVER INDIAN RESERVATION, AZ	251,052	266,151	310,371	---	496,378	553,580	599,602	-46,022
EHRENBURG IMPROVEMENT ASSOCIATION	212	234	234	---	298	328	328	0
CIBOLA VALLEY <sup>1</sup>	14,219	15,661	15,661	---	19,876	21,891	21,891	0
CIBOLA NATIONAL WILDLIFE REFUGE	9,201	9,833	14,016	-4,183	14,841	15,858	22,605	-6,747
IMPERIAL NATIONAL WILDLIFE REFUGE	2,024	2,617	3,799	-1,182	3,267	4,223	6,128	-1,905
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	992	1,093	1,093	---	1,525	1,680	1,680	---
CHA CHA, LLC	854	1,001	1,365	---	1,315	1,541	2,100	-559
BEATTIE FARMS	490	569	724	---	752	873	1,110	-237
YUMA PROVING GROUND	366	404	479	---	366	404	479	-75
GILA MONSTER FARMS	4,114	4,694	5,254	---	7,052	8,058	9,156	-1,098
WELLTON-MOHAWK IDD	242,764	266,819	278,000	-11,181	340,217	383,269	412,965	-29,696
BLM PERMITEES (BELOW IMPERIAL DAM)	88	97	97	0	134	148	148	0
CITY OF YUMA	11,308	13,755	15,962	-2,207	19,619	23,812	26,700	-2,888
MARINE CORPS AIR STATION YUMA	1,114	1,270	1,359	---	1,114	1,270	1,359	-89
UNION PACIFIC RAILROAD	20	24	24	---	40	48	48	0
UNIVERSITY OF ARIZONA	814	916	928	---	814	916	928	-12
YUMA UNION HIGH SCHOOL DISTRICT	107	125	151	---	146	170	200	-30
DESERT LAWN MEMORIAL	15	17	17	---	21	23	23	0
NORTH GILA VALLEY IRRIGATION DISTRICT	9,248	10,239	12,141	---	35,894	41,094	44,200	-3,106
YUMA IRRIGATION DISTRICT	33,509	38,016	39,007	---	59,052	67,542	71,900	-4,358
YUMA MESA IDD	131,892	144,925	143,060	---	201,596	226,816	239,724	-12,908
UNIT "B" IRRIGATION DISTRICT	17,448	19,054	21,483	---	23,499	26,029	29,400	-3,371
FORT YUMA INDIAN RESERVATION	1,142	1,258	1,258	---	1,759	1,937	1,937	0
YUMA COUNTY WATER USERS' ASSOCIATION	202,243	225,520	230,166	---	287,917	335,117	360,400	-25,283
COCOPA INDIAN RESERVATION	784	940	1,691	---	910	1,150	2,580	-1,430
RECLAMATION-YUMA AREA OFFICE	83	91	91	---	83	91	91	0
RETURN FROM SOUTH GILA WELLS	---	---	---	---	---	---	---	---
<b>TOTAL ARIZONA</b>	<b>2,264,261</b>	<b>2,577,442</b>	<b>2,649,314</b>		<b>2,922,236</b>	<b>3,354,345</b>	<b>3,522,501</b>	
CAP	1,248,560	1,463,235	---	---	---	1,463,235	---	---
ALL OTHERS	1,015,701	1,114,207	1,201,017	---	---	1,891,110	2,074,204	---
YUMA MESA DIVISION, GILA PROJECT	174,649	193,180	171,610	21,570	---	335,452	---	---

**ARIZONA ADJUSTED APPORTIONMENT CALCULATION**

Arizona Basic Apportionment	2,800,000
Creation of Extraordinary Conservation ICS (Approved) <sup>2</sup>	(149,420)
System Conservation Water - Pilot System Conservation Program <sup>3</sup>	(41,328)
CAWCD Voluntary Contribution to Lake Mead (Estimated) <sup>4</sup>	(31,810)
<b>Total State Adjusted Apportionment</b>	<b>2,577,442</b>
Excess to Total State Adjusted Apportionment	0
<b>Estimated Allowable Use for CAP</b>	<b>1,495,045</b>

<sup>1</sup> Includes the following water users: Cibola Valley IDD; Arizona Game and Fish Commission; GSC Farms, LLC; Red River Land Company, LLC; Western Water, LLC; and the Hopi Tribe.

<sup>2</sup> Pursuant to the 2007 Interim Guidelines, the state of Arizona may create up to 100,000 AF of Extraordinary Conservation (EC) ICS annually. Pursuant to Section IV.B of Exhibit 1 to the *Lower Basin Drought Contingency Plan Agreement*, SNWA has committed to provide 50,000 AF of ICS creation capacity in 2019 for ICS creators in the state of Arizona. The following EC ICS creation amounts have been approved for 2019: CAWCD - up to 26,146 AF; Colorado River Indian Tribes (CRIT) - up to 6,274 AF; and Gila River Indian Community - up to 117,000 AF. Actual ICS creation amounts will be based on final accounting and verification.

<sup>3</sup> System Conservation Water to be conserved by Bullhead City, Fort McDowell Yavapai Nation, and CRIT pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

<sup>4</sup> By letter dated July 24, 2019, CAWCD notified Reclamation of its intent not to divert 85,953 AF of Arizona unused apportionment in 2019 to effect a voluntarily contribution to Lake Mead. This water will remain in Lake Mead to benefit system storage. The amount shown above is the **estimated** amount of voluntary contribution CAWCD will make based on the current forecast. This value is updated daily. The actual amount of CAWCD's voluntary contribution will be based on final accounting, and will be limited to the amount that, when added to CAWCD's consumptive use, does not result in an inadvertent overrun.

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

**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2019**

**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	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date	Use	Use	Use		To Date	Diversion	Diversion
	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019
CALIFORNIA PUMPERS	1,656	1,824	1,824	---	2,996	3,300	3,300	0
FORT MOJAVE INDIAN RESERVATION, CA	5,175	5,940	8,996	---	9,617	11,037	16,720	-5,683
CITY OF NEEDLES (includes LCWSP use)	951	1,144	1,605	-461	1,685	1,955	2,261	-306
METROPOLITAN WATER DISTRICT	477,607	503,456	---	---	479,984	506,345	---	---
COLORADO RIVER INDIAN RESERVATION, CA	2,313	2,548	2,548	---	3,832	4,220	4,220	0
PALO VERDE IRRIGATION DISTRICT	365,437	388,822	422,468	---	746,824	835,924	856,000	-20,076
YUMA PROJECT RESERVATION DIVISION	35,255	40,668	47,045	---	71,406	84,040	98,928	-14,888
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	37,921	43,875	46,128	-2,253
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	33,485	40,165	52,800	-12,635
YUMA ISLAND PUMPERS	2,427	2,673	2,673	---	4,388	4,833	4,833	0
FORT YUMA INDIAN RESERVATION - RANCH 5	475	523	523	---	858	945	945	0
IMPERIAL IRRIGATION DISTRICT <sup>1</sup>	2,374,211	2,660,374	2,677,800	-17,426	2,353,263	2,661,559	2,781,074	---
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	---
COACHELLA VALLEY WATER DISTRICT	308,301	357,138	388,837	-31,699	316,961	369,638	404,914	---
OTHER LCWSP CONTRACTORS	753	829	829	---	1,177	1,296	1,296	0
CITY OF WINTERHAVEN	61	67	67	---	90	99	99	0
CHEMEHUEVI INDIAN RESERVATION	156	172	172	---	10,296	11,340	11,340	0
<b>TOTAL CALIFORNIA</b>	<b>3,574,778</b>	<b>3,966,178</b>			<b>4,003,377</b>	<b>4,496,531</b>	<b>4,704,415</b>	

**CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION**

California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program <sup>2</sup>	(3,879)
IID Creation of Extraordinary Conservation ICS - Stored in Lake Mead (Estimated) <sup>3</sup>	(1,579)
IID Creation of Additional Conserved Water (Estimated) <sup>4</sup>	(15,847)
MWD Creation of Extraordinary Conservation ICS (Estimated) <sup>5</sup>	(412,517)
<b>Total State Adjusted Apportionment</b>	<b>3,966,178</b>
Excess to Total State Adjusted Apportionment	0

**Estimated Allowable Use for MWD**

**915,973**

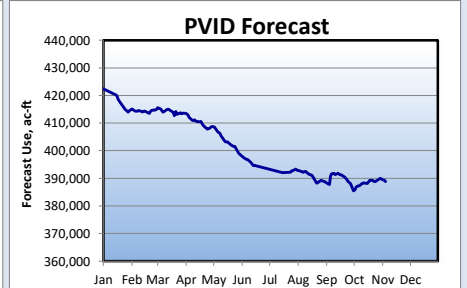
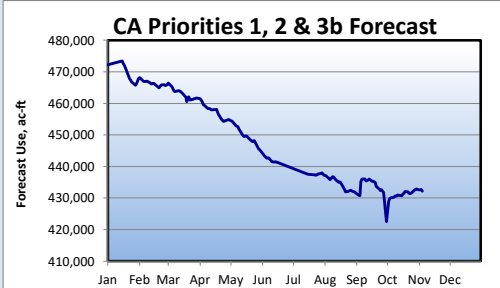
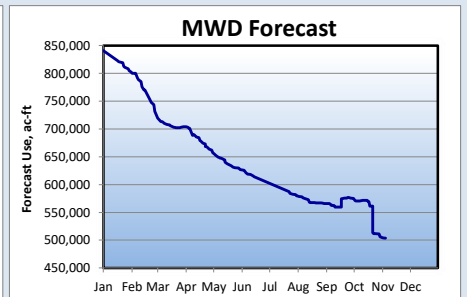
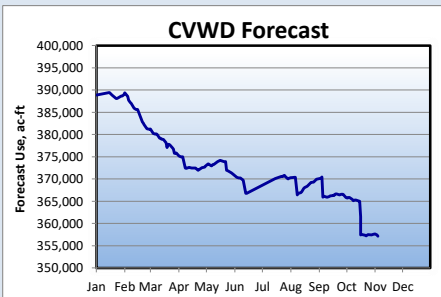
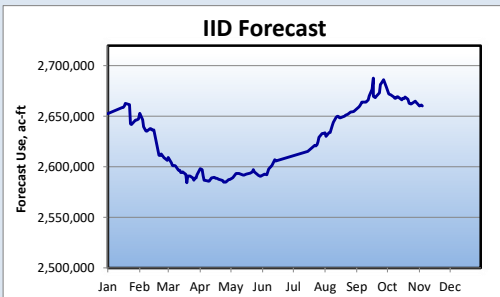
<sup>1</sup> As shown here, IID's Approved Diversion and Estimated Use values reflect the maximum amount of Colorado River water available to IID in 2019.

<sup>2</sup> System Conservation Water to be conserved by the City of Needles, the Coachella Valley Water District, and Bard Water District pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

<sup>3</sup> IID has been approved to create up to 62,000 AF of Extraordinary Conservation (EC) ICS in 2019; however, due to limitations set forth in the California ICS Agreement, may only store up to 1,579 AF in its Lake Mead ICS Account. The amount shown above is the **estimated** amount of EC ICS IID will create and store in its Lake Mead ICS Account based on the current forecast. This value is updated daily. The actual amount of EC ICS created by IID and stored in its Lake Mead ICS Account will be based on final accounting and verification, and will be limited to the amount that, when added to IID's consumptive use, does not result in an inadvertent overrun.

<sup>4</sup> IID intends to use Additional Conserved Water for purposes including, but not limited to, the creation of ICS for storage in Lake Mead. As noted above, IID has been approved to create up to 62,000 AF of EC ICS in 2019, however, may only store up to 1,579 AF in its Lake Mead ICS Account. Storage of Additional Conserved Water in excess of this amount will require an executed amendment to the California ICS Agreement, which has not occurred as of the date of this forecast. The amount of Additional Conserved Water shown above is the **estimated** amount IID will create based on the current forecast. This value is updated daily. The actual amount of Additional Conserved Water created by IID in 2019 will be based on final accounting and verification, and will be limited to the amount that, when added to IID's consumptive use, does not result in an inadvertent overrun.

<sup>5</sup> MWD has been approved to create up to 450,000 AF of EC ICS in 2019, 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 amount shown above is the **estimated** amount of EC ICS MWD will create based on the current forecast. This value is updated daily. The actual amount of EC ICS created by MWD will be based on final accounting and verification, and will be limited to the amount that, when added to MWD's consumptive use, does not result in an inadvertent overrun.



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

**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2019**

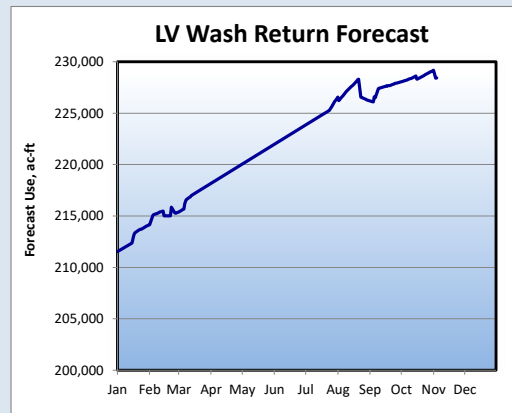
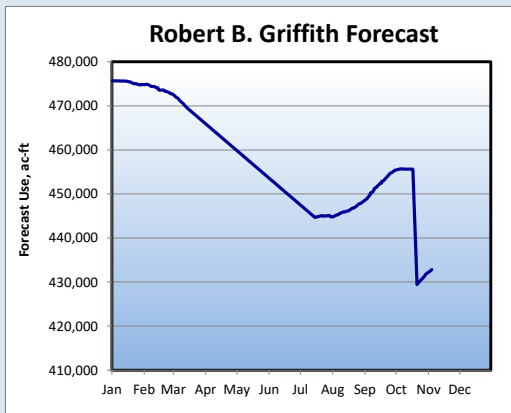
**NOTE:**  
 • Diversions and uses that are pending approval are noted in *red italics*.  
 • Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.  
 • Water 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 \(Water Accounting Reports\)](#)

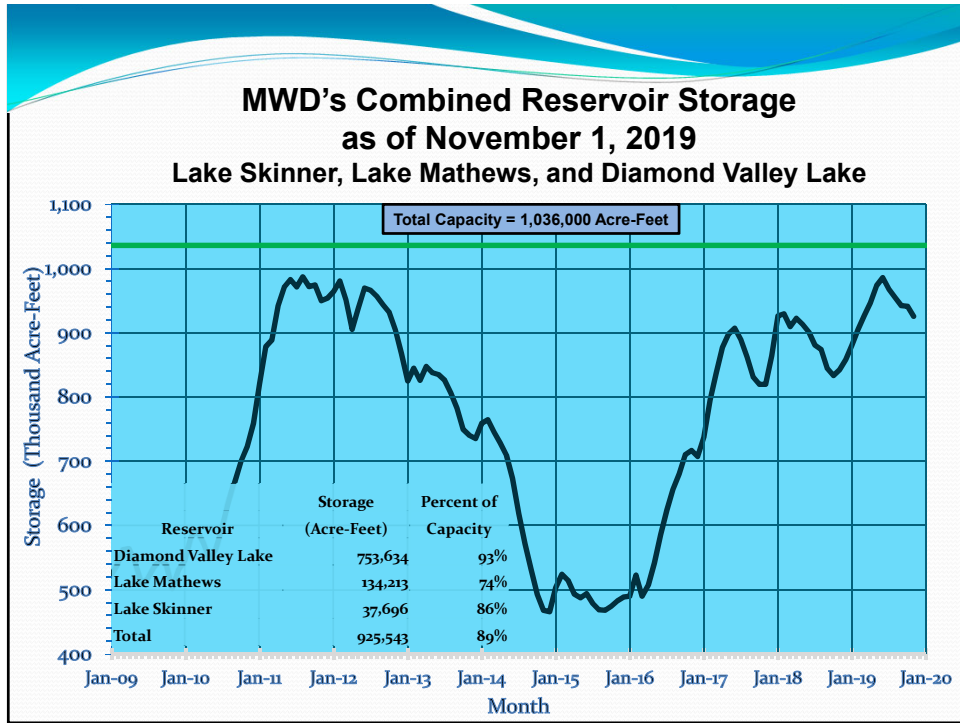
WATER USER	Use To Date	Forecast Use	Estimated Use	Excess to Estimated Use	Diversion To Date	Forecast Diversion	Approved Diversion	Excess to Approved Diversion
	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	389,749	432,818		---	389,677	432,746		---
LAKE MEAD NRA, NV - Diversions from Lake Mead	349	524	1,500	---	349	524	1,500	-976
LAKE MEAD NRA, NV - Diversions from Lake Mohave	173	252	500	---	173	252	500	-248
BASIC MANAGEMENT INC.	4,787	6,018	8,208	---	4,787	6,018	8,208	-2,190
CITY OF HENDERSON (BMI DELIVERY)	12,047	14,394	15,878	---	12,047	14,394	15,878	-1,484
NEVADA DEPARTMENT OF WILDLIFE	8	10	12	-2	612	747	1,000	---
PACIFIC COAST BUILDING PRODUCTS INC.	781	923	928	---	781	923	928	-5
BOULDER CANYON PROJECT	157	173	173	---	272	300	300	0
BIG BEND WATER DISTRICT	2,055	2,655	4,619	---	4,380	5,662	10,000	-4,338
FORT MOJAVE INDIAN TRIBE	2,481	2,736	4,020	---	3,703	4,083	6,000	-1,917
LAS VEGAS WASH RETURN FLOWS	-194,220	-228,443	-228,082	---				
<b>TOTAL NEVADA</b>	<b>218,367</b>	<b>232,060</b>	<b>230,498</b>		<b>416,781</b>	<b>465,649</b>	<b>467,056</b>	
SOUTHERN NEVADA WATER SYSTEM (SNWS)	195,529	204,375				432,746		
ALL OTHERS	22,838	27,685				32,903		
NEVADA USES ABOVE HOOVER	213,831	226,669				455,904		
NEVADA USES BELOW HOOVER	4,536	5,391				9,745		
<b>Tributary Conservation Intentionally Created Surplus (ICS)</b>								
SNWA Creation of Tributary Conservation ICS (Approved) <sup>1</sup>		42,000						
<b>NEVADA ADJUSTED APPORTIONMENT CALCULATION</b>								
Nevada Basic Apportionment		300,000						
SNWA Creation of Extraordinary Conservation ICS (Estimated) <sup>2</sup>		(67,940)						
Total State Adjusted Apportionment		232,060						
Excess to Total State Adjusted Apportionment		0						

<sup>1</sup> SNWA has been approved to create up to 42,000 AF of Tributary Conservation (TC) ICS in 2019. The actual amount of TC ICS created by SNWA will be based on final accounting and verification.

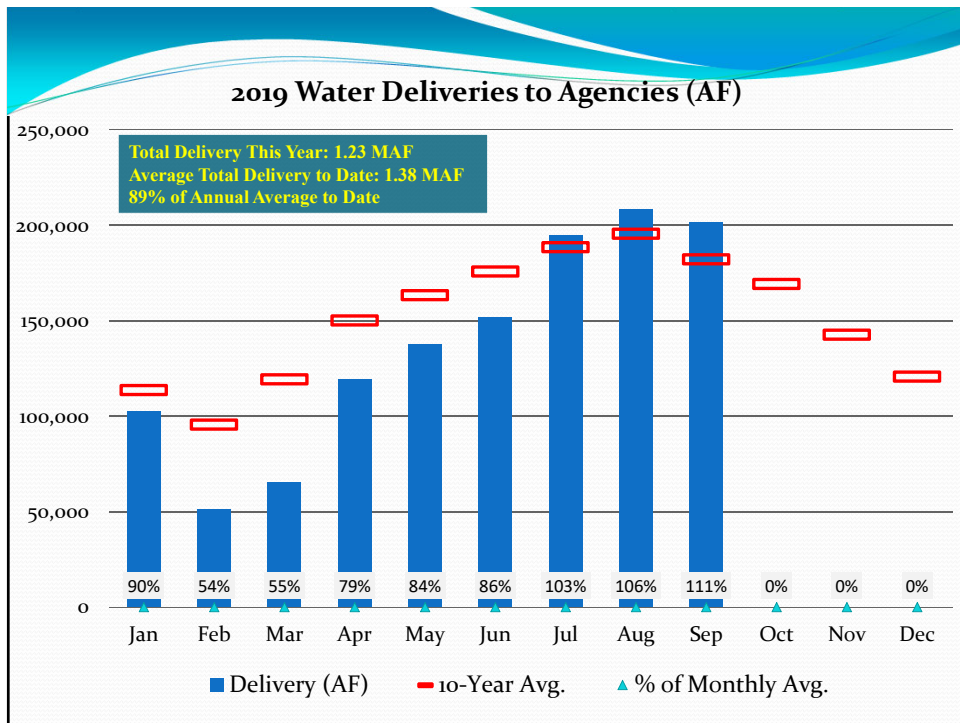
<sup>2</sup> Pursuant to the 2007 Interim Guidelines, the state of Nevada may create up to 125,000 AF of Extraordinary Conservation (EC) ICS annually. SNWA has been approved to create up to 100,000 AF of EC ICS in 2019; however, pursuant to Section IV.B of Exhibit 1 to the *Lower Basin Drought Contingency Plan Agreement*, SNWA has committed to provide 50,000 AF of EC ICS creation capacity in 2019 for ICS creators in the state of Arizona. Should the state of Arizona fully utilize this 50,000 AF, the maximum amount of EC ICS that may be created by SNWA in 2019 is 75,000 AF. The amount shown above is the **estimated** amount of EC ICS SNWA will create based on the current forecast. This value is updated daily. The actual amount of EC ICS created by SNWA will be based on final accounting and verification.



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



1



2

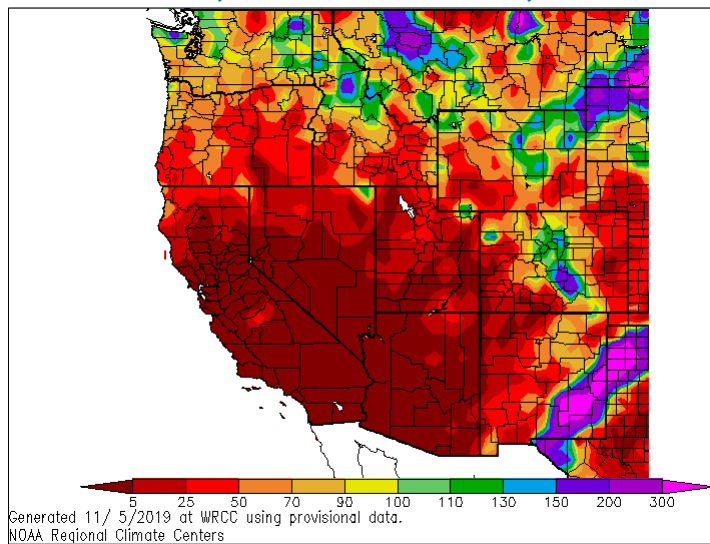
## Precipitation at Six Major Stations in Southern California

From October 1, 2019 to October 31, 2019

Station	Precipitation in inches		Average to Date	Percent of Average
	Oct	Oct 1 to Oct 31		
San Luis Obispo	0.00	0.00	0.91	0%
Santa Barbara	0.00	0.00	0.69	0%
Los Angeles	0.00	0.00	0.56	0%
San Diego	0.00	0.00	0.51	0%
Blythe	0.00	0.00	0.27	0%
Imperial	0.00	0.00	0.25	0%

1

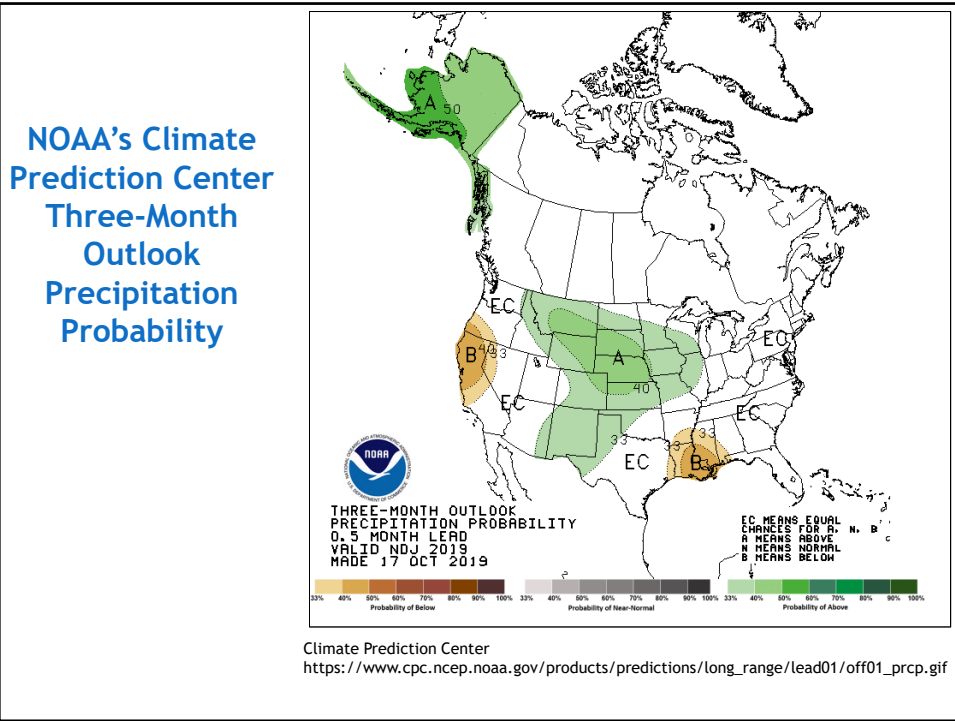
## Percent of Average Precipitation (%) October 1, 2019 - November 4, 2019



Western Regional Climate Center  
<http://www.wrcc.dri.edu/cgi-bin/anomimage.pl?wrcOctPpct.gif>

2



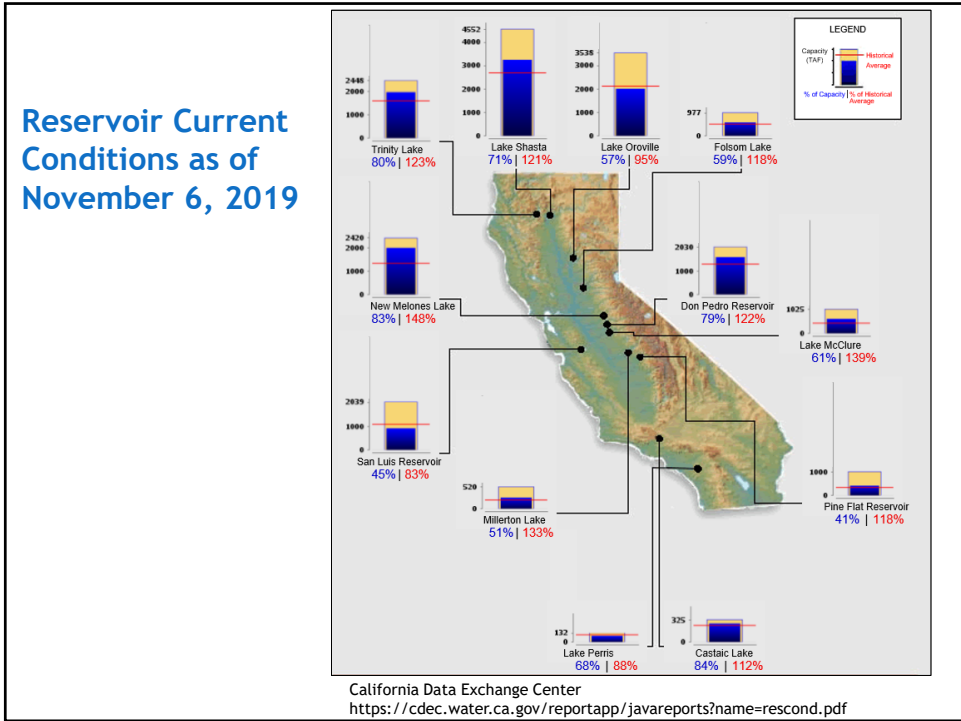


3

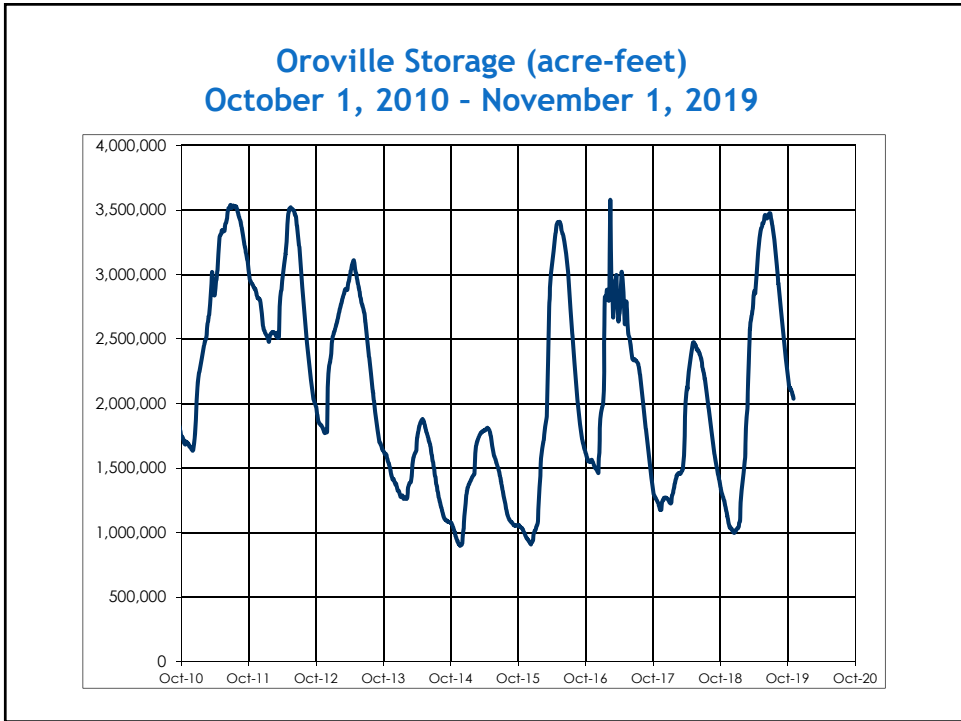
### Comparison of SWP Water Storage

Reservoir	Capacity	2018 Storage (acre-feet)		2019 Storage (acre-feet)	
		As of Nov 1	% of Cap.	As of Nov 1	% of Cap.
Frenchman	55,475	41,789	75%	44,789	81%
Lake Davis	84,371	66,157	78%	65,032	77%
Antelope	22,564	16,114	71%	17,621	78%
Oroville	3,553,405	1,171,966	33%	2,038,439	57%
<b>TOTAL North</b>	<b>3,715,815</b>	<b>1,296,026</b>	<b>35%</b>	<b>2,165,881</b>	<b>58%</b>
Del Valle	39,914	28,598	72%	28,413	71%
San Luis	2,027,835	1,217,432	60%	942,676	46%
Pyramid	169,901	165,219	97%	166,057	98%
Castaic	319,247	262,995	82%	278,664	87%
Silverwood	74,970	71,368	95%	70,384	94%
Perris	126,841	59,049	47%	59,049	47%
<b>TOTAL South</b>	<b>2,758,708</b>	<b>1,804,661</b>	<b>65%</b>	<b>1,545,243</b>	<b>56%</b>
<b>TOTAL SWP</b>	<b>6,474,523</b>	<b>3,100,687</b>	<b>48%</b>	<b>3,711,124</b>	<b>57%</b>

4



5



6