

May 2, 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, May 15, 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.

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, May 15, 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 Special Board meeting held March 18, 2019 (Action)
- b. Consideration and approval of the Minutes of the meeting held April 10, 2019 (Action)
- c. Presentation of Draft Colorado River Board of California FY-19/20 Budget (Information)

## 4. Water Supply and Operations Reports

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

# 5. Los Angeles Department of Water and Power Presentation: Boulder Canyon Pumped Storage Project

## 6. Staff Reports regarding Colorado River Basin Programs

- a. Status of Colorado River Basin Drought Contingency Plan and Minute No. 323
- b. Status of the Glen Canyon Dam Adaptive Management Program
- c. Status of the Lower Colorado River Multi-Species Conservation Program
- d. Status of Salinity Control Program
- e. General announcements

## 7. 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.

#### 8. Other Business

## 9. Future Agenda Items

Next Board Meeting: June 5, 2019 10:00 a.m.

Orchid Room - Sheraton Ontario Airport Hotel 429 North Vineyard Avenue, Ontario, CA 91764

# Minutes of the Special Meeting COLORADO RIVER BOARD OF CALIFORNIA

Wednesday, March 18, 2019

A meeting of the Special Colorado River Board (Board) of California was held on Monday, March 18, 2019.

Board Members and Alternates Present at the meeting location:

Peter Nelson, Chairman (CVWD)

Hank Kuiper (Public Member)

Glen D. Peterson (MWD)

Jack Seiler (PVID Alternate)

David Vigil (DFW Alternate)

Doug Wilson (SDCWA)

David R. Pettijohn (LADWP)

Board Members and Alternates participating telephonically:

David DeJesus (MWD Alternate) Nicole Neeman-Brady (Public Member)

James Hanks (IID) Mark Watton (SDCWA Alternate)

Jeanine Jones (DWR Designee)

Board Members and Alternates Absent:

Dana B. Fisher, Jr. (PVID)

Christopher Hayes (DFW Designee) John Powell, Jr. (CVWD Alternate) Evelyn Cortez-Davis (LADWP Alternate) Norma Sierra Galindo (IID Alternate)

Others Present:

Steve Abbott Ned Hyduke Brian Alvarez Eric Katz

Alan L. Boyce Jessica Neuwerth
Robert Cheng Kelly Rodgers
Christopher Harris Alina Tishchenko

Bill Hasencamp

## **CALL TO ORDER**

Chairman Peter Nelson announced the presence of a quorum and called the meeting to order at 4:02 p.m.

Chairman Nelson asked for a motion to approve the findings of fact that a Special Board meeting was warranted. Board member Mr. Doug Wilson made the motion, which was seconded by Board member Mr. Jack Seiler.

A roll-call vote was held: Mr. Kuiper-yes, Mr. Wilson-yes, Mr. Peterson-yes, Mr. Pettijohn-yes, Mr. Seiler-yes, Mr. Vigil-yes, Mr. Hanks-no, Ms. Jones-yes, Ms. Neeman-Brady-yes, Mr. Nelson-yes. With the vote 9-1 it was determined that holding the special meeting was warranted.

## 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. Mr. Alan Boyce, a farmer from the Imperial Valley, Chairman of the Expanded Toolbox subcommittee of the Water Conservation Advisory Board and member of both the Imperial Valley Vegetable Growers Associated and Imperial Valley Farm Bureau expressed significant concern about the noticing process for holding the special meeting. In addition, Mr. Boyce discussed various concerns regarding the proposed DCP legislative language and the Imperial Irrigation District's (IID) involvement in the DCP process.

## **ADMINSTRATION**

Chairman Nelson asked the Board to provide authorization for California's Colorado River Commissioner to sign the proposed Seven Colorado River Basin States letter regarding the Colorado River Basin Drought Contingency Plan, accompanying the submittal of the DCP interstate agreements and proposed federal legislation to the U.S, congress.

Mr. Harris reported that the latest draft of the Seven Basin States letter and the proposed draft federal legislation had been posted on CRB's website. Board member Mr. Peterson made a motion to authorize California's Colorado River Commissioner to sign the Seven Basin States letter in substantial conformance with the version dated March 18, 2019 accompanying the DCP federal legislation package. Chairman Nelson seconded the motion and opened the meeting up for further discussion.

Mr. Hanks, representing the IID, reported that the new proposed federal DCP legislation had not been reviewed by IID's attorneys, noting that the language was different from the language presented during the March 13, 2019 regularly scheduled CRB meeting.

Mr. Pettijohn, representing the Los Angeles Department of Water and Power (LADWP), remarked that LADWP was supportive of IID's efforts to secure funding for Salton Sea restoration, noting that LADWP spent over \$2 billion on dust mitigation efforts in Owens Valley. He added that results from the March 24-Month study shows a low probability of a shortage declaration within the next year and it is likely that the 2007 Guidelines will be sufficient to manage the reservoir system. Mr. Pettijohn also expressed his concern that the Board would not be moving forward on a consensus basis.

Chairman Nelson reported that he had received letters from the other six Basin States supporting IID's efforts to secure funding for the Salton Sea through the 2018 Farm Bill. He added that the NGO community had also written letters supportive of the DCP and IID's efforts to seek funds through the 2018 Farm Bill. Mr. Nelson also shared similar concerns regarding signing the Basin States letter without a consensus from the Board but noted that the DCP will protect water supply flexibility for the State of California.

Mr. Hanks expressed concern regarding IID's future participation in the DCP process. Chairman Nelson remarked that language in the DCP would allow IID to sign onto the DCP in the future if conditions become favorable for IID.

After the discussion concluded, Chairman Nelson requested a roll call vote: Mr. Hanks (IID)-no, Mr. Peterson (MWD)-yes, Mr. Seiler (PVID)-yes, Mr. Kuiper (Public)-abstained from voting, Mr. Wilson (SDCWA)-yes, Ms. Jones (DWR)-yes, Mr. Pettijohn (LADWP)-yes, Ms. Neeman-Brady (Public)-yes, Mr. Vigil (DFW)-yes and Mr. Nelson (CVWD)-yes. The roll-call was 8 in favor; one no vote; and one abstention. The motion passed.

## **ADJOURNMENT**

With no further items to be brought before the Special Meeting of the Board, Chairman Nelson adjourned the meeting at 4:37 p.m.

# Minutes of Meeting COLORADO RIVER BOARD OF CALIFORNIA

Wednesday, April 10, 2019

A meeting of the Colorado River Board (Board) of California was held on Wednesday, April 10, 2019. Due to a recording malfunction, this month's minutes are an approximation of what occurred during the meeting and may not reflect all discussion points.

#### Board Members and Alternates Present:

David DeJesus (MWD Alternate) Nicole Neeman-Brady (Public Member)

Evelyn Cortez-Davis (LADWP Alternate) Peter Nelson, Chairman (CVWD)

Dana B. Fisher, Jr. (PVID)

James Hanks (IID)

Jack Seiler (PVID Alternate)

Jeanine Jones (DWR Designee)

Hank Kuiper (Public Member)

Mark Watton (SDCWA Alternate)

Board Members and Alternates Absent:

Christopher Hayes (DFW Designee) Norma Sierra Galindo (IID Alternate)

David R. Pettijohn (LADWP)

Doug Wilson (SDCWA)

John Powell, Jr. (CVWD Alternate)

Others Present:

Steve Abbott Lindia Liu

Brian Alvarez Jessica Neuwerth Melissa Baum-Haley Mojgan Poursadighi

Robert Cheng Ivory Reyburn
Elsa Contreras Shanti Rosset
Christopher Harris Tom Ryan
Bill Hasencamp Tina Shields
Ned Hyduke Alina Tishchenko
Rich Juricich Jerry Zimmerman

Eric Katz

## **CALL TO ORDER**

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:03 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**

Mr. Harris introduced Mr. Rich Juricich, the new Principal Engineer for the Colorado River Board of California.

Chairman Nelson asked for a motion to approve the March 13, 2019, meeting minutes. Mr. Fisher moved that the minutes be approved, seconded by Mr. Peterson. By roll-call vote, the minutes were unanimously approved.

### **COLORADO RIVER BASIN WATER REPORTS**

## **Colorado River Basin Report**

Mr. Harris reported that as of April 8<sup>th</sup>, the water level at Lake Powell was 3,568.77 feet with 9.00 million-acre feet (MAF) of storage, or 37% of capacity. The water level at Lake Mead was 1,089.85 feet with 10.84 MAF of storage, or 42% of capacity. As of March 31<sup>st</sup>, the total system storage was 26.79 MAF, or 45% of capacity, which is about 4.0 MAF less than the system storage at this same time last year.

Mr. Harris reported that the forecasted Water Year-2019 inflow into Lake Powell 2019 is 12.1 MAF, or 112% of normal. The forecasted April-July 2019 runoff into Lake Powell is projected to be 9.2 MAF, or 128% of normal. The March 2019 observed Lake Powell inflow was 0.62 MAF (94% of normal), and the April Lake Powell inflow forecast is 1.30 MAF (123% of normal). To date, the WY-2019 precipitation is 119% of normal and the current basin snowpack is 130% of normal.

Mr. Harris reported that precipitation conditions in February were above average. In March, two large storms brought significant precipitation to the Upper Basin while dry conditions persisted in the Lower Basin, particularly in western Arizona and southern Nevada.

Mr. Harris reported that as of April 1<sup>st</sup>, the Upper Colorado River basin reservoirs, excluding Lake Powell, ranged from 27% of capacity at Fontenelle Reservoir in Wyoming; 85% of capacity at Flaming Gorge Reservoir in Wyoming and Utah; 91% of capacity at Morrow Point and 30% of capacity at Blue Mesa Reservoirs in Colorado; and 57% of capacity at Navajo Reservoir in New Mexico.

Mr. Harris reported that as of March 28<sup>th</sup>, Brock and Senator Wash Reservoirs captured 30,332 AF and 29,052 AF, respectively. He also reported that excess deliveries to Mexico through March 31<sup>st</sup> were 3,298 AF. As of April 1<sup>st</sup>, the total bypassed to the Cienega de Santa Clara in Mexico is 21,988 AF.

## **State and Local Report**

Ms. Jones, representing the California Department of Water Resources (DWR), discussed California's current precipitation conditions. As of April 4<sup>th</sup>, the statewide snowpack is 162% of normal and the April 1<sup>st</sup> average snowpack is 161%.

Mr. Peterson, representing The Metropolitan Water District of Southern California (MWD), stated that as of April 1<sup>st</sup>, the combined reservoir storage was 91% of capacity.

Ms. Cortez-Davis, representing the Los Angeles Department of Water and Power (LADWP), reported that as of April 1<sup>st</sup>, the current snowpack condition for the Easter Sierra was 164% of normal.

## STATUS OF COLORADO RIVER BASIN PROGRAMS

## Status of the Lower Basin Drought Contingency Plan

Mr. Harris reported that the Basin States representatives met in Phoenix, Arizona, on March 19th to sign a letter accompanying the submittal of the proposed federal legislation and draft interstate Drought Contingency Plan (DCP) agreements to the U.S. Congress. With this commitment from the states, Bureau of Reclamation Commissioner Brenda Burman rescinded a February 6<sup>th</sup> Federal Register notice requesting input from the Basin States on Secretarial action to prevent continued reservoir decline.

Mr. Harris reported that on March 27-28, oversight hearings regarding the DCPs were held by the Senate Water and Power Subcommittee and House Water, Oceans, and Wildlife Subcommittee. On March 27<sup>th</sup>, the Senate Subcommittee heard from Commissioner Burman and from Tom Buschatzke (Arizona), John Entsminger (Nevada), and Pat Tyrrell (Wyoming). On March 28<sup>th</sup>, the House Subcommittee then received testimony from Commissioner Burman and

from representatives of each of the Seven Basin States, including the Board's Chairman Nelson on behalf of California. Mr. Harris reported that the testimony focused on the need to implement the DCPs in order to more effectively manage the water resources of the Colorado River System and reduce the decline of storage in both Lakes Powell and Mead.

Mr. Harris reported that the proposed federal legislation submitted by the Basin States on March 19<sup>th</sup> was subsequently modified by House and Senate members and committee staff, before being introduced in both the House and Senate. Mr. Harris noted that the legislation authorizing the DCP was passed by both chambers of Congress on April 8<sup>th</sup> and signed into law by the president on April 16<sup>th</sup>.

Mr. Harris reported that the Minute No. 323 Minute Oversight Group met in Mexico City on April 2<sup>nd</sup> and discussed the impending finalization of the Lower Basin DCP and the intent to have Mexico's Binational Water Scarcity Contingency Plan fully effective by the time of the release of the August 2019 24-Month Study Report. Mr. Harris noted that a small binational working group has been charged with developing the process and schedule leading to the activation and implementation of the Binational Water Scarcity Contingency Plan prior to the release of the August 2019 24-Month Study Report.

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

Mr. Harris reported that the Salinity Control Workgroup is scheduled to meet on April 17<sup>th</sup> –18<sup>th</sup> in Salt Lake City, Utah. He also reported that the Salinity Control Forum has scheduled its 100<sup>th</sup> meeting for June 5-6 in Denver, Colorado. The first Forum meeting was held there in November 1973.

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

Board Staff Ms. Neuwerth reported that an Annual Reporting and Technical Work Group meeting for the Glen Canyon Dam Adaptive Management Program was held on March 12-14 in Phoenix, Arizona. Ms. Neuwerth noted that populations of the endangered humpback chub appear to be stable or slightly increasing, although juvenile fish counts have been low for several years. Rainbow trout populations have increased significantly in the past year, but the Arizona Game and Fish Department is planning to stock as many as 6,000 sterile fish near Lee's Ferry in summer 2019 to further bolster angling. Ms. Neuwerth reported that catch rates of nonnative brown trout have stabilized but are still considered to be high.

Ms. Neuwerth reported that researchers focused on the effects of high flow experiments (HFEs) on various natural resources. The regular implementation of fall HFEs has coincided with an increase in the number of brown trout but no causal link has been confirmed. Ms. Neuwerth noted that this potential link has increased interest in conducting spring flood releases at Glen Canyon Dam, although these types of flows are currently restricted by sediment availability and

the Long-Term Experimental and Management Plan (LTEMP) EIS directing dam operations through 2036.

Finally, Ms. Neuwerth noted that the LTEMP planning team had met several times via teleconference to discuss potential experimental actions for 2019. The group moved forward with a recommendation to conduct "bug flows" at Glen Canyon Dam in summer 2019. These low, steady weekend flows were also held from May through August 2018 and appear to have successfully increased aquatic insect diversity and distribution in the Glen and Marble Canyon reaches of the Colorado River. Ms. Neuwerth reported that a final determination on whether to conduct the flows would be made by DOI in late April.

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

Ms. Neuwerth reported that the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) and Metropolitan Water District would be holding a dedication ceremony at the Dennis Underwood Conservation Area on April 16<sup>th</sup> in Blythe, California. The new conservation area is located at the southern end of the Palo Verde Valley and will provide about 600 acres of new habitat pursuant to the restoration goals of the LCR MSCP.

Ms. Neuwerth noted that the LCR MSCP Steering Committee would meet April 24<sup>th</sup> in Las Vegas and the Work Group would meet May 8-9 in San Diego to review the proposed work plan for the upcoming fiscal year.

## **ANNOUNCEMENTS**

Mr. Harris reported that the Los Angeles Department of Water and Power presentation regarding the Boulder Canyon Pumped Storage Project would be moved to the May 15<sup>th</sup> Board meeting.

Mr. Harris reported that Mr. David Bernhardt, the current Acting Secretary of the Interior, was moved out of committee and a full vote for confirmation is expected soon. The House and Senate held DCP oversight hearings; and that hearings were also held on broader western water issues and concerns.

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be May 15<sup>th</sup> and would be held in Ontario, California.

#### **ADJOURNMENT**

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 10:33 a.m.



## **COLORADO RIVER BOARD OF CALIFORNIA**

Fiscal-Year 2018/2019 Accomplishments Report

Fiscal-Year 2019/2020 Planned Activities Report

#### INTRODUCTION

The purpose of this document is to provide a very brief overview and description of the major activities and programs that the staff of the Colorado River Board of California (CRB) was involved in on behalf of the CRB in Fiscal-Year 2018/2019. Additionally, a brief description of planned activities for the upcoming Fiscal-Year 2019/2020 is provided.

#### FISCAL-YEAR 2018/2019 ACCOMPLISHMENTS FOR THE CRB

In Fiscal-Year 2018/2019 (FY-18/19) the CRB participated in the following major programs and activities:

- Provided California representation and coordination associated with the binational implementation of Minute No. 323 with Mexico, including participation in the Minute No. 323 Oversight Group, Salinity Work Group, Hydrology Work Group, Environmental Work Group, and the Desalination Work Group;
- Provided California representation with other California agencies, federal agencies, and other Basin States in completion of the Colorado River Basin Drought Contingency Plans (DCP); and represented California and the agencies in reconciling the proposed operational aspects of the U.S. Lower Basin DCP and the Mexican binational water scarcity contingency plan contained within Section IV of Minute No. 323;
- Represented California's interests in the ongoing implementation of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), including ongoing discussions with Reclamation and the California Department of Fish and Wildlife regarding the implementation of habitat restoration activities pursuant to the terms and conditions of the California Endangered Species Act Section 2081 permit for California LCR MSCP participants. The CRB contributed approximately \$16,000 in FY-18/19 for LCR MSCP implementation;
- Represented California's interests in the ongoing implementation of the Glen Canyon Dam Adaptive Management Program, including annual decision-making regarding Glen Canyon Dam operational activities pursuant to implementation of the Long-Term Experimental Management Plan. Continued monitoring and review of activities related to the potential down-listing of the humpback chub and razorback sucker from endangered to threatened;
- Continued participation in and contributed annual cost-share funding of approximately \$45,000 for the Colorado River Basin Salinity Control Program and the monitoring of other important water quality programs and initiatives including the Topock Hexavalent Chromium, Las Vegas Wash Perchlorate, and Moab Uranium Mill-Tailings remediation efforts;
- Participated in ongoing weather modification activities in Colorado, Utah, and Wyoming under a newly executed Basin States programmatic funding agreement;
- Participated in the development of a tamarisk management study to determine resources, schedule, and budget needed to implement a large-scale riparian restoration

- project in the Lower Colorado River basin, and implementation of a salt-cedar beetle monitoring program;
- Continued ongoing annual cost-sharing support for maintenance and operation of Lower Colorado River Basin stream gaging station network with the U.S. Geological Survey. FY-18/19 contributions totaled approximately \$30,000;
- Provided California representation on the Colorado River Climate and Hydrology Workgroup related to development of the State of the Science Report and various climate and hydrology research & modeling projects; and
- In conjunction with the Departments of General Services and Water Resources, successfully negotiated and entered into new leasing agreement for headquarters location; successfully completed and submitted year-end financial statements for FY-17/18 to the State Controller's Office; successfully completed procurement services audit with Department of General Services; successfully complied with the State Agency Buy Recycled Campaign Annual Report and purchasing requirements administered by the Department of Resources Recycling and Recovery; filled vacant Principal Engineer position, retained the services of the part-time retired annuitant to perform Office Technician duties, and received authorization to add and fill full-time Office Technician position in the Administrative Unit.

### FISCAL-YEAR 2019/2020 PLANNED ACTIVITIES FOR THE CRB

In FY-19/20, the staff of the CRB anticipate participating in the following major programs and activities:

- Continue to participate in ongoing activities associated the implementation of Minute No.
   323 and associated workgroups;
- Continue staff participation in programs and activities associated with Colorado River operations, including implementation of the 2007 Interim Guidelines and the Basinwide Drought Contingency Plans; as well as monitoring and evaluating annual water use accounting of mainstream Colorado River water supplies in the Lower Basin;
- Continue participation in the ongoing implementation of the Glen Canyon Dam Adaptive Management Program;
- Continue participation in the Lower Colorado River Multi-Species Conservation Program, including a projected annual contribution of approximately \$17,000 for FY-19/20;
- Continue participation in and cost-share funding of the Colorado River Basin Salinity Control Program and the monitoring of other ongoing water quality programs and activities;
- Continue participation in the Basin States cost-sharing of weather modification efforts in Colorado, Utah, and Wyoming;
- Continue providing annual financial support to the U.S. Geological Survey to provide effective stream gaging stations in the Lower Colorado Basin;
- Continue participation in the Colorado River Climate and Hydrology Workgroup, which includes planning of the next Climate and Hydrology Symposium, review of the State of

- the Science Report and ongoing development of proposed climate and hydrology research projects; and
- Initiate development of a process for effective participation related to the renegotiation of the Colorado River Interim Guidelines slated to begin at the end of 2020.

## COLORADO RIVER BOARD OF CALIFORNIA FY 2019-20 BUDGET

5/8/2019

	Current Year	Anticipated	Proposed
	Authorized	Expenditures	Budget
	FY-2018/19	FY-2018/19	FY-2019/20
Colorado River Board Total Budget	\$ 2,222,000	\$ 2,222,000	\$ 2,308,000

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#### LOWER COLORADO WATER SUPPLY REPORT

## River Operations

Bureau of Reclamation

Questions:	BCOOWaterops@usbr.gov
(702)293-	8373
http://www.u	sbr.gov/lc/region/g4000/weekly.

		Content	Elev. (Feet	7-Day
	PERCENT	1000	above mean	Release
CURRENT STORAGE	FULL	ac-ft (kaf)	sea level)	(CFS)
LAKE POWELL	39%	9,449	3,574.18	11,800
* LAKE MEAD	41%	10,742	1,088.67	15,700
LAKE MOHAVE	93%	1,689	642.63	14,500
LAKE HAVASU	93%	574	447.68	11,700
TOTAL SYSTEM CONTENTS **	46%	27,545		
As of 5/5/2019				
SYSTEM CONTENT LAST YEAR	51%	30,425		

- \* 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	81%	1,851		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	15%	145	1,120.84	25

Forecasted Water Use for Calendar Year 2019 (as of 5/6/2019) (values in kaf)

NEVADA 273	
SOUTHERN NEVADA WATER SYSTEM	238
OTHERS	35
CALIFORNIA 4,082	
METROPOLITAN WATER DISTRICT OF CALIFORNIA	649
IRRIGATION DISTRICTS	3,419
OTHERS	14
ARIZONA 2,546	
CENTRAL ARIZONA PROJECT	1,404
OTHERS	1,142
TOTAL LOWER BASIN USE	6,901
DELIVERY TO MEXICO - 2019 (Mexico Scheduled Delivery + Preliminary Yearly Excess <sup>1</sup> )	1,525

OTHER SIGNIFICANT INFORMATION

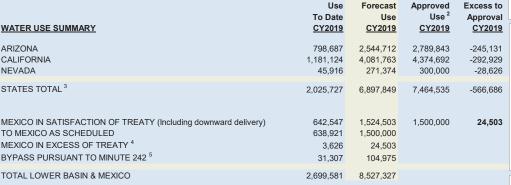
UNREGULATED INFLOW INTO LAKE POWELL - MAY FINAL FORECAST DATED 5/2/2019

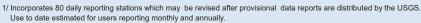
	MILLION ACRE-FEET	% of Normal
FORECASTED WATER YEAR 2019	12.129	112%
FORECASTED APRIL-JULY 2019	9.204	129%
APRIL OBSERVED INFLOW	1.244	118%
MAY INFLOW FORECAST	3.000	128%

	Upper Colorado Basin	Salt/Verde Basin
WATER YEAR 2019 PRECIP TO DATE	119% (25.7")	123% (22.2")
CURRENT BASIN SNOWPACK	138% (15.6")	NA% (NA)

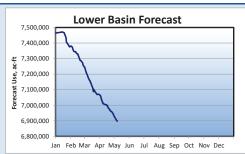
<sup>&</sup>lt;sup>1</sup> Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.

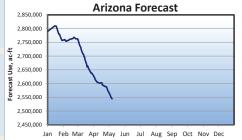
ARIZONA, CALIFORNIA, NEVADA, MEXICO FORECAST OF END OF YEAR CONSUMPTIVE USE FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS <sup>1</sup> (ACRE-FEET)

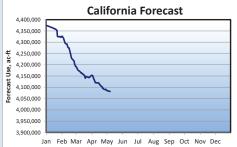


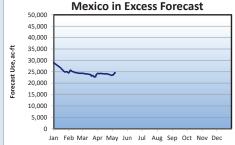


- 2/ These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page
- 3/ Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona Department of Water Resources, Colorado River Board of California, and Reclamation.
- 4/ Mexico excess forecast is based on the 5-year average for the period 2013-2017.
- 5/ Bypass forecast is based on the average for the period 1990-2017.









1.280.000

1,230,000

1,180,000

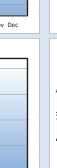
1,130,000

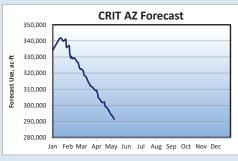
1.080.000

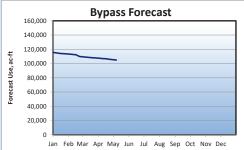
Forecast Use, ac-ft

**AZ Others Forecast** 

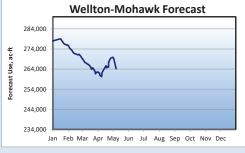
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

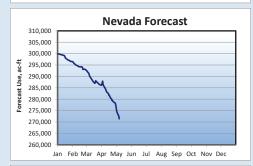




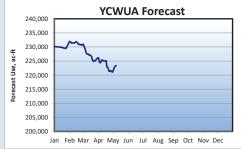












Graph notes: Jan 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates a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

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)

				Excess to				Excess to
	Use	Forecast	Estimated	Estimated	Diversion	Forecast	Approved	Approved
	To Date	Use	Use	Use	To Date	Diversion	Diversion	Diversion
WATER USER	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019
ARIZONA PUMPERS	5,058	14,444	14,444		7,794	22,255	22,255	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	24	104	104		24	104	104	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	53	187	187		53	187	187	0
DAVIS DAM PROJECT	1	2	2		7	20	20	0
BULLHEAD CITY	1,954	7,436	7,683		3,247	12,243	12,720	-477
MOHAVE WATER CONSERVATION DISTRICT	221	632	632		331	944	944	0
BROOKE WATER LLC	110	315	315		166	475	475	0
MOHAVE VALLEY IDD	5,054	19,984	21,464		9,360	37,005	39,746	-2,741
FORT MOJAVE INDIAN RESERVATION, AZ	9,022	40,377	44,550		16,708	74,772	82,500	-7,728
GOLDEN SHORES WATER CONSERVATION DISTRICT	94	268	268		141	402	402	0
HAVASU NATIONAL WILDLIFE REFUGE	926	3,265	3,563		7,713	35,165	41,820	-6,655
LAKE HAVASU CITY	2,412	8,685	8,928		3,891	14,009	14,400	-391
CENTRAL ARIZONA PROJECT	489,761	1,403,791			489,761	1,403,791		
TOWN OF PARKER	95	420	430		242	914	933	-19
COLORADO RIVER INDIAN RESERVATION, AZ	52,749	291,340	334,133		144,037	596,475	645,121	-48,646
EHRENBURG IMPROVEMENT ASSOCIATION	82	234	234		115	328	328	0
CIBOLA VALLEY 1	5,485	15,661	15,661		7,666	21,891	21,891	0
CIBOLA NATIONAL WILDLIFE REFUGE	2,549	14,016	14,016	0	4,111	22,605	22,605	0
IMPERIAL NATIONAL WILDLIFE REFUGE	1,308	3,799	3,799	0	2,109	6,128	6,128	0
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	383	1,093	1,093	_	588	1,680	1,680	
CHA CHA, LLC	296	1,298	1,365		456	1,997	2,100	-103
BEATTIE FARMS	203	734	724		311	1,126	1,110	16
YUMA PROVING GROUND	94	465	479		94	465	479	-14
GILA MONSTER FARMS	1,827	5,113	5,254		3,019	8,694	9,156	-462
WELLTON-MOHAWK IDD	82,808	264,189	278,000	-13,811	115,366	381,761	412,965	-31,204
BLM PERMITEES (BELOW IMPERIAL DAM)	34	97	97	0	52	148	148	01,201
CITY OF YUMA	3,263	14,028	15,962	-1,934	6,548	24,437	26,700	-2,263
MARINE CORPS AIR STATION YUMA	356	1,292	1,359		356	1,292	1,359	-67
UNION PACIFIC RAILROAD	8	24	24		17	48	48	0
UNIVERSITY OF ARIZONA	246	913	888		246	913	888	25
YUMA UNION HIGH SCHOOL DISTRICT	33	146	151		45	195	200	-5
DESERT LAWN MEMORIAL	6	17	17		8	23	23	0
NORTH GILA VALLEY IRRRIGATION DISTRICT	1,995	10,325	12,141		8,435	38,070	44,200	-6,130
YUMA IRRIGATION DISTRICT	12,861	37,727	39,007		22,469	67,882	71,900	-4,018
YUMA MESA IDD	30,379	136,147	143,060		56,679	229,115	239,724	-10,609
UNIT "B" IRRIGATION DISTRICT	3,673	19,678	21,483		6,564	27,885	29,400	-1,515
FORT YUMA INDIAN RESERVATION	441	1,258	1,258		678	1,937	1,937	0
YUMA COUNTY WATER USERS' ASSOCIATION	81,985	223,384	230,166		118,629	346,284	360,400	-14,116
COCOPAH INDIAN RESERVATION	806	1,733	1,691		837	2,248	2,580	-332
RECLAMATION-YUMA AREA OFFICE	32	91	91		32	91	91	0
RETURN FROM SOUTH GILA WELLS								
TOTAL ARIZONA	798,687	2,544,712	2,789,838		1,038,905	3,386,004	3,684,782	
0.0	400 == :	=::				=::		
CAP	489,761	1,403,791				1,403,791	0.440.05=	
ALL OTHERS	308,926	1,140,921	1,224,723			1,982,213	2,119,667	
YUMA MESA DIVISION, GILA PROJECT	45,235	184,199	171,610	12,589		335,067		
ARIZONA ADJUSTED APPORTIONMENT CALCULATION								
Arizona Basic Apportionment		2,800,000						
System Conservation Water - Pilot System Conservation Program <sup>2</sup>		-10,157						
Total State Adjusted Apportionment	_	2,789,843						
Excess to Total State Adjusted Apportionment								
Excess to Total State Aujusted Apportioninent		-245,131						
Estimated Allowable Use for CAP		1,648,701						
Estimated Allowable Use for UAI		1,0-0,701						

<sup>1</sup> 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.

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

<sup>&</sup>lt;sup>2</sup> System Conservation Water to be conserved by Bullhead City and the Colorado River Indian Tribes pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

NOTE:

Diversions and uses that are pending approval are noted in red

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)

				Excess to				Excess to
	Use	Forecast	Estimated	Estimated	Diversion	Forecast	Approved	Approved
	To Date	Use	Use	Use	To Date	Diversion	Diversion	Diversion
WATER USER	CY2019							
CALIFORNIA PUMPERS	639	1,824	1,824		1,156	3,300	3,300	0
FORT MOJAVE INDIAN RESERVATION, CA	1,395	6,525	8,996		2,592	12,128	16,720	-4,592
CITY OF NEEDLES (includes LCWSP use)	403	1,538	1,605	-67	598	2,196	2,261	-65
METROPOLITAN WATER DISTRICT	165,890	648,663	840,734		166,924	651,504	843,474	
COLORADO RIVER INDIAN RESERVATION, CA	892	2,548	2,548		1,478	4,220	4,220	0
PALO VERDE IRRIGATION DISTRICT	97,847	406,578	422,468		231,391	840,004	856,000	-15,996
YUMA PROJECT RESERVATION DIVISION	13,464	43,484	50,616		26,481	88,179	98,928	-10,749
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT					13,134	40,519	46,128	-5,609
YUMA PROJECT RESERVATION DIVISION - BARD UNIT					13,347	47,660	52,800	-5,140
YUMA ISLAND PUMPERS	936	2,673	2,673		1,693	4,833	4,833	0
FORT YUMA INDIAN RESERVATION - RANCH 5	183	523	523		331	945	945	0
IMPERIAL IRRIGATION DISTRICT	798,425	2,593,373	2,652,800	-59,427	800,477	2,670,329	2,755,109	
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	
COACHELLA VALLEY WATER DISTRICT	100,677	372,966	388,837	-15,871	103,488	387,807	404,914	
OTHER LCWSP CONTRACTORS	290	829	829		454	1,296	1,296	0
CITY OF WINTERHAVEN	23	67	67		35	99	99	0
CHEMEHUEVI INDIAN RESERVATION	60	172	172		3,971	11,340	11,340	0
TOTAL CALIFORNIA	1,181,124	4,081,763			1,341,069	4,678,180	5,003,439	

#### CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION

California Basic Apportionment 4,400,000
System Conservation Water - Pilot System Conservation Program 1-308
Creation of Additional Conserved Water (IID) 2-25,000
Creation of Extraordinary Conservation ICS (MWD) 3-2
Total State Adjusted Apportionment 4,374,692
Excess to Total State Adjusted Apportionment -292,929

Estimated Allowable Use for MWD

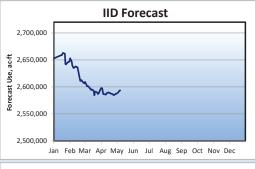
941,592

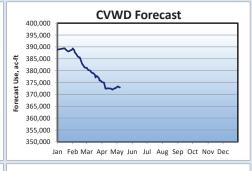
NOTES: Click on California Schedules and Approvals above for incoming diversion schedules and approvals.

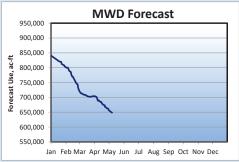
<sup>1</sup> System Conservation Water to be conserved by the City of Needles and the Coachella Valley Water District pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

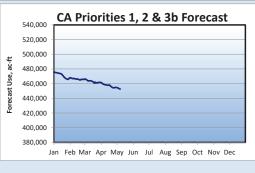
<sup>2</sup> IID's CY 2019 water order incorporates an "Estimate of Additonal Conserved Water" for purposes including, but not limited to, storage in The Metropolitan Water District of Southern California's system (with the written consent of MWD) or in Lake Mead as Intentionally Created Suprlus (ICS). As of the date of this forecast, approval of IID's CY 2019 ICS Plan of Creation (Plan) is pending. Use by IID of Additional Conserved Water to create ICS for storage in Lake Mead is conditional upon Reclamation's approval of IID's CY 2019 Plan.

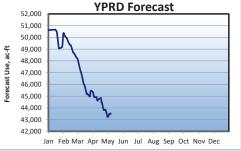
<sup>3</sup> MWD's CY 2019 water order incorporates the creation of up to 299,300 AF of Extraordinary Conservation Intentionally Created Suprlus (ICS). As of the date of this forecast, approval of MWD's CY 2019 ICS Plan of Creation (Plan) is pending; therefore the estimate of the amount of water available to MWD does not incorporate ICS creation by MWD. Upon approval of MWD's CY 2019 ICS Plan, Reclamation will revise MWD's water order approval accordingly.

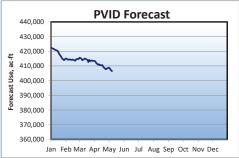












#### NOTE:

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

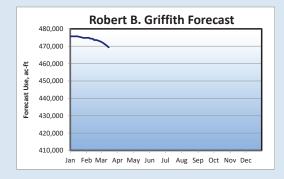
FORECAST OF END OF YEAR CONSUMPTIVE USE

FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

Nevada Schedules and Approvals

<u>Historic Use Records (Water Accounting Reports)</u>

WATER USER  ROBERT B. GRIFFITH WATER PROJECT (SNWS)  LAKE MEAD NRA, NV - Diversions from Lake Mead  LAKE MEAD NRA, NV - Diversions from Lake Mohave  BASIC MANAGEMENT INC.  CITY OF HENDERSON (BMI DELIVERY)  NEVADA DEPARTMENT OF WILDLIFE  PACIFIC COAST BUILDING PRODUCTS INC.  BOULDER CANYON PROJECT  BIG BEND WATER DISTRICT  FORT MOJAVE INDIAN TRIBE  LAS VEGAS WASH RETURN FLOWS	Use To Date CY2019 119,972 284 103 1,865 5,555 4 321 61 865 495	Forecast Use CY2019 457,120 1,366 460 7,755 16,452 12 929 173 4,333 3,273	Estimated Use CY2019 475,686 1,500 500 8,208 15,878 12 928 173 4,619 4,020	Excess to Estimated Use CY2019 -18,566 0	Diversion To Date	Forecast Diversion CY2019 457,120 1,366 460 7,755 16,452 891 929 300 9,211 4,884	Approved Diversion CY2019 475,686 1,500 500 8,208 15,878 1,000 928 300 10,000 6,000	Excess to Approved Diversion CY2019 -18,566 -134 -40 -453 574  1 0 -789 -1,116
TOTAL NEVADA	-83,609 45,916	-220,499 271,374	-211,524 300,000	-18,566	131,388	499,368	520,000	-20,523
SOUTHERN NEVADA WATER SYSTEM (SNWS) ALL OTHERS NEVADA USES ABOVE HOOVER NEVADA USES BELOW HOOVER	36,363 9,553 44,556 1,360	236,621 34,753 263,768 7,606				457,120 42,248 485,273 14,095		
Tributary Conservation & Imported Intentionally Created Surplus Total Requested Tributary Conservation Intentionally Created Surplus Total Requested Imported Conservation Intentionally Created Surplus 5% System Assessment for Creation of Intentionally Created Surplus Total Intentionally Created Surplus Left in Lake Mead	_	42,000 0 -2,100 39,900						
NEVADA ADJUSTED APPORTIONMENT CALCULATION Nevada Basic Apportionment Excess to Total State Adjusted Apportionment		300,000 -28,626						





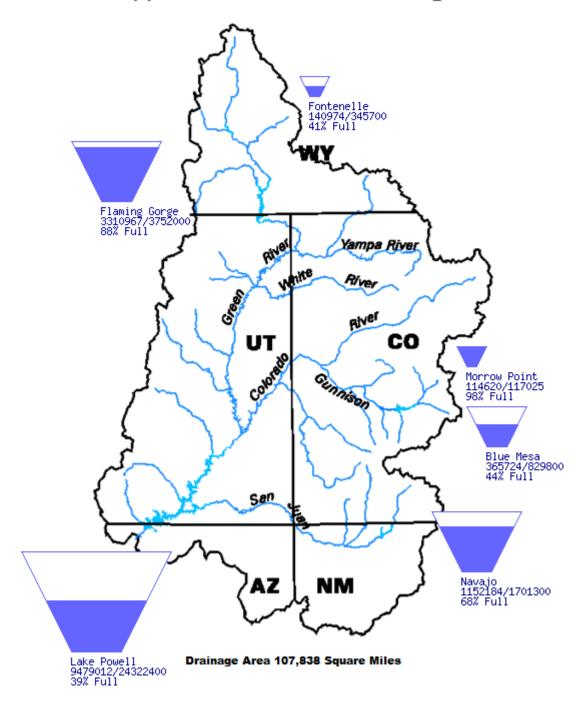
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

## **Upper Colorado Region Water Resources Group**

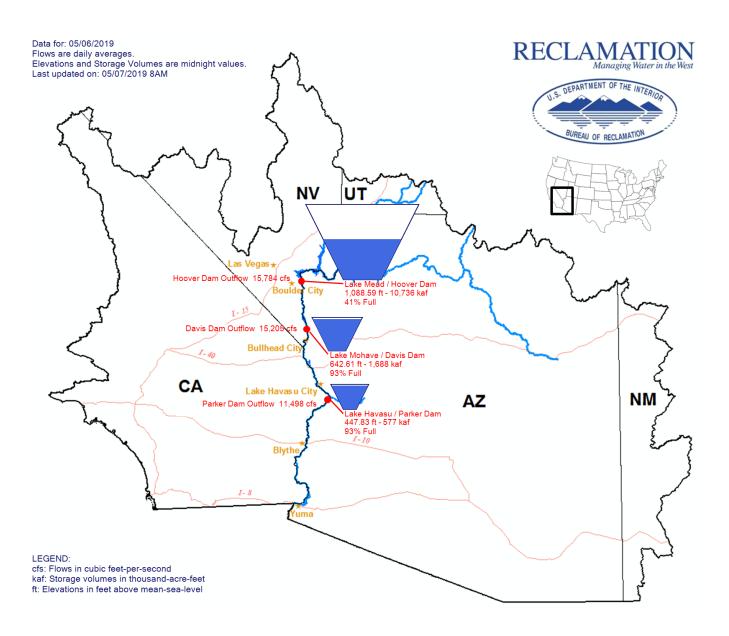
**River Basin Tea-Cup Diagrams** 

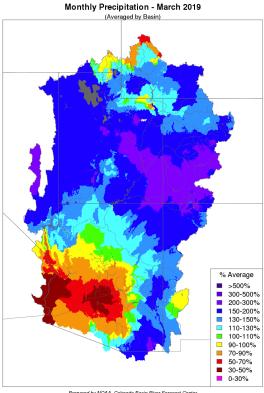
Data Current as of: 05/06/2019

## Upper Colorado River Drainage Basin

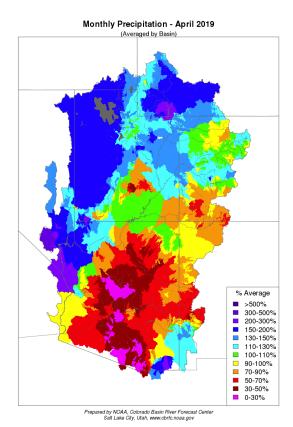


## **Lower Colorado River Teacup Diagram**

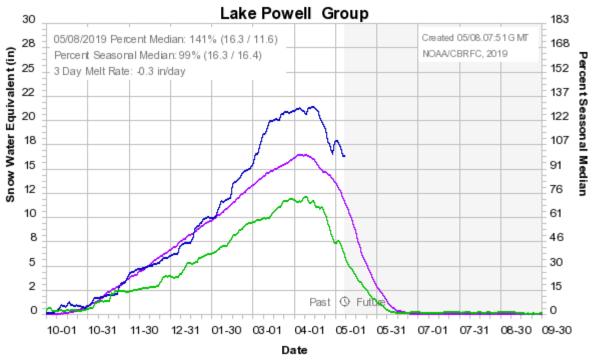




Prepared by NOAA, Colorado Basin River Forecast Center Salt Lake City, Utah, www.cbrfc.noaa.gov

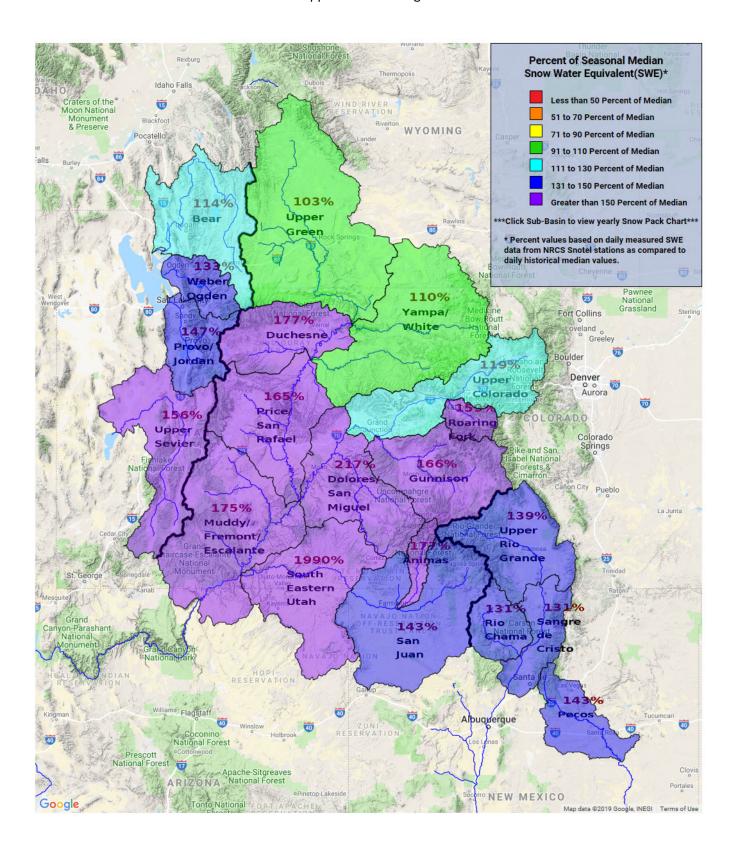


## Colorado Basin River Forecast Center

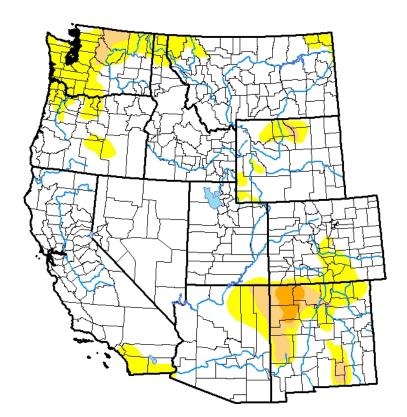


Median 1981-2010 - 2019 - 2018 -

## Snow Pack Conditions Map Upper Colorado Region



# U.S. Drought Monitor West



## April 30, 2019

(Released Thursday, May. 2, 2019) Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	83.39	16.61	3.64	0.69	0.00	0.00
Last Week 04-23-2019	81.99	18.01	3.78	0.69	0.00	0.00
3 Month's Ago 01-29-2019	30.36	69.64	41.22	17.12	4.86	0.39
Start of Calendar Year 01-01-2019	28.03	71.97	53.25	27.22	8.35	2.88
Start of Water Year 09-25-2018	13.91	86.09	59.57	39.68	18.15	4.36
One Year Ago 05-01-2018	39.20	60.80	43.89	28.30	15.50	2.72

#### Intensity:

D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

#### <u>Author:</u>

Brad Rippey

U.S. Department of Agriculture

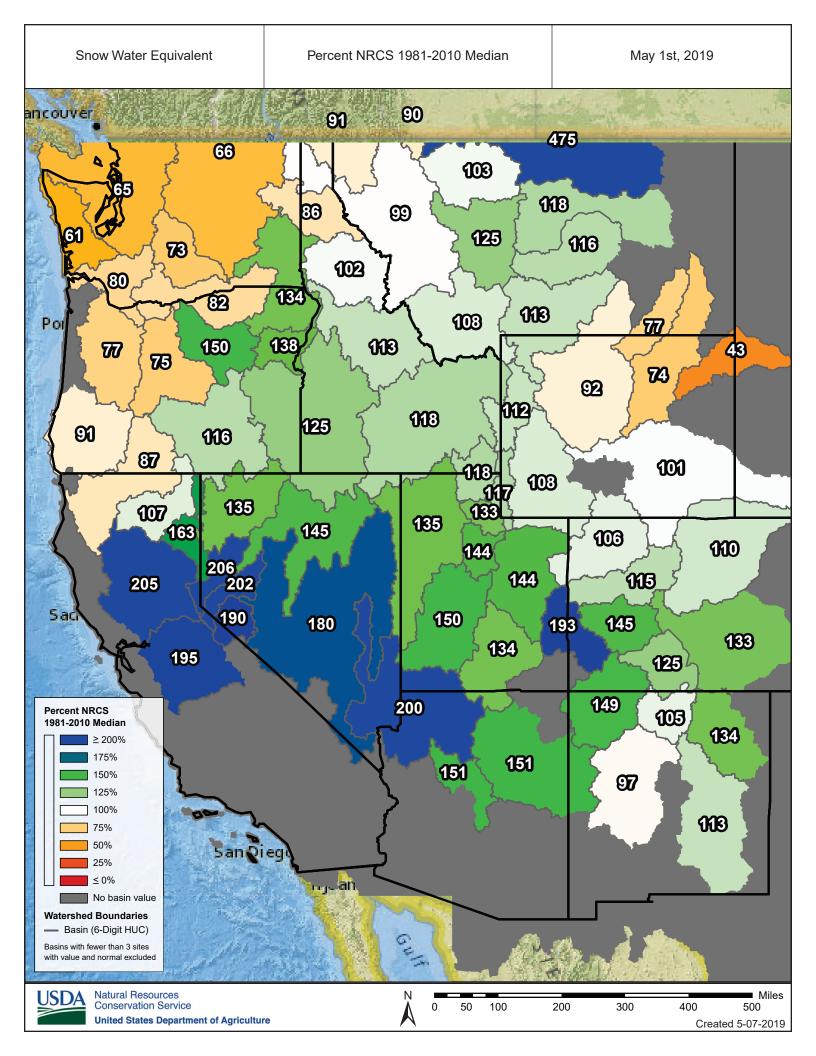


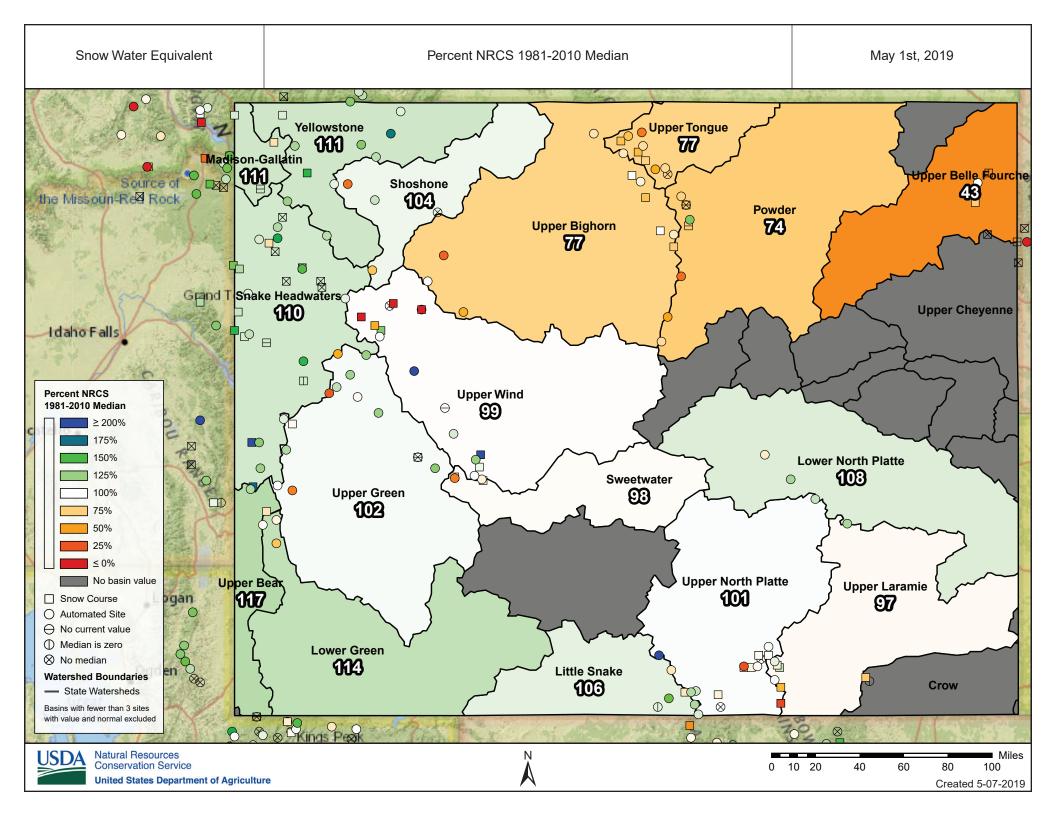


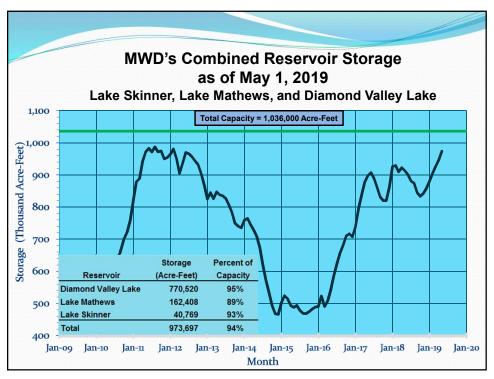


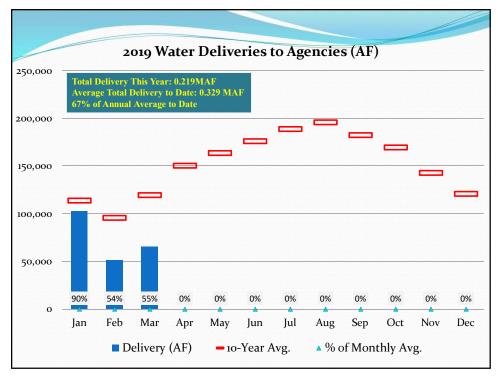


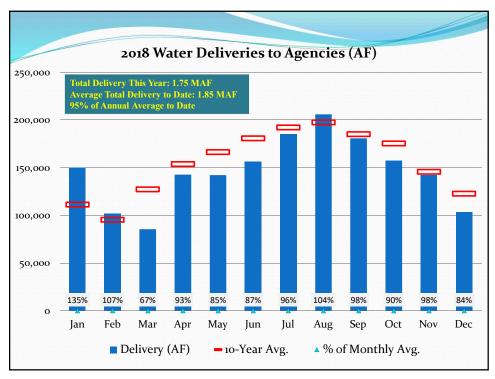
http://droughtmonitor.unl.edu/



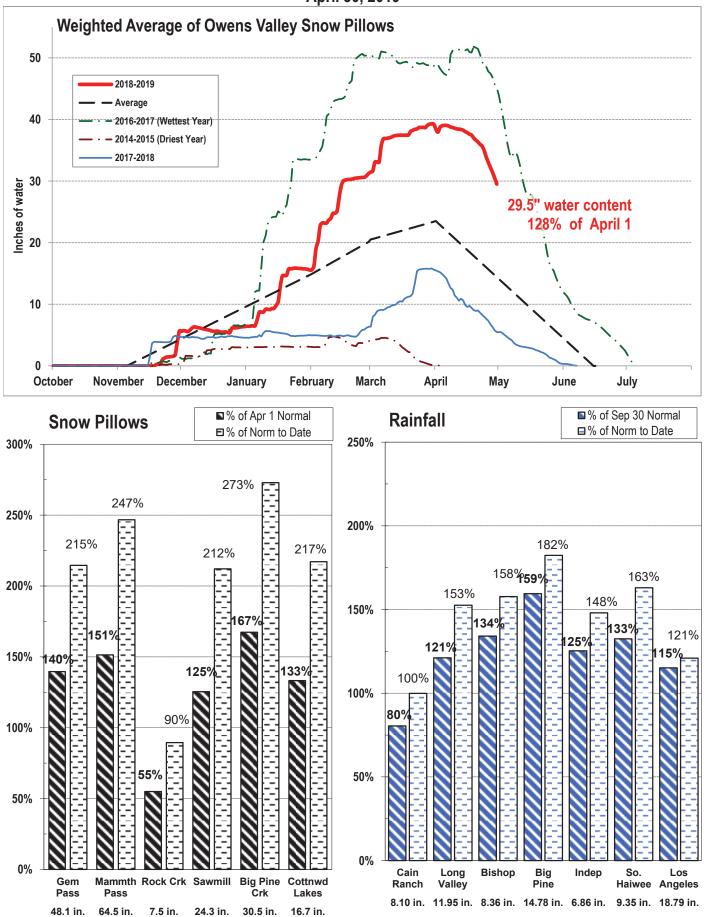








# EASTERN SIERRA CURRENT PRECIPITATION CONDITIONS April 30, 2019





#### **GOVERNORS**

Doug Ducey, AZ
Gavin Newsom, CA
Jared Polis, CO
Steve Sisolak, NV
Michelle Lujan Grisham, NM
Gary R. Herbert, UT
Mark Gordon, WY

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Chad Espenscheid Patrick T. Tyrrell David Waterstreet

## EXECUTIVE DIRECTOR Don A. Barnett

106 West 500 South, Ste. 101 Bountiful, UT 84010 (801) 292-4663 dbarnett@barnettwater.com www.coloradoriversalinity.org

#### **MEMORANDUM 2019-15**

**TO:** Forum Members

FROM: Don A. Barnett, Executive Director

**SUBJECT: Update on Moab Tailings Removal** 

**DATE:** April 25, 2019

This memo is sent to let you know that the project to remove 16 million tons of radioactive tailings along the Colorado River at Moab has reached a milestone. The removal efforts are now ten years old. To date, approximately 9.5 million tons or 60 percent of the tailings have been

removed (see attached news article).

In February of this year the Department of Energy stepped up their tailings removal schedule and are now doubling the weekly shipments of uranium waste to the Crescent Junction disposal site. Some of the Forum members were fairly active in getting this project authorized, and it is gratifying to see it moving forward and getting nearer to completion.

For additional information on the project you can visit the Department of Energy Moab tailings site or the Grand County Moab tailings site links provided below).

https://www.gjem.energy.gov/moab/general/status.htm

https://www.grandcountyutah.net/257/Moab-UMTRA-Project

#### Attachment

cc: Work Group, Federal Salinity Coordinators

## **♣** Deseret News **Utah**

# 10 years and 9.5M tons later, radioactive Moab tailings pile shrinking

By Amy Joi O'Donoghue@amyjoi16 Published: April 23, 2019 2:08 pm

MOAB — This month marks the 10th anniversary of the first rail shipment of radioactive tailings from the "Pile" near the banks of the Colorado River, with an estimated 9.5 million tons buried 30 miles away.

The U.S. Department of Energy announced that roughly 6.5 million tons of the uranium mill tailings remain.





The U.S. Department of Energy began removing 16 million tons of radioactive tailings near the banks of the Colorado River outside Moab began 10 years ago.

The tailings are sandlike material left over from a 1950s-era uranium mill that operated at the height of the Cold War.

Authorities feared the material could contaminate the Colorado River, which serves 40 million people and irrigates 5 million acres of farmland.

In February, the government began a stepped-up schedule of removal, doubling weekly train shipments to Crescent Junction, where the disposal cell is located.

Each train can haul up to 144 containers and carry approximately 4,700 tons of mill tailings.

The accelerated schedule added 23 new employees to the project, which sits on 480 acres near the west bank of the river. The tailings cover 130 acres.

Once the site is fully remediated, community leaders say it could be home to numerous amenities such a trails, an outdoor event center, a community park or a welcome center.

The mill was built in 1956 outside Moab and closed in 1984. The site is monitored continuously for groundwater contamination and with air monitors. A portion of the site has been contoured to protect against flood events.

