COLORADO RIVER BOARD OF CALIFORNIA
770 FAIRMONT AVENUE, SUITE 100
GLENDALE, CA 91203-1068
(818) 500-1625
(818) 543-4685 FAX

December 30, 2014

NOTICE OF REGULAR MEETING OF THE COLORADO RIVER BOARD

NOTICE IS HEREBY GIVEN pursuant to the call of the Chairperson, Dana B. Fisher, Jr., 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, January 14, 2015
Time:	10:00 a.m.
Place:	Radisson Ontario Airport 2200 East Holt Boulevard Ontario, CA 91761 Tel: (909) 975-5000

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 and written comments may be sent to Mr. Dana B. Fisher, Jr., Chairperson, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, California, 91203-1068.

An Executive Session may be held in accordance with 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 in accordance with 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.

Requests for additional information may be directed to: Ms. Tanya M. Trujillo, 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.

Tanya M. Trujillo
Executive Director

attachment: Agenda

Regular Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, January 14, 2015
10:00 a.m.

Radisson Ontario Airport
2200 East Holt Blvd.
Ontario, CA 91761

AGENDA

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)
   As required by Government Code, Section 54954.3(a)

3. Administration
   a. Consideration and Approval of the Minutes of the Meeting held December 10, 2014 **(Action)**
   b. Resolution honoring Ed Smith **(Action)**
   c. Resolution honoring Larry Walkoviak **(Action)**

4. Colorado River Basin Water Reports
   a. Reports on current reservoir storage, reservoir releases, projected water use, and forecasted river flows
   b. State and Local Water Reports

5. Staff Reports regarding Colorado River Basin Programs
   a. Review status of the Basin States Drought Contingency Programs
   b. Review status of the Colorado River Basin Water Supply and Demand Study
   c. Review status of the implementation of Minute 319
   d. Review status of the Salinity Control Forum, Workgroup, and Advisory Council
   e. Review status of the Glen Canyon Dam Adaptive Management Work Group and Long-Term Experimental Management Plan EIS
   f. Review status of the Lower Colorado River Multi-Species Conservation Program

6. Announcements/Notices

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

a. Next Board Meeting: February 11, 2015
10:00 a.m.
Holliday Inn Ontario Airport
2155 E. Convention Center Way,
Ontario, CA 91764

RESOLUTION OF THE
COLORADO RIVER BOARD OF CALIFORNIA

HONORING

EDWARD WYNN SMITH

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

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

WHEREAS, the Palo Verde Irrigation District, established under California law in 1923, occupies nearly 190 square miles in Riverside and Imperial Counties and contains approximately 131,300 acres of valuable agricultural lands that are actively cultivated and irrigated with water from the Colorado River; and

WHEREAS, Ed Smith has served as the General Manager of the Palo Verde Irrigation District for over fourteen years, beginning in October 2000; and

WHEREAS, under the guidance of Ed Smith, the Palo Verde Irrigation District staff have continued to divert and distribute Colorado River water, improving the efficiency of the water diversion, distribution and drainage systems and other operations and maintenance activities that support the agricultural production of crops in the District with an annual value ranging between $60 million and nearly $160 million; and

WHEREAS, under the guidance of Ed Smith, the Palo Verde Irrigation District in 2004 began the implementation of the 35-year PVID Land Fallowing Program with the Metropolitan Water District of Southern California that is intended to provide up to 3.63 million acre-feet of Colorado River water over the term of the program; and

WHEREAS, under the guidance of Ed Smith, the Palo Verde Irrigation District has participated in the development of the Lower Colorado River Multi-Species Conservation Program, and has served as the PVID Steering Committee representative since LCR MSCP implementation began in 2005; and

NOW THEREFORE BE IT RESOLVED that the Colorado River Board of California recognizes and commends Ed Smith for his knowledge of Colorado River issues, agricultural expertise, leadership, and professionalism as the General Manager of the Palo Verde Irrigation District and for his many years of service to the Palo Verde Irrigation District, community of Blythe, and the State of California and its water users;

BE IT FURTHER RESOLVED that the Colorado River Board of California and its staff extend their very best wishes to Ed and his family as he embarks on his future endeavors in the years to come.

Unanimously adopted on the 14th day of January, 2015.

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Dana B. Fisher, Jr., Chairman

RESOLUTION OF THE
COLORADO RIVER BOARD OF CALIFORNIA

HONORING

LARRY WALKOVIAK

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

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

WHEREAS, Larry Walkoviak was appointed Regional Director of the Upper Colorado Region in September 2007 and served in that capacity until his retirement in October, 2014, which concluded more than 32 years of service with the Bureau of Reclamation, including service as the Deputy Regional Director of the Lower Colorado Region; and

WHEREAS, during his career with the Bureau of Reclamation, Mr. Walkoviak was instrumental in brokering agreements and facilitating programs that have helped to maintain the sustainability of the Colorado River System, including the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead and the Glen Canyon Dam Adaptive Management Program; and

WHEREAS, Mr. Walkoviak will be fondly remembered for his great sense of humor, sharp insights and personal regard for the others whom he interacted with on Colorado River issues;

NOW THEREFORE BE IT RESOLVED that the Colorado River Board of California recognizes and commends Larry Walkoviak for his many years of service to the Colorado River System; and

BE IT FURTHER RESOLVED that the Colorado River Board of California and its staff extend their very best wishes to Larry and his family as he embarks on his future endeavors in the years to come.

Unanimously adopted on the 14th day of January, 2015.

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Dana B. Fisher, Jr., Chairman

Jan 05, 2015

LOWER COLORADO WATER SUPPLY REPORT

River Operations

Bureau of Reclamation

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

CURRENT STORAGE	PERCENT FULL	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
LAKE POWELL	47%	11,477	3597.12	13,800
* LAKE MEAD	41%	10,687	1088.02	10,400
LAKE MOHAVE	87%	1,574	638.38	8,800
LAKE HAVASU	89%	549	446.35	4,400
TOTAL SYSTEM CONTENTS **	50%	29,587		
As of 01/04/2015				
SYSTEM CONTENT LAST YEAR	49%	29,261		

* Percent based on capacity of 26,120 kaf or elevation 1219.6 feet.

** TOTAL SYSTEM CONTENTS includes Upper & Lower Colorado River Reservoirs, less Lake Mead exclusive flood control space.

Salt/Verde System	49%	1,133		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	5%	54	1088.93	10

Estimated Actual Water Use for Calendar Year 2014 (as of 1/2/2015) (values in kaf)

NEVADA	222	
SOUTHERN NEVADA WATER SYSTEM		195
OTHERS		27
CALIFORNIA	4,656	
METROPOLITAN WATER DISTRICT OF CALIFORNIA		1,176
IRRIGATION DISTRICTS		3,374
OTHERS		106
ARIZONA	2,778	
CENTRAL ARIZONA PROJECT		1,631
OTHERS		1,147
TOTAL LOWER BASIN USE		7,656
DELIVERY TO MEXICO - 2014 (Mexico Scheduled Delivery + Preliminary Yearly Excess[1])		1,532

OTHER SIGNIFICANT INFORMATION

UNREGULATED INFLOW INTO LAKE POWELL - JANUARY FINAL FORECAST DATED 1/5/2015

	MILLION ACRE-FEET	% of Normal
FORECASTED WATER YEAR 2015	10.069	93%
FORECASTED APRIL-JULY 2015	6.500	91%
DECEMBER OBSERVED INFLOW	0.396	109%
JANUARY INFLOW FORECAST	0.340	94%

	Upper Colorado Basin	Salt/Verde Basin
WATER YEAR 2015 PRECIPITATION TO DATE	92% (8.3")	65% (4.9")
CURRENT BASIN SNOWPACK	101% (7.0")	56% (1.6")

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

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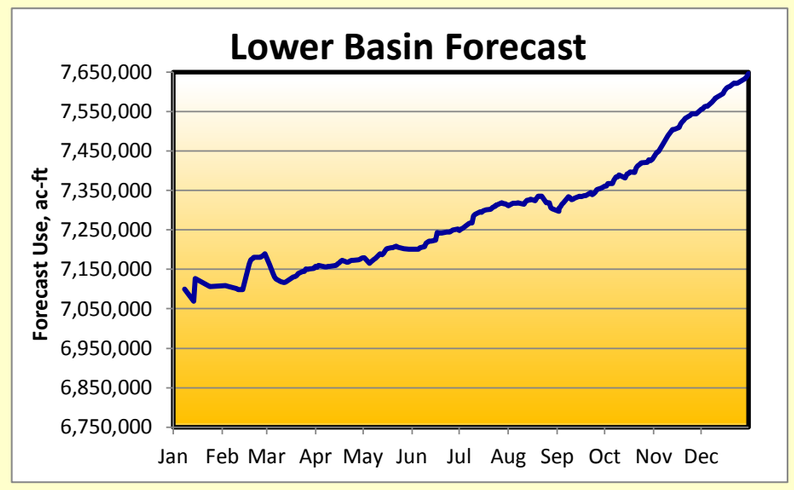
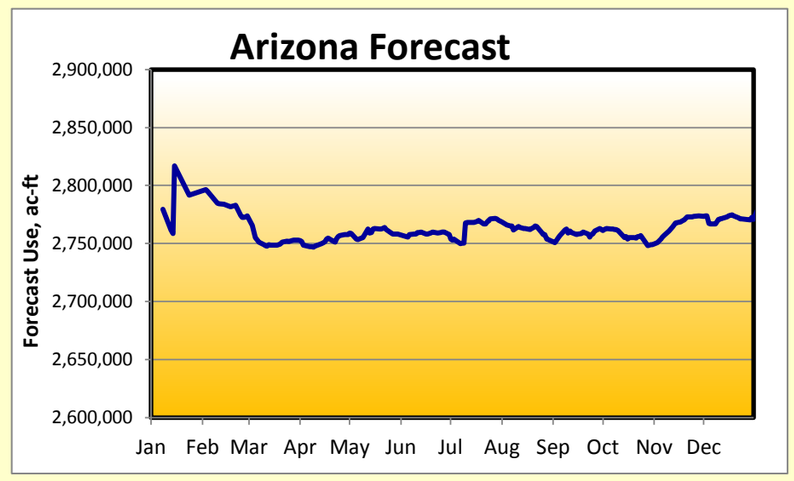
U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
PROVISIONAL CY2014

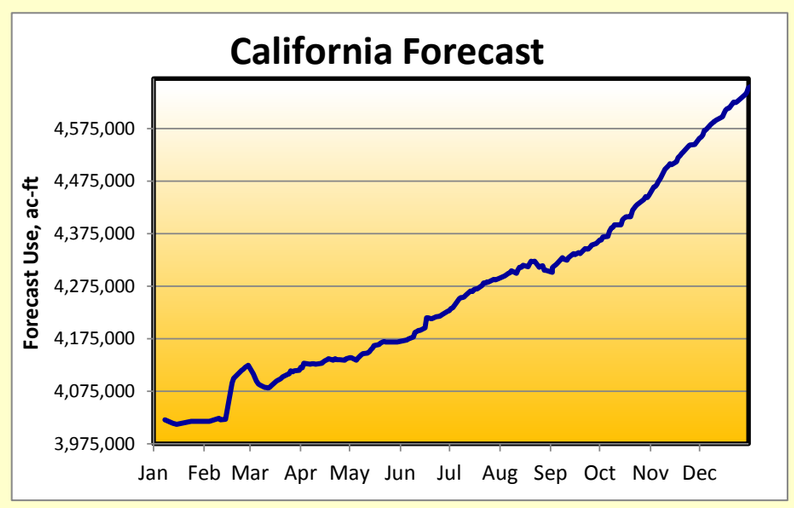
ARIZONA, CALIFORNIA, NEVADA, MEXICO
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS [1]
(ACRE-FEET)

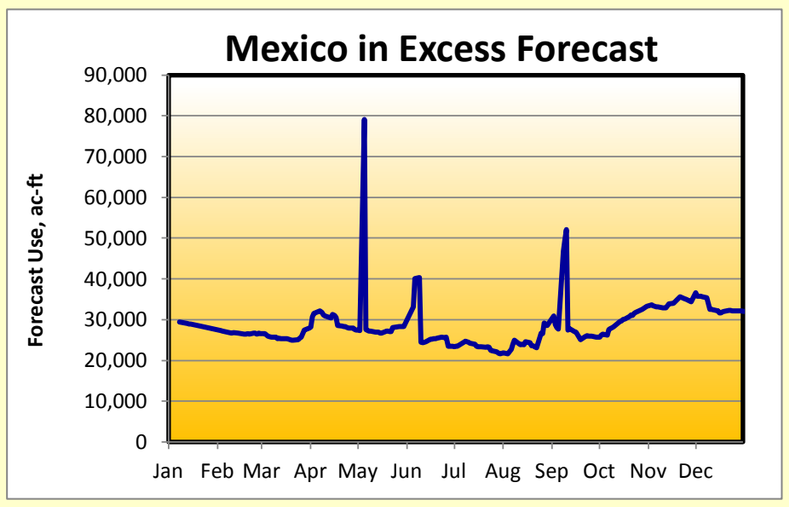
WATER USE SUMMARY	Use To Date CY2014	Forecast Use CY2014	Approved Use [2] CY2014	Excess to Approval CY2014
ARIZONA	2,777,588	2,777,588	2,790,734	-13,146
CALIFORNIA	4,655,910	4,655,915	4,655,915	0
NEVADA	222,308	222,308	300,000	-77,692
STATES TOTAL [3]	7,655,806	7,655,811	7,746,649	-90,838
MEXICO IN SATISFACTION OF TREATY (Including downward delivery)	1,578,659	1,532,048	1,500,000	**32,048**
TO MEXICO AS SCHEDULED	1,546,611	1,500,000		
MEXICO IN EXCESS OF TREATY	32,048	32,048		
BYPASS PURSUANT TO MINUTE 242	146,493	146,493		
TOTAL LOWER BASIN & MEXICO	9,380,958	9,334,352		

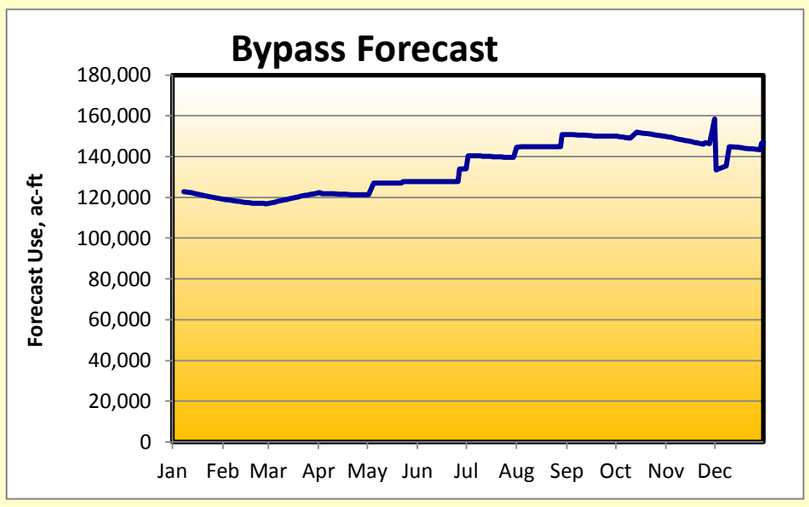
1/ Incorporates Jan-Nov USGS monthly data and 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date estimated for users reporting monthly and annually.
2/ These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.
3/ Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona Department of Water Resources, Colorado River Board of California, and Reclamation.

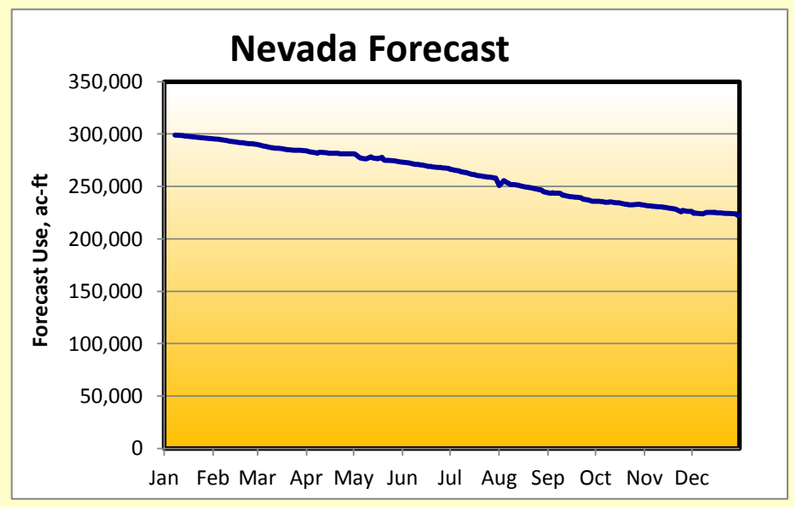


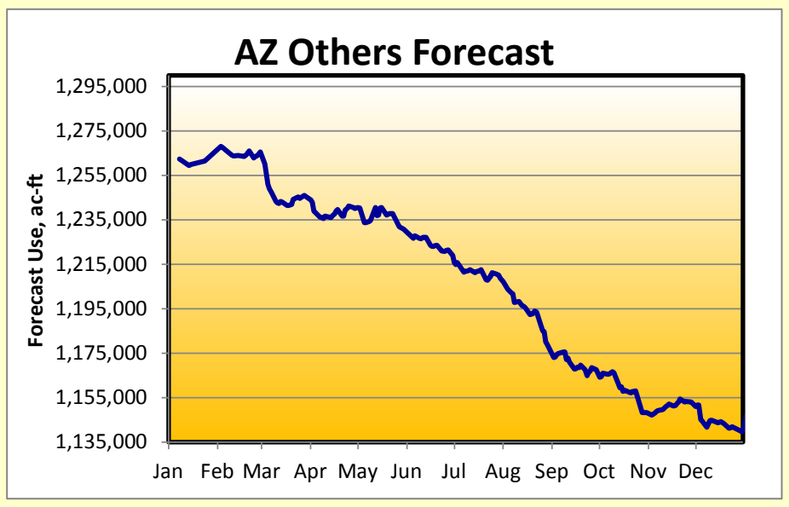


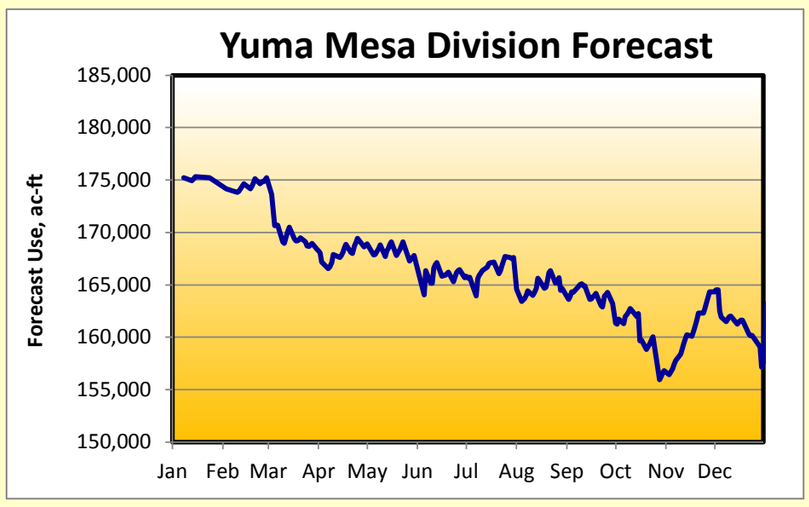


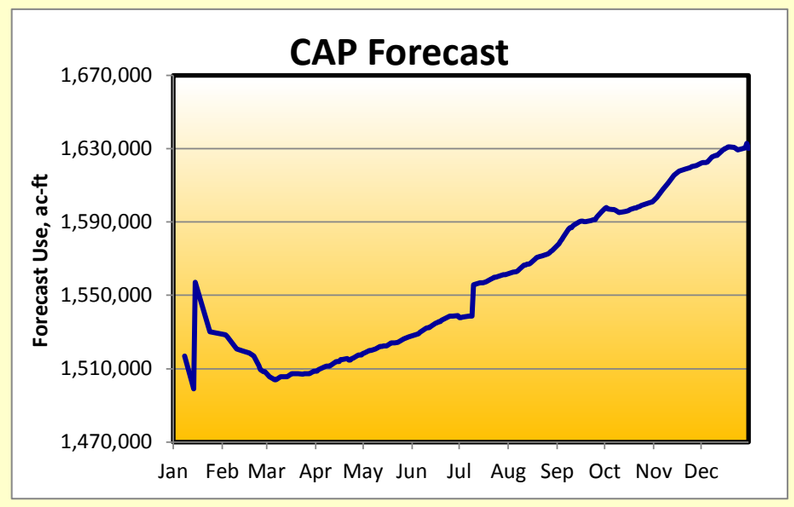


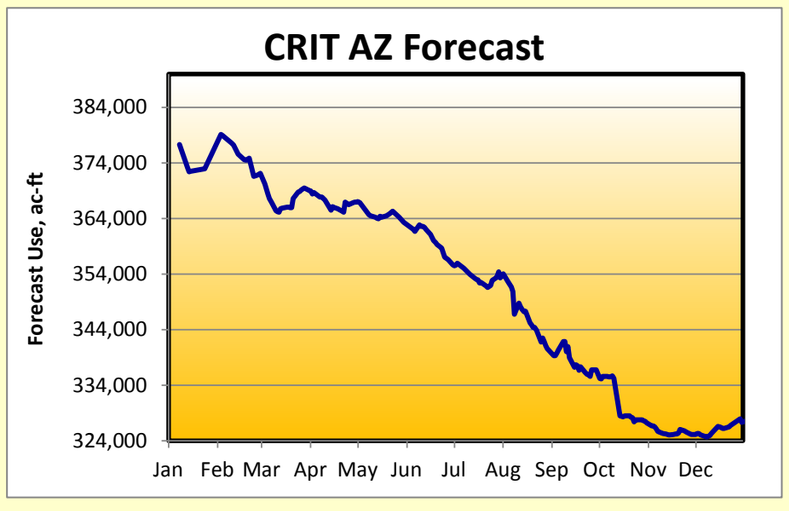


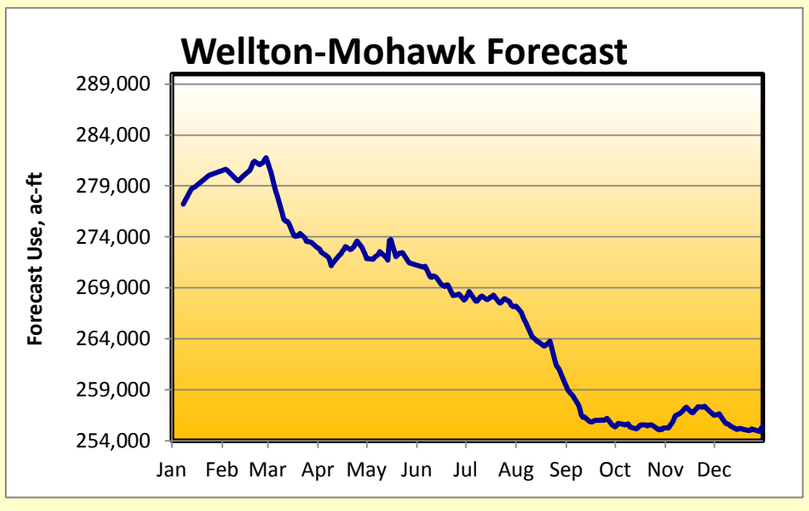


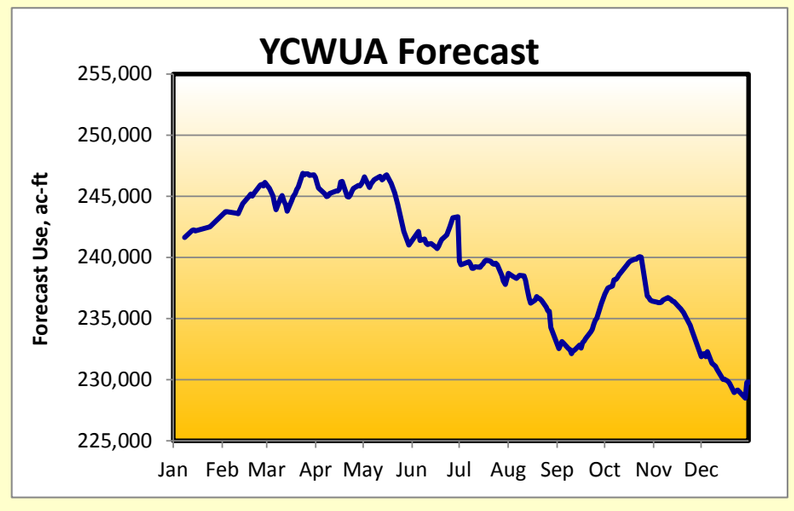












Graph notes: Jan 1 forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates a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

All data presented here is considered provisional and is subject to change until the Colorado River Water Accounting and Use report is finalized and published in May 2015

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U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
PROVISIONAL CY2014

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

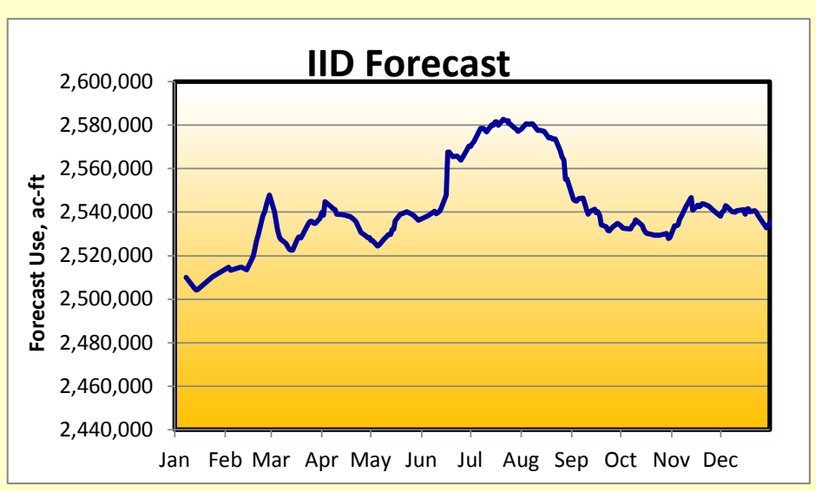
CALIFORNIA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS
California Schedules and Approvals
Historic Use Records (Water Accounting Reports)

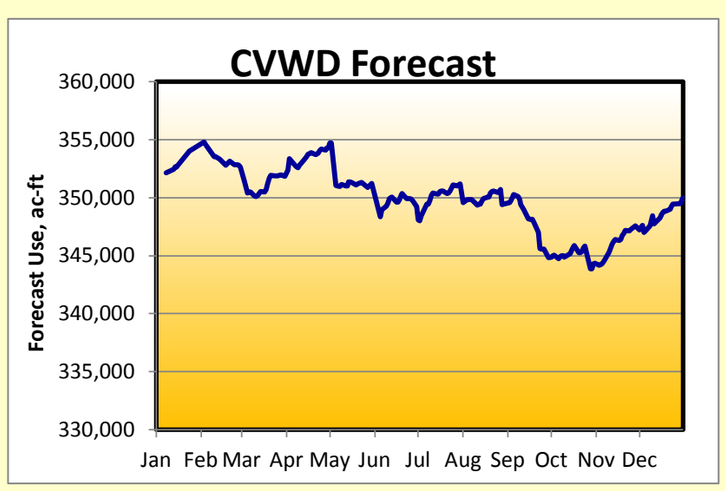
WATER USER	Use To Date CY2014	Forecast Use CY2014	Estimated Use CY2014	Excess to Estimated Use CY2014	Diversion To Date CY2014	Forecast Diversion CY2014	Approved Diversion CY2014	Excess to Approved Diversion CY2014
CALIFORNIA PUMPERS	1,959	1,959	1,959	---	3,499	3,499	3,499	0
FORT MOJAVE INDIAN RESERVATION, CA	8,643	8,648	8,996	---	16,064	16,075	16,720	-645
CITY OF NEEDLES (includes LCWSP use)	1,931	1,931	1,931	0	2,720	2,720	2,720	0
METROPOLITAN WATER DISTRICT	1,176,172	1,176,172	1,177,000	---	1,179,094	1,179,094	1,180,000	---
COLORADO RIVER INDIAN RESERVATION, CA	3,444	3,444	3,444	---	5,909	5,909	5,909	0
PALO VERDE IRRIGATION DISTRICT	424,487	424,487	428,892	---	948,629	948,629	957,250	-8,621
YUMA PROJECT RESERVATION DIVISION	58,067	58,067	47,886	---	99,251	99,251	102,700	-3,449
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	46,549	46,549	49,100	-2,551
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	52,702	52,702	53,600	-898
YUMA ISLAND PUMPERS	4,974	4,974	4,974	---	9,001	9,001	9,001	0
FORT YUMA INDIAN RESERVATION - RANCH 5	675	675	675	---	1,221	1,221	1,221	0
IMPERIAL IRRIGATION DISTRICT	2,536,322	2,536,322	2,544,150	-7,828	2,506,721	2,506,721	2,645,857	---
SALTON SEA SALINITY MANAGEMENT	88,429	88,429	90,000	-1,571	92,377	92,377	93,451	---
COACHELLA VALLEY WATER DISTRICT	349,960	349,960	349,960	0	365,646	365,646	365,646	---
OTHER LCWSP CONTRACTORS	650	650	650	---	1,016	1,016	1,016	0
CITY OF WINTERHAVEN	69	69	69	---	104	104	104	0
CHEMEHUEVI INDIAN RESERVATION	128	128	128	---	11,340	11,340	11,340	0
TOTAL CALIFORNIA	4,655,910	4,655,915			5,242,592	5,242,603	5,396,434	

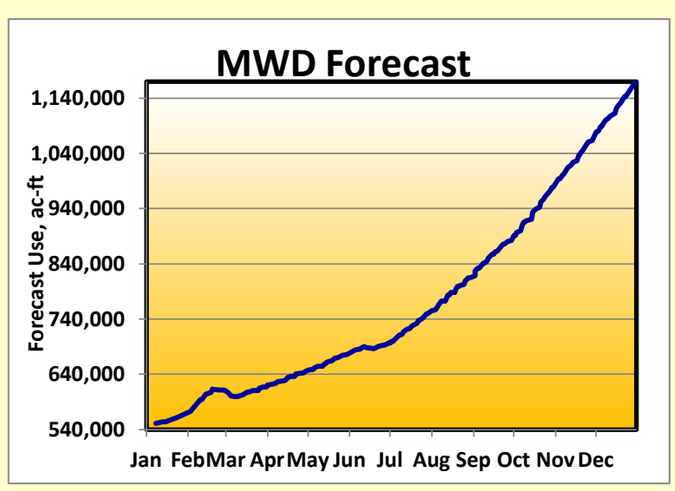
CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION	
California Basic Apportionment	4,400,000
Payback of IOPP Overrun (IID)	-117,391
Intentionally Created Surplus Water (IID)	-25,000
Storage of State of Nevada unused apportionment	65,000
Delivery of ICS (MWD)	333,306
Total State Adjusted Apportionment	4,655,915
Excess to Total State Adjusted Apportionment	0

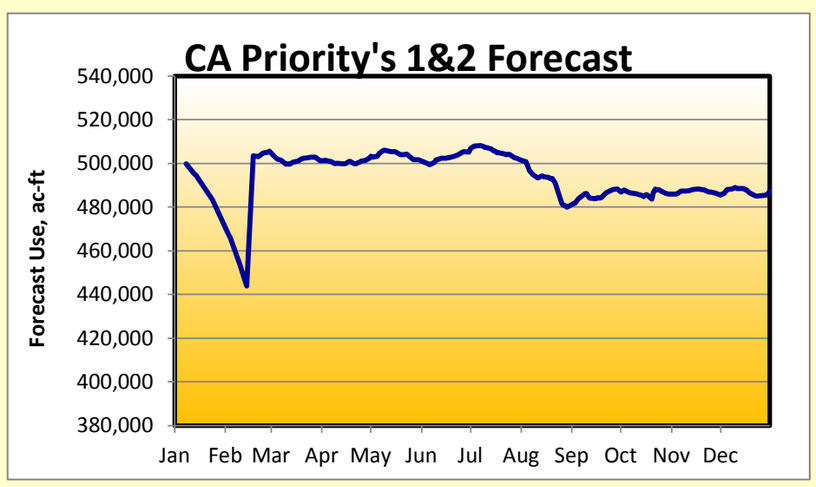
ISG ANNUAL TARGET COMPARISON CALCULATION	
Priorities 1, 2, 3b Use (PVID+YPRD+Island+PVID Mesa)	487,528
MWD Adjustment	-67,528
Total California Agricultural Use (PVID+YPRD+Island+IID+CVWD)	3,373,810
California Agricultural Paybacks	117,391
Misc. PPRs Covered by IID and CVWD	14,500
California ICS Creation (IID ICS)	25,000
Total Use for Target Comparison [1]	3,463,173
ISG Annual Target (Exhibit B)	3,455,000
Amount over/(under) ISG Annual Target	8,173

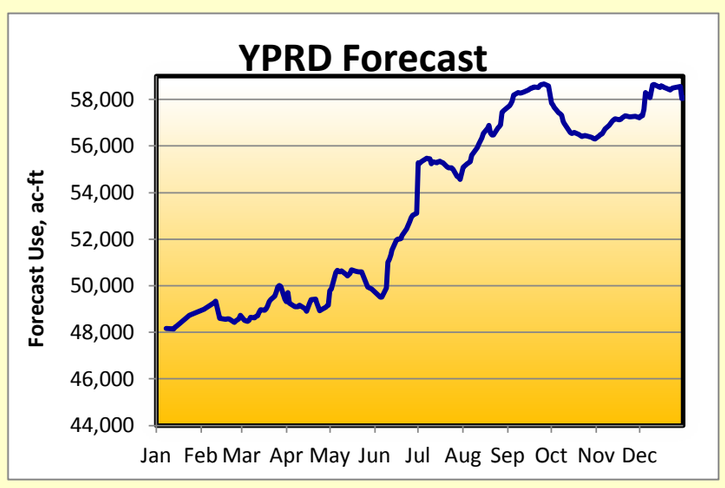
NOTES: Click on California Schedules and Approvals above for incoming diversion schedules and approvals.
1/ Includes MWD Adjustment, Californnia Agricultural Use and Paybacks, IID-CVWD covered PPRs, and taking out the MWD-CVWD Exchange

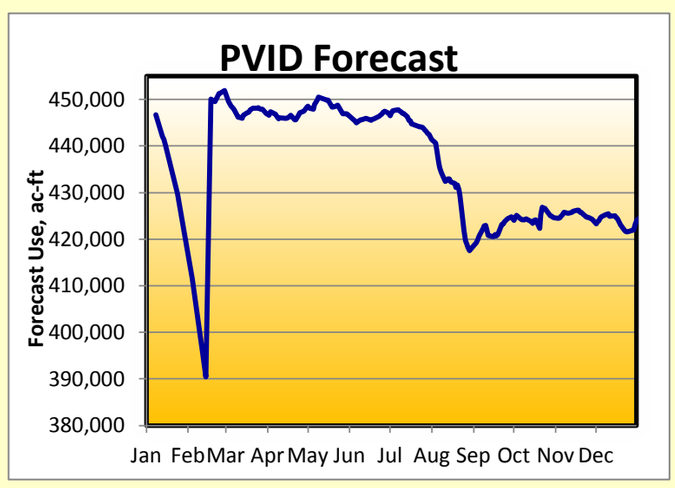












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U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
PROVISIONAL CY2014

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

WATER USER	Use To Date CY2014	Forecast Use CY2014	Estimated Use CY2014	Excess to Estimated Use CY2014	Diversion To Date CY2014	Forecast Diversion CY2014	Approved Diversion CY2014	Excess to Approved Diversion CY2014
ARIZONA PUMPERS	17,902	17,902	17,902	---	27,698	27,698	27,698	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	158	158	158	---	158	158	158	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	191	191	191	---	191	191	191	0
DAVIS DAM PROJECT	1	1	1	---	54	54	54	0
BULLHEAD CITY	7,014	7,014	8,523	---	10,468	10,468	12,720	-2,252
MOHAVE WATER CONSERVATION	495	495	495	---	738	738	738	0
BROOKE WATER LLC	210	210	210	---	317	317	317	0
MOHAVE VALLEY IDD	19,443	19,443	22,617	---	36,005	36,005	41,883	-5,878
FORT MOJAVE INDIAN RESERVATION, AZ	35,157	35,157	42,120	---	65,106	65,106	78,000	-12,894
GOLDEN SHORES WATER CONSERVATION DISTRICT	238	238	238	---	357	357	357	0
HAVASU NATIONAL WILDLIFE REFUGE	4,630	4,630	3,563	---	36,391	36,391	41,820	-5,429
LAKE HAVASU CITY	7,740	7,740	9,083	---	12,483	12,483	14,650	-2,167
CENTRAL ARIZONA PROJECT	1,630,681	1,630,681	1,528,908	---	1,630,681	1,630,681	1,528,908	
TOWN OF PARKER	339	339	359	---	820	820	935	-115
COLORADO RIVER INDIAN RESERVATION, AZ	327,576	327,576	376,964	---	618,963	619,859	662,402	-42,543
EHRENBURG IMPROVEMENT ASSOCIATION	244	244	244	---	343	343	343	0
CIBOLA VALLEY IRRIGATION DISTRICT	16,951	16,951	16,951	---	23,707	23,707	23,707	0
CIBOLA NATIONAL WILDLIFE REFUGE	12,741	12,741	12,741	0	20,550	20,550	20,550	0
IMPERIAL NATIONAL WILDLIFE REFUGE	2,616	2,616	2,616	0	4,224	4,224	4,224	0
YUMA PROVING GROUND	428	428	550	---	428	428	550	-122
GILA MONSTER FARMS	4,634	4,634	5,244	---	7,914	7,914	9,156	-1,242
WELLTON-MOHAWK IDD	255,338	255,338	278,000	-22,662	382,698	382,698	424,997	
CITY OF YUMA	14,387	14,387	16,452	-2,065	24,704	24,704	26,358	-1,654
MARINE CORPS AIR STATION YUMA	1,617	1,617	1,718	---	1,617	1,617	1,718	-101
UNION PACIFIC RAILROAD	29	29	24	---	48	48	48	0
UNIVERSITY OF ARIZONA	593	593	593	---	593	593	593	0
YUMA UNION HIGH SCHOOL DISTRICT	325	325	148	---	417	417	200	**217**
DESERT LAWN MEMORIAL	46	46	46	---	66	66	66	0
NORTH GILA VALLEY IDD	11,280	11,280	12,384	---	48,595	48,595	51,963	-3,368
YUMA IRRIGATION DISTRICT	38,525	38,525	42,991	---	68,191	68,191	76,600	-8,409
YUMA MESA IDD	113,416	113,416	116,324	---	192,938	192,938	208,488	-15,550
UNIT "B" IRRIGATION DISTRICT	20,518	20,518	20,408	---	28,883	28,883	33,450	-4,567
FORT YUMA INDIAN RESERVATION	1,396	1,396	1,396	---	2,150	2,150	2,150	0
YUMA COUNTY WATER USERS' ASSOCIATION	229,776	229,776	241,118	---	353,936	353,936	383,000	-29,064
COCOPAH INDIAN RESERVATION	706	706	6,599	---	731	731	10,055	-9,324
RECLAMATION-YUMA AREA OFFICE	247	247	247	---	247	247	247	0
RETURN FROM SOUTH GILA WELLS								
TOTAL ARIZONA	2,777,588	2,777,588	2,788,126		3,603,410	3,604,306	3,689,294	
CAP	1,630,681	1,630,681				1,630,681		
ALL OTHERS	1,146,907	1,146,907	1,259,218			1,973,625	2,160,386	
YUMA MESA DIVISION, GILA PROJECT	163,221	163,221	250,000	-86,779		309,724		

ARIZONA ADJUSTED APPORTIONMENT CALCULATION	
Arizona Basic Apportionment	2,800,000
Payback of IOPP overruns - (Cocopah and Beattie)	-266
CAGRD/YMIDD Pilot Conservation Program [1]	-9000
Total State Adjusted Apportionment	2,790,734
Excess to Total State Adjusted Apportionment	-13,146
Estimated Allowable Use for CAP	1,645,186

1/ CAWCD has agreed to forebear 9,000 acre-feet during phase one of the study, during which time CAGRD will refine the estimate of the actual conservation yield of the program.
NOTES: Click on Arizona Schedules and Approvals above for incoming diversion schedules and approvals.

All data presented here is considered provisional and is subject to change until the Colorado River Water Accounting and Use report is finalized and published in May 2015

Jan 02, 2015 11:40:21 AM

U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
PROVISIONAL CY2014

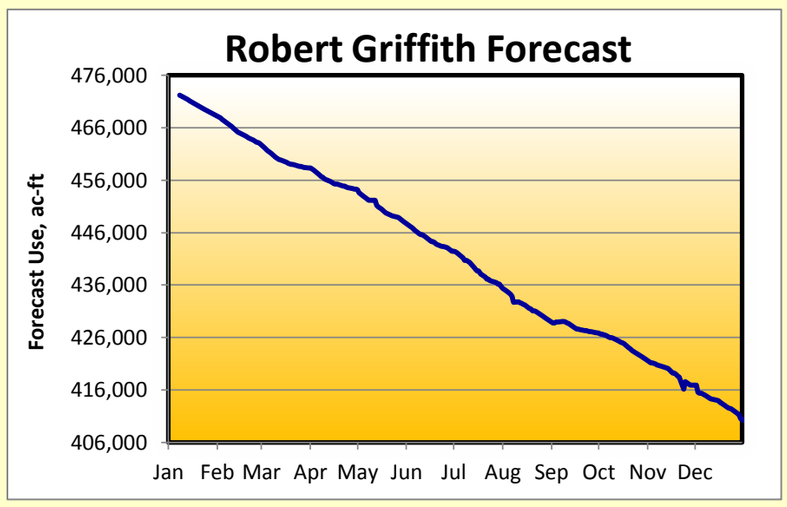
NOTE:
- Diversions and uses that are pending approval are noted in *red italics*.
- Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.
- Water user with a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

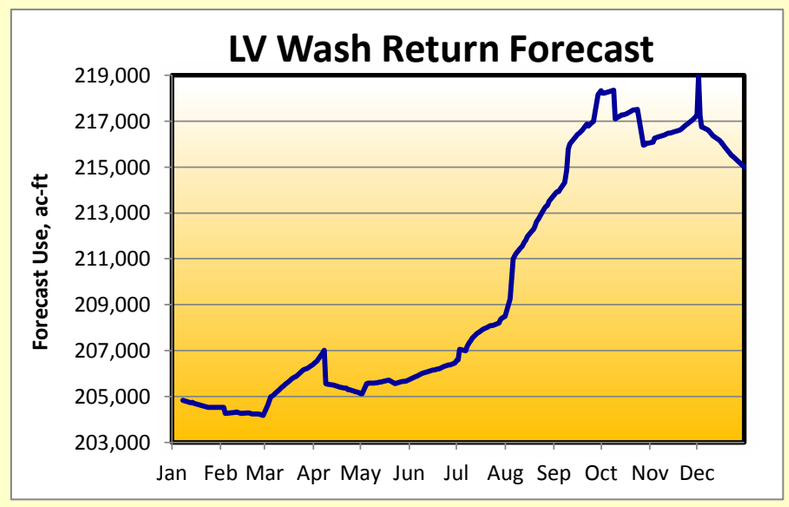
NEVADA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS
Nevada Schedules and Approvals
Historic Use Records (Water Accounting Reports)

WATER USER	Use To Date CY2014	Forecast Use CY2014	Estimated Use CY2014	Excess to Estimated Use CY2014	Diversion To Date CY2014	Forecast Diversion CY2014	Approved Diversion CY2014	Excess to Approved Diversion CY2014
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	410,035	410,035	473,360	-63,325	410,039	410,039	473,360	-63,321
LAKE MEAD NRA, NV - Diversions from Lake Mead	409	409	568	---	409	409	568	-159
LAKE MEAD NRA, NV - Diversions from Lake Mohave	155	155	224	---	155	155	224	-69
BASIC MANAGEMENT INC.	6,421	6,421	8,208	---	6,421	6,421	8,208	-1,787
CITY OF HENDERSON (BMI DELIVERY)	14,570	14,570	15,878	---	14,570	14,570	15,878	-1,308
NEVADA STATE DEPT. OF FISH & GAME	10	10	12	-2	400	400	300	---
PACIFIC COAST BUILDING PRODUCTS INC.	837	837	928	---	837	837	928	-91
BOULDER CANYON PROJECT	40	40	40	---	72	72	72	0
BIG BEND WATER DISTRICT	2,280	2,280	2,062	---	4,265	4,265	4,961	-696
FORT MOJAVE INDIAN TRIBE	2,538	2,538	3,685	---	3,788	3,788	5,500	-1,712
LAS VEGAS WASH RETURN FLOWS	-214,987	-214,987	-204,964	---				
TOTAL NEVADA	222,308	222,308	300,001		440,956	440,956	509,999	-69,143
SOUTHERN NEVADA WATER SYSTEM (SNWS)	195,048	195,048				410,039		
ALL OTHERS	27,260	27,260				30,917		
NEVADA USES ABOVE HOOVER	217,490	217,490				432,903		
NEVADA USES BELOW HOOVER	4,818	4,818				8,053		

Tributary Conservation & Imported Intentionally Created Surplus	
Total Requested Tributary Conservation Intentionally Created Surplus	37,000
Total Requested Imported Conservation Intentionally Created Surplus	9,000
5% System Cut for Creation of Intentionally Created Surplus	-2,300
Total Intentionally Created Surplus Left in Lake Mead	43,700

NEVADA ADJUSTED APPORTIONMENT CALCULATION	
Nevada Basic Apportionment	300,000
Unused apportionment made available for storage by MWD	-65,000
Excess to Total State Adjusted Apportionment	-12,692





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

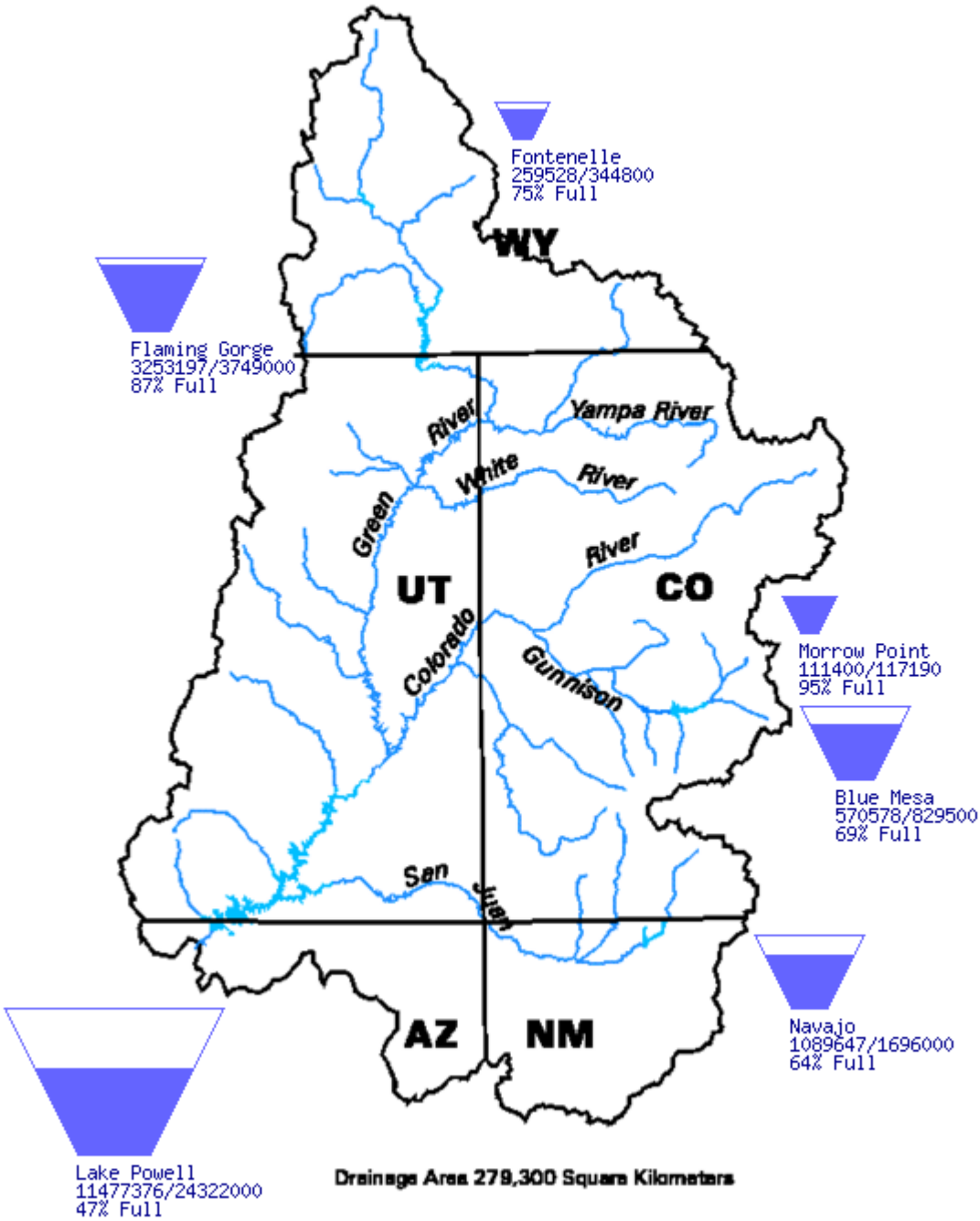
All data presented here is considered provisional and is subject to change until the Colorado River Water Accounting and Use report is finalized and published in May 2015

Upper Colorado Region Water Resources Group

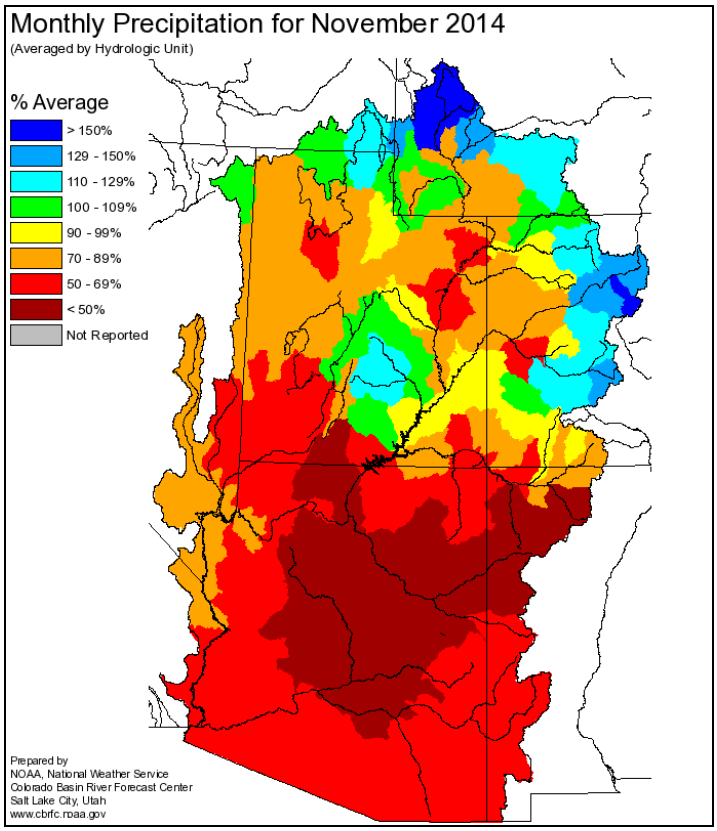
River Basin Tea-Cup Diagrams

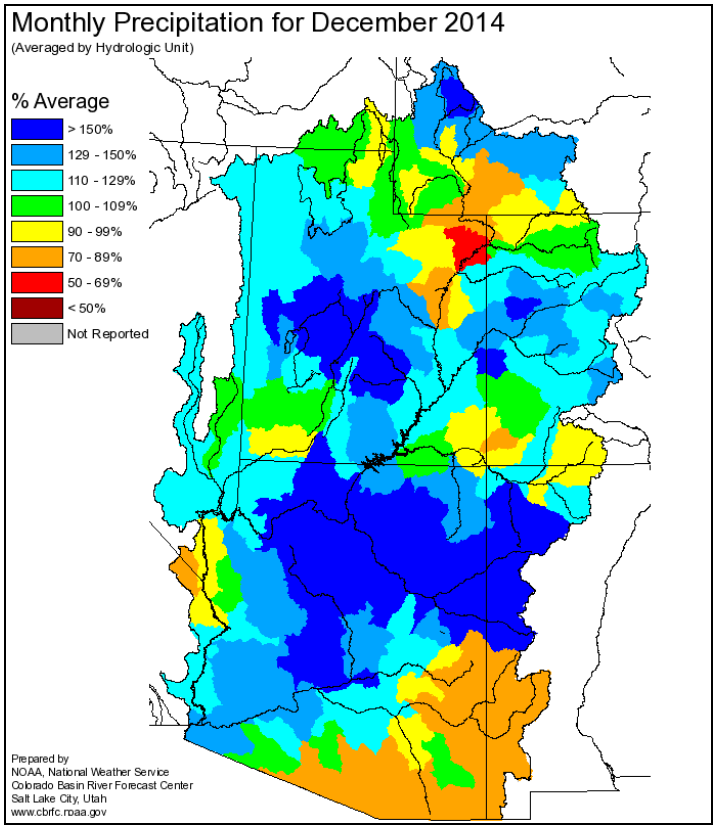
Data Current as of:
01/04/2015

Upper Colorado River Drainage Basin

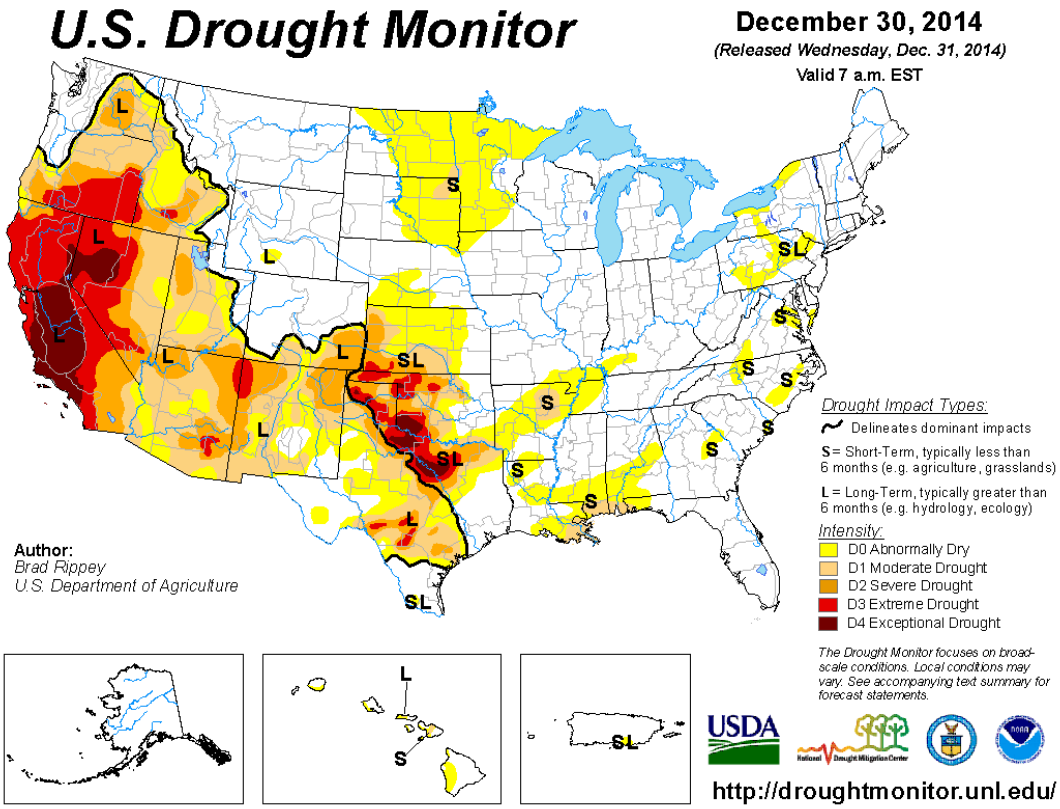


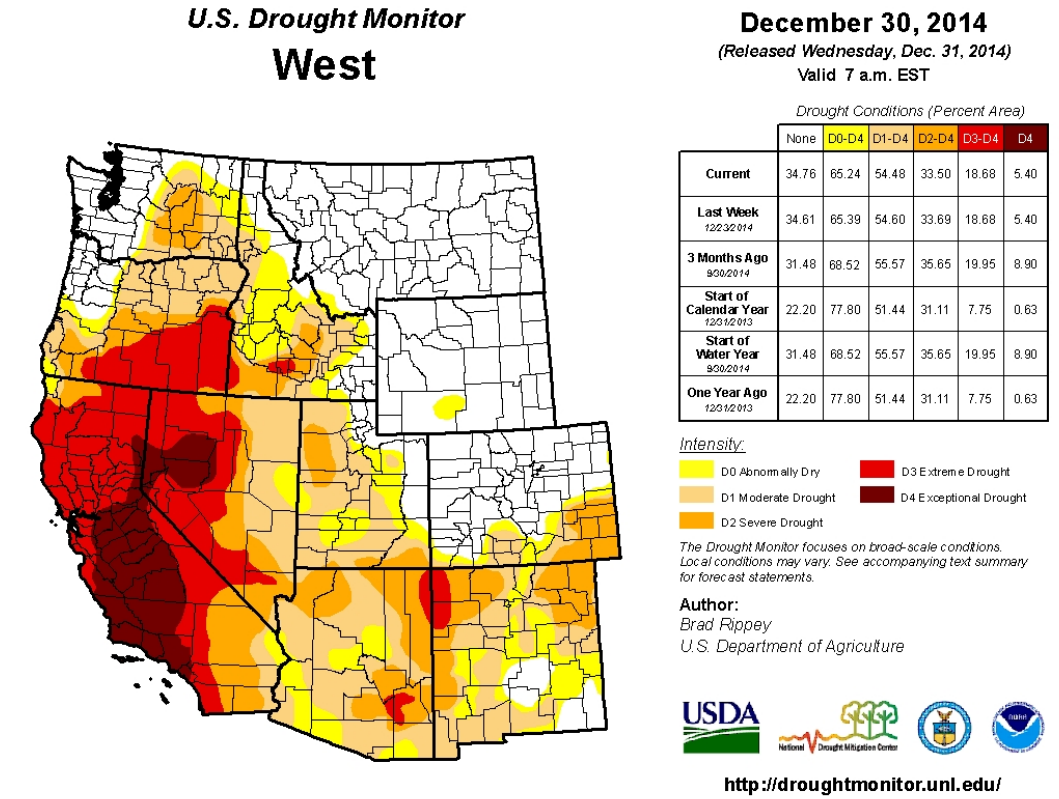
NOAA National Weather Service Monthly Precipitation Maps for November and December 2014





USDA United States Drought Monitor Map



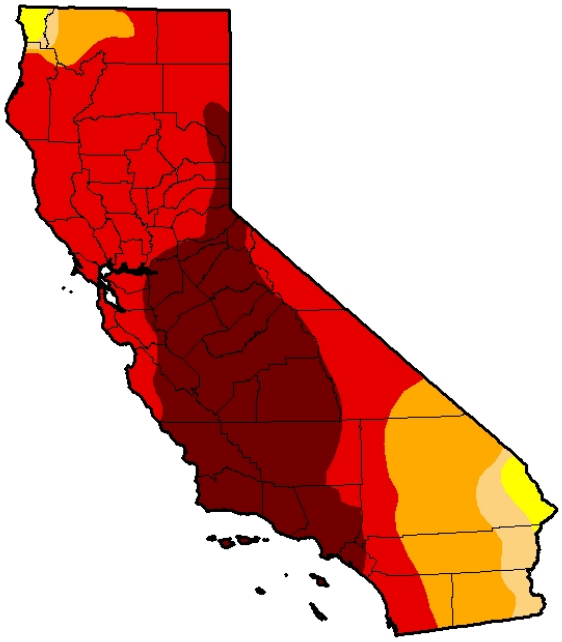


Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	34.76	65.24	54.48	33.50	18.68	5.40
Last Week 12/23/2014	34.61	65.39	54.60	33.69	18.68	5.40
3 Months Ago 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
Start of Calendar Year 12/31/2013	22.20	77.80	51.44	31.11	7.75	0.63
Start of Water Year 9/30/2014	31.48	68.52	55.57	35.65	19.95	8.90
One Year Ago 12/31/2013	22.20	77.80	51.44	31.11	7.75	0.63

U.S. Drought Monitor

California



December 30, 2014

(Released Wednesday, Dec. 31, 2014)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	98.12	94.34	77.94	32.21
Last Week *12/23/2014*	0.00	100.00	98.41	94.42	77.94	32.21
3 Months Ago *9/30/2014*	0.00	100.00	100.00	95.04	81.92	58.41
Start of Calendar Year *12/31/2013*	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year *9/30/2014*	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago *12/31/2013*	2.61	97.39	94.25	87.53	27.59	0.00

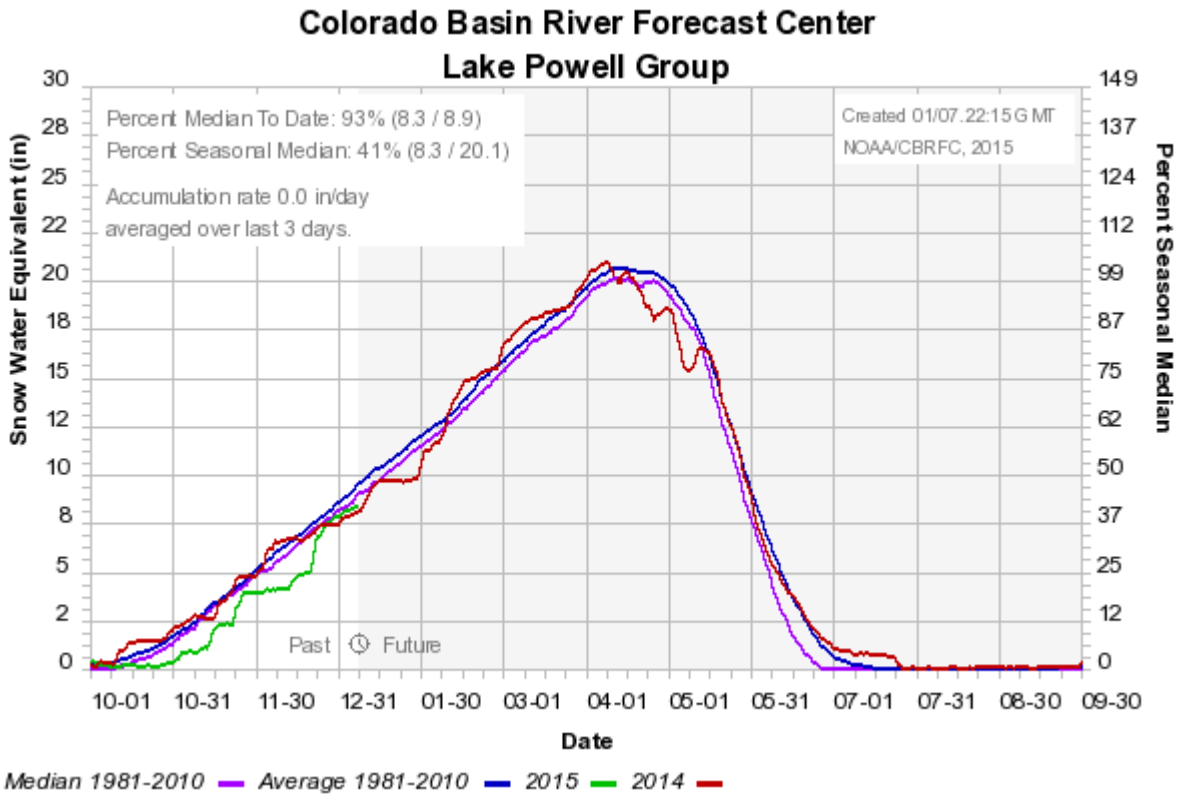
Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

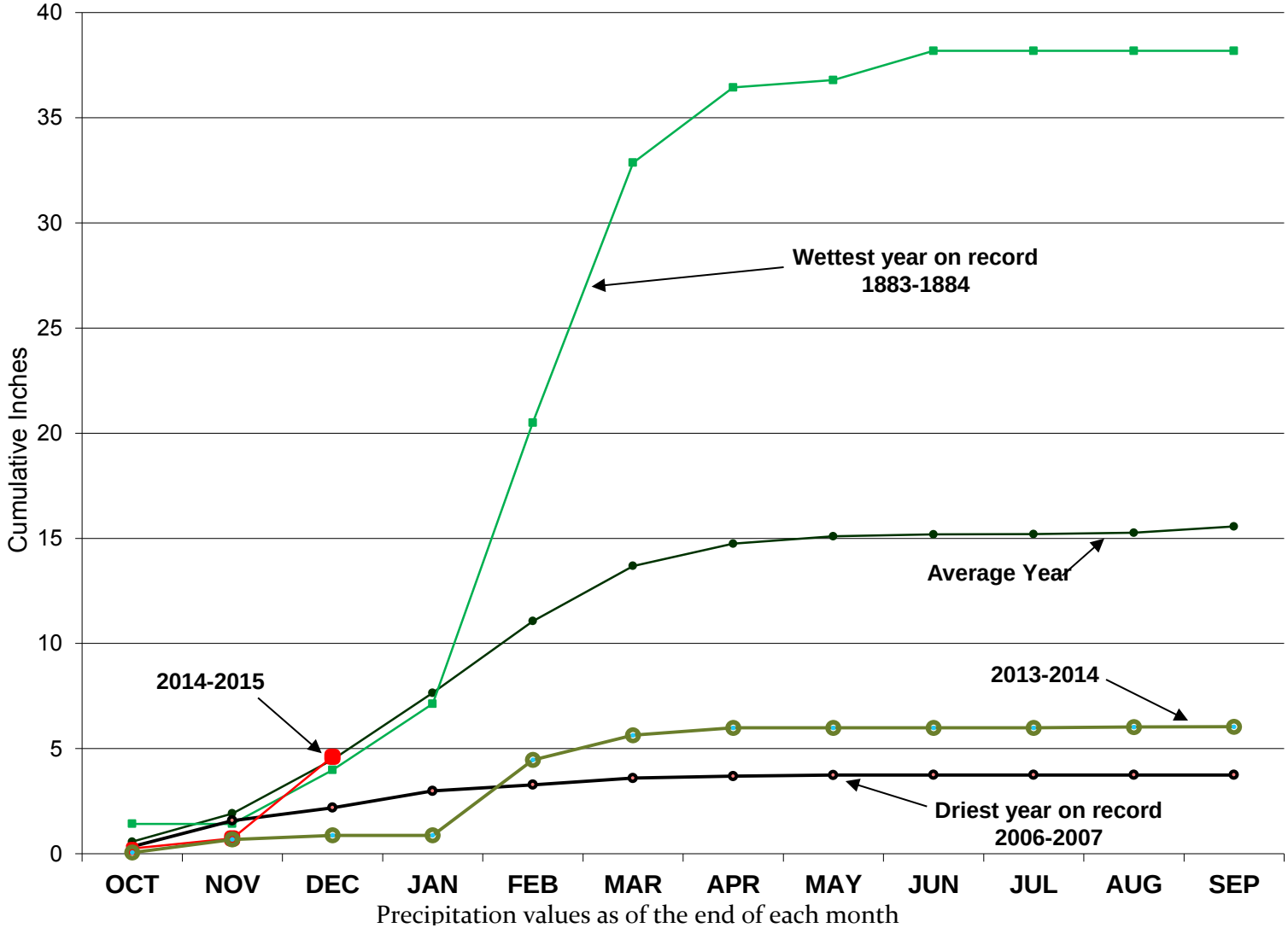
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Brad Rippey
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/


Colorado Basin River Forecast Center
Lake Powell Group
Percent Median To Date: 93% (8.3 / 8.9)
Percent Seasonal Median: 41% (8.3 / 20.1)
Accumulation rate 0.0 in/day
averaged over last 3 days.
Created 01/07.22:15 GMT
NOAA/CBRFC, 2015
Past
Future
Snow Water Equivalent (in)
Percent Seasonal Median
Date
10-01
10-31
11-30
12-31
01-30
03-01
04-01
05-01
05-31
07-01
07-31
08-30
09-30
Median 1981-2010
Average 1981-2010
2015
2014

Los Angeles Civic Center Precipitation

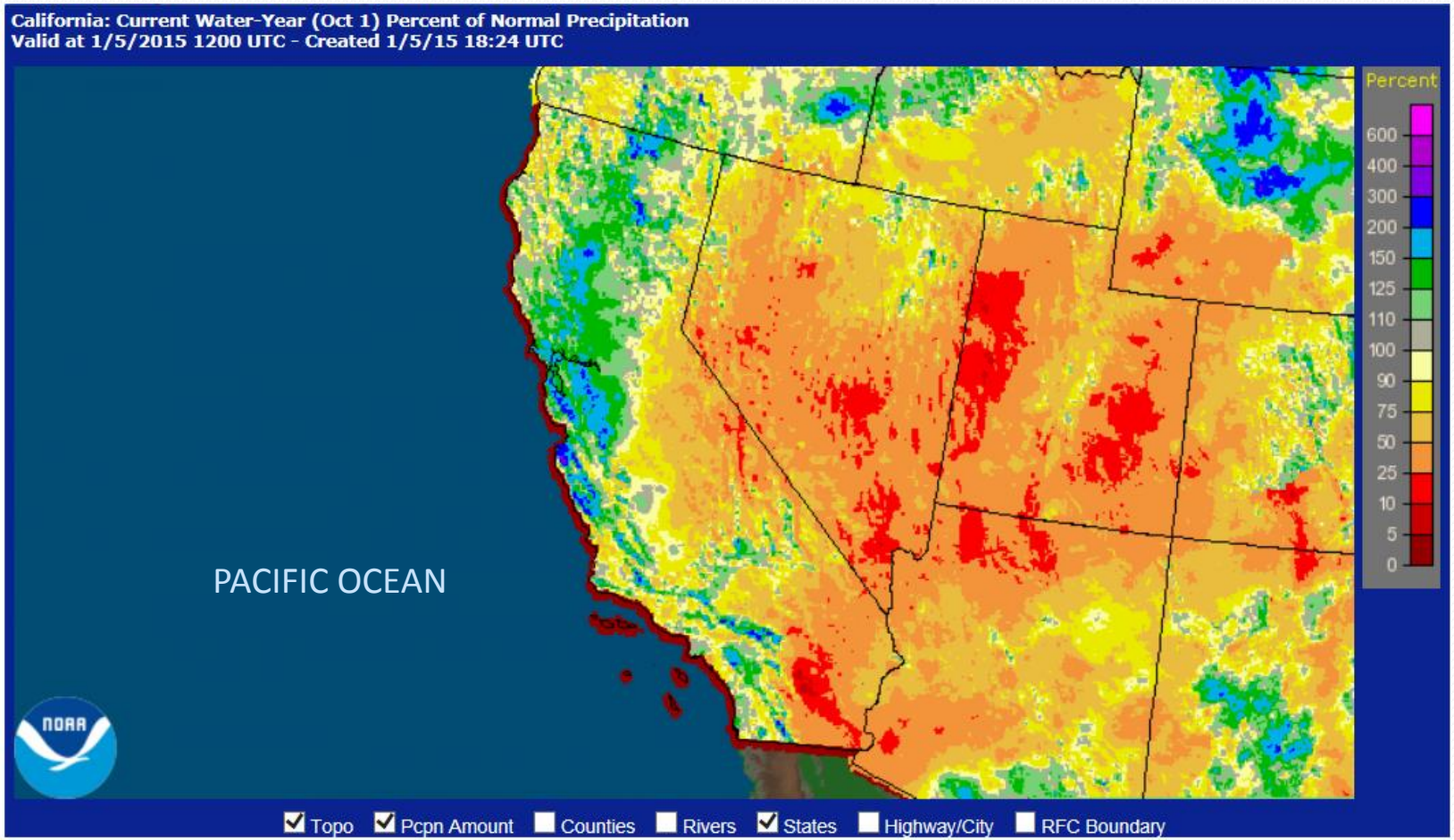


Precipitation at Six Major Stations in Southern California

From October 1, 2014 to December 31, 2014

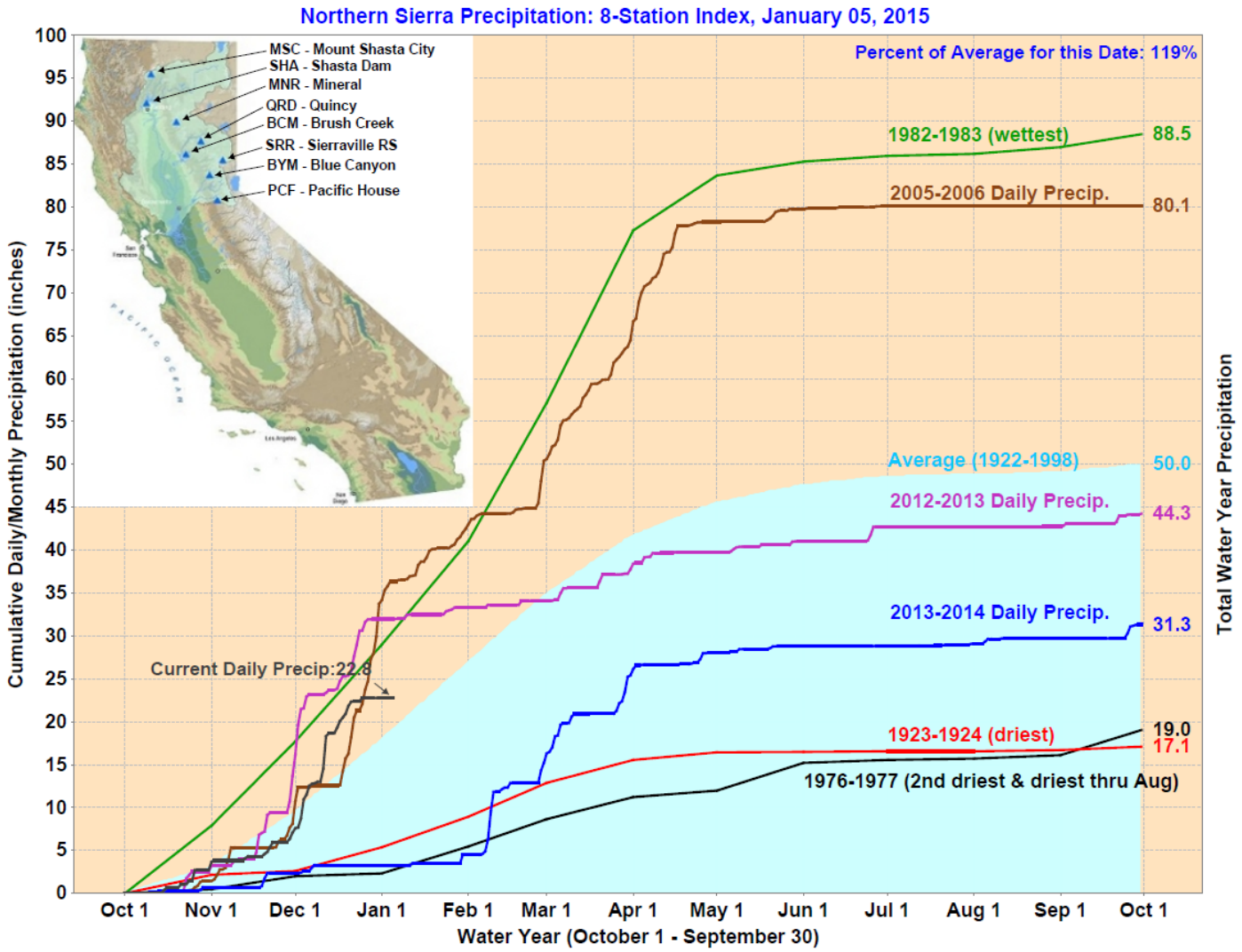
Station	Precipitation in inches Dec	Oct 1 to Dec 31	Average to Date	Percent of Average
San Luis Obispo	2.77	4.16	7.06	59%
Santa Barbara	4.95	6.29	5.03	125%
Los Angeles	3.88	4.61	4.47	103%
San Diego	3.95	4.32	3.25	133%
Blythe	0.78	0.81	1.11	73%
Imperial	0.39	0.42	0.94	45%

Water Year 2014-2015: Percent of Normal Precipitation



National Weather Service –Advance Hydrologic Prediction Center
http://water.weather.gov/precip/

Northern Sierra Precipitation-8 Station Index



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

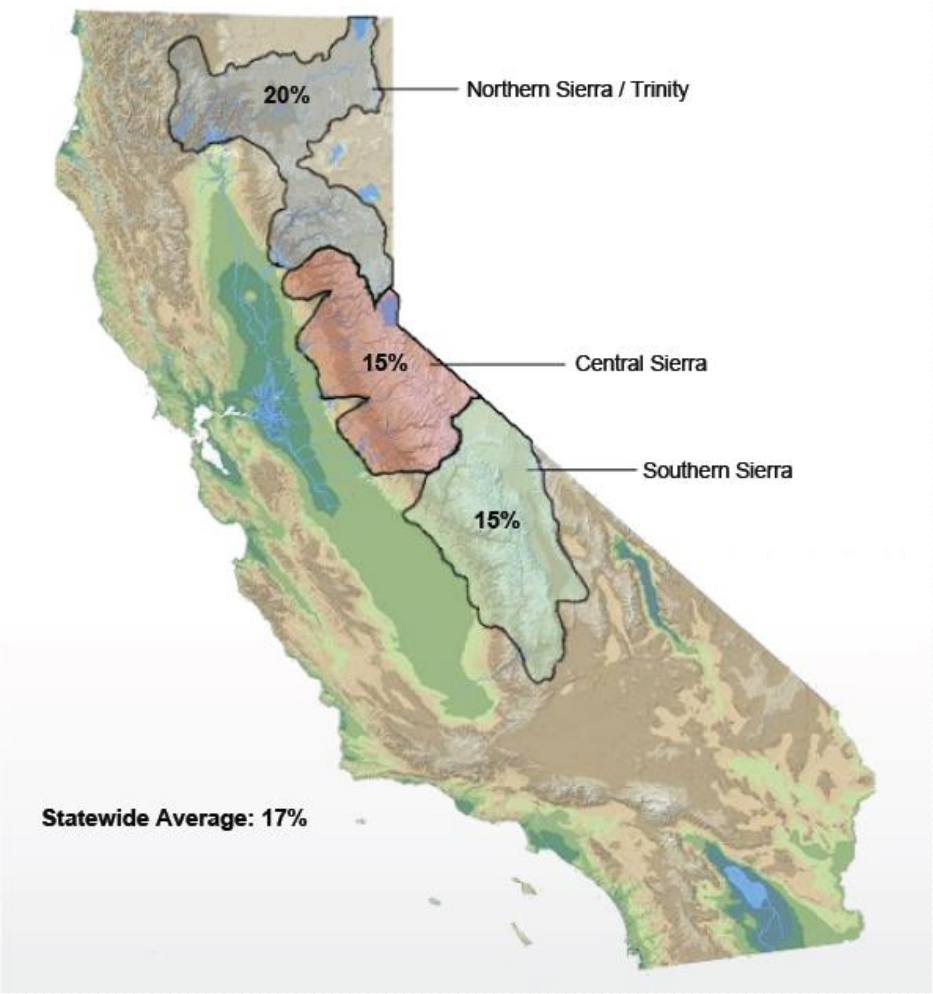
Statewide Summary of Water-Year Data

Water Year	Precipitation (233 Stations) % of avg.	Runoff (31 Rivers) % of avg.	Res. Storage (155 Reservoirs) % of avg.	Sacto. Riv. Run-off * (MAF)
2009-10	110	90	105	15.9
2010-11	135	145	130	15.1
2011-12	75	60	95	11.8
2012-13	80	60	80	11.9
Comparison of Water Year Data as of Dec 1				
2013-14	35	55	75	0.7
2014-15	70	50	55	0.8

* The Sacramento River Run-off is the sum of the unimpaired water year flow from the Sacramento River above Bend Bridge near Red Bluff, Feather River inflow to Oroville, Yuba River at Smartville, and American River inflow to Folsom. The average annual run-off is 18.4 MAF.

Snow Water Equivalents (inches)

Current Regional Snowpack from Automated Snow Sensors - % of April 1 Average



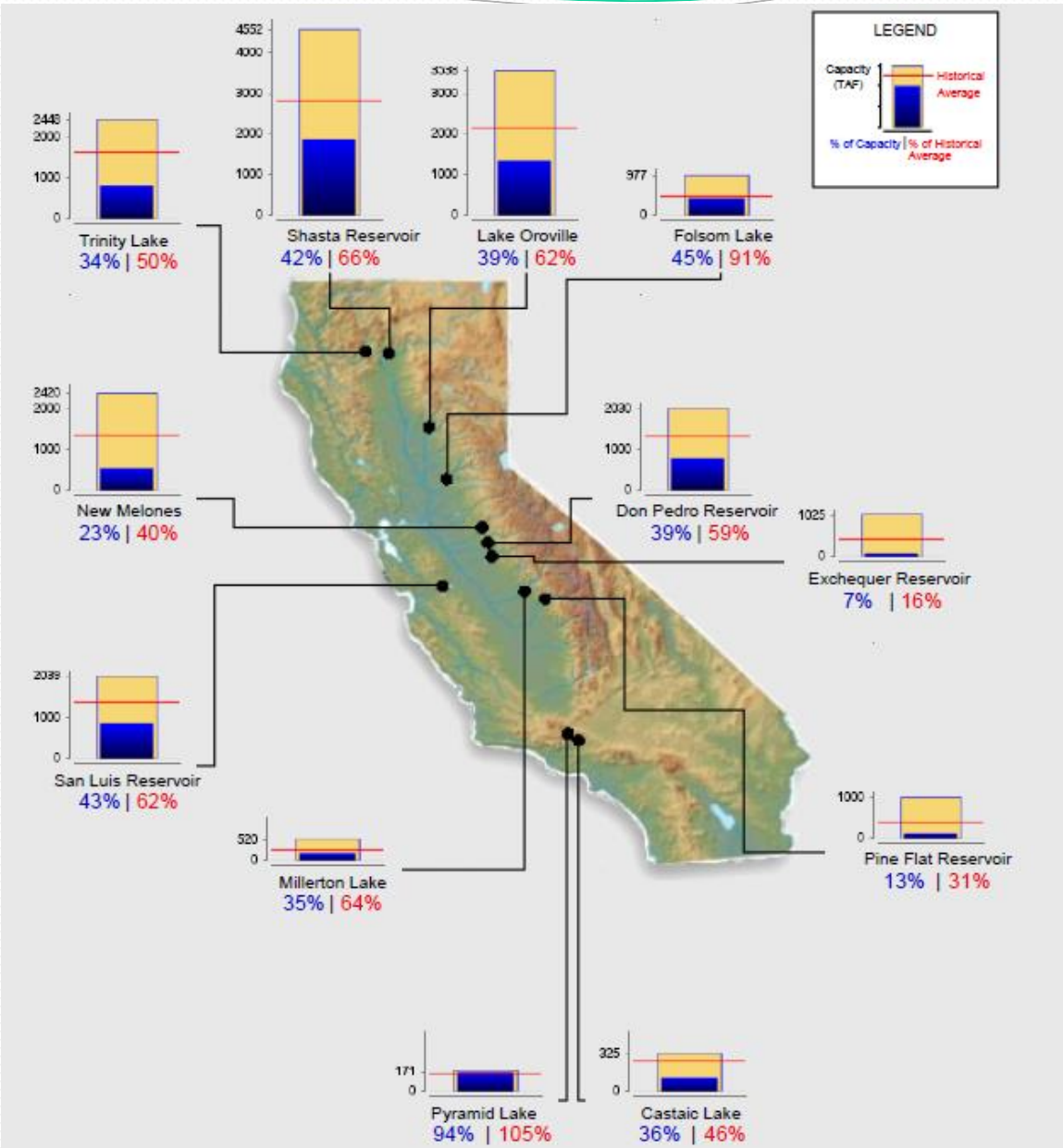
http://cdec.water.ca.gov/cdecapp/snowapp/sweq.action

Comparison of SWP Water Storage

		2014 Storage (acre-feet)		2015 Storage (acre-feet)	
Reservoir	**Capacity**	**As of January 1**	**% of Cap.**	**As of January 1**	**% of Cap.**
Frenchman	55,475	27,307	49%	19,230	35%
Lake Davis	84,371	54,283	65%	45,153	54%
Antelope	22,564	17,364	77%	18,092	80%
Oroville	3,553,405	1,281,387	39%	1,351,642	38%
TOTAL North	3,715,815	1,486,308	40%	1,434,117	39%
Del Valle	39,914	29,706	75%	34,644	87%
San Luis (DWR)	1,062,180	278,873	22%	543,862	51%
Pyramid	169,901	167,102	98%	167,089	98%
Castaic	319,247	289,446	85%	120,165	38%
Silverwood	74,970	71,997	95%	69,866	93%
Perris	126,841	72,421	58%	49,922	39%
TOTAL South	1,793,053	847,625	47%	985,548	55%
TOTAL SWP	5,508,868	2,333,933	42%	2,419,665	44%

State Water Project Projected Deliveries:
As of December 1, 2014, the Table-A allocations for 2015 is 10%

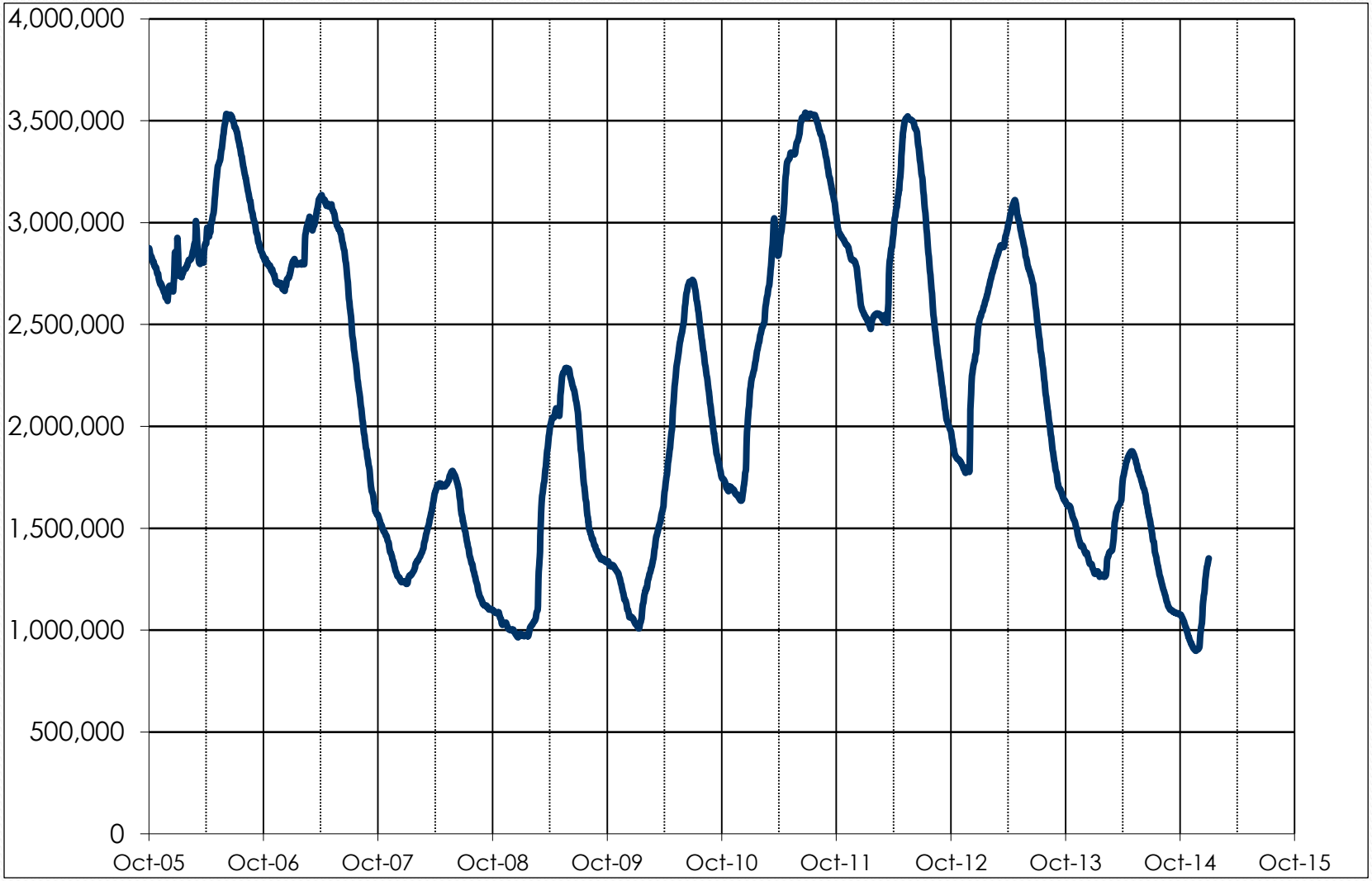
Current Reservoir Conditions



http://cdec.water.ca.gov/cdecapp/resapp/getResGraphsMain.action

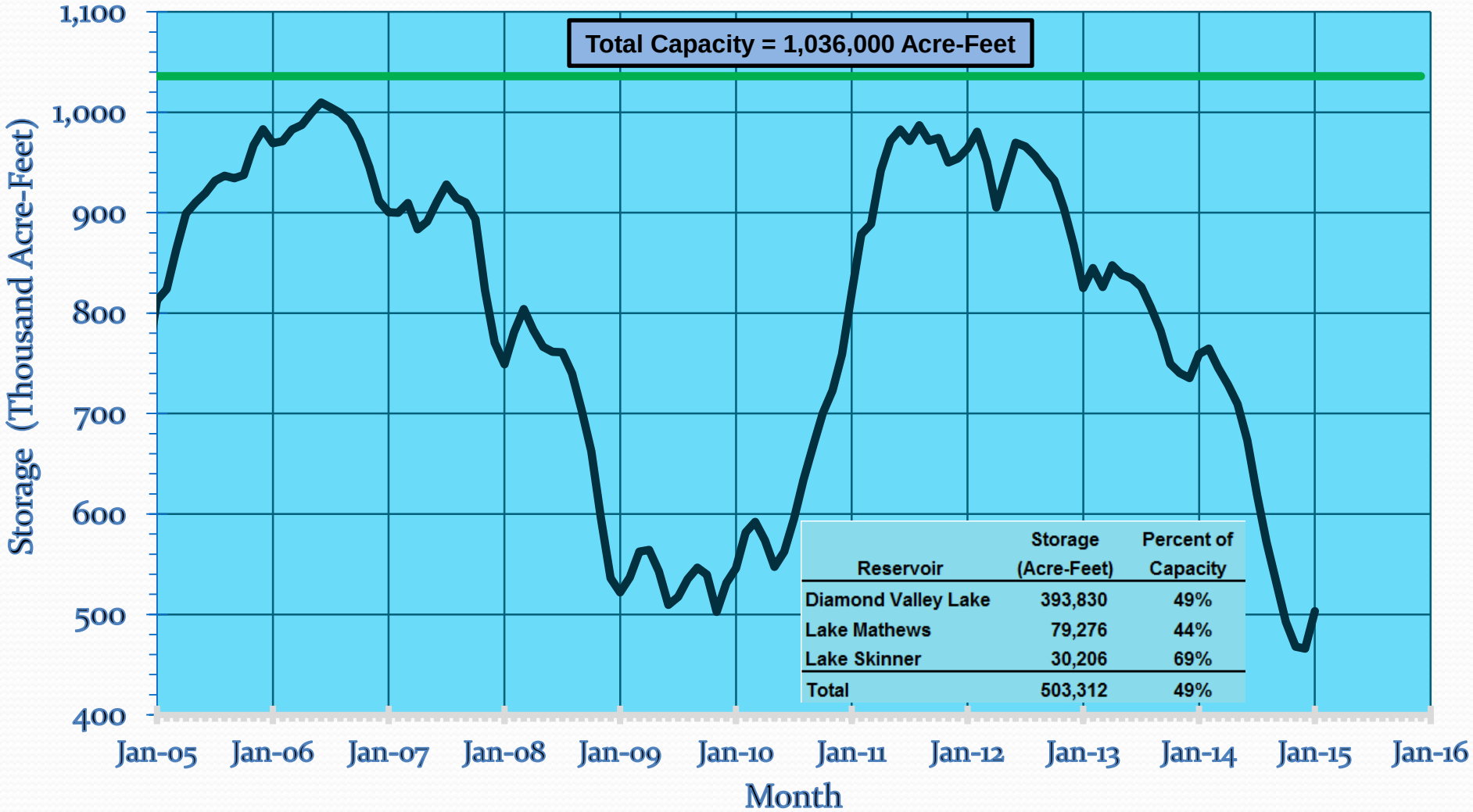
Oroville Storage (acre-feet)

October 1, 2005 – January 1, 2015



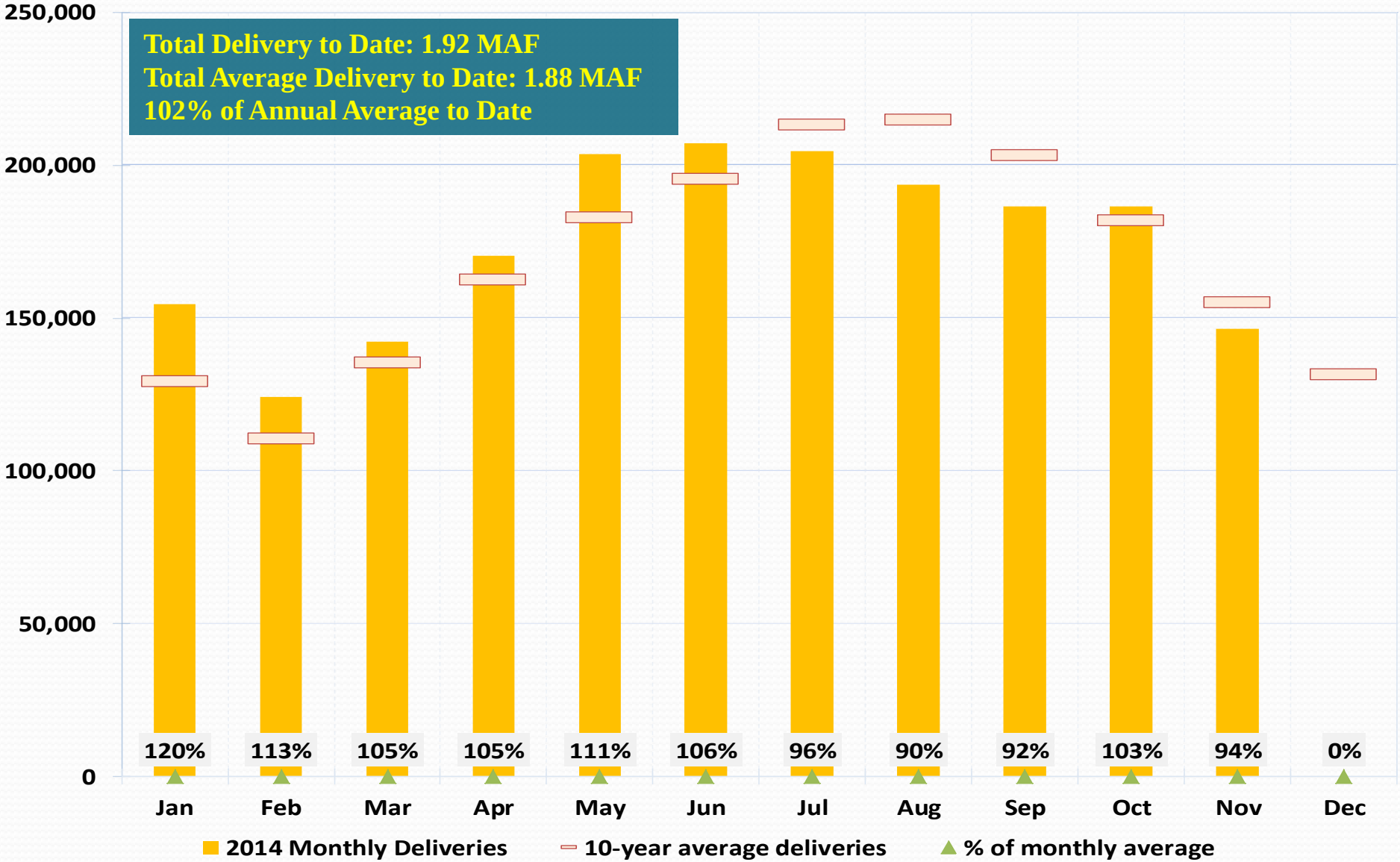
MWD's Combined Reservoir Storage as of January 1, 2015

Lake Skinner, Lake Mathews, and Diamond Valley Lake

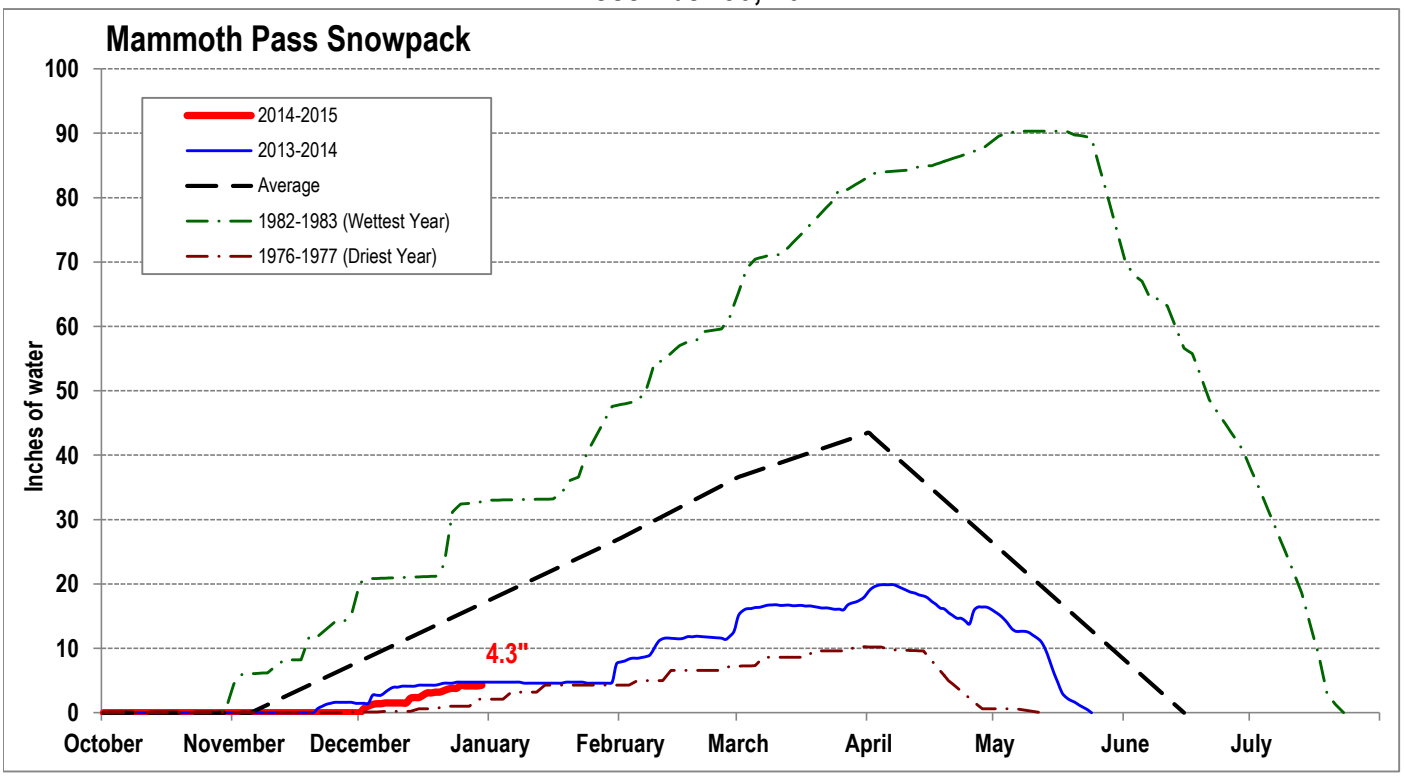


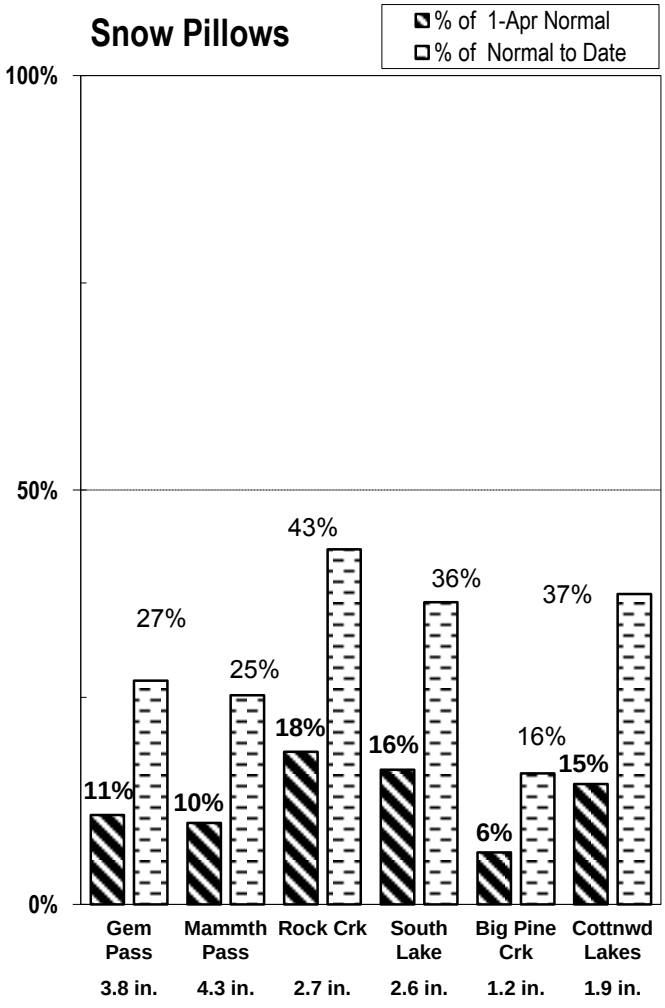
Reservoir	Storage (Acre-Feet)	Percent of Capacity
Diamond Valley Lake	393,830	49%
Lake Mathews	79,276	44%
Lake Skinner	30,206	69%
Total	503,312	49%

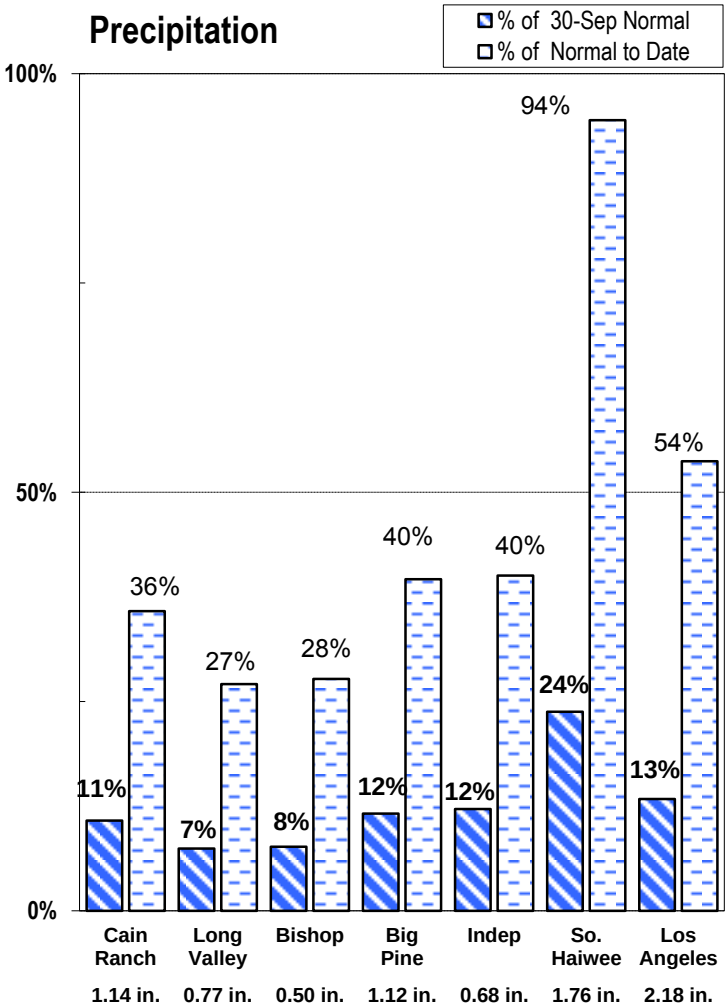
2014 Water Deliveries to Member Agencies (AF)



EASTERN SIERRA
CURRENT PRECIPITATION CONDITIONS
December 30, 2014







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

Bi-Weekly Drought Brief
Monday, January 5, 2015

CURRENT CONDITIONS

Recent Precipitation: Little precipitation has fallen recently after large storms earlier December.

Below are precipitation totals (in inches) from Monday, December 29 through Monday, January 5, and year-to-date rainfall based on the water year cycle (October 1, 2014 to September 30, 2015).

- **Bakersfield:** 0.11" (2.67")
- **Folsom Dam:** 0.00" (11.73")
- **Fresno:** 0.00" (3.19")
- **Hetch Hetchy:** 0.00" (8.68")
- **Los Angeles:** 0.19" (4.62")
- **Modesto:** 0.00" (7.40")
- **Oroville:** 0.00" (19.20")
- **Pacific House:** 0.00" (14.40")
- **Redding:** 0.00" (21.88")
- **Riverside:** 0.06" (2.30")
- **Sacramento:** 0.00" (9.30")
- **San Diego:** 0.08" (4.87")
- **Shasta Dam:** 0.00" (34.36")
- **Willits:** 0.04" (26.44")

December storms improved California water conditions, providing a meaningful uptick in many of the state's reservoirs. However, this precipitation is a small step in the right direction amidst the multi-year drought. California's extreme drought conditions have evolved over several years of rainfall deficits. Refilling reservoirs and rebuilding the snowpack will require a series of additional, colder storms through January, February, and March, and recharging underground aquifers will need even more precipitation and time. It is very important for Californians to continue conserving water and follow drought-related directives from water agencies.

Precipitation Forecast: A ridge of high pressure will remain over California resulting in continuing dry conditions and a slight warming trend for the period January 5th to January 12th.

Snow Survey: The most recent snowpack survey, conducted on December 30, recorded California snowpack at 33% of normal. A more recent update using automated devices shows snowpack at 46% of normal as of January 2.

Reservoir Levels (% capacity): Runoff generated from the recent storms has been fairly limited for the four major Sacramento Valley reservoirs: Lake Shasta, Lake Oroville, New Bullards Bar, and Folsom Lake. However, the recent storms have at least put an end to the declining reservoir storage levels. As of January 2, the four Sacramento Valley reservoirs are still far below average to date.

Reservoir Levels as of January 4 remain low, including: Don Pedro 39% of capacity (59% of year to date average); Exchequer 7% of capacity (16% of average); Folsom Lake 45% of capacity (91% of average); Lake Oroville 39% of capacity (62% of average); Millerton Lake 35% of capacity (64% of average); New Melones 23% of capacity (40% of average); Pine Flat 13% of capacity (31% of average); San Luis 43% of capacity (62% of average); Lake Shasta 42% of capacity (66% of average); and Trinity Lake 34% of capacity (50% of average).

An update of water levels at other smaller reservoirs is also available.

In December, about two-thirds of the increase in reservoir storage from winter rains occurred north of Sacramento. The San Luis reservoir storage went up just over 300,000 acre-feet, while most Central and Southern California reservoirs experienced only small increases in storage.

Fire Activity: CAL FIRE has responded to 5,620 wildfires across the state since January 1 to December 31, 2014, burning 90,606 acres in State Responsibility Areas (SRA). The fire activity for 2014 is well above the year-to-date average of 4,681 wildfires on 88,169 acres. CAL FIRE responded to over 20 new wildfires over the past two weeks.

At the start of the new year, drought conditions continue to have a hold on California, CAL FIRE is maintaining staffing that meets the current threat. CAL FIRE continues to monitor weather conditions closely and has the ability to increase staffing should weather conditions change.

Statewide Open Burn Ban Update: The recent rains and lowered fire threat allowed CAL FIRE to lift the outdoor burn bans across much of the State. Currently, there are 50 counties where CAL FIRE has lifted the burn ban. The burn ban prohibits certain outdoor burning in the SRA. For those areas where the ban has been lifted, daily fire and weather conditions will dictate whether burning is permissible that day.

Vulnerable Water Systems: The State Water Board's Drinking Water Program continues to provide technical and funding assistance to several communities facing drinking water shortages and is monitoring water systems across the state to determine if new support is needed. As of this week, a total to date of over $14.3 million has been identified for specific emergency drinking water projects out of $15 million appropriated in March 2014 for this purpose.

KEY ACTION ITEMS FROM THIS WEEK

- **Update on Real-Time Water Operations:** The State Water Project (SWP) and Central Valley Project (CVP) continue to manage Delta operations to reduce risk to Delta Smelt and potentially avoid more severe water supply impacts. These operations, combined with early warning resource monitoring projects by various State and federal agencies to monitor turbidity levels in the Delta and the movement of Delta smelt, are critical to address water supply needs and protection of environmental resources. Combined pumping levels for both projects are about 5,800 cubic feet per second.

- **Survey Finds More Snow in Mountains, but Water Content Is Still Far Below Average for Date:** On Tuesday, December 30, the Department of Water Resources (DWR) California Cooperative Snow Surveys Program conducted the first manual snow survey of the Sierra snowpack this winter near Echo Summit, measuring the snow depth at 21.3". This is equivalent to 4 inches of snow water or 33 percent of normal, which is more snow than last year recorded at this time.

  Statewide, 105 electronic sensors in the Sierra detected a snow water equivalent of 4.8 inches, 50 percent of the multi-year average for December 30. That compares favorably with last winter's first survey, when the snow water equivalent statewide was only 20 percent of normal, which tied with 2012 as the driest readings on record.

- **Urban Water Suppliers Show Progress In November Water Conservation Report:** On January 6, the State Water Board will release water conservation rates for the month of November as reported by large urban retail water agencies under the Emergency Conservation Regulation adopted in July 2014. The November report shows an increase from the month of October up to 9.7% from 6.7%. The State Water Board is now considering whether it should require additional conservation actions in 2015 based on information received at the December 17 conservation workshop. The State and Federal Water Project will discuss the 2015 Drought Operations Contingency Plan during their January 20 Board meeting, which will describe Project operations based on a range of possible future hydrologic scenarios.

- **Emergency Food Aid, Rental and Utility Assistance**: The Department of Social Services (CDSS) has provided to date over 425,050 boxes of food to community food banks in drought-impacted counties. Approximately 376,500 boxes of food have been picked up by 199,769 households. By this Friday, January 9, an additional 11,280 boxes will be delivered to five counties. Local food banks continue to target food aid to residents most impacted by drought.

  The non-profit group La Cooperativa continues to distribute the $10 million state-funded emergency rental assistance to impacted families and individuals across counties most impacted by the drought. As of Thursday, December 25, the Department of Housing and Community Development (HCD) has reported that a total of $8,364,371 is committed; and $6,963,300 in funds has been issued to 4,316 applicants in 20 counties.

  The Department of Community Services and Development (CSD) has created a $600,000 program to help families pay their water bills. This program targets families through 10 agencies that are experiencing “exceptional” drought. As of Friday, December 26, CSD has reported that a total of $479,308 has been issued to 2,590 households.

  CSD has also implemented a $400,000 Migrant and Seasonal Farmworker (MSFW) drought assistance program, in coordination with the California Human Development (CHD), Central Valley Opportunity Center (CVOC), Center for Employment Training (CET) and Proteus, which provides assistance in employment training and placement services to individuals impacted by the drought. As of Friday, December 26, 128 clients are enrolled in employment training programs, 21 clients have obtained employment, and 128 clients are receiving employment support services. CSD has also reported that a total of $316,652 has been spent to assist participants in completing training employment programs.

- **Bay Delta Conservation Plan Refined to Lessen Impacts on Local Landowners:** In an effort to lessen impacts on Delta landowners and preserve sandhill crane habitat, the administration of Governor Jerry Brown and its federal partners announced several significant changes to the water conveyance portion of the proposed Bay Delta Conservation Plan, including eliminating a proposal to build three new pumping plants along the Sacramento River. Under the proposed changes, gravity -- not large pumps -- would move water in certain places along the Sacramento River. The changes would reduce the need for power and cut down on operation and maintenance costs, while at the same time preserving habitat for sandhill crane.

- **Water Saving Tips Promoted Across the State:** The state's newly improved water conservation website, SaveOurWater.com, is promoting the "Don't Waste Summer" campaign. This campaign provides a new conservation tip each day for the 100 days of summer. Supporters can sign up for daily email tips, and share Save Our Water's Twitter and Facebook feeds for this public awareness campaign.

- **Drought Response Funding:** The $687 million in state drought funding that was appropriated last March through emergency legislation continues to advance toward meeting critical needs. Nearly $625 million of the emergency funds appropriated in March came from sources dedicated to capital improvements to water systems. Since March, state agencies have expedited grant approvals, getting $21 million immediately allocated to grantees that were pre-approved for certain projects. As planned in March, the next $200 million of expedited capital funding was awarded in October, and the remaining $250 million will be granted by fall 2015. State government has also appropriated tens of millions in funding to CAL FIRE over its typical budget to enable staffing-up fire crews much earlier this fire season.

- **Governor's Drought Task Force:** The Task Force continues to take actions that conserve water and coordinate state response to the drought.

Local Government

- **Local Emergency Proclamations**: A total of 60 local Emergency Proclamations have been received to date from city, county, and tribal governments, as well as special districts:

    - **25 Counties:** Glenn, Inyo, Humboldt, Kern, Kings, Lake, Madera, Mariposa, Merced, Modoc, Napa, Plumas, Santa Barbara, San Bernardino, San Joaquin, San Luis Obispo, Shasta, Siskiyou, Sonoma, Sutter, Trinity, Tulare, Tuolumne, Yuba, and El Dorado.

    - **13 Cities:** City of Willits (Mendocino County), City of St. Helena (Napa County), City of Calistoga (Napa County), City of American Canyon (Napa County), City of Santa Barbara (Santa Barbara County), City of Montague (Siskiyou County), City of Live Oak (Sutter County), City of San Juan Bautista (San Benito County), City of Lodi (San Joaquin County), City of Portola (Plumas County), City of Ripon (San Joaquin County), City of Rio Dell (Humboldt County), and City of West Sacramento (Yolo County).

    - **9 Tribes:** Hoopa Valley Tribe (Humboldt County), Yurok Tribe (Humboldt County), Tule River Indian Tribe (Tulare County), Karuk Tribe (Siskiyou/Humboldt Counties), Sherwood Valley Pomo Indian Tribe (Mendocino County), Yocha Dehe Wintun Nation (Yolo County), Cortina Indian Rancheria (Colusa County), Kashia Band of Pomo Indians of the Stewarts Point Rancheria (Sonoma County), and Picayune Rancheria of Chukchansi Indians (Madera County).

- **13 Special Districts:** Brooktrails Township (Mendocino County), Lake Don Pedro Community Services District (Stanislaus County), Placer County Water Agency (Placer County), Twain Harte Community Services District (Tuolumne County), Carpinteria Valley Water District (Santa Barbara County), Meiners Oaks Water District (Ventura County), Mariposa Public Utility District (Mariposa County), Goleta Water District (Santa Barbara County), Montecito Water District (Santa Barbara County), Tuolumne Utilities District (Tuolumne County), Mountain House Community Service District (San Joaquin County), Nevada Irrigation District (Nevada County), and Upper San Gabriel Valley Municipal Water District (Los Angeles County).

- **Water Agency Conservation Efforts**: The Association of California Water Agencies (AWCA) has identified several hundred local water agencies that have implemented water conservation actions. These water agencies are responding to the drought by implementing conservation programs, which include voluntary calls for reduced water usage and mandatory restrictions where water shortages are worst.

- **County Drought Taskforces:** A total of 30 counties have established drought task forces to coordinate local drought response. These counties include: Butte, Glenn, Humboldt, Imperial, Kern, Kings, Lake, Madera, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Orange, Placer, Plumas, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Siskiyou, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, and Yolo.

- **Tribal Taskforce:** A total of 3 tribes have established drought task forces to coordinate tribal drought response. These tribes include: Hoopa Valley Tribe (Humboldt County), Yurok Tribe (Humboldt Counties) and Sherwood Valley Tribe (Mendocino County).

DROUGHT RELATED WEBSITES FOR MORE INFORMATION

Drought.CA.Gov: California's Drought Information Clearinghouse

State's Water Conservation Campaign, Save our Water
Local Government, Drought Clearinghouse and Toolkit

California Department of Food and Agriculture, Drought information
California Department of Water Resources, Current Water Conditions
California Data Exchange Center, Snow Pack/Water Levels
California State Water Resources Control Board, Water Rights, Drought Info and Actions
California Natural Resources Agency, Drought Info and Actions
State Water Resources Control Board, Drinking Water, SWRCB Drinking Water Program
California State Water Project, Information

U.S. Drought Monitor for Current Conditions throughout the Region
U.S. Drought Portal, National Integrated Drought Information System (NIDIS)
National Weather Service Climate Predictor Center
USDA Drought Designations by County CA County Designations
USDA Disaster and Drought Assistance Information USDA Programs
U.S. Small Business Administration Disaster Assistance Office: www.sba.gov/disaster

THE SECRETARY OF THE INTERIOR
WASHINGTON

DEC 24 2014

The Honorable Joseph R. Biden, Jr.
President of the Senate
Washington, DC 20510

Dear Mr. President:

Enclosed is the Annual Operating Plan (AOP) for Colorado River System Reservoirs for 2015. The AOP contains the projected plan of operation of Colorado River reservoirs based on the most probable runoff conditions. The plan of operation reflects use of the reservoirs for all purposes consistent with the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs pursuant to the Colorado River Basin Project Act of September 30, 1968. The AOP for 2015 implements applicable provisions of the Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (2007 Interim Guidelines).

The AOP for 2015 was prepared by the Bureau of Reclamation in consultation with: the seven Colorado River Basin States Governors' representatives; the Upper Colorado River Commission; Native American tribes; appropriate Federal agencies; representatives of the academic and scientific communities, environmental organizations, and the recreation industry; water delivery contractors; contractors for the purchase of Federal power; others interested in Colorado River operations; and the general public, through the Colorado River Management Work Group (Work Group). The Work Group held meetings on May 28, July 31, and September 4, 2014.

The water year release from Lake Powell in the 2015 water year is projected to be 9.00 million acre-feet (maf) (11,100 million cubic meters [mcm]). Given the hydrologic variability of the Colorado River System and based on actual 2015 water year operations, the projected water year release from Lake Powell in 2015 could be in the estimated range of 8.23 maf (10,150 mcm) to 11.63 maf (14,350 mcm) or greater.

Water deliveries in the Lower Basin during calendar year 2015 will be limited to 7.5 maf (9,250 mcm) plus or minus any credits for Intentionally Created Surplus (ICS). The 2007 Interim Guidelines adopted the ICS mechanism that, among other things, encourages the efficient use and management of Colorado River water in the Lower Basin. The ICS credits may be created and delivered in 2015 pursuant to the 2007 Interim Guidelines and appropriate delivery and forbearance agreements.

A volume of up to 1.500 maf (1,850 mcm) of water will be scheduled for delivery to Mexico during calendar year 2015 in accordance with Article 15 of the 1944 United States-Mexico Water Treaty and Minutes No. 242 and 314 (as it may be extended) of the International Boundary and Water Commission (IBWC). In accordance with IBWC Minute No. 319, Mexico may defer delivery of water pursuant to Sections III.1 and III.4 or take delivery of additional water pursuant to Section III.4.

Inflow to Lake Powell has been below average in 12 of the past 15 water years (2000-2014). This 15-year period is the lowest in over 100 years of record keeping on the Colorado River. Accordingly, all water users in the Colorado River Basin are encouraged to prudently manage the use of available supplies.

The Department of the Interior continues to closely monitor water supply conditions in the Colorado River Basin and looks forward to continuing to work with your representatives and other interested stakeholders regarding the management of this vital river system.

Sincerely,

Sally Jewell

Sally Jewell

Enclosure

Identical Letters Sent To:

The Honorable John Hickenlooper
Governor of Colorado
Denver, CO 80203

The Honorable Janice Brewer
Governor of Arizona
Phoeniz, AZ 85007

The Honorable Susana Martinez
Governor of New Mexico
Santa Fe, NM 87501

The Honorable Jerry Brown
Governor of California
Sacramento, CA 95814

The Honorable John Boehner
Speaker of the House of Representatives
Washington, DC 20515

The Honorable Brian Sandoval
Governor or Nevada
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The Honorable Gary Herbert
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Salt Lake City, UT 84114

The Honorable Matt Mead
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(cont.) Identical Letters Sent To:

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Mr. Don Ostler
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Upper Colorado River Commission
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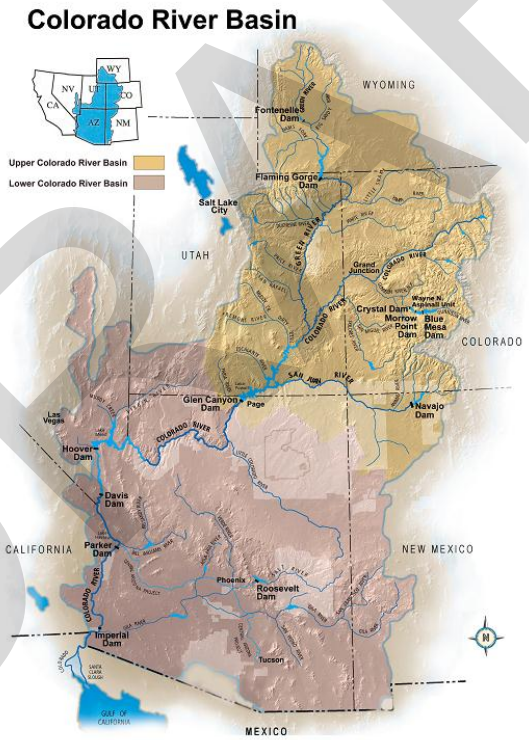
Salt Lake City, UT 84111

RECLAMATION

Managing Water in the West

DRAFT Annual Operating Plan for Colorado River Reservoirs 2015



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U.S. Department of the Interior
Bureau of Reclamation

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INTRODUCTION

Background

Each year's Annual Operating Plan (AOP) for Colorado River Reservoirs reports on both the past operations of the Colorado River reservoirs for the completed year as well as projected operations and releases from these reservoirs for the current (i.e., upcoming) year. Accordingly, this 2015 AOP reports on 2014 operations as well as projected operations for 2015. In recent years, additional operational rules, guidelines, and decisions have been put into place for Colorado River reservoirs including the 1996 Glen Canyon Dam Record of Decision[1] (ROD), the 1997 Operating Criteria for Glen Canyon Dam,[2] the 1999 Off-stream Storage of Colorado River Water Rule (43 CFR Part 414),[3] the 2001 Interim Surplus Guidelines[4] addressing operation of Hoover Dam, the 2006 Flaming Gorge Dam ROD,[5] the 2006 Navajo Dam ROD[6] to implement recommended flows for endangered fish, the 2007 Interim Guidelines for the operations of Lake Powell and Lake Mead,[7] the 2012 Aspinall ROD,[8] and numerous environmental assessments addressing experimental releases from Glen Canyon Dam. Each AOP incorporates these rules, guidelines, and decisions and implements the criteria contained in the applicable decision document or documents. Thus, the AOP makes projections and reports on how the Bureau of Reclamation (Reclamation) will implement these decisions in response to changing water supply conditions as they unfold during the upcoming year, when conditions become known. Congress has charged the Secretary of the Interior (Secretary) with stewardship and responsibility for a wide range of natural, cultural, recreational, and tribal resources within the Colorado River Basin. The Secretary has the authority to operate and maintain Reclamation facilities within the Colorado River Basin addressed in this AOP to help manage these resources and accomplish their protection and enhancement in a manner fully consistent with applicable provisions of

[1] ROD for the Operation of Glen Canyon Dam, October 9, 1996. Available online at: http://www.usbr.gov/uc/rm/amp/pdfs/sp_appndxG_ROD.pdf.
[2] Operating Criteria for Glen Canyon Dam (62 *Federal Register* 9447, March 3, 1997).
[3] Off-stream Storage of Colorado River Water; Development and Release of Intentionally Created Unused Apportionment in the Lower Division States: Final Rule (43 CFR Part 414; 64 *Federal Register* 59006, November 1, 1999). Available online at: http://www.usbr.gov/lc/region/g4000/contracts/FinalRule43cfr414.pdf.
[4] ROD for the Colorado River Interim Surplus Guidelines, January 16, 2001 (67 *Federal Register* 7772, January 25, 2001). Available online at: http://www.usbr.gov/lc/region/g4000/surplus/surplus_rod_final.pdf.
[5] ROD for the Operation of Flaming Gorge Dam, February 16, 2006. Available online at: http://www.usbr.gov/uc/envdocs/rod/fgFEIS/final-ROD-15feb06.pdf.
[6] ROD for Navajo Reservoir Operations, Navajo Unit – San Juan River, New Mexico, Colorado, Utah, July 31, 2006. Available online at: http://www.usbr.gov/uc/envdocs/eis/navajo/pdfs/NavWaterOpsROD2006.pdf.
[7] ROD for Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (73 *Federal Register* 19873, April 11, 2008). The ROD adopting the 2007 Interim Guidelines was signed by the Secretary on December 13, 2007. Available online at: http://www.usbr.gov/lc/region/programs/strategies/RecordofDecision.pdf.
[8] ROD for the Aspinall Unit Operations, Final Environmental Impact Statement, April 2012. Available online at: http://www.usbr.gov/uc/envdocs/eis/AspinallEIS/ROD.pdf.

Federal law including the Law of the River, and other project-specific operational limitations.

The Secretary recognized in the 2007 Interim Guidelines that the AOP serves to integrate numerous federal policies affecting reservoir operations: *"The AOP is used to memorialize operational decisions that are made pursuant to individual federal actions (e.g., ISG* [the 2001 Interim Surplus Guidelines], *1996 Glen Canyon Dam ROD, this* [2007 Interim Guidelines] *ROD). Thus, the AOP serves as a single, integrated reference document required by section 602(b) of the CRBPA of 1968* [Colorado River Basin Project Act of September 30, 1968 (Public Law 90-537)] *regarding past and anticipated operations."*

Authority

This 2015 AOP was developed in accordance with the processes set forth in: Section 602 of the CRBPA; the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs Pursuant to the Colorado River Basin Project Act of September 30, 1968 (P. L. 90-537) (Operating Criteria), as amended, promulgated by the Secretary; and Section 1804(c)(3) of the Grand Canyon Protection Act of 1992 (P. L. 102-575).

Section 602(b) of the CRBPA requires the Secretary to prepare and *"transmit to the Congress and to the Governors of the Colorado River Basin States a report describing the actual operation under the adopted criteria* [i.e., the Operating Criteria] *for the preceding compact water year and the projected operation for the current year."*

This AOP has been developed consistent with: the Operating Criteria; applicable Federal laws; the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, the Treaty Between the United States of America and Mexico, signed February 3, 1944 (1944 United States-Mexico Water Treaty); interstate compacts; court decrees; the Colorado River Water Delivery Agreement;[9] the 2007 Interim Guidelines; and other documents relating to the use of the waters of the Colorado River, which are commonly and collectively known as the "Law of the River."

The 2015 AOP was prepared by Reclamation on behalf of the Secretary, working with other Interior agencies and the Western Area Power Administration (Western). Reclamation consulted with: the seven Colorado River Basin States Governors' representatives; the Upper Colorado River Commission; Native American tribes; other appropriate Federal agencies; representatives of academic and scientific communities; environmental organizations; the recreation industry; water delivery contractors; contractors for the purchase of Federal power; others interested in Colorado River operations; and the general public through the Colorado River Management Work Group.

[9] Colorado River Water Delivery Agreement: Federal Quantification Settlement Agreement for Purposes of Section 5(B) of Interim Surplus Guidelines, October 10, 2003 (69 *Federal Register* 12202, March 15, 2004). Available online at: http://www.usbr.gov/lc/region/g4000/crwda/crwda.pdf.

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Article I(2) of the Operating Criteria allows for revision of the projected plan of operation to reflect current hydrologic conditions with notification to the Congress and the Governors of the Colorado River Basin States of any changes by June of each year. The process for revision of the AOP is further described in Section 7.C of the 2007 Interim Guidelines. Any revision to the final AOP may occur only through the AOP consultation process as required by applicable Federal law.

Purpose

The purpose of the AOP is to illustrate the potential range of reservoir operations that might be expected in the upcoming water year, and to determine or address: (1) the quantity of water considered necessary to be in storage in the Upper Basin reservoirs as of September 30, 2015, pursuant to Section 602(a) of the CRBPA; (2) water available for delivery pursuant to the 1944 United States-Mexico Water Treaty and Minutes No. 242,[10] 314[11] (as it may be extended), and 319[12] of the International Boundary and Water Commission, United States and Mexico (IBWC); (3) whether the reasonable consumptive use requirements of mainstream users in the Lower Division States will be met under a "Normal," "Surplus," or "Shortage" Condition as outlined in Article III of the Operating Criteria and as implemented by the 2007 Interim Guidelines; and (4) whether water apportioned to, but unused by one or more Lower Division States, exists and can be used to satisfy beneficial consumptive use requests of mainstream users in other Lower Division States as provided in the Consolidated Decree of the Supreme Court of the United States in *Arizona v. California*, 547 U.S. 150 (2006) (Consolidated Decree).

Consistent with the above determinations and in accordance with other applicable provisions of the Law of the River, the AOP was developed with "appropriate consideration of the uses of the reservoirs for all purposes, including flood control, river regulation, beneficial consumptive uses, power production, water quality control, recreation, enhancement of fish and wildlife, and other environmental factors" (Operating Criteria, Article I(2)).

Since the hydrologic conditions of the Colorado River Basin can never be completely known in advance, the AOP presents projected operations resulting from three different hydrologic scenarios: the minimum probable, most probable, and maximum probable reservoir inflow conditions. Projected reservoir operations are modified during the water year as runoff forecasts are adjusted to reflect existing snowpack, basin storage, flow conditions, and as changes occur in projected water deliveries.

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[10] Minute No. 242, Permanent and Definitive Solution to the International Problem of the Salinity of the Colorado River dated August 30, 1973. Available online at: http://www.ibwc.gov/Files/Minutes/Min242.pdf.

[11] Minute No. 314, Extension of the Temporary Emergency Delivery of Colorado River Water for use in Tijuana, Baja California dated November 14, 2008. Available online at: http://www.ibwc.state.gov/Files/Minutes/Minute_314.pdf.

[12] Minute No. 319, Interim International Cooperative Measures in the Colorado River Basin Through 2017 and Extension of Minute 318 Cooperative Measures to Address the Continued Effects of the April 2010 Earthquake in the Mexicali Valley, Baja California dated November 20, 2012. Available online at: http://www.ibwc.gov/Files/Minutes/Minute_319.pdf.

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Summary

Upper Basin Delivery. Taking into account (1) the existing water storage conditions in the basin, (2) the August 2014 24-Month Study[13] projection of the most probable near-term water supply conditions in the basin, and (3) Section 6.B of the 2007 Interim Guidelines, the Upper Elevation Balancing Tier will govern the operation of Lake Powell for water year 2015. The August 2014 24-Month Study of the most probable inflow scenario projects the water year 2015 release from Glen Canyon Dam to be 9.00 million acre-feet (maf) (11,100 million cubic meters [mcm]). Given the hydrologic variability of the Colorado River System and based on actual 2014 water year operations, the projected water year release from Lake Powell in 2015 is likely to be in the estimated range of 8.23 maf (10,150 mcm) to 11.63 maf (14,350 mcm) or greater.

For further information about the variability of projected inflow into Lake Powell, see the 2015 Water Supply Assumptions section and the Lake Powell section under the Summary of Reservoir Operations in 2014 and Projected 2015 Reservoir Operations, and Tables 3 and 4.

Lower Basin Delivery. Taking into account (1) the existing water storage conditions in the basin, (2) the most probable near-term water supply conditions in the basin, and (3) Section 2.B.5 of the 2007 Interim Guidelines, the Intentionally Created Surplus (ICS) Surplus Condition will govern the operation of Lake Mead for calendar year 2015 in accordance with Article III(3)(b) of the Operating Criteria and Article II(B)(2) of the Consolidated Decree.

No unused apportionment for calendar year 2015 is anticipated. If any unused apportionment becomes available after adoption of this AOP, Reclamation, on behalf of the Secretary, may allocate any such available unused apportionment for calendar year 2015. Any such allocation shall be made in accordance with Article II(B)(6) of the Consolidated Decree and the Lower Colorado Region Policy for Apportioned but Unused Water[14] (Unused Water Policy).

Colorado River water may be stored off-stream pursuant to individual Storage and Interstate Release Agreements (SIRAs) and 43 CFR Part 414 within the Lower Division States. The Secretary shall make Intentionally Created Unused Apportionment (ICUA) available to contractors in Arizona, California, or Nevada pursuant to individual SIRAs and 43 CFR Part 414.

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[13] The 24-Month Study refers to the operational study conducted by Reclamation to project future reservoir operations. The most recent 24-Month Study report is available on Reclamation's Water Operations websites and is updated each month. Available online at: http://www.usbr.gov/uc/water/crsp/studies/index.html and http://www.usbr.gov/lc/region/g4000/24mo/index.html.

[14] Lower Colorado Region Policy for Apportioned but Unused Water, February 11, 2010. Available online at: http://www.usbr.gov/lc/region/g4000/UnusedWaterPolicy.pdf.

The Inadvertent Overrun and Payback Policy (IOPP), which became effective January 1, 2004, will be in effect during calendar year 2015.[15]

Conserved Colorado River water is anticipated to be added to system reservoirs pursuant to system conservation agreements in calendar year 2015.

The 2007 Interim Guidelines adopted the ICS mechanism that among other things encourages the efficient use and management of Colorado River water in the Lower Basin. ICS may be created and delivered in calendar year 2015 pursuant to the 2007 Interim Guidelines and appropriate delivery and forbearance agreements.

1944 United States-Mexico Water Treaty Delivery. A volume of 1.500 maf (1,850 mcm) of water will be available to be scheduled for delivery to Mexico during calendar year 2015 in accordance with Article 15 of the 1944 United States-Mexico Water Treaty and Minutes No. 242 and 314 (as it may be extended) of the IBWC. In accordance with IBWC Minute No. 319, Mexico may defer delivery of water pursuant to Sections III.1 and III.4 or take delivery of additional water pursuant to Section III.4.

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[15] Record of Decision for Implementation Agreement, Inadvertent Overrun and Payback Policy, and Related Federal Actions, Final Environmental Impact Statement, October 10, 2003 (69 *Federal Register* 12202, March 15, 2004). Available online at: http://www.usbr.gov/lc/region/g4000/crwda/crwda_rod.pdf.

2014 HYDROLOGY SUMMARY AND RESERVOIR STATUS

Near to above average stream flows were observed throughout much of the Colorado River Basin during water year 2014. Unregulated[16] inflow to Lake Powell in water year 2014 was 10.38 maf (12,800 mcm), or 96 percent of the 30-year average[17] which is 10.83 maf (13,360 mcm). Unregulated inflow to Flaming Gorge, Blue Mesa, and Navajo Reservoirs was 116, 120, and 65 percent of average, respectively.

Precipitation in the Upper Colorado River Basin was above average[18] throughout most of water year 2014. On September 30, 2014, the cumulative precipitation for the Upper Colorado River Basin for water year 2014 was 107 percent of average.

Snowpack conditions trended near to above average[19] across much of the Colorado River Basin throughout the snow accumulation season, with the exception of the San Juan River Basin which trended below average. The basin-wide snow water equivalent measured 112 percent of average on April 1, 2014. Total seasonal accumulation peaked at approximately 111 percent of average on April 8, 2014. On April 1, 2014, the snow water equivalents for the Green River, Upper Colorado River headwaters, and San Juan River Basins were 141, 136, and 68 percent of average, respectively.

During the 2014 spring runoff period, inflows to Lake Powell peaked on June 5, 2014 at approximately 64,000 cubic feet per second (cfs) (1,810 cubic meters per second [cms]). The April through July unregulated inflow volume for Lake Powell was 6.92 maf (8,540 mcm) which was 97 percent of average.

Lower Basin tributary inflows above Lake Mead were below average for water year 2014. Tributary inflow from the Little Colorado River for water year 2014 totaled 0.033 maf (41 mcm), or 23 percent of the long-term average.[20] Tributary inflow from the Virgin River for water year 2014 totaled 0.108 maf (133 mcm), or 61 percent of the long-term average.

Tributary inflows in the Lower Colorado River Basin below Hoover Dam were below average during water year 2014. Total tributary inflow for water year 2014 from the Bill

[16] Unregulated inflow adjusts for the effects of operations at upstream reservoirs. It is computed by adding the change in storage and the evaporation losses from upstream reservoirs to the observed inflow. Unregulated inflow is used because it provides an inflow time series that is not biased by upstream reservoir operations.
[17] Inflow statistics throughout this document will be compared to the mean of the 30-year period 1981-2010, unless otherwise noted.
[18] Precipitation statistics throughout this document are provided by the National Weather Service's Colorado Basin River Forecast Center and are based on the mean for the 30-year period 1981-2010, unless otherwise noted.
[19] Snowpack and snow water equivalent statistics throughout this document are provided by the Natural Resources Conservation Service and are based on the median for the 30-year period 1981-2010, unless otherwise noted.
[20] The basis for the long-term average of tributary inflows in the Lower Basin is natural flow data from 1981 to 2010. Additional information regarding natural flows may be found at http://www.usbr.gov/lc/region/g4000/NaturalFlow/current.html.

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Williams River was 0.015 maf (19 mcm), or 16 percent of the long-term average, and total tributary inflow from the Gila River was 0.006 maf (7.4 mcm).[21]

The Colorado River total system storage experienced a net increase of 0.112 maf (140 mcm) in water year 2014. Reservoir storage in Lake Powell increased during water year 2014 by 1.35 maf (1,670 mcm). Reservoir storage in Lake Mead decreased during water year 2014 by 2.24 maf (2,760 mcm). At the beginning of water year 2014 (October 1, 2013), Colorado River total system storage was 50 percent of capacity. As of September 30, 2014, total system storage was 50 percent of capacity.

Tables 1 and 2 list the October 1, 2014, reservoir vacant space, live storage, water elevation, percent of capacity, change in storage, and change in water elevation during water year 2014.

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[21] Tributary inflow from the Gila River to the mainstream is very sporadic. These flows occur very seldom and when they do they are typically of high magnitude.

Table 1. Reservoir Conditions on October 1, 2014 (English Units)

Reservoir	Vacant Space	Live Storage	Water Elevation	Percent of Capacity	Change in Storage*	Change in Elevation*
	(maf)	(maf)	(ft)	(%)	(maf)	(ft)
Fontenelle	0.031	0.314	6502.1	91	0.081	11.2
Flaming Gorge	0.466	3.28	6,028.3	88	0.466	13.0
Blue Mesa	0.230	0.599	7,492.3	72	0.251	36.0
Navajo	0.614	1.08	6,037.0	64	0.147	14.7
Lake Powell	12.0	12.3	3,605.5	51	1.35	14.3
Lake Mead	16.0	10.1	1,081.3	39	-2.24	-25.6
Lake Mohave	0.108	1.65	641.0	94	0.032	0.8
Lake Havasu	0.037	0.583	448.2	94	0.023	1.2
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Totals	29.5	30.0		50	0.112	

* From October 1, 2013, to September 30, 2014.

Table 2. Reservoir Conditions on October 1, 2014 (Metric Units)

Reservoir	Vacant Space	Live Storage	Water Elevation	Percent of Capacity	Change in Storage*	Change in Elevation*
	(mcm)	(mcm)	(m)	(%)	(mcm)	(m)
Fontenelle	38.3	387	1,981.8	91	99.9	3.4
Flaming Gorge	574	4,050	1,837.4	88	575	4.0
Blue Mesa	283	739	2,283.6	72	309	11.0
Navajo	758	1,330	1,840.1	64	182	4.5
Lake Powell	14,800	15,200	1,099.0	51	1,670	4.4
Lake Mead	19,400	12,500	329.6	39	-2,760	-7.8
Lake Mohave	133	2,100	195.4	94	39.4	0.2
Lake Havasu	45.3	719	136.6	94	28.3	0.4
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Totals	36,100	37,000		51	140	

* From October 1, 2013, to September 30, 2014.

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2015 WATER SUPPLY ASSUMPTIONS

For 2015 operations, three reservoir unregulated inflow scenarios were developed and analyzed: minimum probable, most probable, and maximum probable.

There is considerable uncertainty associated with streamflow forecasts and projections of reservoir operations made a year in advance. The National Weather Service's Colorado Basin River Forecast Center (CBRFC) forecasts the inflow for the minimum probable (90 percent exceedance), most probable (50 percent exceedance), and maximum probable (10 percent exceedance) inflow scenarios for 2015 using an Ensemble Streamflow Prediction model. Based upon the August CBRFC forecast, the range of unregulated inflows is projected to be as follows:

- The forecasted minimum probable unregulated inflow to Lake Powell in water year 2015 is 6.50 maf (8,020 mcm), or 60 percent of average.
- The forecasted most probable unregulated inflow to Lake Powell in water year 2015 is 9.72 maf (11,990 mcm), or 90 percent of average.
- The forecasted maximum probable unregulated inflow to Lake Powell in water year 2015 is 17.0 maf (20,970 mcm), or 157 percent of average.

Projected unregulated inflow volumes into Lake Powell for specific time periods for these three forecasted inflow scenarios are shown in Tables 3 and 4.

Inflows to the mainstream from Lake Powell to Lake Mead, Lake Mead to Lake Mohave, Lake Mohave to Lake Havasu, and below Lake Havasu are projected using historic data over the five-year period of January 2009 through December 2013, inclusive. These five years of historic data are representative of the most recent hydrologic conditions in the Lower Basin. The most probable side inflows into each reach are estimated as the arithmetic mean of the five-year record. The maximum probable and minimum probable projections for each reach are the 10 percent and 90 percent exceedance values, respectively, of the five-year record. For the reach from Lake Powell to Lake Mead, the minimum probable inflow during water year 2015 is 0.635 maf (783 mcm), the most probable inflow is 0.861 maf (1,060 mcm), and the maximum probable inflow is 1.09 maf (1,340 mcm).

The projected monthly volumes of inflow were input into the 24-Month Study and used to project potential reservoir operations for 2015. Starting with the projected October 1, 2014, reservoir storage conditions, the projected monthly releases for each reservoir were adjusted until release and storage levels best accomplished project purposes and applicable operational objectives.

For the latest monthly projections for the major reservoirs in the Colorado River system, please see the most recent 24-Month Study report available on these Reclamation websites:

http://www.usbr.gov/uc/water/crsp/studies/index.html, or
http://www.usbr.gov/lc/region/g4000/24mo/index.html.

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Table 3. Projected Unregulated Inflow into Lake Powell for Water Year 2015 (English Units)[22]

Time Period	Minimum Probable (maf)	Most Probable (maf)	Maximum Probable (maf)
10/14 – 12/14	1.31	1.20	1.50
1/15 – 3/15	1.41	1.27	1.76
4/15 – 7/15	3.39	6.50	12.2
8/15 – 9/15	0.395	0.750	1.50
10/15 – 12/15	1.11	1.28	1.73
WY 2015	6.50	9.72	17.0
CY 2015	6.31	9.80	17.2

Table 4. Projected Unregulated Inflow into Lake Powell for Water Year 2015 (Metric Units)

Time Period	Minimum Probable (mcm)	Most Probable (mcm)	Maximum Probable (mcm)
10/14 – 12/14	1,620	1,480	1,850
1/15 – 3/15	1,740	1,570	2,170
4/15 – 7/15	4,180	8,020	15,050
8/15 – 9/15	487	925	1,850
10/15 – 12/15	1,370	1,580	2,130
WY 2015	8,020	11,990	20,970
CY 2015	7,780	12,090	21,220

[22] All values in Tables 3 and 4 are projected inflows based upon the August CBRFC forecast with the exception of the values for 10/15-12/15. The values for 10/15-12/15 are based upon average unregulated inflow from 1981-2010. The calendar year totals in Tables 3 and 4 also reflect average values for the 10/15-12/15 time period.

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SUMMARY OF RESERVOIR OPERATIONS IN 2014 AND PROJECTED 2015 RESERVOIR OPERATIONS

The operation of the Colorado River reservoirs has affected some aquatic and riparian resources. Controlled releases from dams have modified temperature, sediment load, and flow patterns, resulting in increased productivity of some riparian and non-native aquatic resources and the development of economically significant sport fisheries. However, these same releases have detrimental effects on endangered and other native species. Operating strategies designed to protect and enhance aquatic and riparian resources have been established after appropriate National Environmental Policy Act (NEPA) compliance at several locations in the Colorado River Basin.

In the Upper Basin, public stakeholder work groups have been established at Fontenelle Dam, Flaming Gorge Dam, the Aspinall Unit, and Navajo Dam. These work groups provide a public forum for dissemination of information regarding ongoing and projected reservoir operations throughout the year and allow stakeholders the opportunity to provide information and feedback with respect to ongoing reservoir operations. Additionally, the Glen Canyon Dam Adaptive Management Work Group (AMWG)[23] was established in 1997 as a chartered committee under the Federal Advisory Committee Act of 1972 (Public Law 92-463).

Modifications to projected operations are routinely made based on changes in forecasted conditions or other relevant factors. Within the parameters set forth in the Law of the River and consistent with the Upper Colorado River Endangered Fish Recovery Program (Upper Colorado Recovery Program),[24] the San Juan River Basin Recovery Implementation Program (San Juan Recovery Program),[25] Section 7 consultations under the Endangered Species Act, and other downstream concerns, modifications to projected monthly operations may be based on other factors in addition to changes in streamflow forecasts. Decisions on spring peak releases and downstream habitat target flows may be made midway through the runoff season. Reclamation will conduct meetings with Recovery Program participants, the U.S. Fish and Wildlife Service (Service), other Federal agencies, representatives of the Basin States, and with public stakeholder work groups to facilitate the discussions necessary to finalize site-specific projected operations.

The following paragraphs discuss reservoir operations in 2014 and the range of probable projected 2015 operations of each of the reservoirs with respect to applicable provisions of compacts, the Consolidated Decree, statutes, regulations, contracts, and instream flow needs for maintaining or improving aquatic and riparian resources where appropriate.

[23] Information on the AMWG can be found at www.usbr.gov/uc/rm/amp.
[24] Information on the Upper Colorado Recovery Program can be found at http://coloradoriverrecovery.org.
[25] Information on the San Juan Recovery Program can be found at www.fws.gov/southwest/sjrip.

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Fontenelle Reservoir

Fontenelle Reservoir began water year 2014 with 0.233 maf (287 mcm) in storage, which is 67 percent of full capacity and corresponds to an elevation of 6,490.87 feet (1,978.42 meters). Hydrologic conditions in the Upper Green River Basin were above average in water year 2014. Snowpack development tracked above average and, with late season storms, melt began later than average with the peak snow water equivalent reaching 162 percent of seasonal median on April 8, 2014. The April forecast for the April through July inflow to Fontenelle Reservoir was 1.21 maf (1,490 mcm), or 167 percent of average. The actual observed inflow during the April to July season was 1.05 maf (1,300 mcm), or 145 percent of average.

Fontenelle Reservoir filled in water year 2014. The reservoir elevation peaked at 6,506.15 feet (1,983.07 meters) on July 24, 2014, which was 0.15 feet (0.07 meters) above the spillway crest. Releases were made through the spillway in order to flush out accumulated debris in the spillway stilling pool. Inflow peaked at 10,987 cfs (310.9 cms) on June 2, 2014. In response to the high inflow, reservoir releases were increased during the summer months to balance downstream water resources and power production, while also allowing for filling the reservoir to maintain sufficient water in storage for use through the fall and winter months. Releases peaked at 8,000 cfs (226.4 cms) during June and were reduced to 1,275 cfs (36.1 cms) in August.

Based on the August 2014 24-Month Study, the most probable April through July inflow scenario for Fontenelle Reservoir during water year 2015 is 0.700 maf (863 mcm), or 97 percent of average. This volume far exceeds the 0.345 maf (426 mcm) storage capacity of Fontenelle Reservoir. For this reason, the most probable and maximum probable inflow scenarios would require releases during the spring that exceed the capacity of the powerplant to avoid uncontrolled spills from the reservoir. It is very likely that Fontenelle Reservoir will fill during water year 2015. In order to minimize high spring releases and to maximize downstream water resources and power production, the reservoir will most likely be drawn down to about elevation 6,468.00 feet (1,971.45 meters) by early April 2015, which is 5.00 feet (1.52 meters) above the minimum operating level for power generation, and corresponds to a volume of 0.111 maf (137 mcm) of live storage.

Flaming Gorge Reservoir

Flaming Gorge Reservoir showed an overall increase in storage during water year 2014. The reservoir began water year 2014 with 2.82 maf (3,480 mcm) of live storage, which is 80 percent of live capacity and corresponds to an elevation of 6,015.33 feet (1,833.47 meters). Inflow to Flaming Gorge Reservoir during water year 2014 was above average. Unregulated inflow in water year 2014 was 1.69 maf (2,080 mcm), which is 116 percent of average. The reservoir elevation at the end of the water year (September 30, 2014) was 6,028.31 feet (1,837.43 meters) corresponding to a volume of 3.28 maf (4,050 mcm). The end of water year reservoir elevation was 11.69 feet (3.6 meters) below the full pool

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elevation (6,040.00 feet [1,840.99 meters]) which corresponded to an available storage space of 0.466 maf (574 mcm).

Flaming Gorge Dam operations in 2014 were in compliance with the 2006 Flaming Gorge ROD. Reclamation convened the Flaming Gorge Technical Working Group (FGTWG) comprised of the Service, Western, and Reclamation personnel. The FGTWG proposed Reclamation manage releases to the Green River to meet the commitments of the ROD and, to the extent possible, meet the experimental design parameters outlined in the Upper Colorado River Endangered Fish Recovery Program (Recovery Program) Larval Trigger Study Plan (LTSP).[26] In response to the LTSP parameters, Flaming Gorge releases were increased to powerplant capacity of 4,600 cfs (130 cms) on May 30, 2014. Larvae were detected on May 28, 2014 and releases were further increased to combined powerplant and bypass capacity on June 6, 2014 (approximately 8,600 cfs [243 cms]) for a total of nine days at bypass capacity. Yampa River flows at the Deerlodge gage peaked at 16,500 cfs (467 cms) on June 1, 2014 and were on the descending limb of the hydrograph during the LTSP. Deerlodge flows were less than or equal to 12,000 cfs (340 cms) when Flaming Gorge releases were at bypass capacity in support of the LTSP.

The hydrologic conditions during spring 2014 consisted of above average snow accumulation with late season storms increasing snowpack and shifting runoff to later in the season. Yampa River spring peak flows were above average. The ROD hydrologic classification for the Upper Green was average. Yampa River conditions began in the moderately wet category and decreased to average. Releases from Flaming Gorge Dam remained at an average daily release of 830 cfs (23.5 cms) through May 29, 2014, when releases were increased to meet the LTSP request. After releases for the LTSP concluded, releases were decreased to base flow releases of 1,675 cfs (47.4 cms). Flows at Jensen met or exceeded targets in Reach 2 for the ROD Flow Recommendation of one-day peak duration at 18,600 cfs (526 cms) and the LTSP average (above median) target of 18,600 cfs (526.4 cms) for a total of 4 days, all of which occurred during larval drift.

Consistent with the ROD, considering information provided to the FGTWG, average hydrologic conditions and in response to the request of the Service, Reclamation operated Flaming Gorge Dam to produce flows at 40 percent above Reach 2 average daily base flows in the Green River during the summer of 2014. The ROD base flow period hydrologic classification was average as of August 2014. Daily base flows fluctuated during the summer to meet 2,400 cfs (67.9 cms) on the Green River at Jensen, Utah through September 30, 2014.

During water year 2015, Flaming Gorge Dam will continue to be operated in accordance with the ROD. Under the most probable inflow scenario, winter base flow releases are projected to be in the average classification range between 800 cfs (22.6 cms) and 2,200 cfs (62.3 cms). Daily base flows will likely fluctuate during the winter in response to hydropower needs during December through February and meet the average-year reservoir

[26] The LTSP's primary objective is to determine the effects of timing of Flaming Gorge spring release on razorback sucker larvae in the reach below the confluence of the Green and Yampa Rivers. The LTSP Report is available online at: http://www.usbr.gov/uc/water/crsp/wg/fg/twg/twgSummaries.html.

upper level drawdown elevation target of 6,027.00 feet (1,837.03 meters) by May 1, 2015. A spring peak release is projected to occur sometime in May or June 2015, and will be timed to coincide with either the peak flows of the Yampa River or emergence of razorback sucker larvae. Reclamation is considering long-term implementation strategies for the Recovery Program LTSP.

The Recovery Program, in coordination with Reclamation, the Service, and Western, will continue conducting studies associated with floodplain inundation. Such studies may result in alternatives for meeting flow and temperature recommendations at lower peak flow levels where feasible.[27]

Blue Mesa, Morrow Point, and Crystal Reservoirs (Aspinall Unit)

Blue Mesa Reservoir experienced an overall increase in storage in water year 2014. At the beginning of water year 2014 (October 1, 2013), the elevation of Blue Mesa was 7,456.24 feet (2,272.66 meters), and the storage content was 0.348 maf (429 mcm), which was 42 percent of capacity.

Above average snowpack conditions prevailed in the Gunnison River Basin during water year 2014. Snow measurement sites in the basin reported above average seasonal snow water equivalent levels throughout the winter and into the spring of 2014. On April 1, 2014, the snow water equivalent for the Gunnison River Basin was 107 percent of average.

The April forecast for the April through July unregulated inflow above Blue Mesa was 0.850 maf (1,050 mcm) which was 126 percent of average. The actual April through July unregulated inflow into Blue Mesa Reservoir in 2014 was 0.849 maf (1,050 mcm), which was 126 percent of average.

The release rate from Crystal Dam was approximately 310 cfs (8.8 cms) from October 31, 2013 through February 19, 2014, when it was increased by about 90 cfs (2.5 cms). On March 27, 2014, releases from Crystal Dam were increased for operation of Gunnison Tunnel. Releases through the Black Canyon were approximately 450 cfs (12.7 cms). Releases from the Aspinall Unit pursuant to the ROD reached over 9,000 cfs (255 cms) for 5 days and over 7,000 cfs (198 cms) for 21 days. Flows under the ROD operations equaled or exceeded the flow rates in the Black Canyon Water Right Decree.[28] Flows through the Black Canyon and Gunnison River Gorge averaged approximately 880 cfs (24.9 cms) over the July through August period.

During water year 2014, the peak elevation of Blue Mesa Reservoir occurred on June 6, 2014, at an elevation of 7,505.06 feet (2,287.54 meters), which was 14.34 feet (4.37 meters)

[27] Flow and Temperature Recommendations for Endangered Fishes in the Green River Downstream of Flaming Gorge Dam, September 2000. Available online at: http://ulpeis.anl.gov/documents/dpeis/references/pdfs/Muth_et_al_2000.pdf.

[28] Decree quantifying the Federal Reserved Water Right for Black Canyon of the Gunnison National Park (State of Colorado District Court, Water Division Four, Case Number 01CW05), signed on January 8, 2009.

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below full pool. Storage in Blue Mesa Reservoir increased during water year 2014 by 0.251 maf (309 mcm) and ended the water year at 0.599 maf (739 mcm) which was 72 percent of capacity. Total unregulated inflow into Blue Mesa Reservoir for water year 2014 was 1.15 maf (1,420 mcm) and this was 120 percent of average.

On May 3, 2012, Reclamation signed a ROD for the operation of the Aspinall Unit. For water year 2015, the Aspinall Unit will be operated in accordance with the 2012 ROD, including required consultations, while maintaining and continuing to meet the Congressionally authorized purposes.

The projected most probable unregulated inflow for water year 2015 into Blue Mesa Reservoir is 0.910 maf (1122 mcm), or 95 percent of average. The reservoir is expected to decrease to a seasonal low elevation of 7,477.63 feet (2,279.18 meters) by October 31, 2014. The peak elevation is expected to be approximately 7,516.4 feet (2,291 meters) near the end of July 2015. By the end of water year 2015, Blue Mesa Reservoir is expected to be at elevation 7,502.77 feet (2,286.8 meters), with a storage of 0.684 maf (844 mcm), or 82 percent of capacity.

Navajo Reservoir

Navajo Reservoir experienced an overall increase in storage in water year 2014. At the beginning of the 2014 water year, Navajo Reservoir was at an elevation of 6,022.28 feet (1,835.59 meters) which was 55 percent of live capacity and corresponded to a live storage content of 0.933 maf (1,150 mcm). Snowpack conditions in the San Juan River Basin were persistently below average during the winter months. On April 1, 2014, the snow water equivalent in the San Juan River Basin above Navajo Reservoir was 68 percent of the seasonal average for the basin.

Inflow to Navajo Reservoir in water year 2014 was below average. Water year 2014 modified unregulated inflow[29] to Navajo Reservoir was 0.696 maf (859 mcm), or 65 percent of average. The April through July modified unregulated inflow into Navajo Reservoir in water year 2014 was 0.428 maf (528 mcm), or 58 percent of average.

Navajo Reservoir reached a peak water surface elevation of 6,047.05 feet (1,843.14 meters) on June 15, 2014, which was 37.95 feet (11.57 meters) below full pool. The water surface elevation at Navajo Reservoir on September 30, 2014, was 6,036.99 feet (1,840.07 meters), with a reservoir storage volume of 1.08 maf (1,330 mcm) or 64 percent of capacity.

The San Juan Flow Recommendations,[30] completed by the San Juan Recovery Program in May 1999, provide flow recommendations that promote the recovery of the endangered Colorado River pikeminnow and razorback sucker, maintain important habitat for these two

[29] Modified Unregulated inflow into Navajo Reservoir is equivalent to unregulated inflow adjusted for trans-basin diversion through the San Juan-Chama Project.
[30] Flow Recommendations for the San Juan River, May 1999. Available online at: http://www.fws.gov/southwest/sjrip/pdf/DOC_Flow_recommendations_San_Juan_River.pdf.

species as well as the other native species, and provide information for the evaluation of continued water development in the basin. The flow recommendations are scheduled to be reviewed by the San Juan Recovery Program in fiscal year 2015.

In 2006, Reclamation completed a NEPA process on the implementation of operations at Navajo Dam. The ROD[31] for the Navajo Reservoir Operations Final EIS (Navajo Reservoir ROD) was signed by the Regional Director of Reclamation's Upper Colorado Region on July 31, 2006.

Navajo Reservoir was operated in compliance with the Navajo Reservoir ROD in 2014, including the San Juan Recovery Program Flow Recommendations target base flows. The San Juan Flow Recommendations also recommended conducting a one-week spring peak release in 2014 under the most probable inflow conditions. However, Reclamation, in consultation with the San Juan Recovery Program, decided not to conduct a 2014 spring peak release in an effort to recover reservoir storage.

In 2012, a four-year agreement on recommendations for San Juan River operations and administration was developed among major users to limit their water use in years 2013-2016, to the rates and volumes indicated in the agreement.[32] The agreement includes limitations on diversions for 2013-2016, criteria for determining a shortage, and shortage-sharing requirements in the event of a water supply shortfall, including sharing of shortages between the water users and the flows for endangered fish habitat.

During water year 2015, Navajo Reservoir will be operated in accordance with the Navajo Reservoir ROD. Navajo Reservoir storage levels are expected to be below average in 2015 under the most probable inflow forecast. Base releases from the reservoir will likely range from 250 cfs (7.10 cms) to 500 cfs (14.2 cms) through the winter. Under the most probable April through July modified unregulated inflow forecast of 0.631 maf (779 mcm) in 2015, a one-week spring peak release would be recommended in the San Juan Recovery Program's Flow Recommendations. The reservoir is projected to reach a peak elevation of 6,057.25 feet (1,846.25 meters) in May 2015. The reservoir is projected to reach a minimum elevation of 6,038.57 feet (1,840.56 meters) in February 2015.

Under the minimum probable 2015 April through July inflow forecast of 0.266 maf (328 mcm), there will not be a spring peak release made during the spring of 2015. Under the maximum probable 2015 April through July inflow forecast of 1.04 maf (1,283 mcm), a full spring peak release will be recommended as described in the San Juan Flow Recommendations.

[31] Record of Decision for the Navajo Reservoir Operations, Navajo Unit –San Juan River, New Mexico, Colorado, Utah Final Environmental Impact Statement. Available online at: http://www.usbr.gov/uc/envdocs/eis/navajo/pdfs/NavWaterOpsROD2006.pdf.

[32] Recommendations for San Juan River Operations and Administration for 2013-2016, July 2, 2012. Available online at: http://www.fws.gov/southwest/sjrip/DR_SS03.cfm.

Lake Powell

Reservoir storage in Lake Powell increased during water year 2014. On October 1, 2013, the beginning of water year 2014, reservoir storage in Lake Powell was 45 percent of capacity at elevation 3,591.25 feet (1,094.61 meters), with 10.93 maf (13,480 mcm) in storage. On September 30, 2014, the reservoir storage in Lake Powell was 12.29 maf (15,200 mcm) at 51 percent of full capacity, resulting in a net gain during water year 2014 of 1.35 maf (1,670 mcm). The unregulated inflow to Lake Powell during water year 2014 was near average at 96 percent of average. Lake Powell ended the water year on September 30, 2014, at elevation 3,605.53 feet (1,098.97 meters).

The August 2013 24-Month Study was run to project the January 1, 2014, elevations of Lake Powell and Lake Mead and determine the water year 2014 operating tier for Lake Powell. Using the most probable inflow scenario, and with an 8.23 maf annual release pattern for Lake Powell, the January 1, 2014, reservoir elevations of Lake Powell and Lake Mead were projected to be 3,573.69 feet (1,089.26 meters) and 1,107.39 feet (337.53 meters), respectively. Given these projections, the annual release volume from Lake Powell during water year 2014 was 7.48 maf (9,230 mcm), consistent with the Mid-Elevation Release Tier (Section 6.C of the 2007 Interim Guidelines).

The April through July unregulated inflow to Lake Powell in water year 2014 was 6.92 maf (8,540 mcm) which was 97 percent of average. Lake Powell reached a peak elevation for water year 2014 of 3,609.68 feet (1,100.23 meters) on July 11, 2014, which was 90.32 feet (27.53 meters) below full pool. This peak elevation corresponds to a live storage content of 12.70 maf (15,670 mcm).

The second experimental release under the 2012 High-Flow Experimental Protocol (Protocol)[33] was conducted during November 2013. Reclamation made releases at the maximum available capacity (37,000 cfs [1,050 cms]) during the experiment which began on November 11 and ended on November 16, 2013. Approximately 0.143 maf (176 mcm) was bypassed during the experiment. The total annual release from Glen Canyon Dam in water year 2014 did not change as a result of the High Flow Experiment.

The ten-year total flow of the Colorado River at Lee Ferry[34] for water years 2005 through 2014 is 89.52 maf (110,420 mcm). This total is computed as the sum of the flow of the Colorado River at Lees Ferry, Arizona, and the Paria River at Lees Ferry, Arizona, surface water discharge stations which are operated and maintained by the United States Geological Survey.

2015 Operating Tier and Projected Operations for Glen Canyon Dam. The January 1, 2015, reservoir elevations of Lake Powell and Lake Mead are projected under the most probable inflow scenario to be 3,596.62 feet (1,096.25 meters) and 1,083.37 feet (330.21

[33] Finding of No Significant Impact for the Environmental Assessment for Development and Implementation of a Protocol for High-Flow Experimental Releases from Glen Canyon Dam, Arizona through 2020. Available online at: http://www.usbr.gov/uc/envdocs/ea/gc/HFEProtocol/index.html.

[34] A point in the mainstream of the Colorado River one mile below the mouth of the Paria River.

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meters), respectively, based on the August 2014 24-Month Study. Given these projections, the operating tier and annual release volume from Lake Powell during water year 2015 will be consistent with the Upper Elevation Balancing Tier (Section 6.B of the 2007 Interim Guidelines) and under Section 6.B.1, the annual release would be 8.23 maf (10,150 mcm). The Upper Elevation Balancing Tier, however, does provide for the possibility of adjustments to operation of Lake Powell based on the projected end of water year conditions of Lake Powell and Lake Mead from the April 24-Month Study.

If the April 2015 24-Month Study, with a water year release volume of 8.23 maf (10,150 maf) projects the September 30, 2015, Lake Powell elevation to be greater than 3,649.00 feet (1,112.22 meters), operations will be adjusted and the Equalization Tier will govern the operation of Lake Powell for the remainder of the water year consistent with Section 6.B.3. If this condition occurs, and an adjustment is made, the water year release volume will likely be greater than 8.23 maf (10,150 mcm) and will be determined based on the Equalization Tier as described in Section 6.A of the 2007 Interim Guidelines.

If the April 2015 24-Month Study, with a water year release volume of 8.23 maf (10,150 mcm) projects the September 30, 2015, Lake Mead elevation to be below 1,075.00 feet (327.66 meters), and the September 30, 2015, Lake Powell elevation to be at or above 3,575.00 feet (1,089.66 meters), the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release not more than 9.00 maf (11,100 mcm) and not less than 8.23 maf (10,150 mcm) from Lake Powell in water year 2015 consistent with Section 6.B.4 of the 2007 Interim Guidelines.

Under the minimum probable inflow scenario, the August 2014 24-Month Study, with a projected water year release volume of 8.23 maf (10,150 mcm) in water year 2015, projects the elevation of Lake Powell on September 30, 2015, would be 3,585.99 feet (1,093.01 meters). This elevation is below the Equalization Level for water year 2015 of 3,649.00 feet (1,112.22 meters). Based on this projection, an April adjustment to balancing is projected to occur under the minimum probable inflow scenario and the water year release for 2015 is projected to be 9.00 maf (10,150 mcm). The end of water year elevation and storage of Lake Powell is projected to be 3,577.82 feet (1,090.52 meters) and 9.75 maf (12,030 mcm), respectively based on the minimum probable inflow scenario.

Under the most probable inflow scenario, the August 2014 24-Month Study, with a projected water year release volume of 8.23 maf (10,150 mcm) in water year 2015, projects the elevations of Lake Powell and Lake Mead on September 30, 2015, would be 3,610.00 feet (1,100.33 meters) and 1,065.01 feet (324.62 meters), respectively. Based on these projections, under the most probable inflow scenario, an April adjustment to balancing is projected to occur during water year 2015. Consistent with Section 6.B.4, the 2015 water year release volume projected under the most probable inflow scenario is 9.00 maf (10,150 mcm) and the end of water year elevation and storage of Lake Powell is projected to be 3,602.84 feet (1,098.15 meters) and 12.02 maf (14,830 mcm), respectively.

Under the maximum probable inflow scenario, the August 2014 24-Month Study, with a projected water year release volume of 8.23 maf (10,150 mcm) in water year 2015, projects

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the elevation of Lake Powell on September 30, 2015, would be 3,663.32 feet (1,116.58 meters). This elevation is above the Equalization Level for water year 2015. For this reason, under the maximum probable inflow scenario, an April adjustment to equalization is projected to occur such that the Equalization Tier would govern the operation of Lake Powell for the remainder of water year 2015 consistent with Section 6.B.3 of the 2007 Interim Guidelines. The 2015 water year release volume to achieve Equalization under the maximum probable inflow scenario is 11.63 maf (14,350 mcm) and the end of water year elevation and storage of Lake Powell is projected to be 3,638.39 feet (1,108.98 meters) and 15.81 maf (19,500 mcm), respectively.

In 2015, scheduled maintenance activities at Glen Canyon Dam powerplant will require that one or more of the eight generating units periodically be offline. Coordination between Reclamation offices in Salt Lake City, Utah, and Page, Arizona, and Western will take place in the scheduling of maintenance activities to minimize impacts to operations throughout the water year including experimental releases.

Because of less than full storage conditions in Lake Powell resulting from drought in the Colorado River Basin, releases from Glen Canyon Dam for dam safety purposes are highly unlikely in 2015. If implemented, releases greater than powerplant capacity would be made consistent with the 1956 Colorado River Storage Project Act, the CRBPA, and to the extent practicable, the recommendations made pursuant to the Grand Canyon Protection Act of 1992. Reservoir releases in excess of powerplant capacity required for dam safety purposes during high reservoir conditions may be used to accomplish the objectives of the beach/habitat-building flow according to the terms contained in the 1996 Glen Canyon Dam ROD and as published in the 1997 Glen Canyon Dam Operating Criteria (*Federal Register*, Volume 62, No. 41, March 3, 1997).

Releases from Lake Powell in water year 2015 will continue to reflect consideration of the uses and purposes identified in the authorizing legislation for Glen Canyon Dam. Releases will reflect criteria based on the findings, conclusions, and recommendations made in the 1996 Glen Canyon Dam ROD for the Glen Canyon Dam Final Environmental Impact Statement (GCDFEIS) (required by the Grand Canyon Protection Act of 1992) and other Secretarial decisions.

Monthly releases are updated to be consistent with annual volumes determined pursuant to the 2007 Interim Guidelines. Monthly releases for 2015 will also be consistent with the GCDFEIS/ROD.

For the latest monthly projections for Lake Powell, please see the most recent 24-Month Study report available on Reclamation's Upper Colorado Region Water Operations website:

http://www.usbr.gov/uc/water/crsp/studies/index.html.

Daily and hourly releases in 2015 will be made according to the parameters of the 1996 Glen Canyon Dam ROD for the GCDFEIS and the 1997 Glen Canyon Dam Operating Criteria. These parameters set the maximum and minimum flows and ramp rates within

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which the releases must be made. Exceptions to these parameters may be made during power system emergencies, during experimental releases, or for purposes of humanitarian search and rescue.

The Department of the Interior is conducting planning for high-flow experimental releases from Glen Canyon Dam in November 2014 and March-April 2015 in accordance with the Protocol.

Lake Mead

For calendar year 2014, the ICS Surplus Condition was the criterion governing the operation of Lake Mead in accordance with Article III(3)(b) of the Operating Criteria, Article II(B)(2) of the Consolidated Decree, and Section 2.B.5 of the 2007 Interim Guidelines. Delivery of water to Mexico was scheduled in accordance with Article 15 of the 1944 United States-Mexico Treaty and Minutes No. 242 and 319 of the IBWC.

Lake Mead began water year 2014 on October 1, 2013, at elevation 1,106.92 feet (337.39 meters), with 12.36 maf (15,250 mcm) in storage, which is 47 percent of the conservation capacity[35] of 26.12 maf (32,220 mcm). Lake Mead increased to elevation 1,108.75 feet (337.95 meters) by the end of January 2014. After January 2014, Lake Mead declined during water year 2014 to elevation 1,081.33 feet (329.59 meters) with 10.12 maf (12,480 mcm) in storage (39 percent of capacity) on September 30, 2014.

The total release from Lake Mead through Hoover Dam during water year 2014 was 9.76 maf (12,040 mcm). The total release from Lake Mead through Hoover Dam during calendar year 2014 is projected to be 9.66 maf (11,920 mcm).

The total inflow into Lake Mead is a combination of water released from Glen Canyon Dam plus inflows in the reach between Glen Canyon and Hoover Dams. In water year 2014, inflow into Lake Mead was 8.16 maf (10,070 mcm), consisting of 7.48 maf (9,230 mcm) of water released from Glen Canyon Dam and 0.675 maf (833 mcm) of inflows between Glen Canyon and Hoover Dams. For water year 2015, under the most probable inflow scenario, total inflow into Lake Mead is anticipated to be 9.86 maf (12,160 mcm).

Under the most probable inflow scenario during 2015, the elevation of Lake Mead is projected to decrease to 1,069.54 feet (326.00 meters), with 9.16 maf (11,300 mcm) in storage, at the end of June 2015. At the end of water year 2015, Lake Mead's elevation is projected to be 1,074.06 feet (327.37 meters), with 9.53 maf (11,760 mcm) in storage, and is projected to increase to 1,078.01 feet (328.58 meters) with 9.85 maf (12,150 mcm) at the end of calendar year 2015.

[35] Conservation capacity is the amount of space available for water storage between Lake Mead's water surface elevations 895 feet (272.8 meters) and 1,219.6 feet (371.7 meters), the start of the exclusive flood control space as defined in the Field Working Agreement Between Department of the Interior, Bureau of Reclamation and Department of the Army, Corps of Engineers for Flood Control of Hoover Dam and Lake Mead, Colorado River, Nevada-Arizona, February 8, 1984.

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Based on the August 2014 24-Month Study, Lake Mead's elevation on January 1, 2015, is projected to be 1,083.37 feet (330.21 meters). In accordance with Section 2.B.5 of the 2007 Interim Guidelines, the ICS Surplus Condition will govern the releases and diversions from Lake Mead in calendar year 2015. Releases from Lake Mead through Hoover Dam for water year and calendar year 2015 are anticipated to be approximately the same as 2014 releases.

For the latest monthly projections for Lake Mead, please see the most recent 24-Month Study report available on Reclamation's Lower Colorado Region Water Operations website:

http://www.usbr.gov/lc/region/g4000/24mo/index.html.

Lakes Mohave and Havasu

Lake Mohave started water year 2014 at an elevation of 640.23 feet (195.14 meters) with 1.62 maf (2,000 mcm) in storage. The water level of Lake Mohave was regulated between elevation 636.95 feet (194.14 meters) and 644.01 feet (196.29 meters) during the water year, ending at an elevation of 641.03 feet (195.39 meters), with 1.65 maf (2,040 mcm) in storage. During water year 2014, 9.40 maf (11,600 mcm) was released from Davis Dam. The calendar year 2014 total release is projected to be 9.34 maf (11,520 mcm).

For water and calendar years 2015, Davis Dam is projected to release approximately the same amount of water as in 2014, and the water level in Lake Mohave will be regulated between an elevation of approximately 633 feet (193 meters) and 645 feet (197 meters).

Lake Havasu started water year 2014 at an elevation of 446.96 feet (136.23 meters) with 0.560 maf (691 mcm) in storage. The water level of Lake Havasu was regulated between elevation 445.37 feet (135.75 meters) and 448.48 feet (136.70 meters) during the water year, ending at an elevation of 448.17 feet (136.60 meters), with 0.583 maf (719 mcm) in storage. During water year 2014, 6.50 maf (8,010 mcm) was released from Parker Dam. The calendar year 2014 total release is projected to be 6.49 maf (8,010 mcm).

For water and calendar years 2015, Parker Dam is expected to release approximately the same amount of water as in 2014, and the water level in Lake Havasu will be regulated between an elevation of approximately 446 feet (136 meters) and 450 feet (137 meters).

Lakes Mohave and Havasu are scheduled to be drawn down in the late summer and fall months to provide storage space for local storm runoff and will be filled in the winter to meet higher summer water needs. This drawdown also corresponds with normal maintenance at both Davis and Parker powerplants scheduled for September through March.

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Bill Williams River

Abnormally dry to severe drought conditions persisted in western Arizona, including the Bill Williams River watershed, during water year 2014. Tributary inflows into Alamo Lake were below average during water year 2014 and water released by the U.S. Army Corps of Engineers (USACE) from Alamo Dam totaled 0.015 maf (19 mcm) for water year 2014, approximately 16 percent of the long-term average.

Due to below average tributary inflows during water year 2014, Alamo Lake storage decreased by 0.007 maf (8.6 mcm) from October 1, 2013, to September 30, 2014. During this period, Alamo Lake decreased from elevation 1,093.10 feet (333.18 meters) to elevation 1,090.18 feet (332.26 meters). In water year 2014, average daily releases from Alamo Lake ranged from 10 to 25 cfs (0.28 to 0.71 cms).

Senator Wash and Laguna Reservoirs

Senator Wash Reservoir is an off-stream regulating storage facility below Parker Dam (approximately 142 river miles downstream) and has a storage capacity of 0.014 maf (17.3 mcm) at full pool elevation of 251.0 feet (76.5 meters). The reservoir is used to store excess flows from the river caused by water user cutbacks, side wash inflows due to rain, and other factors. Stored waters are utilized to meet the water demands in Arizona and California and the delivery obligation to Mexico.

Since 1992, elevation restrictions have been in place on Senator Wash Reservoir due to potential piping and liquefaction of foundation and embankment materials at West Squaw Lake Dike and Senator Wash Dam. Currently, Senator Wash Reservoir is restricted to an elevation of 240.0 feet (73.2 meters) with 0.009 maf (11.1 mcm) of storage, a loss of about 0.005 maf (6.2 mcm) of storage from its original capacity. Senator Wash Reservoir elevation must not exceed an elevation of 238.0 feet (72.5 meters) for more than 10 consecutive days. This reservoir restriction is expected to continue in 2015.

Laguna Reservoir is a regulating storage facility located approximately five river miles downstream of Imperial Dam and is primarily used to capture sluicing flows from Imperial Dam. The storage capability of Laguna Reservoir has diminished from about 1,500 acre-feet (1.85 mcm) to approximately 400 acre-feet (0.493 mcm) due to sediment accumulation and vegetation growth. Sediment accumulation in the reservoir has occurred primarily due to flood releases that occurred in 1983 and 1984, and flood control or space building releases that occurred between 1985 and 1988 and from 1997 through 1999.

Sediment removal at Laguna Reservoir has begun so that operational sluicing can be reestablished. The Laguna Basin Dredging project will dredge approximately 2.25 million cubic yards (1.72 mcm) of sediment, reestablishing 140 acres (0.57 square kilometers) of open water. As of September 2014, approximately 0.557 million cubic yards (0.425 mcm) of material have been removed. All dredged material will be disposed of in a designated area adjacent to the project site. The project incorporates the use of both land-based and

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waterborne heavy equipment. The project permit was obtained from the USACE in May 2013 and is valid through May 2016.

Imperial Dam

Imperial Dam is the last diversion dam on the Colorado River for United States water users. From the head works at Imperial Dam, water is diverted into the All-American Canal for use in the United States and Mexico on the California side of the dam, and into the Gila Gravity Main Canal on the Arizona side of the dam. These diversions supply all the irrigation districts in the Yuma area, in Wellton-Mohawk, in the Imperial and Coachella Valleys, and through Siphon Drop and Pilot Knob, to the Northerly International Boundary (NIB) for diversion at Morelos Dam to the Mexicali Valley in Mexico. The diversions also supply much of the domestic water needs in the Yuma area. Flows arriving at Imperial Dam for calendar year 2014 are projected to be 5.35 maf (6,600 mcm). The flows arriving at Imperial Dam for calendar year 2015 are projected to be 5.45 maf (6,720 mcm).

Gila River Flows

During water year 2014, there was below average snowfall in the Gila River Basin, including the Salt and Verde River watersheds. The Salt River Project did not release water from its system in excess of diversion requirements at Granite Reef Diversion Dam; therefore, no water reached or was released from Painted Rock Dam by the USACE in water year 2014.

Warren H. Brock Reservoir

The Warren H. Brock (Brock) Reservoir is located near the All-American Canal in Imperial County, California. Construction of the reservoir began in 2008 and was completed in the summer of 2010 with commissioning in September. The first filling and drainage test began in September 2010 and was completed in November 2010. In February 2011, Reclamation began operating the reservoir with the Imperial Irrigation District (IID) under an interim operating agreement. On July 5, 2012, Reclamation and IID entered into a long-term operations and maintenance agreement for Brock Reservoir.

The purpose of the 0.008 maf (9.9 mcm) Brock Reservoir is to reduce nonstorable flows and to enhance beneficial use of Colorado River water within the United States. The reservoir reduces the impact of loss of water storage at Senator Wash due to operational restrictions and provides additional regulatory storage, allowing for more efficient management of water below Parker Dam.

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Yuma Desalting Plant

The Yuma Desalting Plant (YDP) was authorized in 1974 under the Colorado River Basin Salinity Control Act (Public Law 93-320) which authorized the federal government to construct the YDP to desalt the drainage flows from the Wellton-Mohawk Division of the Gila Project. This would allow the treated water to be delivered to Mexico as part of its 1944 United States-Mexico Water Treaty allotment. The United States has met salinity requirements established in IBWC Minute No. 242 primarily through use of a canal to bypass Wellton-Mohawk drain water to the Ciénega de Santa Clara (Ciénega), a wetland of open water, vegetation, and mudflats within a Biosphere Reserve in Mexico. In calendar year 2014, the amount of water discharged from the Wellton-Mohawk Division through the bypass canal is anticipated to be 0.110 maf (136 mcm), measured at the Southerly International Boundary (SIB), at an approximate concentration of total dissolved solids of 2,700 parts per million (ppm).

Off-stream Storage Agreements

Colorado River water may be stored off-stream pursuant to individual SIRAs and 43 CFR Part 414 within the Lower Division States. The Secretary shall make ICUA available to contractors in Arizona, California, or Nevada pursuant to individual SIRAs and 43 CFR Part 414. The Southern Nevada Water Authority (SNWA) may propose to make unused Nevada basic apportionment available for storage by the Metropolitan Water District of Southern California (MWD) and/or Arizona Water Banking Authority (AWBA) in calendar years 2014 and 2015.[36,37]

System Conservation

System conservation agreements allow water users to participate in voluntary programs to conserve a portion of their approved annual consumptive use of Colorado River water. The water conserved would be stored and retained in Lake Powell and Lake Mead for the benefit of the entire Colorado River system.

In 2013, a pilot fallowing program agreement was executed between the Central Arizona Water Conservation District (CAWCD), through the Central Arizona Groundwater Replenishment District (CAGRD), and the Yuma Mesa Irrigation and Drainage District

[36] Storage and Interstate Release Agreement among The United States of America, acting through the Secretary of the Interior; The Metropolitan Water District of Southern California; the Southern Nevada Water Authority; and the Colorado River Commission of Nevada, October 21, 2004. Available online at: http://www.usbr.gov/lc/region/g4000/contracts/SNWA_MWDSIRAfinal.pdf.

[37] Storage and Interstate Release Agreement among The United States of America, acting through the Secretary of the Interior; The Arizona Water Banking Authority; the Southern Nevada Water Authority; and the Colorado River Commission of Nevada, December 18, 2002. Available online at: http://www.usbr.gov/lc/region/g4000/contracts/SIRAfinal.pdf.

(YMIDD) (Pilot Fallowing Program).[38] The Pilot Fallowing Program is being conducted in two 3-year phases (2014 to 2016; 2017 to 2019). CAWCD and YMIDD proposed that the water conserved in the first phase would remain in Lake Mead as system water. Approximately 0.009 maf (11 mcm) will be conserved in both 2014 and 2015 under this program.

In 2014, a funding agreement for system conservation was executed among Reclamation, CAWCD, MWD, Denver Water (DW), and SNWA (SC Funding Agreement).[39] The SC Funding Agreement establishes a pilot program for funding the creation of Colorado River system water through voluntary water conservation actions and reductions in water use beginning in 2015 and continuing through 2016. All water conserved as a result of the pilot program would be for the sole purpose of adding to storage levels in Lake Powell and Lake Mead to benefit the Colorado River system. The program's current funding, from both Federal appropriations and contributions by the non-Federal signatories to the SC Funding Agreement, totals $11 million. The SC Funding Agreement requires that a minimum of $2.75 million be spent on conservation projects in the Upper Basin. Other entities may also contribute funding by providing money through a party to the SC Funding Agreement.

Intentionally Created Surplus

The 2007 Interim Guidelines included the adoption of the ICS mechanism that, among other things, encourages the efficient use and management of Colorado River water in the Lower Basin. ICS may be created through several types of activities that include improvements in system efficiency, extraordinary conservation, tributary conservation, and the importation of non-Colorado River System water into the Colorado River mainstream over the course of a calendar year. Several implementing agreements[40] were executed concurrent with the issuance of the ROD for the 2007 Interim Guidelines. ICS credits may be created and delivered in calendar years 2014 and 2015 pursuant to the 2007 Interim Guidelines and the implementing agreements. ICS balances by state, user, and type of ICS may be found in the

[38] Yuma Mesa Irrigation and Drainage District and Central Arizona Water Conservation District Pilot Fallowing and Forbearance Agreement, dated September 12, 2013.

[39] Agreement Among the United States of America, through the Department of the Interior, Bureau of Reclamation, the Central Arizona Water Conservation District, the Metropolitan Water District of Southern California, Denver Water, and the Southern Nevada Water Authority, for a Pilot Program for Funding the Creation of Colorado River System Water through Voluntary Water Conservation and Reductions in Use, dated July 30, 2014. Available online at: http://www.usbr.gov/newsroom/docs/2014-07-30-Executed-Pilot-SCP-Funding-Agreement.pdf.

[40] Delivery Agreement between the United States and IID; Delivery Agreement between the United States and MWD; Delivery Agreement between the United States, SNWA and the Colorado River Commission of Nevada (CRCN); Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement among the Arizona Department of Water Resources, SNWA, CRCN, the Palo Verde Irrigation District (PVID), IID, Coachella Valley Water District (CVWD), MWD, and the City of Needles; and the California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus among the PVID, IID, CVWD, MWD, and the City of Needles. These agreements are available online at: http://www.usbr.gov/lc/region/programs/strategies/documents.html.

annual Colorado River Accounting and Water Use Report, Arizona, California, and Nevada.[41]

Extraordinary Conservation ICS. IID has approved plans to create up to 0.025 maf (31 mcm) of Extraordinary Conservation ICS in 2014 and 2015. MWD has approved plans to create up to 0.200 maf (247 mcm) of Extraordinary Conservation ICS in 2014 and 2015. Contractors with available Extraordinary Conservation ICS may request delivery of ICS credits in 2014 and 2015.

System Efficiency ICS. When the Brock reservoir project was funded, CAWCD, MWD, and SNWA received System Efficiency ICS credits in exchange for funding. In 2014 and 2015, MWD and SNWA may request an annual delivery of up to 0.025 maf (31 mcm) and 0.040 maf (49 mcm) of those System Efficiency ICS credits, respectively. When the YDP Pilot Run was conducted, CAWCD, MWD, and SNWA received System Efficiency ICS credits in exchange for funding. Approximately 0.030 maf (37 mcm) of System Efficiency ICS credits from the YDP Pilot Run were created in 2010 and 2011. MWD and SNWA may request delivery of these System Efficiency ICS credits in proportion to their capital contributions in 2014 or a subsequent year. Under the funding arrangements for Brock Reservoir and the YDP Pilot Run, CAWCD has agreed not to request delivery of System Efficiency ICS credits in 2014 and 2015.

Tributary Conservation ICS. SNWA has approved plans to create up to 0.037 maf (46 mcm) of Tributary Conservation ICS in 2014 and 2015. Any Tributary Conservation ICS not delivered for use by SNWA in the calendar year created will, at the beginning of the following year, be converted to Extraordinary Conservation ICS pursuant to the 2007 Interim Guidelines.

Imported ICS. SNWA has approved plans to create up to 0.009 maf (11 mcm) of Imported ICS in 2014 and 2015. Any Imported ICS not delivered for use by SNWA in the calendar year created will, at the beginning of the following year, be converted to Extraordinary Conservation ICS pursuant to the 2007 Interim Guidelines.

Delivery of Water to Mexico

Delivery to Mexico pursuant to the 1944 United States-Mexico Water Treaty, and IBWC Minute No. 319, is anticipated to be approximately 1.549 maf (1,910 mcm) in calendar year 2014, reflecting an anticipated downward adjustment of approximately 0.056 maf (69 mcm) and a pulse flow delivery of approximately 0.105 maf (130 mcm) in accordance with IBWC Minute No. 319. Balances of water deferred by Mexico in previous years may be found in the annual Colorado River Accounting and Water Use Report, Arizona, California, and Nevada.[42] Excess flows arriving at the NIB are anticipated to be 0.040 maf (49 mcm) in calendar year 2014. Excess flows result from a combination of factors, including heavy rain

[41] Available online at: http://www.usbr.gov/lc/region/g4000/wtracct.html.
[42] Available online at: http://www.usbr.gov/lc/region/g4000/wtracct.html.

from winter storms, water ordered but not delivered to United States users downstream of Parker Dam, inflows into the Colorado River below Parker Dam, and spills from irrigation facilities below Imperial Dam.

Of the scheduled delivery to Mexico in calendar year 2014, approximately 1.409 maf (1,740 mcm) is projected to be delivered at NIB and approximately 0.140 maf (173 mcm) is projected to be delivered at SIB. No water is anticipated to be delivered to Tijuana, Baja California in calendar year 2014.[43]

Pursuant to Section III.6.e.i of IBWC Minute No. 319, a pulse flow of approximately 0.105 maf (130 mcm) was delivered to Mexico from March 23 through May 18, 2014 to benefit the riparian ecosystem. Consistent with the Minute, the source of water to implement this flow was from water deferred under Section III.1 of IBWC Minute No. 319. Implementation of the pulse flow also involved a monitoring component conducted by scientists and experts from the United States and Mexico to determine the environmental benefits of the pulse flow and the overall performance of the pilot project.

Of the total delivery at SIB projected in calendar year 2014, approximately 0.116 maf (143 mcm) is projected to be delivered from the Yuma Project Main Drain and approximately 0.024 maf (30 mcm) is expected to be delivered by the Protective and Regulatory Pumping Unit (Minute No. 242 wells).

Pursuant to the 1944 United States-Mexico Water Treaty, a volume of 1.500 maf (1,850 mcm) will be available to be scheduled for delivery to Mexico in calendar year 2015. In accordance with IBWC Minute No. 319, Mexico may defer delivery of water pursuant to Sections III.1 and III.4 or take delivery of additional water pursuant to Section III.4. Following execution and approval of an extension to IBWC Minute No. 314 and an amendment to the Emergency Delivery Agreement,[44] IBWC may request water to be delivered for Tijuana through MWD, the San Diego County Water Authority, and the Otay Water District's respective distribution system facilities in California. Approximately 0.140 maf (173 mcm) is projected to be delivered at SIB and the remainder of the water to be scheduled for delivery to Mexico in 2015 will be delivered at NIB.

Drainage flows to the Colorado River from the Yuma Mesa Conduit and South Gila Drain Pump Outlet Channels are projected to be 0.017 maf (21 mcm) and 0.023 maf (28 mcm), respectively, for calendar year 2014. This water is available for delivery at NIB in satisfaction of the 1944 United States-Mexico Water Treaty. Reclamation holds a permit[45] from the Arizona Department of Water Resources (ADWR) to pump an additional 0.025 maf (30.8 mcm) of groundwater annually for water delivery to Mexico to replace water

[43] IBWC Minute No. 314 and the Emergency Delivery Agreement expired on November 9, 2013; therefore, a new minute and an amendment to the Emergency Delivery Agreement are required to extend the temporary emergency delivery of Colorado River water for use in Tijuana.
[44] Amendment No. 1 to Agreement for Temporary Emergency Delivery of a Portion of the Mexican Treaty Waters of the Colorado River to the International Boundary in the Vicinity of Tijuana, Baja California, Mexico, and for the Operation of Facilities in the United States, dated November 26, 2008.
[45] ADWR Transport Permit Number 30-001 entitled Permit to Transport Groundwater Withdrawn from the Yuma Groundwater Basin, March 1, 2007.

bypassed to the Ciénega through the bypass canal. Salinity conditions have not allowed for increased pumping and Reclamation will continue to monitor and evaluate conditions under the permit in the future.

As stated in Minute No. 242, the maximum allowable salinity differential is 145 ppm by the United States' measurement or count and 151 ppm by the Mexican count. The salinity differential for calendar year 2014 is projected to be 140 ppm by the United States' count.

Mexico has identified four critical months, October through January, regarding improving the quality of water delivered at SIB. As a matter of comity, the United States has agreed to reduce the salinity of water delivered at SIB during this period. To accomplish the reduction in salinity, the United States constructed a diversion channel to bypass up to 0.008 maf (9.9 mcm) of Yuma Valley drainage water during the four critical months identified by Mexico. This water will be replaced by better quality water from the Minute No. 242 well field to reduce the salinity at SIB. Reclamation anticipates bypassing approximately 0.001 maf (1.2 mcm) in calendar year 2014 to the diversion channel for salinity control and up to 0.008 maf (9.9 mcm) in calendar year 2015.

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2015 DETERMINATIONS

The AOP provides projections regarding reservoir storage and release conditions during the upcoming year, based upon Congressionally mandated and authorized storage, release, and delivery criteria and determinations. After meeting these criteria and determinations, specific reservoir releases may be modified within these requirements as forecasted inflows change in response to climatic variability and to provide additional benefits coincident to the projects' multiple purposes.

Upper Basin Reservoirs

Section 602(a) of the CRBPA provides for the storage of Colorado River water in Upper Basin reservoirs and the release of water from Lake Powell that the Secretary finds reasonably necessary to assure deliveries to comply with Articles III(c), III(d), and III(e) of the 1922 Colorado River Compact without impairment to the annual consumptive use in the Upper Basin. The Operating Criteria provide that the annual plan of operation shall include a determination of the quantity of water considered necessary to be in Upper Basin storage at the end of the water year after taking into consideration all relevant factors including historic streamflows, the most critical period of record, the probabilities of water supply, and estimated future depletions. Water not required to be so stored will be released from Lake Powell:

- to the extent it can be reasonably applied in the States of the Lower Division to the uses specified in Article III(e) of the 1922 Colorado River Compact, but these releases will not be made when the active storage in Lake Powell is less than the active storage in Lake Mead;

- to maintain, as nearly as practicable, active storage in Lake Mead equal to the active storage in Lake Powell; and

- to avoid anticipated spills from Lake Powell.

Taking into consideration all relevant factors required by Section 602(a)(3) of the CRBPA and the Operating Criteria, it is determined that the active storage in Upper Basin reservoirs projected for September 30, 2015, under the most probable inflow scenario would be below the threshold required under Section 602(a) of the CRBPA.

Taking into account (1) the existing water storage conditions in the basin, (2) the August 2014 24-Month Study projection of the most probable near-term water supply conditions in the basin, and (3) Section 6.B of the 2007 Interim Guidelines, the Upper Elevation Balancing Tier will govern the operation of Lake Powell for water year 2015. The August 2014 24-Month Study of the most probable inflow scenario projects the water year 2015 release from Glen Canyon Dam to be 9.00 maf (11,100 mcm). Given the hydrologic variability of the Colorado River System and based on actual 2014 water year operations,

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the projected water year release from Lake Powell in 2015 could be in the estimated range of 8.23 maf (10,150 mcm) to 11.63 maf (14,350 mcm) or greater.

Lower Basin Reservoirs

Pursuant to Article III of the Operating Criteria and consistent with the Consolidated Decree, water shall be released or pumped from Lake Mead to meet the following requirements:

(a) 1944 United States-Mexico Water Treaty obligations;
(b) Reasonable beneficial consumptive use requirements of mainstream users in the Lower Division States;
(c) Net river losses;
(d) Net reservoir losses;
(e) Regulatory wastes; and
(f) Flood control.

The Operating Criteria provide that after the commencement of delivery of mainstream water by means of the Central Arizona Project, the Secretary will determine the extent to which the reasonable beneficial consumptive use requirements of mainstream users are met in the Lower Division States. Reasonable beneficial consumptive use requirements are met depending on whether a Normal, Surplus, or Shortage Condition has been determined. The Normal Condition is defined as annual pumping and release from Lake Mead sufficient to satisfy 7.500 maf (9,250 mcm) of consumptive use in accordance with Article III(3)(a) of the Operating Criteria and Article II(B)(1) of the Consolidated Decree. The Surplus Condition is defined as annual pumping and release from Lake Mead sufficient to satisfy in excess of 7.500 maf (9,250 mcm) of consumptive use in accordance with Article III(3)(b) of the Operating Criteria and Article II(B)(2) of the Consolidated Decree. An ICS Surplus Condition is defined as a year in which Lake Mead's elevation is projected to be above elevation 1,075.0 feet (327.7 meters) on January 1, a Flood Control Surplus has not been determined, and delivery of ICS has been requested. The Secretary may determine an ICS Surplus Condition in lieu of a Normal Condition or in addition to other operating conditions that are based solely on the elevation of Lake Mead. The Shortage Condition is defined as annual pumping and release from Lake Mead insufficient to satisfy 7.500 maf (9,250 mcm) of consumptive use in accordance with Article III(3)(c) of the Operating Criteria and Article II(B)(3) of the Consolidated Decree.

The 2007 Interim Guidelines are being utilized in calendar year 2015 and serve to implement the narrative provisions of Article III(3)(a), Article III(3)(b), and Article III(3)(c) of the Operating Criteria and Article II(B)(1), Article II(B)(2), and Article II(B)(3) of the Consolidated Decree for the period through 2026. The 2007 Interim Guidelines will be used annually by the Secretary to determine the quantity of water available for use within the Lower Division States.

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Consistent with the 2007 Interim Guidelines, the August 2014 24-Month Study was used to forecast the system storage as of January 1, 2015. Based on a projected January 1, 2015, Lake Mead elevation of 1,083.37 feet (330.21 meters) and consistent with Section 2.B.5 of the 2007 Interim Guidelines, the ICS Surplus Condition will govern releases for use in the states of Arizona, Nevada, and California during calendar year 2015 in accordance with Article III(3)(b) of the Operating Criteria and Article II(B)(2) of the Consolidated Decree. Water deliveries in the Lower Basin during calendar year 2015 will be limited to 7.500 maf (9,250 mcm) plus or minus any credits for ICS.

Article II(B)(6) of the Consolidated Decree allows the Secretary to allocate water that is apportioned to one Lower Division State but is for any reason unused in that state to another Lower Division State. This determination is made for one year only, and no rights to recurrent use of the water accrue to the state that receives the allocated water. No unused apportionment for calendar year 2015 is anticipated. If any unused apportionment becomes available after adoption of this AOP, Reclamation, on behalf of the Secretary, shall allocate any such available unused apportionment for calendar year 2015 in accordance with Article II(B)(6) of the Consolidated Decree and the Unused Water Policy.

Water may be stored off-stream pursuant to individual SIRAs and 43 CFR Part 414 within the Lower Division States. The Secretary shall make ICUA available to contractors in Arizona, California, or Nevada pursuant to individual SIRAs and 43 CFR Part 414. SNWA may propose to make unused Nevada basic apportionment available for storage by MWD and/or AWBA in calendar year 2015.

The IOPP, which became effective January 1, 2004, will be in effect during calendar year 2015. In calendar year 2015, Arizona paybacks are projected to be 0.0003 maf (0.4 mcm). Payback balances by state and user may be found in the annual Colorado River Accounting and Water Use Report, Arizona, California, and Nevada.[46]

In calendar year 2015, conserved Colorado River water is anticipated to be added to system reservoirs pursuant to the SC Funding Agreement and the CAGRD/YMIDD Pilot Program.

The 2007 Interim Guidelines included the adoption of the ICS mechanism that among other things encourages the efficient use and management of Colorado River water in the Lower Basin. The ICS Surplus Condition will govern Lower Basin operations in calendar year 2015 and ICS credits will be created and delivered pursuant to the 2007 Interim Guidelines and appropriate delivery and forbearance agreements.

Given the limitation of available supply and recent low inflow amounts within the Colorado River Basin, the Secretary, through Reclamation, will continue to review Lower Basin operations to assure that all deliveries and diversions of mainstream water are in strict accordance with the Consolidated Decree, applicable statutes, contracts, rules, and agreements.

[46] Available online at: http://www.usbr.gov/lc/region/g4000/wtracct.html.

As provided in Section 7.C of the 2007 Interim Guidelines, the Secretary may undertake a mid-year review to consider revisions of the current AOP. For Lake Mead, the Secretary shall revise the determination in any mid-year review for the current year only to allow for additional deliveries from Lake Mead pursuant to Section 7.C of the 2007 Interim Guidelines.

1944 United States-Mexico Water Treaty

Under the minimum probable, most probable, and maximum probable inflow scenarios, water in excess of that required to supply uses in the United States and the guaranteed quantity of 1.500 maf (1,850 mcm) allotted to Mexico will not be available, subject to any increased amounts delivered consistent with Section III.4 of IBWC Minute No. 319. Vacant storage space in mainstream reservoirs is substantially greater than that required by flood control regulations. Therefore, a volume of 1.500 maf (1,850 mcm) of water will be available to be scheduled for delivery to Mexico during calendar year 2015 subject to and in accordance with Article 15 of the 1944 United States-Mexico Water Treaty and Minutes No. 242 and 314 (as it may be extended) of the IBWC. In accordance with IBWC Minute No. 319, Mexico may defer delivery of water pursuant to Sections III.1 and III.4 or take delivery of additional water pursuant to Section III.4.

Calendar year schedules of the monthly deliveries of Colorado River water are formulated by the Mexican Section of the IBWC and presented to the United States Section before the beginning of each calendar year. Pursuant to the 1944 United States-Mexico Water Treaty, the monthly quantity prescribed by those schedules may be increased or decreased by not more than 20 percent of the monthly quantity, upon 30-day notice in advance to the United States Section. Any change in a monthly quantity is offset in another month so that the total delivery for the calendar year is unchanged, subject to the provisions of the 1944 United States-Mexico Water Treaty and IBWC Minute No. 319 (which contains specific provisions regarding adjustment of delivery schedules).

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DISCLAIMER

Nothing in this AOP is intended to interpret the provisions of the Colorado River Compact (45 Stat. 1057); the Upper Colorado River Basin Compact (63 Stat. 31); the Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, Treaty Between the United States of America and Mexico (Treaty Series 994, 59 Stat. 1219); the United States/Mexico agreement in Minute No. 242 of August 30, 1973, (Treaty Series 7708; 24 UST 1968) or Minute No. 314 of November 26, 2008 (as it may be extended), or Minute No. 319 of November 20, 2012; the Consolidated Decree entered by the Supreme Court of the United States in *Arizona v. California* (547 U.S 150 (2006)); the Boulder Canyon Project Act (45 Stat. 1057; 43 U.S.C. 617); the Boulder Canyon Project Adjustment Act (54 Stat. 774; 43 U.S.C. 618a); the Colorado River Storage Project Act (70 Stat. 105; 43 U.S.C. 620); the Colorado River Basin Project Act (82 Stat. 885; 43 U.S.C. 1501); the Colorado River Basin Salinity Control Act (88 Stat. 266; 43 U.S.C. 1951); the Hoover Power Plant Act of 1984 (98 Stat. 1333); the Hoover Power Allocation Act of 2011 (125 Stat. 777); the Colorado River Floodway Protection Act (100 Stat. 1129; 43 U.S.C. 1600); the Grand Canyon Protection Act of 1992 (Title XVIII of Public Law 102-575, 106 Stat. 4669); or the Decree Quantifying the Federal Reserved Right for Black Canyon of the Gunnison National Park (Case No. 01CW05, District Court, Colorado Water Division No. 4, 2008).

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ACRONYMS AND ABBREVIATIONS

ADWR	Arizona Department of Water Resources
AMP	Glen Canyon Dam Adaptive Management Program
AMWG	Glen Canyon Dam Adaptive Management Work Group
AOP	Annual Operating Plan
AWBA	Arizona Water Banking Authority
CAGRD	Central Arizona Groundwater Replenishment District
CAWCD	Central Arizona Water Conservation District
CBRFC	National Weather Service's Colorado Basin River Forecast Center
CFR	Code of Federal Regulations
cfs	cubic feet per second
cms	cubic meters per second
CRBPA	Colorado River Basin Project Act of 1968
CRCN	Colorado River Commission of Nevada
CVWD	Coachella Valley Water District
DW	Denver Water
EIS	Environmental Impact Statement
FGTWG	Flaming Gorge Technical Work Group
FONSI	Finding of No Significant Impact
GCDFEIS	Glen Canyon Dam Final Environmental Impact Statement of 1996
IBWC	International Boundary and Water Commission, United States and Mexico
ICS	Intentionally Created Surplus
ICUA	Intentionally Created Unused Apportionment
IID	Imperial Irrigation District
IOPP	Inadvertent Overrun and Payback Policy
LTSP	Larval Trigger Study Plan
maf	million acre-feet
mcm	million cubic meters
MWD	The Metropolitan Water District of Southern California
NEPA	National Environmental Policy Act of 1969, as amended
NIB	Northerly International Boundary
P. L.	Public Law
ppm	parts per million
PVID	Palo Verde Irrigation District
Reclamation	United States Bureau of Reclamation
ROD	Record of Decision
Secretary	Secretary of the United States Department of the Interior
Service	United States Fish and Wildlife Service
SIB	Southerly International Boundary
SIRA	Storage and Interstate Release Agreement
SNWA	Southern Nevada Water Authority
USACE	United States Army Corps of Engineers
Western	Western Area Power Administration
YDP	Yuma Desalting Plant
YMIDD	Yuma Mesa Irrigation and Drainage District

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RESOLUTION
of the
UPPER COLORADO RIVER COMMISSION
December 10, 2014

Regarding Development of an Emergency Upper Basin Drought Contingency Plan

WHEREAS, the Upper Colorado River Commission (Commission) was created by the Upper Colorado River Basin Compact (Compact) between the States of Arizona, Colorado, New Mexico, Utah and Wyoming on October 11, 1948, and consented to by Congress by the Act of April 6, 1949 (63 Stat. 31, Chapter 48);

WHEREAS, Article VIII of the Compact empowers the Commission to perform certain functions including, but not limited to:

i. Engaging in cooperative studies of water supplies of the Colorado River and its tributaries;
ii. Collecting, analyzing, correlating, preserving and reporting on data as to the stream flows, storage, and diversion of water from the Colorado River and its tributaries;
iii. Making findings as to the quantity of water of the Upper Colorado River System used each year in the Upper Colorado River Basin and in each Upper Basin State;
iv. Making findings on the quantity of water deliveries at Lee Ferry during each water year;
v. Making findings as to the necessity for and the extent of the curtailment of use required, if any; and
vi. Performing all functions required by the Compact and doing all things necessary, proper and convenient in the performance of its duties either independently or in cooperation with any state or federal agency;

WHEREAS, the Colorado River Storage Project Act (CRSP Act) and the Colorado River Basin Project Act authorized the Secretary of the Interior to construct and operate initial units consisting of Glen Canyon, Flaming Gorge, Curecanti (Aspinall), and Navajo, to, among other things, allow Colorado, New Mexico, Utah and Wyoming (collectively, the "Upper Division states") to utilize their share of the Colorado River and meet their obligations at Lee Ferry under the Colorado River Compact;

WHEREAS, Lake Powell serves as the primary storage facility for the Upper Division states to ensure ongoing compliance with the Colorado River Compact without curtailment of annual consumptive uses in the Upper Basin;

WHEREAS, the period 2000 to 2014 constituted the most severe 15 year drought in the long history of recordkeeping for the Colorado River Basin, leading to marked fluctuations in water elevations and low storage at Lake Powell and contributing to sustained decreases in water elevations and storage at Lake Mead;

WHEREAS, the seven (7) Colorado River Basin states met with the Secretary of the Interior in June 2013 to discuss the status of the Colorado River reservoir system and initiate a process for investigating mitigation actions that might be taken in response to drought;

WHEREAS, the Upper Division states, through the Commission, have been working in parallel with the Lower Division states (Arizona, California, and Nevada) and in conjunction with the Department of the Interior to explore, develop and implement drought contingency options to avoid reaching critical reservoir elevations at either Lake Powell or Lake Mead;

WHEREAS, hydropower generated from Lake Powell provides stability for the Western Power Interconnection and funding for operation and maintenance of the primary CRSP Act units and for environmental and development programs throughout the Upper Basin;

WHEREAS, if water elevations at Lake Powell reach minimum power pool levels, water supply and development for consumptive and non-consumptive uses in the Upper Basin and power supply options for the Western Area Power grid could be compromised; and

WHEREAS, the Commission desires to be prepared to mitigate the adverse effects of severe drought in the event that such extreme conditions continue to persist into the future.

NOW, THEREFORE, BE IT RESOLVED that, considering the recitals outlined above, the Commission intends to work expeditiously in tandem with the Lower Division states and the Department of the Interior to develop an Emergency Upper Basin Drought Contingency Plan for purposes of prudent water management consistent with the Colorado River and Upper Colorado River Basin Compacts;

BE IT FURTHER RESOLVED that as part of the Emergency Upper Basin Drought Contingency Planning process, the Commission commits to:

i. Employ best efforts to expand both the geographical and temporal extent of weather modification programs within the Upper Division states to help boost snow accumulation and system water in the Upper Colorado River Basin. In furtherance of this effort, Colorado, Wyoming and Utah have and will continue working to try to secure additional funds to continue and expand weather modification programs to enhance runoff through weather modification in appropriate areas.

ii. Develop and finalize a uniform plan to extend and coordinate operations of the initial units authorized under the CRSP Act to:

   a. Help avoid or mitigate impacts from Lake Powell reaching the critical, minimum power pool elevation;
   b. Reduce any long-term risk of impairing annual consumptive uses due to compact curtailments in the Upper Basin; and
   c. Recover storage in the CRSP units as quickly as practicable consistent with the Colorado River and Upper Colorado River Basin Compacts as well as other applicable state and federal laws.

   To further this effort, the Commission's engineering and legal committees will continue to work with the Federal Government and interested stakeholders to identify strategies and mechanisms for extending operations at the initial CRSP units in a manner consistent with existing technical understandings and legal constraints ; and

iii. Explore the feasibility of developing and employing temporary, voluntary, compensated demand management program(s) within the Upper Basin in a manner that helps reduce consumptive uses, if and when needed, to protect against impacts from Lake Powell reaching critical elevations and to help ensure ongoing compliance with the Colorado River Compact without impairing the right to exercise any existing water rights in the future. To inform this investigation, the Commission will, among other things:

a. Consider basin wide approaches such as the 2012 Colorado River Basin Supply and Demand Study and its Next Steps Process;
b. Support pilot programs such as those contemplated under the July 30, 2014 System Conservation Agreement; and
c. Support intrastate efforts to explore demand management mechanisms within each of the Upper Division states.

BE IT FURTHER RESOLVED that the Commission hereby directs its staff to work in an expeditious manner with the Upper Division states' respective engineering and legal advisers to finalize each element of the final Emergency Upper Basin Contingency Plan for Commission review and approval before the need for such plan to be implemented arises.

FELICITY HANNAY, Chairperson
United States of America

ERIC L. MILLIS
State of Utah

AMY I. HAAS
State of New Mexico

JOHN H. McCLOW
State of Colorado

PATRICK T. TYRRELL
State of Wyoming

THE SECRETARY OF THE INTERIOR
WASHINGTON

MEMORANDUM

To: Members and Alternates
Glen Canyon Dam Adaptive Management Work Group

From: Secretary Sally Jewell JAN 05 2015

Subject: Secretarial Designee – Glen Canyon Dam Adaptive Management Work Group

The Grand Canyon is one of the Nation's – and the world's – treasures. Glen Canyon Dam is a critical Federal facility on the Colorado River, and its operation is necessary for the orderly and efficient management of the Colorado River. Balancing the needs of Grand Canyon protection with the purposes and benefits of Glen Canyon Dam is a challenging and important priority for the Department of the Interior (Department). I believe that it is essential that the Department continues to have timely, constructive input and recommendations on our management activities related to the operation of Glen Canyon Dam and the Grand Canyon. I value the hard work and consensus-building function of the Glen Canyon Adaptive Management Work Group (AMWG).

Ms. Anne Castle served as the Secretary's designee to the AMWG for over 5 years. With Anne's recent retirement from Federal service, I appreciate the effective job that she did and the intensity and drive she carried with her in meeting the Work Group's goals as my AMWG designee.

With Anne's departure, I have asked Ms. Jennifer Gimbel to succeed Anne as my designee to the AMWG. Jennifer is uniquely qualified to serve in this position. Jennifer formerly served as the Director of the Colorado Water Conservation Board. She worked on Colorado River issues for nearly 30 years. Ms. Gimbel first worked for the Wyoming Attorney General and then for the Colorado Attorney General on water, natural resource, and environmental issues. She has been involved with the AMWG since 2008.

The AMWG is a Federal Advisory Committee established to advise me of the effects of Glen Canyon Dam operations and other management actions. Pursuant to the charter that I approved on August 22, 2013 and filed with the General Services Administration and Congress on August 23, 2013, effective immediately, I hereby appoint Ms. Jennifer Gimbel as the Designated Federal Officer and my designee for the AMWG, as provided in the Federal Advisory Committee Act (Sec. 10, Pub. L. 92-463), replacing former Assistant Secretary Anne Castle. In particular, as the Department's "designee" on the AMWG, Ms. Gimbel will be responsible for timely dissemination and consideration by the Department of formal recommendations and other related input from the AMWG. Ms. Gimbel will also serve as the primary spokesperson to convey my decisions and views, as appropriate, to the AMWG.

In addition, in light of the recent retirement of Mr. Larry Walkoviak, effective immediately, I hereby designate the Regional Director (or Acting Regional Director) to serve as the Department's Permanent Alternate Designated Federal Officer for the AMWG. In the absence of, or as directed by, Ms. Gimbel, the Regional Director is hereby authorized to carry out all duties and responsibilities of the Designated Federal Officer.

The responsibilities of the Designated Federal Officer and the Department's Permanent Alternate include:

- orienting new committee members;
- scheduling meetings, preparing meeting agendas;
- ensuring public participation;
- attending all meetings of the AMWG, chairing the meetings, and adjourning the meetings when it is in the public interest;
- maintaining the records, reports, transcripts, minutes, appendices, working papers, drafts, studies, agendas, or other documents which are made available for public inspection and copying as a single location in the agency until the advisory Committee ceases to exist;
- maintaining detailed minutes; and
- maintaining records of costs.

It is my intention that the daily responsibilities for carrying out the primary administrative and routine functions identified above will continue to be carried out by the Upper Colorado Regional Office of the Bureau of Reclamation.

Commissioner's Office
Washington, D.C.

Tweet 10 Recommend 4

Media Contact: Daniel DuBray
202-513-0574

Released On: December 17, 2014

Estevan López Confirmed as 22nd Commissioner for the Bureau of Reclamation

WASHINGTON - The United States Senate has confirmed President Obama's selection for Commissioner of the Bureau of Reclamation. Having served as Principal Deputy Commissioner since October 8, 2014, with all of the responsibilities of Commissioner, Estevan López will now carry the title and formally take the helm of the 5500 person agency that manages water and generates power in the western United States. For the past 2 months as Principal Deputy Commissioner, López has immersed himself in Reclamation's issues, met with stakeholders, become familiar with policy and personnel and is prepared to lead Reclamation into the future.

"I am deeply honored to be a part of the proud tradition of Reclamation and all of its accomplishments as we move into the future of the West," said Commissioner López. "I am grateful to President Obama and Secretary Jewell for asking me to join this administration and I am very proud to lead this professional, knowledgeable and extraordinary team."

"I am pleased the Senate confirmed Estevan López as the Bureau of Reclamation's Commissioner. He is uniquely qualified to lead Reclamation, with a strong background in water management, dealing with drought and climate change issues," said Secretary Sally Jewell.

López has 25 years of experience in the public sector including being appointed by Governor Bill Richardson of New Mexico, as the Director of the Interstate Stream Commission in January 2003. He was re-appointed to that position by Governor Susana Martinez in 2011. As Director of the ISC, López oversaw water management within New Mexico and negotiations with other states over interstate water matters. He represented New Mexico as the Governor's Representative on Colorado River Compact matters and as Commissioner to the Upper Colorado River Compact and Canadian River Compact Commissions. While at the ISC, he also served as the Deputy State Engineer. Previous public sector positions included serving as County Manager and Land Use and Utility Department Director for Santa Fe County, and Public Utility Engineer for the New Mexico Public Utilities Commission. López also worked for several years in the private sector as an Engineer for ARCO Alaska, Inc.

A native New Mexican, he earned two Bachelor of Science degrees from New Mexico Institute of Mining and Technology; one in chemistry and one in petroleum engineering. López is a registered Professional Engineer in New Mexico.

López and his wife Susana live in Peñasco, New Mexico. They have two grown children, Victoria and Juan, who attend college in New Mexico.

The Bureau of Reclamation is a contemporary water management agency and the largest

wholesale provider of water in the country. It brings water to more than 31 million people, and provides one out of five Western farmers with irrigation water for farmland that produces much of the nation's produce. Reclamation is also the second largest producer of hydroelectric power in the Western United States with 53 powerplants.

# # #

Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits. Visit our website at www.usbr.gov.

Relevant Links:

Commissioner's Page

INITIATIVES

Climate Change Resilience

Federal Sustainability

America's Great Outdoors

National Ocean Policy

Great Lakes Offshore Wind

Steps to Modernize and Reinvigorate NEPA

Retrospective Regulatory Review Plan

Review of MMS NEPA Procedures

Recovery Through Retrofit

Commitment to Clean Water

Interagency Rapid Response Team for Transmission

Gulf Coast Ecosystem Restoration

Updated Principles and Guidelines for Water and Land Related Resources Implementation Studies

- Submit Comments on the Principles and Guidelines
- View Comments

Carbon Capture & Storage

Updated Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies

The Principles, Requirements and Guidelines for Water and Land Related Resources Implementation Studies (PR&G) govern how Federal agencies evaluate proposed water resource development projects. Since 1983, the P&G have provided direction to Federal agencies when evaluating and selecting major water projects, including projects related to navigation, storm resilience, wetland restoration, and flood prevention.

The 1983 standards used a narrow set of parameters to evaluate water investments that made it difficult for Federal agencies to support a range of important projects that communities want, or in some cases precluded support for good projects. Lack of local support for selected projects can lead to substantial delays, costing taxpayers and leaving communities at risk.

In the Water Resources Development Act of 2007, Congress instructed the Secretary of the Army to develop a new P&G for the U.S. Army Corps of Engineers (section 2031). To promote consistency and informed decision making, the Obama Administration in 2009 began the process of updating the PR&G for Federal agencies engaged in water resources planning, including the U.S. Army Corps of Engineers, Environmental Protection Agency, Department of Agriculture, Department of the Interior, National Oceanic and Atmospheric Administration, Tennessee Valley Authority, Federal Emergency Management Agency, and Office of Management and Budget.

In December 2013, the Administration released updated P&G that included a final set of Principles & Requirements that lays out broad principles to guide water investments, and final Interagency Guidelines for implementing the Principles & Requirements. Developed by Federal agencies and incorporating extensive public comment, the modernized PR&G will help accelerate project approvals, reduce costs, and support water infrastructure projects with the greatest economic and community benefits. They will also allow agencies to better consider the full range of long-term economic benefits of protecting communities against future storm damage, promoting recreational opportunities that fuel local business, and supporting other locally driven priorities.

Released for public review and comment in December 2009 and finalized in March 2013, the Principles & Requirements (also called Principles & Standards) incorporate extensive input from the public as well as the National Academy of Sciences. As called for in the Water Resources Development Act of 2007, they emphasize that water resources projects should maximize economic development, avoid the unwise use of floodplains, and protect and restore natural ecosystems.

The updated Principles and Requirements include a number of important changes that modernize the current approach to water resources development. They allow communities more flexibility to pursue local priorities; take a more comprehensive approach to water projects that maximizes economic, environmental, and recreational benefits; promote more transparent and informed decision-making across the Federal Government; and ensure responsible taxpayer investment through smart front-end planning so that projects proceed more quickly, stay on budget, and perform better.

Released for public review and comment in March 2013 and finalized in December 2014, the Interagency Guidelines incorporate extensive input from the public nad key stakeholders, and were informed by several workshops on topics such as climate change, ecosystem services, and tribal engagement. Developed through interagency collaboration, the Interagency Guidelines lay out the detailed methodology for conducting implementation studies, clarifying terminology as well as the applicability of and analysis called for under implementation of the PR&G.

With the updated PR&G, projects will need to factor the full suite of variables and alternatives that lead to sustainable, resilient and enduring investments, including economic, social, and environmental factors. The updates allow for agencies and the public to participate in a transparent process and gain greater understanding of the

tradeoffs of investment alternatives.

Each agency will update its procedures as needed to apply the new PR&G to their agency-specific missions.

RESOURCES:

- In December 2014, CEQ released final Interagency Guidelines:
  - Interagency Guidelines (pdf)
  - Blog post on how PR&G can help communities
- In March 2013, CEQ released final Principles & Requirements, as well as draft Interagency Guidelines for public review and comment:
  - Principles and Requirements for Federal Investments in Water Resources (pdf)
  - Draft Interagency Guidelines (pdf)
    - Public Comments
    - Response to Public Comments and Questions (pdf)
- In December 2009, CEQ released draft Principles & Requirements (also known as Principles & Standards) for public review and comment:
  - Proposed National Objectives, Principles and Standards for Water and Land Resources Implementation Studies (pdf)
    - Public Comments
    - Comments from the National Academy of Sciences
- A webinar was held on July 13, 2009 to explain and receive comments on the revision of the 1983 P&G. The following documents are available:
  - July 1, 2009 Federal Register Notice
  - Webinar Presentation (ppt)
  - Webinar Attendees (xls)
  - Public Comments on the Webinar (pdf)

DRAFT RECLAMATION MANUAL RELEASE

Comments on this draft release must be submitted to draff@usbr.gov by February 17, 2015.

Background and Purpose of the Following Draft Policy

The goal of preparing this new Policy document and providing stakeholders with the opportunity to comment on it in draft form is to enhance common understanding of the Bureau of Reclamation's commitment to address climate change impacts to its mission, facilities, operations, and personnel.

The draft Climate Change Adaptation Policy has been developed in accordance with Department of Interior Policy 523 DM 1. The draft Policy identifies the areas within Reclamation's mission requirements that may be impacted by climate change and in accordance with the goals of the Department of the Interior. The draft Policy was developed in 2014 and has been reviewed through Reclamation's Leadership Team

The Reclamation Manual is used to clarify program responsibility and authority and to document Reclamation-wide methods of doing business. All requirements in the Reclamation Manual are mandatory for Reclamation.

See the following pages for the draft Policy.

Reclamation Manual

Policy

Subject: Climate Change Adaptation

Purpose: Address climate change impacts upon the Bureau of Reclamation's mission, facilities, operations, and personnel. This benefit of this Policy is it ensures compliance with Departmental Manual (DM) 523 DM 1.

Authority: Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance* (October 5, 2009); EO 13653, *Preparing the United States for the Impacts of Climate Change* (November 1, 2013); Council on Environmental Quality's Implementing Climate Change Adaptation in Accordance with EO13514 *Federal Leadership in Environmental, Energy, and Economic Performance* (March 4, 2011); and 523 DM 1 *Climate Change Policy.*

Approving Official: Commissioner

Contact: Science Advisor (91-10000)

1. **Introduction.** The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public. Climate change impacts water supplies, water demands, and other environmental conditions that affect Reclamation's ability to fulfill its mission. This Policy establishes how Reclamation will address climate change impacts to its mission, facilities, operations and personnel, in accordance with 523 DM 1. This Policy will:

   A. Assist in ensuring Reclamation effectively and efficiently adapts to the challenges posed by climate change to its mission, facilities, operations, and personnel;

   B. maintain and enhance Reclamation's current and future effectiveness in fulfilling its program requirements and other Federal mandates in this era of changing climate;

   C. ensure the best available science and understanding of climate change risks, impacts, and vulnerabilities are incorporated into planning, programs, investments, and operations;

   D. assist employees in performing related planning, programs, investments, operations, and coordination duties; and

   E. seek to avoid maladaptive actions that may limit Reclamation's ability to adapt to climate change in the future or increase the vulnerability of other systems, sectors, or social groups.

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2. **Applicability.**

A. This Policy applies to all Reclamation offices and personnel and their planning, programs, investments, and operations.

B. This Policy and associated responsibilities and requirements are effective beginning on the date of release. This Policy does not requireReclamation to revisit actions taken or decisions made prior to its initial release, including planning, investments, cost shares, or infrastructure development. Instead, for activities already underway as of the initial release of this policy, each responsible party identified in Paragraph 4 of this Policy will determine whether and how to include consideration of climate change in a reasonable manner. Any activities influenced by climate change that are initiated after the date of this release shall be consistent with this Policy.

3. **Definitions.**

A. **Climate.**

(1) Expected weather, including averages, variations, and extremes. More specifically, climate is the statistical description in terms of the mean and variability of relevant weather variables over a period of time.

(2) A standard period for defining climate is 30 years, as applied by the World Meteorological Organization.

(3) Relevant weather variables for describing climate include, but are not limited to, surface temperature, precipitation, and wind speed.

B. **Climate Change.** A change in the state of the climate identified by using statistical tests, by changes in the mean and/or other statistical properties, measured over an extended period, typically decades or longer.

C. **Climate Change Adaptation.** Actions and measures to reduce the vulnerability of natural and human systems to climate change under present climate or in the future.

D. **Climate Change Vulnerability.** The extent to which a system or resource of interest could be negatively affected as a result of events that are influenced by climate change.

E. **Climate-Influenced Activity.** Any planning, programs, investmetns, and operations that involves making any assumptions that could be affected by climate change.

F. **Reclamation Executives.** The Deputy Commissioners, Regional Directors, Directors, and Senior Level positions.

G. **Investment.** Any expenditure made to acquire, develop, or construct property, software, plants, or equipment that utilizes federally-appropriated funding, including expenditures related to federally-owned but independently-operated facilities that has a

cost equal to or greater than Reclamation's established capitalization threshold. Reclamation follows the Department of the Interior's $15,000 capitalization threshold for moveable property and equipment. Reclamation uses a zero capitalization threshold for real property, such as buildings, features, facilities, land, and other fixed assets.

H. **Maladaptive Actions.** Actions that have an inadvertent negative impact or increase the vulnerability of other systems, sectors, or social groups.

I. **Planning.**

(1) A structured process used to support and inform investment decisions and implementation actions through the identification and definition of water resource and related problems, formulation and evaluation of solutions, and coordination with internal and external customers and interest groups.

(2) Studies which utilize Principles and Requirements for Federal Investments in Water Resources pursuant to the Water Resources Planning Act of 1965 (Pub. L. 89-8), as amended (42 U.S.C. 1962a-2) and consistent with Section 2031 of the Water Resources Development Act of 2007 (Pub. L. 110-114).

(3) Planning investigations including appraisal, feasibility, and special studies.

(4) Investigations used to support major infrastructure investment decisions.

J. **Resilience.** Capacity of a system to respond to an impact either by resistance to that impact or by its ability to recover.

K. **Weather.** The state of the air and atmosphere at a particular time and place; the temperature and other outside conditions (such as rain, cloudiness, etc.) at a particular time and place.

4. **Responsibilities.**

A. **Commissioner.** The Commissioner is responsible for the implementation of this Policy Reclamation-wide.

B. **Reclamation Executives.** Reclamation Executives are responsible for implementation of this Policy within the planning, programs, investments, and operations for which they are responsible.

C. **Science Advisor.** The Science Advisor is responsible for providing access to the best available science to support the implementation of this Policy in coordination with the Landscape Conservation Cooperatives, Climate Science Centers, and United States Global Change Research Program, and other partnerships to increase understanding of climate change impacts.

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5. **Policy.** Consistent with 523 DM 1, it is the policy of Reclamation to effectively and efficiently adapt to the challenges posed by climate change to its mission. Reclamation will use the best available science to increase understanding of climate change impacts and uncertainty and will develop appropriate climate adaptation strategies to address impacts to land, water, natural, energy, cultural, and tribal resources; facilities and assets for which it is responsible; and personnel. Reclamation will integrate climate change adaptation strategies into climate relevant planning, programs, investments, and operations, including, but not limited to water delivery and management; generation of hydroelectricity; public land management; habitat restoration; wildland fire management; conservation of species and ecosystems; services and support for tribes; protection and preservation of historic properties; protection and preservation of tribal trust assets and resources of traditional religious and cultural importance to Indian tribes; scientific research and data collection; management of employees and volunteers; visitor services; construction; use authorizations; and facilities maintenance. It is Reclamation's Policy to:

   A. Determine climate change impacts to its mission, facilities, operations, and personnel and identify appropriate climate change adaptation strategies.

   B. Revise or develop Reclamation Manual Policy and Directives and Standards to incorporate climate change adaptation strategies to seek climate change resilience and seek to avoid maladaptive actions.

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