COLORADO RIVER BOARD OF CALIFORNIA
Information Packet
August 17, 2011, Wednesday

A G E N D A

1. Administration ……
   a. Resignation/Retirement of Mr. Thomas Erb ……. TAB 1
   b. Minutes of the Board Meeting Held on July 13, 2011……..... TAB 2

2. Protection of Existing Rights
   a. Colorado River Water Report(s) ……..… TAB 3
      Report from Board Staff on current reservoir storage, reservoir releases, projected water use, forecasted river flows, scheduled deliveries to Mexico, and salinity
   b. State and Local Water Reports ……... TAB 4
      Reports from Board members on current water supply and use conditions
   c. Colorado River Operations ……..… TAB 5
      - 2012 Colorado River Annual Operating Plan (2012 AOP)
      - Reclamation's Letter to IBWC Regarding Revised Schedule of Calendar-Year 2011 Water Deliveries to Mexico
      - Arizona Water Banking Authority Letter to Reclamation with Final Verified Accounting of SNWA Calendar-Year 2010 Interstate Account
      - IID 2012 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus
      - MWD's 2012 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus
   d. Basin States Discussions ……. TAB 6
      - 7 Basin States Technical Work Group Meeting to be Held on October 5, 2011
      - Status of Binational Discussions/Negotiations
   e. Colorado River Environmental Issues ……..... TAB 7
      - Seven Basin States Governor's Representatives' Comments Letter on the Second Draft Environmental Assessment for Development and Implementation of a Protocol for High-flow Experimental release from Glen Canyon Dam, Arizona 2011-2020
      - USFWS' Proposed Rule for Revised Critical Habitat Designation for the Endangered Southwestern Willow Flycatcher

3. Other Business
   a. Next Board Meeting: Regular Meeting …… TAB 8
      September 14, 2011, Wednesday, starting 10:00 a.m.
      Holiday Inn Ontario Airport
      2155 East Convention Center Way
      Ontario, CA 91764-4452
      TEL: (909) 212-8000, FAX: (909) 418-6703

1.a. – Resignation/Retirement of Mr. Thomas Erb

Department of Water and Power the City of Los Angeles

ANTONIO R. VILLARAIGOSA
Mayor

Commission
THOMAS S. SAYLES, *President*
ERIC HOLOMAN, *Vice President*
RICHARD F. MOSS
CHRISTINA E. NOONAN
JONATHAN PARFREY
BARBARA E. MOSCHOS, *Secretary*

RONALD O. NICHOLS
General Manager

August 8, 2011

Ms. Mona Pasquil
Appointments Secretary
Office of Governor Jerry Brown
State Capital, Suite 1173
Sacramento, CA 95814

Dear Ms. Pasquil:

Subject: Resignation from Colorado River Board of California

I am retiring from the Los Angeles Department of Water and Power (LADWP) and hereby submit my resignation as the Alternate Member of the Colorado River Board representing the City of Los Angeles, effective August 19, 2011. I have appreciated the opportunity to represent Los Angeles on the Colorado River Board and be a part of the important work the Board performs in protecting California's Colorado River rights. Per California Water Code Section 12512, the LADWP Board of Commissioners will provide recommended candidates to fill my seat.

If you have any questions, please contact Mr. David Pettijohn at (213) 367-0899.

Sincerely,

Thomas Erb
Director of Water Resources

TME:lsf
c: Mr. Christopher S. Harris
Mr. David R. Pettijohn

111 North Hope Street, Los Angeles, California 90012-2607 *Mailing address:* Box 51111, Los Angeles 90051-5700
Telephone: (213) 367-4211 *Cable address:* DEWAPOLA

1.b. – Minutes of the Board Meeting Held on July 13, 2011

Minutes of Regular Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, July 13, 2011

A Regular Meeting of the Colorado River Board of California (Board) was held in the Orchid Room, at the Holiday Inn Ontario Airport, at 2155 East Convention Center Way, Ontario, California, Wednesday, July 13, 2011.

Board Members Present

Dana B. Fisher, Jr., Chairman
John V. Foley
W. D. 'Bill' Knutson
Henry Merle Kuiper
James B. McDaniel
John Pierre Menvielle
John Palmer Powell, Jr.
Jeanine Jones, Designee
Department of Water Resources

Board Members Absent

Terese Marie Ghio
Christopher G. Hayes, Designee
Department of Fish and Game

Others Present

Steven B. Abbott
James M. Barrett
James H. Bond
John Penn Carter
Ron Derma
Dave Fogerson
William J. Hasencamp
Mark L. Johnson
Richard Johnson
Michael Kaschak
Michael L. King
Thomas E. Levy
Douglas B. Noble
Carrie Oliphant
Glen Peterson
David R. Pettijohn
Halla Razak
Steven B. Robbins
Thomas J. Ryan
Jack Seiler
Tina L. Shields
Peter S. Silva
Catherine M. Stites
Ed W. Smith
Mark Stuart
William H. Swan
Deven N. Upadhyay
Joseph A. Vanderhorst
Bill D. Wright
J.C. Jay Chen
Christopher S. Harris
Michael W. Hughes
Lindia Y. Liu
Mark Van Vlack
Gerald R. Zimmerman

CALL TO ORDER

Chairman Fisher announced the presence of a quorum and called the meeting to order at 10:00 a.m.

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

Chairman Fisher asked if there was anyone in the audience who wanted to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Fisher moved to the next agenda item.

ADMINISTRATION

Approval of Minutes

Chairman Fisher requested the approval of the June 15th meeting minutes. Mr. Knutson moved the June 15th minutes be approved. Mr. Kuiper seconded the motion. Unanimously carried, the Board approved the June 15th meeting minutes.

AGENCY MANAGERS' MEETING

Mr. Harris requested that the Agency Managers meet following the Board meeting and the Colorado River Authority meeting. Mr. Harris reported that the meeting will be in preparation for a conference call with Reclamation and the contractors conducting the Basin Study.

PROTECTION OF EXISTING RIGHTS

Colorado River Water Report

Mr. Harris reported that precipitation from October 1st through July 5th, was 130 percent of normal, the previous month it was a 128 percent of normal. The snowpack in the Upper Basin, though not currently reported, the previous month it was 264 percent of normal. There is still a lot of snow in the high country and some of this snow may last till summer.

Mr. Harris reported that the projected April through July unregulated inflow into Lake Powell was 12.0 million acre-feet (maf), or 151 percent of normal. The projected water year inflow (October 1st through September 30th) was 16.1 maf, or about 134 percent of normal.

Mr. Harris reported that as of July 5th, Lake Powell storage was about 17.43 maf, or 72 percent of capacity. The water surface elevation was 3,651.7 feet above the mean sea level. Lake Mead storage was 11.78 maf, or 46 percent of capacity, with the water surface elevation 1,103.2 feet above sea level. Total System storage was 37.37 maf, or 63 percent of capacity; whereas, this time last year the total System storage was 34.64 maf, or 58 percent of capacity. Total System storage this year is about 2.7 million acre-feet greater than this time last year.

Mr. Harris added that Reclamation's projected consumptive use (CU) for the State of Nevada is approximately 263,000 acre-feet; for Arizona, the CU projection is about 2.767 maf; and for California the CU projection is under 4.4 maf (4.153 maf). Currently the total projected CU in the Lower Basin is expected to be about 7.183 maf.

State and Local Water Reports

Mr. Mark Stuart of the California Department of Water Resources (DWR), reported that as of July 2011, storage in Lake Oroville was 3.5 maf, compared to July 2010, the storage in Lake Oroville was 2.7 maf. Total State Water Project (SWP) storage is up about 1.2 maf, from last July. Projected deliveries from the SWP were 80 percent of Table A Entitlements. Precipitation statewide was 135 percent of average, runoff was 130 percent of average, and reservoir storage was 110 percent of average.

Mr. Foley, of The Metropolitan Water District of Southern California (MWD), reported that as of July 1st, storage in the main Southern California reservoirs was about 971,000 acre-feet, or 94 percent of capacity. Diamond Valley Lake was about 782,000 acre-feet or 97 percent of capacity. The storage in Lake Mathews was about 152,000 acre-feet or 84 percent of capacity, and Lake Skinner was about 37,000 acre-feet or 84 percent of capacity. Mr. Foley reported that storage in Diamond Valley had filled near the end of May, but some of the water was withdrawn, and will continue to be withdrawn through September, and expect to refill Diamond Valley to its maximum of 810,000 acre-feet by the end of the year. Mr. Foley added that MWD currently holds about 2.5 maf of storage 'in basin', about 350,000 acre-feet in Lake Mead.

Mr. McDaniel of the Los Angeles Department of Water and Power reported that runoff for the season is expected to finish out at about 150 percent of normal. Mr. McDaniel reported that though the year has been good, but that it's going to take more than one good year to get fully recovered.

Colorado River Operations

U.S. Bureau of Reclamation's Letter to the International Boundary and Water Commission for the Revised Schedule of Calendar Year 2011 Water Deliveries to Mexico

Mr. Harris reported Reclamation notified the International Boundary and Water Commission (IBWC) confirming that Mexico's delivery schedule of Mexican Water Treaty was to be modified. Mexico requests that the June water delivery be increased by 2,941 acre-feet and the August water delivery be decreased by the same amount.

Reclamation's Letter to Fort Mojave Indian Tribe Regarding Calendar Year 2011 Inadvertent Overrun and Payback Policy Payback Obligation in California

Mr. Harris reported that Reclamation continues to meet with the Fort Mojave Indian Tribe regarding an inadvertent overrun incurred on the California portion of its reservation lands in 2009. Reclamation believes that a payback plan needs to be developed to repay an overrun of 4,557 acre-feet. The Fort Mojave Indian Tribe (Tribe) maintains that the actual overrun is 2,255 acre-feet. Reclamation and the Tribe are scheduled to meet over the next few weeks to work out the actual amount of the inadvertent overrun. The Tribe will then submit a payback plan that will go before Reclamation and the Lower Basin States Technical Staff to ensure that the payback plan is viable.

Mr. Harris apologized for the oversight that a couple of older letters regarding previous inadvertent overruns by the Tribe were mistakenly included in the Board folder; the correct letter was included in the handout materials.

San Francisco Gate News Article on Groundbreaking for Blythe Solar Energy Project

Mr. Harris reported that the Secretary of the Interior announced the groundbreaking of the Solar Millennium Blythe Solar Energy Project. Chairman Fisher reported that the groundbreaking ceremony was attended by 40 to 50 people, mostly members of the press. It was about 102 degrees so after the initial groundbreaking, the ceremony adjourned to the Community College Auditorium where presentations were continued. Chairman Fisher added that most of the presenters read from notes where Governor Brown gave an impressive 20 minute extemporaneous speech that was comprehensive and to the point. Chairman Fisher reported that the Blythe Solar Energy Project is expected to add about 1,000 temporary jobs during the construction phase. Mr. Harris added that the Project, when completed, is estimated to cost approximately $4 billion, and provide several hundred permanent jobs. The completed project is likely to be the world's largest solar energy project.

Pacific Institute Report Entitled "Municipal Deliveries of Colorado River Basin Water", June 2011

Mr. Harris reported that the Pacific Institute released a new report on the Colorado River entitled "Municipal Deliveries of Colorado River Basin Water". The report provides a fairly comprehensive overview of population and water delivery and use trends for 100 cities and water agencies that use Colorado River Basin water supplies. The report is available online at: http://www.pacinst.org/reports/co_river_municipal_deliveries/.

Wyoming Business Report Entitled "Municipal Deliveries of Colorado River Basin Water", June 2011

Mr. Harris reported that the U.S. Army Corps of Engineers has suspended its environmental review of the Million proposal to transport water from Flaming Gorge Dam to Colorado's East Slope. Mr. Million is evaluating the feasibility of adding small hydroelectric power generating stations to the proposed pipeline. Mr. Million is investigating whether the

Federal Energy Regulatory Commission might be the appropriate federal lead agency to conduct the environmental review.

Mojave Desert Heritage and Cultural Association's Letter Regarding Cadiz Valley Water Conservation Recovery and Storage Project

Mr. Harris reported that the Mojave Desert Heritage and Cultural Association (MDHCA) recently sent a letter to landowners in the eastern Mojave Desert region of California. The MDHCA is concerned that elements of the proposed Cadiz Valley Water Project could negatively impact local groundwater supplies for landowners. The Project could remove approximately 50,000 acre-feet of groundwater annually from the Fenner Watershed, and affect local water levels for well owners. The MDHCA requests that the Project proponents do a better job of notifying adjacent landowners and evaluating potential impacts.

Colorado River Commission of Nevada Appointed, Jayne Harkins, Executive Director

Mr. Harris reported that on June 21st, Ms. Jayne Harkins was appointed as the Executive Director of the Colorado River Commission of Nevada. Ms. Harkins will be replacing Mr. George Caan. Ms. Harkins has about 27 years of service with Reclamation, much of it in the Lower Colorado Regional Office. For the past few years Ms. Harkins has served as Deputy Regional Director of Reclamation's Lower Colorado Regional Office.

Basin States Discussion

Status of Binational Discussions between the U.S and Mexico

Mr. Harris reported that on July 11th, Reclamation Commissioner Connor held a brief conference call with the Basin States' representatives. He provided an update on the status of the binational discussions with Mexico. Mr. Harris reported that Commissioner Connor's comments were: 1) The June meeting in Tijuana was largely focused on re-starting the effort to reach agreement on a new Minute 319; 2) Commissioner Connor is promoting a transition from a process focused on technical issues to one that focuses on the substantive policy and implementation issues (e.g., Intentionally Created Mexican Apportionment, shortage declaration criteria, river operations, etc.); 3) Commissioner Connor indicated that he wanted to meet with IBWC Commissioner Drusina soon to look at developing a schedule to guide the binational discussion process over the remainder of 2011; 4) Commissioner Connor believes that it still may be possible to reach agreement leading to the issuance of Minute 319 by late-2011 or early-2012; 5) Commissioner Conner reiterated Interior's commitment to maintain open and effective communication with the Basin states during the course of the binational process; 6) Commissioner Connor would like to see Mexico's ConAgua federal agency (Mexico's counterpart to Reclamation) in addition to Mexico's Section of the IBWC, involved with the process; and 7) Commissioner Connor also reported that Reclamation Deputy Regional Director Terry Fulp, will replace Ms. Jayne Harkins as Reclamation's lead contact in the binational process.

Chairman Fisher added that the conference call was important and helpful, though there appears to be increasing distance between the binational process and the non-federal Colorado River stakeholders.

Colorado River Environmental Issues

Glen Canyon Dam Adaptive Management Program

Mr. Harris reported that on July 5th, Secretary Salazar announced the kickoff of the process to develop the "Long-Term Experimental and Management Plan" (LTEMP) for Glen Canyon Dam. The LTEMP will provide a comprehensive review of dam operations, and ensure that flow regimes continue to meet downstream water supply and hydropower needs, as well as protection of natural and cultural resources. Mr. Harris reported that the last comprehensive environmental review of Glen Canyon Dam operations was done in 1995, since that time several high-flow experimental flows have been conducted and much data has been collected. All of this will be included in a new National Environmental Policy Act review process. The LTEMP is intended to guide future actions and management decisions coming out of the Glen Canyon Dam Adaptive Management Program (AMP). Public scoping meetings are anticipated to be held later in 2011 in advance of preparation of an Environmental Impact Statement (EIS).

Mr. Harris reported that also on July 5th, Reclamation released a draft Environmental Assessment (EA) evaluating potential impacts associated with the "Development of and Implementation of Protocol for High-Flow Experimental Releases from Glen Canyon Dam". The purpose of the protocol will be used to determine the timing and duration (several days to as long as ten days), as well as under what conditions to conduct experimental high-volume releases. The high-flow releases are being evaluated to determine the parameters of high-flow releases for conserving sediment to benefit natural and cultural resources below the dam. Mr. Harris reported that the proposed experimental protocol is intended to be part of the ongoing AMP, comply with the 1992 Grand Canyon Protection Act, and follow the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Reservoir Operation.

WATER QUALITY

Colorado River Basin Salinity Control Program

Mr. Harris reported that the 2011 Draft Triennial Review Report (Triennial Review) adopted by the Salinity Control Forum at its June 2011 meeting. The Triennial Review composes a three year overview of the goals and objectives, as well as the status of the salinity control programs in the Upper Basin. The Triennial Review is available on the Board webpage at: http://crb.ca.gov/PublicNotice.html. Comments on the Draft are due by August 15th.

OTHER BUSINESS

The Return of Mr. Zimmerman

Chairman Fisher announced that with the new Fiscal Year, Mr. Zimmerman is again available to serve the Board in its inter-state issues. Chairman Fisher announced that he's asked Mr. Zimmerman to take the lead on the Basin Study and the Binational negotiations with Mexico.

Next Board Meeting

Chairman Fisher announced that the next meeting of the Colorado River Board will be held on Wednesday, August 10, 2011, at 10:00 a.m., at the Holiday Inn Ontario Airport, 2155 East Convention Center Way, Ontario, California.

There being no further items to be brought before the Board, Chairman Fisher asked for a motion to adjourn. Mr. Kuiper moved the Board meeting be adjourned. Mr. Menvielle seconded the motion, and with unanimous approval, the Board meeting was adjourned at 10:37 a.m. on July 13, 2011.

Christopher S. Harris
Acting Executive Director

2.a. – Colorado River Water Reports

SUMMARY WATER REPORT
COLORADO RIVER BASIN
August 8, 2011

RESERVOIR STORAGE (as of August 7)	MAF	ELEV. IN FEET	% of Capacity	July 5, 2011 MAF	July 5, 2011 ELEV. IN FEET	July 5, 2011 % of Capacity
Lake Powell	18.529	3,660.3	**76**	17.433	3,651.7	**72**
Flaming Gorge	3.587	6,036.0	**96**	3.355	6,030.2	**89**
Navajo	1.415	6,065.2	**83**	1.461	6,068.6	**86**
Lake Mead	12.268	1,108.5	**47**	11.781	1,103.2	**46**
Lake Mohave	1.684	642.4	**93**	1.652	641.3	**91**
Lake Havasu	0.579	448.0	**93**	0.568	447.4	**92**
Total System Storage	39.304		**65**	37.366		**63**
System Storage Last Year	34.168		**57**	34.642		**58**

		July 5, 2011
WY 2011 Precipitation (Basin Weighted Avg) 10/01/10 through 8/08/11	**126 percent (36.2")**	**130 percent (34.3")**
WY 2011 Snowpack Water Equivalent (Basin Weighted Avg) on day of 8/08/11	**N/A**	N/A
(Above two values based on average of data from 116 sites.)		

August 4, 2011 Forecast of Unregulated Lake Powell Inflow	MAF	% of Normal	July 1, 2011 MAF	July 1, 2011 % of Avg.
2011 April through July unregulated inflow	12.920	**163 %**	12.000	**151%**
2011 Water Year forecast	17.081	**142 %**	16.086	**134%**

USBR Forecasted Year-End 2011 and 2010 Consum. Use, August 8, 2011 a **MAF**

			2011 Diversion	2011 - Return =	2011 Net	2010
Nevada (Estimated Total)			0.478	0.218	0.260	0.243
Arizona (Total)			3.644	0.828	2.816	2.792
CAP Total					1.616	1.653
Az. Water Banking Authority					*0.134*	*0.134*
OTHERS					1.200	1.140
California (Total) b./			4.767	0.490	4.277	4.363
MWD					0.734	1.099
3.85 Agriculture	Total	Conserved			Forecasted	Estimated
IID c./	3.193	-0.360			2.833	2.547
CVWD d./	0.356	-0.031			0.325	0.304
PVID	0.317	0			0.317	0.274
YPRD	0.044	0			0.044	0.039
Island e./	0.007	0			0.007	0.006
Total Ag.	*3.917*	*-0.391*			*3.526*	*3.170*
Others					0.017	0.094
PVID-MWD fallowing to storage (to be determined)					--	0
Arizona, California, and Nevada Total f./			**8.888**	**1.535**	**7.353**	**7.399**

a./ Incorporates Jan.-June USGS monthly data and 75 daily reporting stations which may be revised after provisiona data reports are distributed by USGS. Use to date estimated for users reporting monthly and annually.

b./ California 2011 basic use apportionment of 4.4 MAF has been adjusted to 4.174 MAFfor payback of Inadvertent Overrun and Payback Policy overruns (-1,213 AF), Intentionally Created Surplus Water by IID (-25,000 AF), Creation of Extraordinary Conservation ICS MWD (-200,000 AF)

c./ 0.105 MAF conserved by IID-MWD Agreement as amended in 2007: 105,000 AF conserved for SDCWA under the IID-SDCWA Transfer Agreement as amended, 80,000 AF of which is being diverted by MWD; 16,000 AF required to conserved for CVWD under the IID-CVWD Acquisition Agreement, 67,700 AF conserved by the All-American Canal Lining Project.

d./ 30,850 acre-feet conserved by the Coachella Canal Lining Project.

e./ Includes estimated amount of 6,530 acre-feet of disputed uses by Yuma Island pumpers and 0 acre-feet by Yuma Project Ranch 5 being charged by USBR to Priority 2.

f./ Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona Dept. of Water Resources, Colorado River Board of California, and Reclamation.

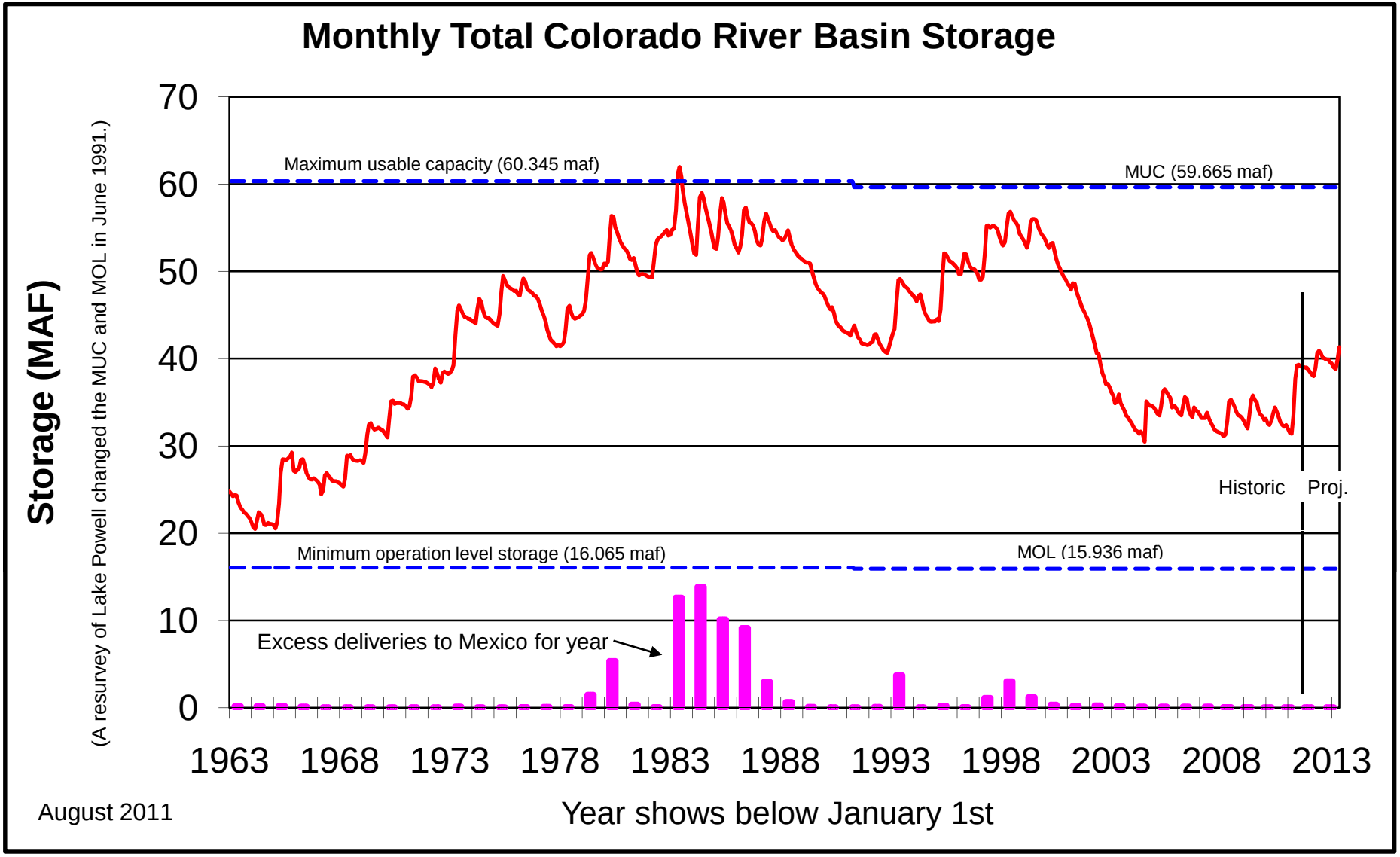
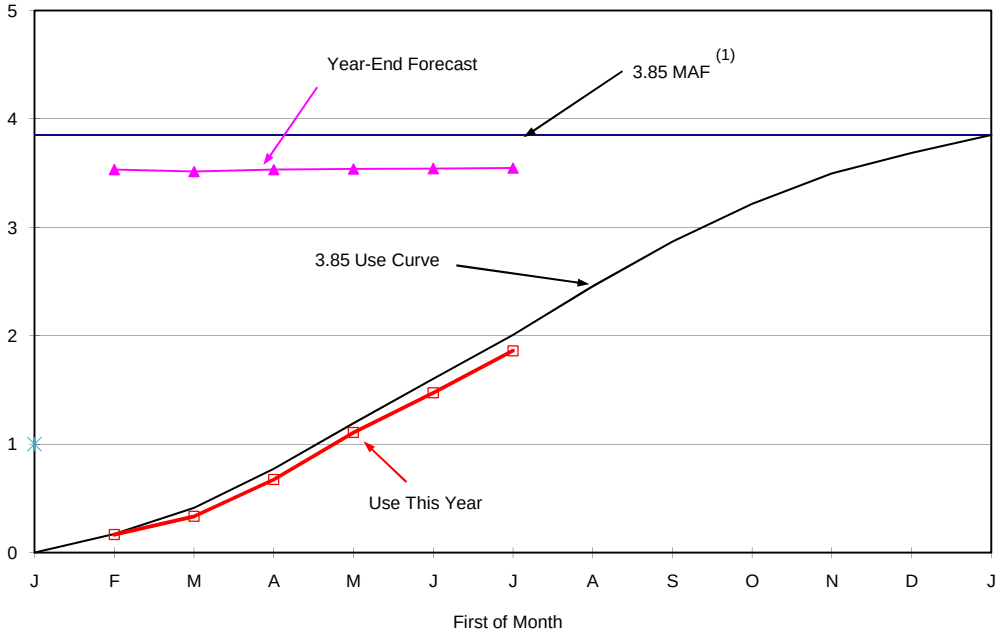

Monthly Total Colorado River Basin Storage
Storage (MAF)
(A resurvey of Lake Powell changed the MUC and MOL in June 1991.)
70
60
50
40
30
20
10
0
Maximum usable capacity (60.345 maf)
MUC (59.665 maf)
Historic
Proj.
Minimum operation level storage (16.065 maf)
MOL (15.936 maf)
Excess deliveries to Mexico for year
1963
1968
1973
1978
1983
1988
1993
1998
2003
2008
2013
August 2011
Year shows below January 1st

FIGURE 1
AUGUST 1, 2011 FORECAST OF 2011 YEAR-END COLORADO RIVER WATER USE BY THE CALIFORNIA AGRICULTURAL AGENCIES



Forecast of Colorado River Water Use
by the California Agricultural Agencies
(Millions of Acre-feet)

Month	Use as of First of Month	Forecast of Year End Use	Forecast of Unused Water (1)
Jan	0.000	--------	--------
Feb	0.167	3.533	0.009
Mar	0.335	3.514	0.028
Apr	0.674	3.531	0.011
May	1.107	3.539	0.004
Jun	1.473	3.542	0.000
Jul	1.861	3.546	-0.004
Aug			
Sep			
Oct			
Nov			
Dec			
Jan			

(1) The forecast of unused water is based on the availability of 3.542 MAF under the first three priorities of the water delivery contracts. This accounts for the 85,000 af of conserved water available to MWD under the 1988 IID-MWD Conservation agreement and the 1988 IID-MWD-CVWD-PVID Agreement as amended; 80,000 AF of conserved water available to SDCWA under the IID-SDCWA Transfer Agreement as amended being diverted by MWD; as estimated 29,000 AF of conserved water available to SDCWA and MWD as a result of the Coachella Canal Lining Project, 67,700 AF of water available to SDCWA and MWD as a result of the All American Canal Lining Project; 14,500 AF of water IID and CVWD are forbearing to permit the Secretary of the Interior to satisfy a portion of Indian and miscellaneous present perfected rights use and 25,000 AF of water IID is conserving to create Extraordinary Conservation Intentionally Created Surplus. 0 AF has been subtracted for IID's Salton Sea Salinity Management in 2011. As USBR is charging uses by Yuma Island pumpers to priority 2, the amount of unused water has been reduced by those uses - 6,530 AF. The CRB does not concur with USBR's viewpoint on this matter.

COLORADO RIVER BOARD OF CALIFORNIA

May 28, 2011

COLORADO RIVER WATER REPORT

The following report summarizes data obtained from provisional reports of the U.S. Geological Survey, U.S. Bureau of Reclamation, International Boundary and Water Commission, and Imperial Irrigation District.

I. Active Surface Storage[1/] in Reservoirs at end of Month (Thousand Acre-feet).

April 2011

Upper Basin	Storage	Elevation in feet	% of Capacity	Change During Month	Change from 2010
Lake Powell	12,926	3,611.9	53%	122	-891
Flaming Gorge	3,150	6,024.7	84%	-10	-74
Fontenelle	128	6,472.0	37%	-8	1
Navajo	1,357	6,060.8	80%	31	-26
Blue Mesa	477	7,476.0	57%	-18	-111
Morrow Point	111	7,152.2	95%	-2	2
Crystal	17	6,752.0	93%	0	0
Sub-total	18,165		58%	115	-1,098
Lower Basin					
Lake Mead	11,115	1,095.8	42%	-55	-198
Lake Mohave	1,707	643.3	94%	2	10
Lake Havasu	591	448.5	95%	9	-1
Sub-total	13,412		47%	-44	-190
Upper and Lower BasinTotal	31,577 [2/]		53%	72	-1,288

1/ Figures shown do not include reservoir dead storage.

2/ Storage above minimum operation level is 31,577 - 15,936 = 15,641 thousand acre-feet. Minimum operation level (15,936 thousand acre-feet) is defined as the sum of active content at minimum power pool plus minimum active content required to make surface diversions at Lake Havasu and Navajo Reservoir.

II. Upper Basin Discharge (Acre-feet).

Station	Meas. Flow April 2011	Cumulative Flow October thru April	Meas. Flow Adjusted for CRSP Surface Storage Changes: April 2011	% of Apr. 89- year average (1922-2010 water years)
Green River at Green River, Utah	553,900	1,608,400	543,600	128%
Colorado River near Cisco, Utah	461,700	1,671,100	442,200	92%
San Juan River near Bluff, Utah	44,800	349,800	76,100	35%
At Lee Ferry (Compact Point)	966,200	6,229,700	1,089,400	100%

III. Lower Basin Discharge (Acre-feet).

Station	April 2011	Cumulative Flow October thru April
Below Hoover Dam	1,078,000	5,356,700
Below Davis Dam	1,059,600	5,276,200
Below Parker Dam	773,800	3,453,000
Above Imperial Dam	677,700	3,130,700

IV. Consumptive Use of Lower Colorado River Mainstream Water (Acre-feet).

April, 2011

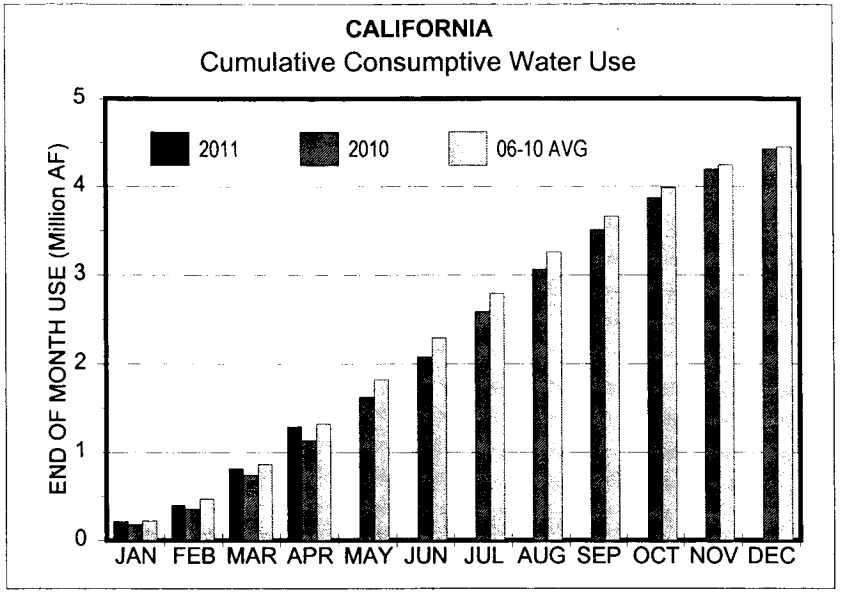
California Users	Diversion	Return	Consumptive Use	Change in Cons.Use From Apr. 2010	Cumulative Cons. Use January thru April	Change from prev. Jan. thru Apr.	12 Months thru April
Palo Verde Irrig. Dist.	73,620	34,520	39,100	10,710	84,430	45,830	355,890
Yuma Proj. (Res. Div.) [b/]	10,820	2,860	7,960	1,960	19,000	9,420	48,040
Imperial Irrig. Dist. [a/]	311,560		311,560	26,300	853,740	150,320	2,684,640
Salton Sea Mitigation	0		0	-1,380	0	-1,700	77,640
USBR Operations	12,220		12,220	12,220	31,830	31,830	44,320
IID plus Salton Sea Mitigation	323,780		323,780	37,140	885,570	180,450	2,806,600
Coachella Val. Wat. Dist. [a/]	27,330		27,330	770	83,320	10,290	312,180
Subtotal	435,550	37,380	398,170	50,580	1,072,320	245,990	3,522,710
Fort Mojave Ind. Res. [c/]	1,580	730	850	-350	2,960	-960	23,800
Cal. Miscellaneous [d/]	3,370		3,370	0	8,030	0	34,000
Metropolitan Water Dist.	71,650	420	71,230	28,150	215,540	-82,440	1,014,120
Total	512,150	38,530	473,620	78,380	1,298,850	162,590	4,594,630
Arizona Users							
Central Arizona Project	180,440		180,440	27,300	585,280	86,770	1,738,690
Colorado River Ind. Res.	69,410	23,560	45,850	1,730	88,480	7,590	420,700
Gila Gravity Main Canal	79,180	13,470	65,710	8,720	171,660	55,960	582,970
Yuma Proj. (Valley Div.)	45,460	14,940	30,520	1,620	80,840	21,210	234,250
Fort Mojave Ind. Res. [c/]	5,180	2,380	2,800	-6,150	9,500	-13,200	71,930
Havasu Nat. Wildlife Ref.	560	0	560	-4,490	1,440	-8,190	27,300
Arizona Miscellaneous [d/]	9,470		9,470	0	21,770	0	85,000
Total	389,700	54,350	335,350	28,730	958,970	150,140	3,160,840
Nevada Users							
From Lake Mead [b/]	36,300	12,700	23,600	390	54,300	3,450	286,140
Mohave Steam Plant	20		20	10	50	-20	350
Total	36,320	12,700	23,620	400	54,350	3,430	286,490
Total Consumptive Use (Ariz., Cal., Nev.)	938,170	105,580	832,590	107,510	2,312,170	316,160	8,041,960

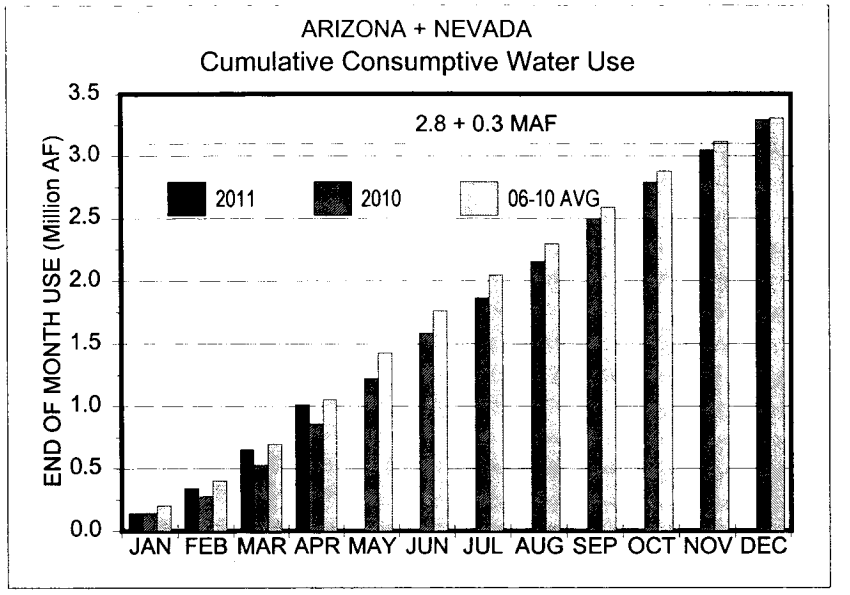
a. Based on measurements below Pilot Knob (assumed to be equal to USBR Article V data after credit is given for unmeasured California return flows between Imperial Dam and Pilot Knob). In addition, Salton Sea mitigation is not part of IID's use but is included in IID total diversion. USBR Operations consists of Salton Sea Operations 0 acre-feet and Warren H. Brock Reservoir Operations 4,040 acre-feet.

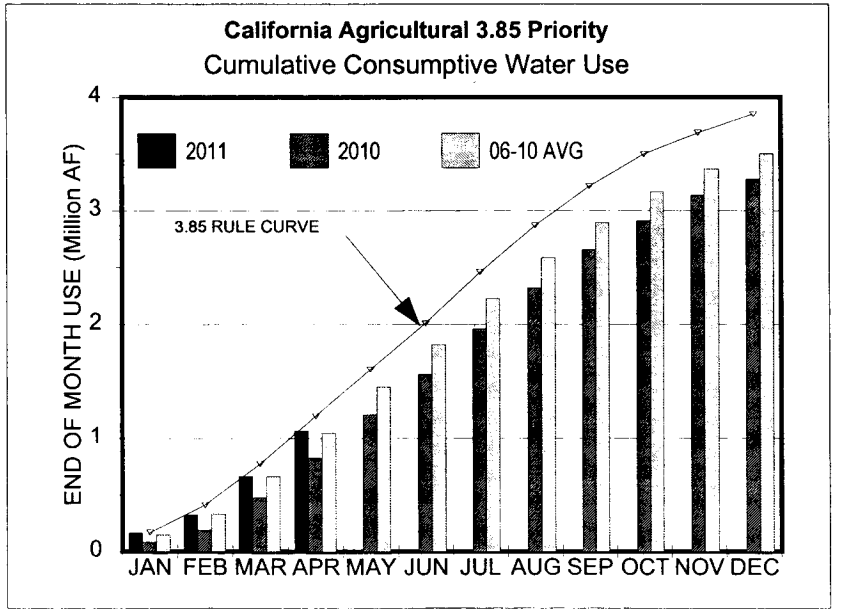
b. Return flow estimates based on averages of past returns as calculated by USBR for Article V data.

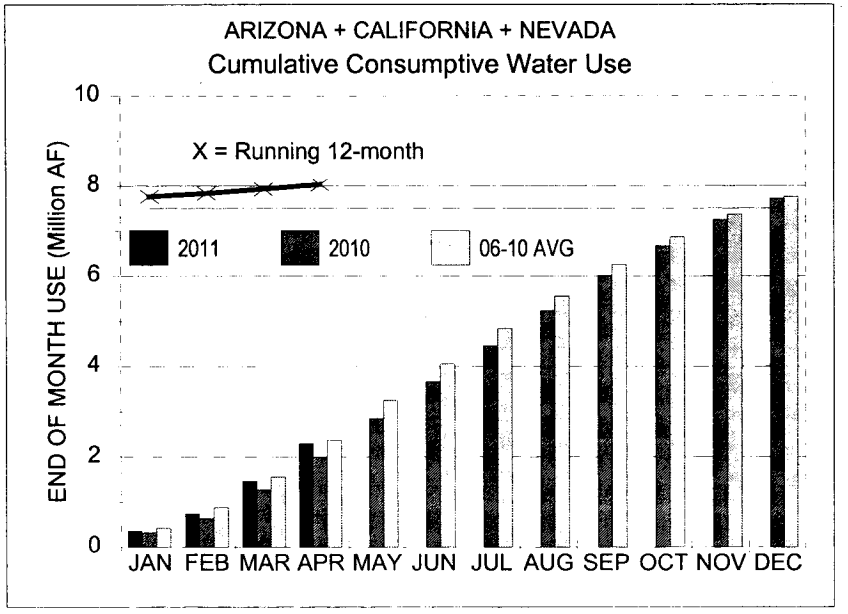
c. Starting January 2011 consumptive use value is diversion minus returns as reported by Reclamtion.

d. An estimated residual made by the Colorado River Board of California combining such items as small diversions along the river, unmeasured groundwater return flow, etc., which, when combined with other quantities listed to arrive at the State's total, presents an estimate of the State's Consumptive use of Lower Colorado River water.


CALIFORNIA
Cumulative Consumptive Water Use
END OF MONTH USE (Million AF)
0
1
2
3
4
5
2011
2010
06-10 AVG
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


ARIZONA + NEVADA
Cumulative Consumptive Water Use
END OF MONTH USE (Million AF)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
2.8 + 0.3 MAF
2011
2010
06-10 AVG
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


California Agricultural 3.85 Priority
Cumulative Consumptive Water Use
END OF MONTH USE (Million AF)
0
1
2
3
4
2011
2010
06-10 AVG
3.85 RULE CURVE
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC


ARIZONA + CALIFORNIA + NEVADA
Cumulative Consumptive Water Use
END OF MONTH USE (Million AF)
0
2
4
6
8
10
X = Running 12-month
2011
2010
06-10 AVG
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

August 4, 2011, Observed Colorado River Flow into Lake Powell (1) (Million Acre-feet)

	USBR and National Weather Service		Change From Last Month's Projected	
	April-July 2011	Water Year 2011	April-July 2011	Wat Yr 2011
Maximum (2)	13.220	17.779	1.720	2.395
Mean	12.920 *	17.079 **	1.420	1.695
Minimum (2)	12.720	16.779	1.220	1.395

* This month's A-J observed is 163% of the 30-year A-J average shown below.
** This month's W-Y observed is 142% of the 30-year W-Y average shown below.

Comparison with past records of Colorado River inflow into Lake Powell (at Lee Ferry prior to 1962)

	April-July Flow	Water Year Flow
Long-Time Average (1922-2010)	7.741	11.519
30-yr. Average (1961-90)	7.735	11.724
10-yr. Average (2001-2010)	5.203	8.449
Max. of Record	15.404 (1984)	21.873 (1984)
Min. of Record	1.115 (2002)	3.058 (2002)
Year 2000	4.352	7.310
Year 2001	4.301	6.955
Year 2002	1.115	3.058
Year 2003	3.918	6.358
Year 2004	3.640	6.128
Year 2005	8.810	12.614
Year 2006	5.318	8.769
Year 2007	4.052	8.231
Year 2008	8.906	12.356
Year 2009	7.804	10.633
Year 2010	5.795	8.738
Total Years 2000 - 2004	17.326	29.809
5-Year Average (2000-2004)	3.465	5.962

(1) Under conditions of no other Upper Basin reservoirs.

(2) USBR and NWS forecasts indicate the probability of 95 percent of the time the actual flow will not exceed the maximum value, and will not be less than the minimum value.

VI. Scheduled Flows to Mexico — Arrivals and excess arrivals of Water for Calendar Year 2011

(Acre-feet)

	(1) Scheduled Flow [9]	(2) Total Arrivals	(3) Excess Arrivals in accord with Minute 242	(4) Other Excess Arrivals	(5) Total Excess Arrivals	(6) Cumulative Excess Arrivals	(7) Flow Through NIB and Limitrophe	(8) Flow By-Pass Southerly International Boundary
Jan.	128,113	146,704	5,905	12,686	18,591	18,591	130,960	5,905
Feb.	155,921	179,145	5,785	17,439	23,224	41,815	162,997	5,785
March	195,427	205,858	6,960	3,471	10,431	52,246	186,916	6,960
April	192,064	215,185	11,516	11,605	23,121	75,367	189,110	11,516
May	99,569							
June	101,741							
July	108,886							
August	83,985							
Sept.	78,135							
Oct.	56,799							
Nov.	97,713							
Dec.	106,451							
	1,404,804	746,892	30,166	45,201			669,983	30,166

Column (1). Flow schedule requested by Mexico. In surplus years as determined by the United States, Mexico can schedule up to 1.7 rather than 1.5 million acre-feet.

(2). Total Colorado River waters reaching Mexico. It is the sum of: 1) Colorado River water measured at the Northerly International Boundary, 2) drainage waters measured at the Southerly International Boundary near San Luis, Arizona, and 3) Wellton-Mohawk drainage waters measured at the Southerly International Boundary. It is the sum of Columns (1) + (5).

(3). Arizona's Wellton-Mohawk Irritation and Drainage District drainage water. This water is discharged to the Santa Clara Slough in Mexico via a concrete-lined canal.

(4). Excess arrivals other than Wellton-Mohawk drainage. It is the sum of: 1) a delivery of about 5,000 a. f. per year to ensure that Mexico receives what is scheduled, 2) releases from Parker Dam which are not used due to unexpected rainfall in the Palo Verde, Coachella, Imperial, and and Yuma areas, 3) controlled flood releases on the Gila and Colorado River, and 4) local runoff.

(5). Sum of Columns (3) and (4).

(6). Cumulation of Column (5).

(7). Including Colorado River flow at the Northerly International Boundary plus flow from Cooper, 11-mile, and 21-mile spillways.

(8). Including flow at the Southerly International Boundary, from the East and West Main canals, Yuma Valley Main, 242 Lateral plus diversions from Lake Havasu for Tijuana.

(9). Revised schedule of Calander Year 2011 as of May 27, 2011

WEIGHTED MONTHLY SALINITY AT
SELECTED COLORADO RIVER STATIONS
AND RUNNING 12-MONTH NIB-IMPERIAL FLOW-WEIGHTED SALINITY DIFFERENTIAL
(in parts per million)

	Below Hoover Dam			Below Parker Dam 3/			Palo Verde 3/ Canal Near Blythe			At Imperial Dam			At Northerly International Boundary			Running 12-Month Flow-Wtd. Differential 2/	
	5-Year avg.1/			5-Year avg.1/			5-Year avg.1/			5-Year avg.1/			5-Year avg.1/				
	1974-78	2010	2011	1974-78	2010	2011 4/	1974-78	2010 4/	2011 4/	1974-78	2010	2011	1974-78	2010	2011	2010	2011
Month																	
Jan.	690	623	606	709	630	620	751	660	640	913	756	714	1,041	831	882	130.7	143.3
Feb.	675	628	446	706	660	640	732	690	620	835	729	686	998	856	779	131.2	137.9
March	684	622	589	699	640		727	650		805	663	660	925	746	802	125.8	147.1
April	680	613	613	700	630		714	650		801	672	674	892	752	735	123.6	153.6
May	677	614		698	630		709	640		822	685		962	951		130.6	
June	678	607		695	610		712	640		812	672		956	909		136.3	
July	682	611		688	620		709	620		797	658		909	834		139.8	
August	690	594		686	620		706	620		800	678		907	888		142.7	
Sept.	672	590		686	620		737	650		815	676		952	843		144.0	
Oct.	680	592		689	620		739	630		854	694		1,070	783		141.1	
Nov.	682	609		692	640		746	650		897	692		1,010	816		142.9	
Dec.	681	596		702	620		731	650		877	733		999	819		137.3	

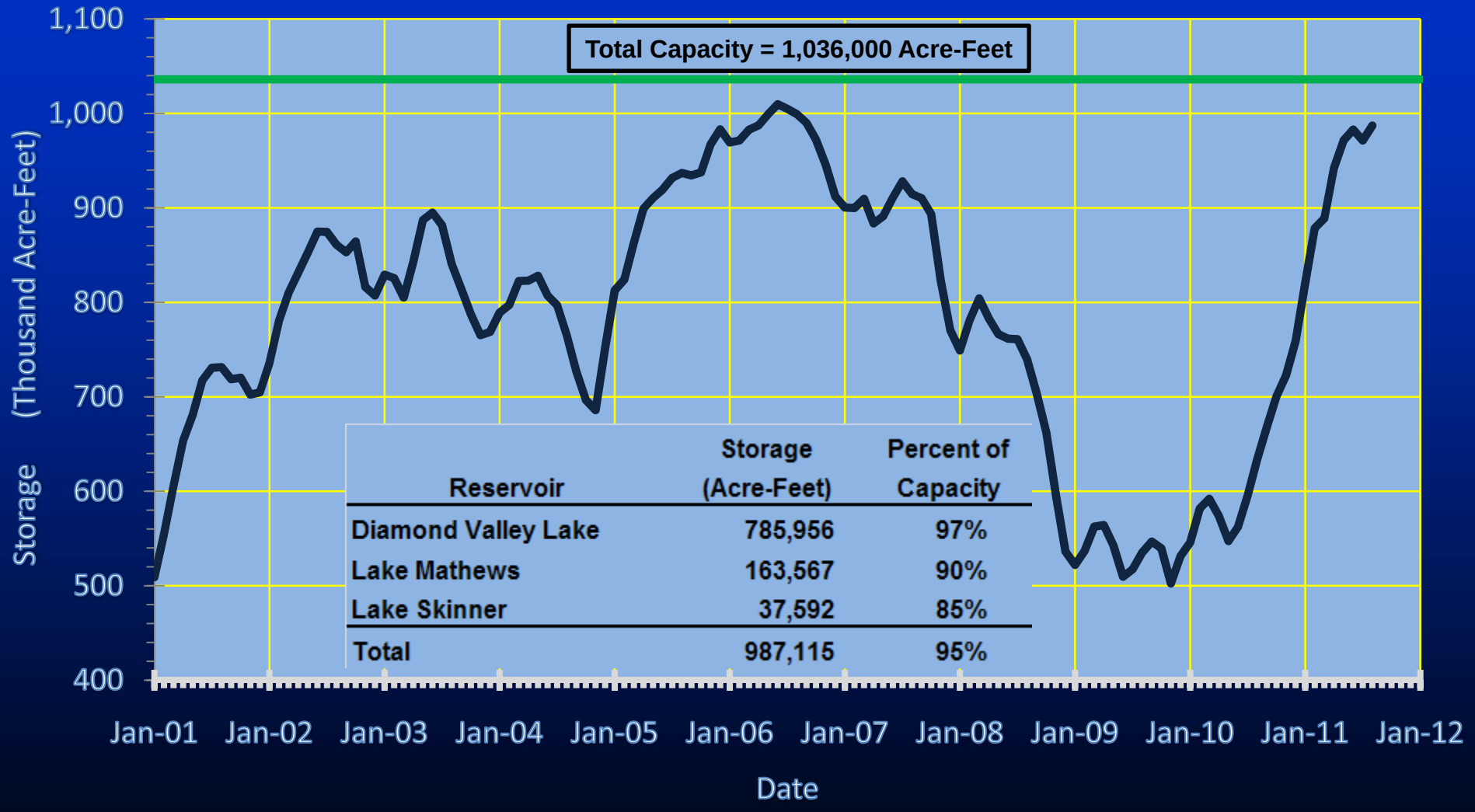
General Notes:

1/ 5-Year averages are arithmetical.
2/ 12-month flow-weighted differential between NIB and Imperial Dam through month shown in left column.
3/ Operational values only.
4/ Values are grab samples (one or two samples per month) and are rounded to represent general magnitude of salinity at Parker Dam and Palo Verde Canal..

2.b. – State and Local Water Reports

MWD's Combined Reservoir Storage as of August 1, 2011

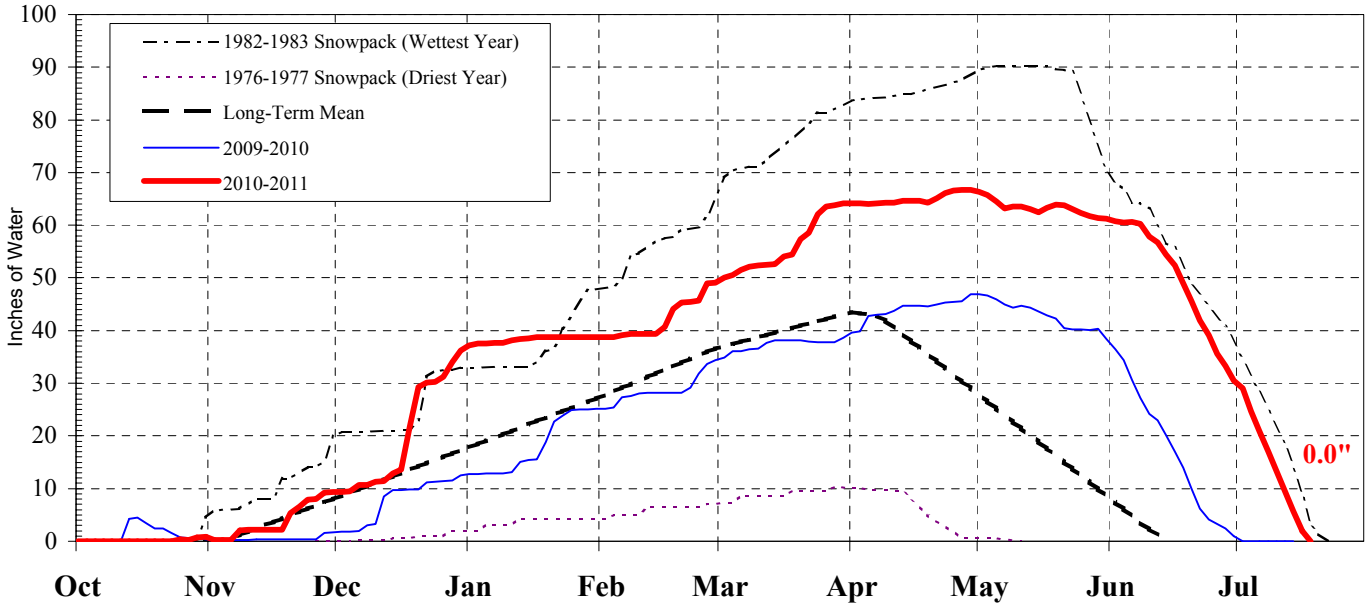
Lake Skinner, Lake Mathews, and Diamond Valley Lake



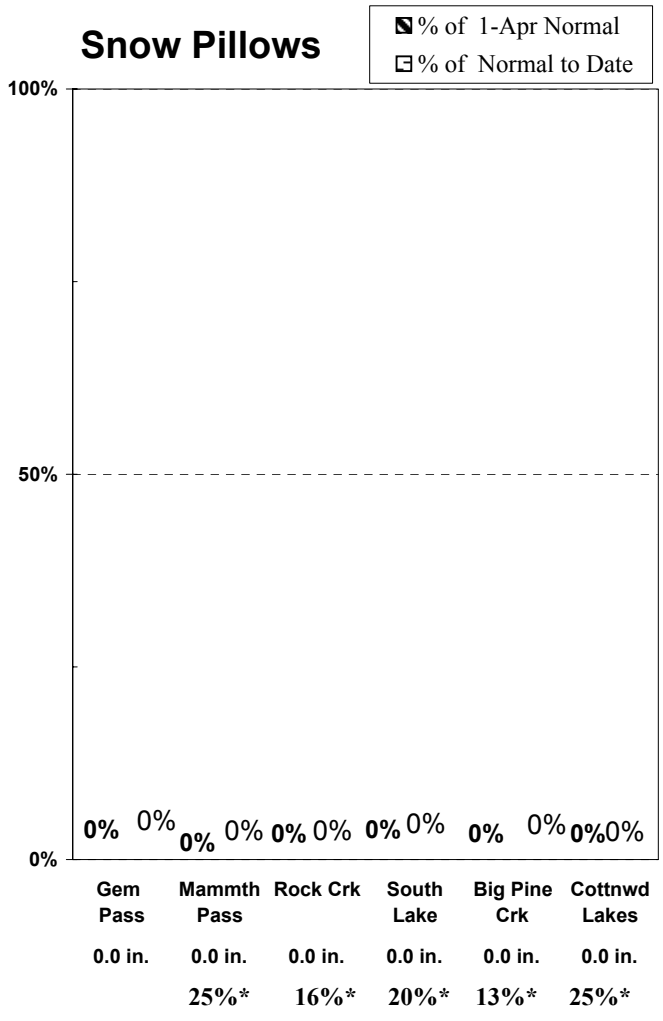
Reservoir	Storage (Acre-Feet)	Percent of Capacity
Diamond Valley Lake	785,956	97%
Lake Mathews	163,567	90%
Lake Skinner	37,592	85%
Total	987,115	95%

EASTERN SIERRA
CURRENT PRECIPITATION CONDITIONS
As of July 20, 2011

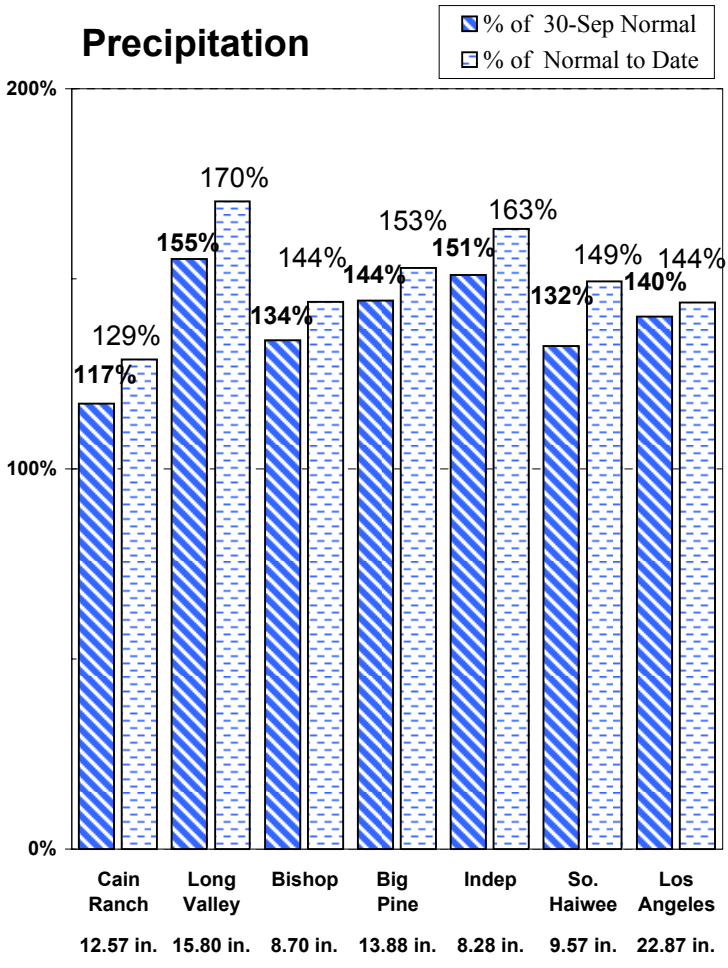
Mammoth Pass Snowpack



Snow Pillows



Precipitation



*** Individual snow pillow represents an area that contributes this percent of the total Owens River Basin runoff.**

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

2.c. – Colorado River Operations

RECLAMATION

Managing Water in the West

2012 Colorado River Annual Operating Plan

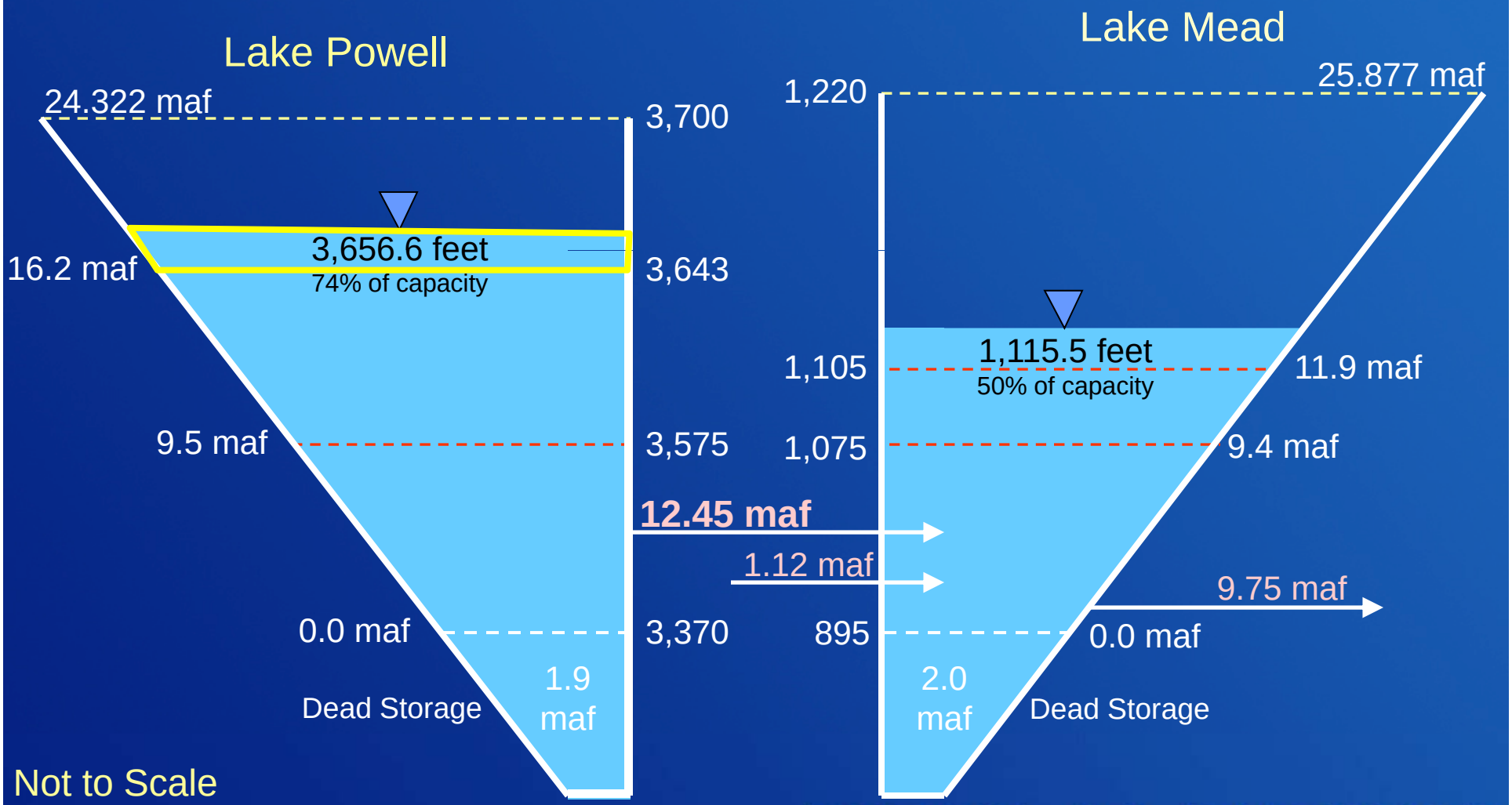
Colorado River Management Work Group
Second Consultation
July 28, 2011

U.S. Department of the Interior
Bureau of Reclamation

Water Year 2011 Projections

July 2011 Most Probable 24-Month Study

Projected Unregulated Inflow into Powell[1] = 16.21 maf (135% of average)



Not to Scale

[1] Projected elevations from the July 2011 24-Month Study which is based on the CBRFC inflow forecast dated July 5, 2011

RECLAMATION

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

AUG 2 2011

IN REPLY REFER TO:
LC-4211
PRJ-23.00

Honorable Edward Drusina, P. E.
Commissioner, United States Section
International Boundary and Water Commission
The Commons, Building C, Suite 306
4171 North Mesa Street
El Paso, TX 79902

Subject: Revised Schedule of Calendar Year (CY) 2011 Water Deliveries to Mexico

Dear Commissioner Drusina:

The Bureau of Reclamation received your letter dated July 6, 2011, from the United States Section of the International Boundary and Water Commission (IBWC) informing Reclamation of Mexico's request to modify the 2011 delivery schedule of Colorado River water to Mexico for the months of August and October. The requested modification consists of an increase of 2,677 TCM (2,170 acre-feet) for the month of August with a decrease in the same amount for the month of October.

Reclamation confirms its ability to execute the requested deliveries according to the schedule provided by your office, which shows deliveries at the Northerly International Boundary, deliveries at the Southerly Land Boundary, and diversions at Parker Dam for deliveries to Tijuana. These deliveries of Colorado River water to Mexico during CY 2011 are in accordance with Article 15 of the Treaty between the United States of America and Mexico, Utilization of Waters of the Colorado and Tijuana Rivers and of the Rio Grande, dated February 3, 1944, and Minutes No. 242, 314, and 316 of the IBWC. The enclosed schedule shows the monthly deliveries provided by your office converted to acre-feet for use in our forecast.

As in previous years, Reclamation will continue to advise your office regarding Colorado River operations as they proceed. We appreciate your cooperation and assistance in planning river operations and in dealing with other issues associated with management of the Colorado River. If you have questions regarding Reclamation's ability to execute the requested deliveries, please call Mr. Paul Matuska, Water Accounting and Verification Group Manager, at 702-293-8164.

Sincerely,

ACTING FOR

Lorri Gray-Lee
Regional Director

Enclosure

cc: See next page

cc: Ms. Anna Morales
Area Operations Manager, Yuma Office
International Boundary and
Water Commission
1940 South Third Avenue, Suite A
Yuma, AZ 85364

Ms. Sandra A. Fabritz-Whitney
Director
Arizona Department of
Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

Mr. John D'Antonio
State Engineer
State Engineer's Office
State of New Mexico
P.O. Box 25102
Santa Fe, NM 87504-5102

Ms. Jennifer Gimbel
Director
Colorado Water
Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80123

Mr. Don A. Ostler
Executive Director
Upper Colorado River Commission
355 South 400 East
Salt Lake City, UT 84111
(w/encl to ea)

Mr. Christopher Harris
Acting Executive Director
Colorado River Board of
California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203

Mr. James D. Salo
Acting Executive Director
Colorado River Commission of
Nevada
555 East Washington Avenue, Suite 3100
Las Vegas, NV 89101

Mr. Patrick Tyrell
State Engineer
State Engineer's Office
State of Wyoming
Herschler Building, 4th Floor East
122 West 25th Street
Cheyenne, WY 82022-0370

Mr. Dennis Strong
Director
Utah Division of Water Resources
P.O. Box 146201
Salt Lake City, UT 84114-6201

06-Jul-11

CY2011 COLORADO RIVER WATER DELIVERIES FOR MEXICO

Month	PREVIOUS SCHEDULE Colorado River at Morelos Dam (NIB) Acre-Feet	KCM	CHANGE KCM	%	NEW SCHEDULE Colorado River at Morelos Dam (NIB) Acre-Feet	KCM	Land Boundary near San Luis, SA Acre-Feet	KCM	Diversions at Parker Dam to Effect Emergency Deliveries to Tijuana Acre-Feet	KCM	Deliveries to Santa Clara Wetland in accordance with Minute No. 316 Acre-Feet	KCM	TOTAL DELIVERY Acre-Feet	KCM
JAN	116,170	143,295	0	0%	116,170	143,295	11,943	14,731	0	0	0	0	128,113	158,026
FEB	143,978	177,595	0	0%	143,978	177,595	11,943	14,731	0	0	0	0	155,921	192,326
MAR	183,484	226,325	0	0%	183,484	226,325	11,943	14,731	0	0	0	0	195,427	241,056
APR[1]	177,180	218,549	0	0%	177,180	218,549	11,943	14,731	0	0	2,941	3,628	192,064	236,908
MAY	99,569	122,817	0	0%	99,569	122,817	11,172	13,781	0	0	0	0	110,741	136,598
JUN[2,3]	104,683	129,125	0	0%	104,682	129,125	11,943	14,731	0	0	2,941	3,628	119,566	147,484
JUL	110,743	136,600	0	0%	110,743	136,600	11,943	14,731	0	0	0	0	122,686	151,331
AUG[3,5]	81,042	99,966	2677	3%	83,213	102,643	11,557	14,256	0	0	0	0	94,770	116,899
SEP	78,135	96,379	0	0%	78,135	96,379	11,172	13,781	0	0	0	0	89,307	110,160
OCT[5]	56,797	70,060	-2677	-4%	54,627	67,383	10,437	12,874	585	722	0	0	65,649	80,979
NOV	97,713	120,528	0	0%	97,713	120,528	11,558	14,256	0	0	0	0	109,271	134,784
DEC[4]	104,595	129,017	0	0%	104,595	129,017	11,890	14,666	0	0	0	0	116,485	143,683
TOTAL	1,354,089	1,670,256	0		1,354,089	1,670,256	139,444	172,000	585	722	5,882	7,256	1,500,000	1,850,234

Water delivery schedule based on schedule received from IBWC in letter dated Jan 11, 2011.

1/ Water delivery schedule based on schedule received from IBWC in letter dated April 1, 2011. Schedule dated Mar 8, 2011.

2/ Water delivery schedule based on schedule received from IBWC in letter dated April 1, 2011. Schedule dated Mar 14, 2011.

3/ Water delivery schedule based on schedule received from IBWC in letter dated May 20, 2011. Schedule dated May 3, 2011.

4/ Water delivery schedule based on e-mail received from IBWC June 6, 2011.

5/ Water delivery schedule based on schedule received from IBWC in letter dated July 6, 2011. Schedule dated July 1, 2011.

Arizona Water Banking Authority

3550 N. Central Avenue, Phoenix, Arizona 85012
Telephone 602-771-8487
Fax 602-771-8685

August 3, 2011

U.S. Department of the Interior
Bureau of Reclamation
Lower Colorado River Regional Office
Ms. Lorri Gray-Lee, Regional Director
P.O. Box 61470
Boulder City, Nevada 89006

Dear Ms. Gray-Lee:

In accordance with sub-article 3.4.2 of the Storage and Interstate Release Agreement, the Arizona Water Banking Authority submits the enclosed final verified accounting of the Southern Nevada Water Authority Interstate Account for calendar year 2010.

If you or your staff have any questions regarding this report, please contact me at (602) 771-8490.

Sincerely,

Virginia O'Connell

Virginia O'Connell, Manager
Arizona Water Banking Authority

cc: w/enc Patricia Mulroy, SNWA
John Entsminger, SNWA
McClain Peterson, CRCN
Sandra Fabritz-Whitney, ADWR
David Modeer, CAWCD
Christopher Harris, CRBC
Roger Patterson, MWD
Terry Fulp, USBR
Paul Matuska, USBR

Annual Accounting of the Southern Nevada Water Authority Interstate Account
2010

Beginning Balance of Long-Term Storage Credits as of January 1, 2010 (AF)	582,772
Volume of Colorado River water delivered for storage by AWBA on behalf of SNWA (AF)	19,000
Number of Long-term Storage Credits Assigned/Transferred-IN (AF)	0
Number of Long-term Storage Credits Assigned/Transferred-OUT (AF)	0
Number of Long-Term Storage Credits Assigned/Transferred for Purposes of Development of Intentionally Created Unused Apportionment (AF)	0
Number of Long-Term Storage Credits Earned in 2010[1] (AF)	17,879
Total Number of Long-Term Storage Credits (AF)	600,651
Total Number of Long-Term Storage Credits to Determine Compliance with sub-article 3.3.1 (AF)	550,651

[1]Calculated by taking water delivered for storage through December 31, 2010 minus operational and evaporation losses minus the mandatory 5% cut to the aquifer.

Imperial Irrigation District
2012 Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus
Main Canals Seepage Interception System Business Plan

Background and Conservation Summary

The Main Canals Seepage Interception System project (MCSIS) is an integrated component of the QSA 45-year Efficiency Conservation Program (ECP) to create water for transfer from the Imperial Irrigation District to the San Diego County Water Authority (SDCWA) and Coachella Valley Water District (CVWD). The Efficiency Conservation Definite Plan considered 28 efficiency conservation program alternatives and determined an optimal combination of on-farm and delivery system conservation projects to meet transfer requirements utilizing available revenues from the Quantification Settlement Agreement (QSA) and related agreements. The MCSIS is an integral component of the 45-year ECP and its costs and revenues are part of that total program.

In addition to the MCSIS being part of ECP financial program, the IID Board of Directors approved an early start and build out of the MCSIS so the additional conserved water not needed for transfer could be used to produce Intentionally Created Surplus (ICS) to assist IID with its capped entitlement limitations or, if needed, payback of future inadvertent overruns. This early start required the project costs for the conserved water not needed for transfer in years 2007 through 2015 to be paid for totally by IID though interim financing. The result is that conserved water produced by the MCSIS from 2008 through 2015 not only cost IID the ECP rates, but also the additional expense of the early start financing. Below is a table summarizing the annual MCSIS conservation yields, the QSA conserved water requirements that utilize MCSIS water (for transfer to CVWD) and the early start conservation volumes used for ICS and IOPP purposes from project inception through the end of calendar year 2010.

Year	MCSIS Conserved at River	Transfer to CVWD	Remaining Amount	To IOPP	To ICS
2008	8,232	4,000	4,232	4,232	0
2009	21,797	8,000	13,797	0	12,000
2010	6,809	12,000	0	0	0
Total	36,838	24,000	18,029	4,232	12,000

Note: All values in acre-feet

Project Goals, Expenses, & Funding

The goals of the MCSIS are not only to intercept the maximum amount of existing seepage without inducing additional seepage from the main canals, but to do this cost effectively and economically without impacting existing levels of drain habitat.

Planning efforts for this project were included in the Efficiency Conservation Definite Plan, completed at a cost of nearly $10 million. The cost estimate, in 2006 dollars, for

MCSIS data collection, design, and construction was $7,665,000 and the estimated annual cost was $674,000. The actual cost of construction was $7,289,990 and the maintenance costs to-date total $983,673. In addition to some pump issues, minor construction and O&M costs still remain for MCSIS completion.

Funding for the MCSIS will eventually be provided by payments from the beneficiaries of the conserved water transfer. Assuming the current QSA water transfer schedules remain in effect and the additional ECP completed components conserve the planned volume of water, the conserved water resulting from the implementation of the MCSIS will be fully utilized by transfer recipients in 2016. However, if the additional ECP conservation components yield more water than planned, IID may be able to pay for and use some of the MCSIS conserved water for ICS or IOPP purposes during the balance of the QSA period. Payments for transferred MCSIS conserved water will be utilized to reimburse IID for its expenditures after the project is complete and transfer schedules ramp up. Therefore, the MCSIS costs from years 2007 on are being paid for though interim financing, with such financing principal, interest and fees ultimately comprising total project costs. IID intends to manage the cost of the project, financing and other matters so as to not affect the water department's cash flow or water rates.

The MCSIS is one of many projects outlined in the Efficiency Conservation Definite Plan, which was created to define, integrate, and maximize projects to meet IID's QSA obligations. The full ECDP can be accessed from IID's website at http://www.iid.com/index.aspx?page=203.

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

July 26, 2011

Ms. Sandra A. Fabritz-Whitney
Director
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

Mr. Christopher S. Harris
Acting Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91303-1035

Mr. James D. Salo
Interim Executive Director
Colorado River Commission of Nevada
555 East Washington Avenue, Suite 3100
Las Vegas, NV 89101-1065

Dear Ms. Fabritz-Whitney and Messrs. Harris and Salo:

Metropolitan's 2012 Plan for the Creation of
Extraordinary Conservation Intentionally Created Surplus

In accordance with Article 2.5(A) of the Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement, enclosed is the Metropolitan Water District of Southern California's (Metropolitan) Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus During Calendar Year 2012 (Plan). We are seeking approval to create 200,000 acre-feet of Extraordinary Conservation Intentionally Created Surplus during 2012. Metropolitan's Plan demonstrates how all requirements of the Forbearance Agreement will be met in the creation of Extraordinary Conservation Intentionally Created Surplus.

Metropolitan looks forward to the Secretary of the Interior's review and approval of the Plan in consultation with the Lower Division States. Should you have any questions regarding our Plan, please contact me at (213) 217-6520.

Very truly yours,

Bill Hasencamp

William Hasencamp
Manager of Colorado River Resources

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Enclosure

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The Metropolitan Water District of Southern California

Plan for the Creation of
Extraordinary Conservation Intentionally Created Surplus
During Calendar Year 2012

Introduction

This plan for the creation of Extraordinary Conservation Intentionally Created Surplus (ICS) has been prepared pursuant to the specifications outlined in Section 3.B.1 on page 40 of the *Record of Decision: Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead* signed by the Secretary of the Interior (Secretary) on December 13, 2007.

Three separate activities are described in this plan, each of which are incorporated as an exhibit to the December 13, 2007, *Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement* among the Arizona Department of Water Resources, the Palo Verde Irrigation District, the Imperial Irrigation District, the City of Needles, the Coachella Valley Water District, the Metropolitan Water District of Southern California (Metropolitan), the Southern Nevada Water Authority, and the Colorado River Commission of Nevada.

The projected yields of these extraordinary conservation activities for calendar year 2012 are as follows:

		acre-feet
Activity 1:	Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program	116,000*
Activity 2:	Metropolitan Funded Imperial Irrigation District Water Conservation Program	105,000**
Activity 3:	Metropolitan Funded Water Supply from Desalination	56,300
	Total	277,300

*Amount may be reduced depending upon Metropolitan's fallowing call for the period beginning August 1, 2012.
**Amount may be reduced depending upon Coachella Valley Water District's use of up to 20,000 acre-feet.

From the yields of these extraordinary conservation activities, Metropolitan plans to create a total of 200,000 acre-feet of Extraordinary Conservation ICS during 2012.

Documentation that the ICS Plan of Creation is in Conformance with any State or Agency Agreements regarding ICS

The amount of Extraordinary Conservation ICS that Metropolitan plans to create is within the limits of Extraordinary Conservation ICS that can be created and accumulated in Lake Mead by Metropolitan under the December 13, 2007, *California Agreement for the Creation and Delivery of Extraordinary Conservation Intentionally Created Surplus*. Absent the creation of

Extraordinary Conservation ICS, this water would otherwise be beneficially used by Metropolitan through diversion into the Colorado River Aqueduct. The amount of Extraordinary Conservation ICS that Metropolitan may create is limited to the amount of Colorado River water that, if added to its consumptive use, would not result in an inadvertent overrun pursuant to the Bureau of Reclamation's (Reclamation) October 10, 2003, Inadvertent Overrun and Payback Policy. Reclamation has previously received a copy of the December 13, 2007, Agreement which documents the terms and conditions for the creation and delivery of Extraordinary Conservation ICS by the California water agencies which are parties to the Agreement.

Activity 1: Metropolitan Funded Palo Verde Irrigation District Forbearance and Fallowing Program

Project Description

Under the August 18, 2004, *Forbearance and Fallowing Program Agreement* with the Palo Verde Irrigation District (PVID) and landowner agreements for fallowing in PVID, Metropolitan pays landowners within the Palo Verde Valley to annually fallow a portion of their land, foregoing the planting and irrigation of crops, allowing PVID to forbear use of water on lands that historically were and otherwise would be irrigated, increasing the amount of water available to Metropolitan.

The volume of water that becomes available to Metropolitan is governed by the October 10, 2003, *Quantification Settlement Agreement*[1] (QSA) and the October 10, 2003, *Colorado River Water Delivery Agreement*.[2] Under these agreements:

- Metropolitan must reduce its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2[3] that is greater than 420,000 acre-feet in a calendar year, or
- Metropolitan may increase its consumptive use of Colorado River water by that volume of consumptive use by PVID and holders of Priority 2 that is less than 420,000 acre-feet in a calendar year.

In both cases, each acre-foot of reduced consumptive use by PVID is an additional acre-foot that becomes available to Metropolitan.

Palo Verde Valley landowners voluntarily decided in 2004 whether to participate in the 35-year program, with those participants agreeing to stop irrigating from 9 to 35 percent of their land in any year at Metropolitan's request. Upon one-year notice, Metropolitan has the option to change the percentage of land fallowed, with an increase in the percentage effective for a two-year period. The land taken out of agricultural production is maintained and rotated once every one to five years. The maximum amount of farmland taken out of production at any one time is 25,947 acres; however, fallowing in excess of 23,508 acres is limited to a total of ten years under the 35-year program. The landowner is responsible for payment of taxes, PVID water tolls, vegetation abatement, dust control and all other costs related to the fallowed lands. Parcels to be fallowed must be at least 5 acres. Through June 2011, Metropolitan has paid a total of $172 million in Program costs and anticipates paying another $16.8 million in Program costs in September 2011.

[1] The parties to the Quantification Settlement Agreement are Imperial Irrigation District, Coachella Valley Water District, and Metropolitan.
[2] The parties to the Colorado River Water Delivery Agreement are the United States, Imperial Irrigation District, Coachella Valley Water District, Metropolitan, and the San Diego County Water Authority.
[3] The Yuma Project Reservation Division holds California's Priority 2.

Term of the Activity

The Forbearance and Fallowing Program Agreement with PVID terminates on July 31, 2040. Metropolitan has issued a Fallowing Call for 25,947 acres for the period commencing August 1, 2010 through July 31, 2012. Metropolitan will issue a Fallowing Call for the period commencing August 1, 2012 through July 31, 2014 by August 1, 2011.

Estimate of the Amount of Water that Will be Conserved and Description of How it is Estimated

The volume of projected savings during calendar year 2012 is 116,310 acre-feet based on the amount of water used for irrigation in the Palo Verde Valley in 2010. The monthly tabulation of this projected savings is as follows:

Month	Monthly Irrigation Use Fraction*	Number of Acres to be Fallowed	Reduced Consumptive Use (acre-feet)**
January	-0.217130	25,947	-5,634
February	-0.102996	25,947	-2,672
March	0.386872	25,947	10,038
April	0.473307	25,947	12,281
May	0.692521	25,947	17,969
June	0.787393	25,947	20,430
July	0.940505	25,947	24,403
August	0.782556	25,947***	20,305***
September	0.501939	25,947***	13,024***
October	0.156367	25,947***	4,057***
November	0.095415	25,947***	2,476***
December	-0.014151	25,947***	-367***
Total			116,310***

*Monthly fraction of annual use of 4.482598 acre-feet per acre.
**Volumes rounded to the nearest acre-foot.
***Amount may be reduced depending upon fallowing call.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon designation of fallowed acreage, a Metropolitan representative visits the field on the date when fallowing is to commence and verifies that fallowing conditions have been met. The same procedure is followed when program participants make changes in the area or location of fallowed lands.

In addition to field verification by Metropolitan, Reclamation staff plan to conduct an independent verification during the spring and fall of 2012. Similar to past years' practice, Reclamation staff plans to select 5 percent of the acreage fallowed for inspection. On-site inspection would be made of all selected fields to observe fallowing conditions and take photographs. A report would be prepared that confirms extraordinary conservation implementation, and includes field observations and relevant photographs of fallowing conditions in PVID.

A calendar year 2012 Fallowed Land Verification Report will be prepared jointly by PVID, Metropolitan, and Reclamation. The Report will determine the actual amount of water saved in 2012 by the Program.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to the provisions of the California Environmental Quality Act (CEQA), PVID, certified the "Final Environmental Impact Report for the Proposed Palo Verde Irrigation District Land Management, Crop Rotation and Water Supply Program" and adopted its Findings of Fact on September 18, 2002. Because no significant impacts would result with Program implementation, as determined by PVID, no statement of overriding considerations and no mitigation monitoring or reporting program were required. Metropolitan certified that it reviewed and considered the information in the certified 2002 Final EIR and adopted PVID's findings on October 22, 2002.

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the conserved water through the August 18, 2004, *Forbearance and Fallowing Program Agreement* with PVID and landowner agreements for fallowing in PVID. Metropolitan would not transfer the conserved water to another agency, nor would Metropolitan conserve the water for another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2012 as Metropolitan does not have existing obligations to do so. Reclamation has previously received a copy of the August 18, 2004 Agreement , including its Exhibit A, the form of the *Landowner Agreement for Fallowing in the Palo Verde Irrigation District*, which documents the terms and conditions of the Program.

Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved by the Program is estimated to range from 1.83 million acre-feet to 3.83 million acre-feet over the period January 1, 2005 to July 31, 2040, the date on which the Agreement terminates.

Capital Investment Required to Implement the Project

Metropolitan invested $73.5 million in sign-up payments paid to Palo Verde landowners, $6 million in funding for community improvement programs paid to the Palo Verde Valley Community Improvement Fund, and expended $3.3 million in Program setup costs.

Annual Operation, Maintenance, and Replacement Costs

Annual payments to landowners, Metropolitan tenants, and for administrative costs to PVID through 2010 have been as follows:

Year	Annual Payments to:	
	Landowners and Metropolitan Tenants (million $)	PVID (million $)
2005	21.0	1.0
2006	8.5	0.5
2007	8.7	0.3
2008	15.6	0.1
2009	16.2	0.2
2010	16.6	0.2

Analysis Supporting the Capital Investment and/or Operation, Maintenance, and Replacement Costs

Metropolitan's Board of Directors authorized the Chief Executive Officer to enter into the agreement with PVID for a term of 35 years. The unit cost of the Program was estimated to range between $154 and $246 per acre-foot.

Metropolitan has paid $82.8 million in capital investment costs. Multiplying the sum of the capital and indirect costs by the capital recovery factor for 6 percent interest and 35 years (0.0690) results in a uniform annual cost for capital investment of $5.7 million. In 2011, Metropolitan anticipates paying $16.8 million for annual costs. Adding the uniform annual cost for capital repayment to the annual costs totals $22.5 million. Program water savings are estimated to total 116,310 acre-feet in 2011. Dividing these costs by the amount of water available for Metropolitan's use results in a unit rate of $193 per acre-foot.

For the purpose of determining whether the water saved by the Metropolitan funded PVID Forbearance and Fallowing Program is water made available though extraordinary conservation measures in 2012, the measure of the unit rate of the Program is compared to the 2010 rate which Reclamation agreed to pay for System Conservation--$90 per acre-foot. As the unit rate of the water saved by the Program ($193 per acre-foot) exceeds the rate Reclamation agreed to pay for System Conservation, the water conserved by the Program is considered extraordinary conservation for the purpose of creation of ICS in 2012.

Following creation of ICS in 2012, Metropolitan will utilize the portion of the ICS remaining in future years.

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

Water saved by the Program has assisted in meeting the 2006 and 2009 benchmarks, and the 2005, 2007, 2008, and 2010 targets specified in Exhibit B of the October 10, 2003, *Colorado River Water Delivery Agreement*[4]. The amount of the water saved by the Program to date and the amount of ICS created have been as follows:

Year	Amount of Water Saved (acre-feet)	Amount of ICS Created (acre-feet)
2005	108,666	
2006	102,039*	50,000
2007	65,310**	2,382
2008	94,303	0
2009	120,247***	55,836
2010	116,310****	100,864

* Excludes 3,000 acre-feet of water saved which was provided to Reclamation for system conservation.
** Excludes 7,000 acre-feet of water saved which was provided to Reclamation for system conservation.
*** Excludes 24,078 acre-feet of water saved by the Emergency Fallowing Program.
**** Excludes 32,304 acre-feet of water saved by the Emergency Fallowing Program.

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The Program is scheduled to end on July 31, 2040. The volume of water that remains to be conserved ranges from a minimum of 1.10 million acre-feet to a maximum of 3.09 million acre-feet over the period January 1, 2012 to July 31, 2040.

[4] All consumptive use of priorities 1 through 3 plus 14,500 acre-feet of miscellaneous and Indian reservations present perfected rights' use must be within 25,000 acre-feet of the amount stated in Exhibit B.

Activity 2: Metropolitan Funded Imperial Irrigation District Water Conservation Program

Project Description

Under the December 22, 1988, *Agreement for the Implementation of a Water Conservation Program and Use of Conserved Water* (1988 Conservation Agreement) as amended and the December 19, 1989, *Approval Agreement* (1989 Approval Agreement) as amended, Metropolitan has funded water efficiency improvements within the Imperial Irrigation District's (IID) service area in return for IID's agreement to not use 105,000 acre-feet of water annually.

The program implemented structural and non-structural measures—extraordinary measures to conserve water—including,

- concrete lining of 13 miles of existing main canals and 200 miles of lateral canals,
- construction of two local reservoirs and three spill-interceptor canals with four reservoirs,
- installation of 14 non-leak gates,
- automation of the distribution system,
- delivery of water to farmers on a 12-hour basis,
- improvements in on-farm water management through the installation of drip irrigation systems, and
- installation of tailwater pumpback systems.

Through June 2011, Metropolitan has paid IID a total of $254.9 million for program costs.

Term of the Activity

The term of the 1988 Conservation Agreement as amended and the 1989 Approval Agreement as amended, extends through at least December 31, 2041, or 270 days beyond the termination of the October 10, 2003, *Quantification Settlement Agreement*, whichever is later, with extensions to this term as specified in the agreements.

Estimate of the Amount of Water that Will be Conserved

As specified in the May 14, 2007, second amendment to the 1988 Conservation Agreement, 105,000 acre-feet of water will be made available by the program during calendar year 2012. Of this volume, pursuant to the 1989 Approval Agreement, Metropolitan would reduce its use of this water by up to 20,000 acre-feet to leave that water available for diversion by the Coachella Valley Water District (CVWD) should CVWD request delivery of this water. Exhibit H to the *Lower Colorado River Basin ICS Forbearance Agreement* provides that:

"The amount of EC ICS that can be created during any Year is limited to the amount of water resulting from the program that Metropolitan does not consumptively use, up to

105,000 acre-feet, plus any reduction in calculated IID conveyance losses as a result of IID conveying less water through its conveyance and distribution system due to the conservation of water from this program. The volume of water conserved annually pursuant to this program to be devoted to the creation of EC ICS credits is further limited to the quantities set forth in the following…:

Limitations on Creation of EC ICS

…

c) The amount of EC ICS created pursuant to this Exhibit is limited to the IID reduction shown in column 4 of Exhibit B to the October 10, 2003 Colorado River Water Delivery Agreement, less any portion of that reduction that results in delivery of water to Coachella Valley Water District."

Proposed Methodology for Verification of the Amount of Water Conserved

IID's reduction in net diversions at Imperial Dam permits the Secretary to deliver water made available for Metropolitan absent the creation of Extraordinary Conservation ICS.

Through 2006, the Conservation Verification Consultants prepared and presented to the Water Conservation Measurement Committee an annual report on the estimated amount of water conserved by the program and each project thereof. A Systemwide Monitoring Program was developed to identify and explain trends in IID system performance as a function of the operational environment within which the IID/Metropolitan conservation projects operated. The Systemwide Monitoring Program was designed to function over the life of the IID/Metropolitan program to:

- Identify changes in on-farm irrigation practices.
- Identify changes in main and lateral canal operations and zanjero accounting procedures.
- Provide data support for the five-year verification updates.
- Provide a basis for separating water savings associated with IID/Metropolitan-sponsored conservation projects from water savings associated with measures implemented by others. In this case, the Systemwide Monitoring Program provides valuable baseline data for separating the effects of a new program from those attributable to the IID/Metropolitan program.
- Fulfill the requirement for overall verification specified in the 1989 Approval Agreement.

Forty sites were selected and developed to provide data required for systemwide monitoring.

In order to collect and process the flow data needed in support of the water conservation verification activities for the 1988 Conservation Agreement projects, an automated data collection, quality control, processing and retrieval system was developed under the IID/Metropolitan program. The system was designed to include many of the control sites for the

various projects as well as the sites needed for systemwide monitoring. In December 1995, data processing procedures developed by the Conservation Verification Consultants were institutionalized and incorporated into IID's Water Information System.

Beginning January 1, 1996, conservation verification data were processed and stored using Water Information System applications and capabilities. IID data collected prior to January 1, 1996, which were processed by the Conservation Verification Consultants for use in determining annual projected water conservation savings over the life of the program, were also stored in the Water Information System. The Water Information System management system was developed to generate daily, monthly, calendar year, and water year tables, summary tables and bar charts that have been presented in an annual Processed Flow Data document and an annual Projected Water Conservation Savings report.

The last published Projected Water Conservation Savings report will be made available to Reclamation upon its request.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Metropolitan's Board of Directors certified on December 22, 1988, that it reviewed and considered the environmental information contained in the final program Environmental Impact Report prepared by IID entitled "Proposed Water Conservation Program and Initial Water Transfer". Reclamation complied with the National Environmental Policy Act through execution of Categorical Exclusion No. LC-89-2 on January 6, 1989, for the "Water Conservation Program, Imperial Irrigation District, Imperial County, California".

Project specific documents completed by IID pursuant to the California Environmental Quality Act are described in the table on the following page.

Project Name	California Environmental Quality Act Documentation
Trifolium Reservoir Project	Negative Declaration filed on August 20, 1986
South Alamo Canal Lining Phase I Project	Categorical Exemption filed on September 11, 1987
South Alamo Canal Lining Phase II Project	Categorical Exemption filed on September 6, 1989
"Z" Reservoir	Initial Environmental Study published in May 1989; Negative Declaration published on September 6, 1989; Addendum to the Negative Declaration filed on November 22, 1989
Lateral Concrete Lining Project, 265 Miles	Environmental Assessment and Initial Study published in January 1990; Categorical Exemption filed on January 26, 1990
Rositas Supply Canal Concrete Lining Project	Environmental Assessment and Initial Study published in June 1990; Categorical Exemption filed on August 15, 1990
Vail Supply Canal Lining Project	Categorical Exemption filed on August 15, 1990
Lateral Interceptor Pilot Project	Initial Environmental Study published in April 1990; Negative Declaration published on May 23, 1990; and an Addendum to the Negative Declaration filed on August 15, 1990
Westside Main Canal Concrete Lining Project	Initial Environmental Study published in June 1990; Negative Declaration filed on October 5, 1990
System Automation Project	Categorical Exemption published in July 1990; Categorical Exemption filed on September 11, 1990
Westside Main Canal Concrete Lining Project	Initial Environmental Study published in June 1990; Negative Declaration filed on October 5, 1990
Non-Leak Gates Project	Categorical Exemption published in August 1990 and filed on September 6, 1990
12-Hour Delivery Project	Categorical Exemption filed on December 21, 1990
Irrigation Water Management Project	IID determined Project to be exempt from the California Environmental Quality Act on August 23, 1991
Modified East Lowline and Trifolium Interceptors, and Completion Projects	Final Environmental Impact Report published in May 1994; on June 8, 1994, IID certified the Final Environmental Impact Report, made a Statement of Findings and adopted a Statement of Overriding Considerations

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the water being conserved through the 1988 Conservation Agreement and the 1989 Approval Agreement. While Metropolitan would not transfer the conserved water to another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2012 as Metropolitan does not have existing obligations to do so, Metropolitan may be requested to reduce its use of the conserved water by up to 20,000 acre-feet in 2012 by CVWD. Reclamation has previously received a copy of the 1988 Conservation Agreement, 1989 Approval Agreement and amendments, which document the terms and conditions of the Program.

Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved by the Program is estimated to range from 5.08 million acre-feet over the period January 1, 1990 to December 31, 2041 to 8.94 million acre-feet over the period January 1, 1990 to September 27, 2078—which would be 270 days after the termination of the QSA, provided that the QSA does not terminate until December 31, 2077. The agreement could extend beyond September 27, 2078 pursuant to Section 3.5 of the 1988 Conservation Agreement, and would continue thereafter until terminated as specified in Section 7.2 or in Article V of the 1988 Conservation Agreement.

Capital Investment Required to Implement the Project

Metropolitan invested $112.5 million in capital and $23 million in indirect payments paid to IID.

Annual Operation, Maintenance, and Replacement Costs

Annual direct payments to IID through June 2011 have been as follows:

Year	(million $)
1990	0.6
1991	1.1
1992	2.3
1993	2.8
1994	1.9
1995	2.8
1996	1.8
1997	6.5
1998	4.8
1999	5.5
2000	5.5
2001	4.4
2002	5.8
2003	6.8
2004	7.9
2005	8.1
2006	8.8
2007	9.0
2008	9.8
2009	8.7
2010	10.1
2011 through June	4.3

Analysis Supporting the Capital Investment and/or Operation, Maintenance, and Replacement Costs

Section 3.4 of the 1988 Conservation Agreement contemplated Metropolitan creation of ICS. Extraordinary conservation measures can be distinguished from ordinary conservation measures. An example of an ordinary conservation measure is a practice that would be funded by an irrigation district to permit it to meet its water users' needs for water in the current year.

At the time Metropolitan's Board of Directors authorized the General Manager to enter into the agreement with IID, Metropolitan and IID anticipated that implementation of the Program would be completed in five years, followed by a minimum term of 35 years. In determining the unit cost for the Program in 1988, the capital recovery factor selected for the Program was based on an eight percent interest rate and a 40-year period. The interest rate was chosen as it approximated the interest cost that would be associated with funding the capital and indirect costs with a bond issue. A 40-year period was chosen as it represented the minimum term of the agreement.

Metropolitan has paid IID $112.5 million for capital costs and $23 million for indirect costs. Multiplying the sum of the capital and indirect costs by the capital recovery factor for 8 percent

interest and 40 years (0.0839) results in a uniform annual cost for capital and indirect repayment of $11.4 million. In 2011, Metropolitan will pay IID $10 million for annual direct costs. Adding the uniform annual cost for capital and indirect repayment to the annual direct costs totals $21.4 million. IID is making 105,000 acre-feet of water available to Metropolitan as a result of the Program in 2011. Of this amount, CVWD has requested use of 20,000 acre-feet, leaving 85,000 acre-feet available for Metropolitan's use at this time. Dividing these costs by the amount of water available for Metropolitan's use results in a unit rate of $252 per acre-foot. In the event that CVWD reduced its call on the conserved water, the unit rate could be reduced, down to a minimum unit rate of $204 per acre-foot.

For the purpose of determining whether the water conserved by the Metropolitan funded IID Water Conservation Program is water made available though extraordinary conservation measures in 2012, the measure of the unit rate of the Program is compared to the 2010 rate which Reclamation agreed to pay for System Conservation--$90 per acre-foot. As the unit rate of the water conserved by the Program ($204-252 per acre-foot) exceeds the rate Reclamation agreed to pay for System Conservation, the water conserved by the Program is extraordinary conservation for the purpose of creation of ICS in 2012.

Following creation of ICS in 2012, Metropolitan will utilize the portion of the ICS remaining in future years.

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

Water saved by the Program has assisted in meeting the 2003, 2006 and 2009 benchmarks, and the 2004, 2005, 2007, 2008, and 2010 targets specified in Exhibit B of the October 10, 2003, *Colorado River Water Delivery Agreement*[1]. The amount of the water saved by the Program to date and the amount of ICS created have been as follows:

Year	Amount of Water Conserved (acre-feet)	Amount of ICS Created (acre-feet)
1990	6,110	
1991	26,700	
1992	33,929	
1993	54,830	
1994	72,870	
1995	90,880	
1996	97,740	
1997	107,160	
1998	108,500	
1999	109,460	
2000	106,880	
2001	104,940	
2002	105,130	
2003	101,900	
2004	101,940	
2005	101,160	
2006	105,000	
2007	105,000	0
2008	105,000	0
2009	105,000	0
2010	105,000	0

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The total volume of water to be conserved by the Program is estimated to range from 3.15 million acre-feet over the period January 1, 2012 to December 31, 2041 to 7.01 million acre-feet over the period January 1, 2012 to September 27, 2078—which would be 270 days after the termination of the QSA, provided that the QSA does not terminate until December 31, 2077. The agreement could extend beyond September 27, 2078 pursuant to Section 3.5 of the 1988 Conservation Agreement, and would continue thereafter until terminated as specified in Section 7.2 or in Article V of the 1988 Conservation Agreement.

[1] All consumptive use of priorities 1 through 3 plus 14,500 acre-feet of miscellaneous and Indian reservations present perfected rights' use must be within 25,000 acre-feet of the amount stated in Exhibit B.

Activity 3: Metropolitan Funded Water Supply from Desalination

Metropolitan provides financial support to its member agencies to implement groundwater desalination projects in its service area that are described below.

Metropolitan enters into agreements to pay for water produced by each individual project for multi-year terms. Metropolitan contributions are based on a sliding scale up to $250 per acre-foot. To receive a contribution, project unit costs must exceed a unit rate established by Metropolitan, which is $817 per acre-foot for calendar year 2012. When the project unit cost is less than or equal to this rate, the Metropolitan contribution is zero.

In order to determine the appropriate Metropolitan contribution, agencies are required to submit to Metropolitan annual project costs and production data at the conclusion of each fiscal year of operation. Metropolitan verifies the amount of desalted water production and associated project unit cost through an annual reconciliation process. In addition, Metropolitan periodically conducts an audit of agencies' records pertaining to desalted water production and costs.

The projected yield of these groundwater desalination projects for calendar year 2012 are as follows:

Project	Projected 2012 Yield (acre-feet)
Beverly Hills Desalter	1,300
Capistrano Beach Desalter	600
Chino Basin Desalination Program	24,600
Irvine Desalter	4,300
Lower Sweetwater Desalter	3,200
Madrona Desalination Facility	1,500
Menifee Desalter	2,800
Oceanside Desalter (Mission Basin Expansion)	2,900
San Juan Basin Desalter	2,400
Temescal Basin Desalter	10,000
Tustin Desalter	2,000
West Basin Desalter	700
Total	56,300

Beverly Hills Desalter

Project Description

The Beverly Hills Desalter includes a treatment plant, extraction wells, a collection pipeline, a booster pump, a product water pipeline to connect to Beverly Hills' water distribution system, and a concentrate waste disposal pipeline. The project pumps and treats brackish groundwater from the Hollywood Basin. Concentrate is discharged to the sanitary sewer system through which it is conveyed to the City of Los Angeles' Hyperion Wastewater Treatment Plant.

Term of the Activity

The 20-year agreement between Metropolitan and the City of Beverly Hills terminates at the end of April 2023.

Estimate of the Amount of Water that Will be Conserved

The Beverly Hills Desalter is projected to produce 1,300 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Beverly Hills Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Beverly Hills prepared and approved a Mitigated Negative Declaration for the Beverly Hills Desalter. Beverly Hills filed a Notice of Determination for the project on August 19, 1998. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Beverly Hills Desalter and adopted Beverly Hills' findings related to the project on September 15, 1998.

Capistrano Beach Desalter

Project Description

The Capistrano Beach Desalter includes a treatment plant, extraction wells, a collection pipeline, a booster pump, a product water pipeline to connect to South Coast Water District's water distribution system, and a concentrate waste disposal pipeline. The project pumps and treats brackish groundwater from the San Juan Basin. Concentrate is discharged to the Chiquita Ocean Outfall.

Term of the Activity

The 20-year agreement between Metropolitan, Municipal Water District of Orange County and the South Coast Water District will terminate on June 30, 2026.

Estimate of the Amount of Water that Will be Conserved

The Capistrano Beach Desalter is projected to produce 600 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Capistrano Beach Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, South Coast Water District approved a Program EIR for the San Juan Capistrano Property and the Project in December 2002. An additional Mitigated Negative Declaration for the project was adopted in 2003.

Chino Basin Desalination Program

Project Description

The Chino Basin Desalter No. 1 treats groundwater containing high concentrations of total dissolved solids and nitrates, and conveys product water to the cities of Chino, Chino Hills, and Norco and Jurupa Community Services District. Groundwater is pumped from 14 wells throughout the Chino Basin area to the Desalter, where reverse osmosis is utilized. The project includes a pipeline and structures connecting existing Jurupa and City of Ontario water systems, a three-million gallon reservoir, and two booster pumping stations. Brine is transported by a regional brine line and subsequently discharged to the ocean. The Chino Basin Desalter No. 1 has been expanded to 14.2 million gallons per day by including an ion exchange treatment system and product water is conveyed to the City of Ontario as well.

The Chino Basin Desalter No. 2 serves water to Jurupa, Ontario, Norco and the Santa Ana River Water Company. Groundwater from eight wells in the Mira Loma area is treated by reverse osmosis (six million gallons per day) and ion exchange (four million gallons per day) treatment systems. The project includes pipelines to convey degraded water to the desalting facilities, pipelines to convey treated water to the existing potable systems, a three-million gallon clearwell, a five-million gallon storage reservoir, and three booster pumping stations.

Term of the Activity

For the Chino Basin Desalter No. 1, the 20-year agreement among Metropolitan, Inland Empire Utilities Agency, and Western Municipal Water District terminates at the end of September 2020.

For the Chino Basin Desalter No. 2, the 25-year agreement among Metropolitan, Inland Empire Utilities Agency, Chino Desalter Authority, and Western Municipal Water District terminates at the end of July 2032.

Estimate of the Amount of Water that Will be Conserved

The Chino Basin Desalination Program is projected to produce 24,600 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for Chino Basin Desalter No. 1 and Chino Basin Desalter No. 2.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Santa Ana Watershed Project Authority (SAWPA) prepared three Negative Declarations for the Chino Basin Desalter No. 1. SAWPA signed Notices of Determination for the project on September 16, 1991 (Chino Basin Desalter No. 1), December 30, 1991 (Chino West Desalter), and June 12, 1992 (Chino Basin Desalination System). Mitigation measures were adopted by SAWPA. Metropolitan's Board of Directors certified that it reviewed and considered the Negative Declarations for the project on May 10, 1994.

Metropolitan's Board of Directors determined that the proposed actions, including authorizing the General Manager to execute the Chino Basin Desalter No. 2 agreement, were exempt from CEQA pursuant to Sections 15306 and 15378(b)(4) of the State CEQA Guidelines on June 12, 2007.

Irvine Desalter

Project Description

The Irvine Desalter includes a seven million gallon per day reverse osmosis desalination system, nine wells, yard piping, and brine disposal piping. Treatment facilities consist of threshold inhibitor and acid injection systems, cartridge filters, booster pumps, reverse osmosis membrane units, decarbonation facilities, chlorine disinfection, and an on-site storage reservoir. Brackish

water is pumped from the Orange County Basin. Product water is delivered to the Irvine Ranch Water District's service area. Brine is discharged at the County Sanitation Districts of Orange County (CSDOC) facility in Fountain Valley.

Term of the Activity

The 20-year agreement between Metropolitan, Municipal Water District of Orange County, Orange County Water District (OCWD) and the Irvine Ranch Water District will terminate at the end of August 2027.

Estimate of the Amount of Water that Will be Conserved

The Irvine Desalter is projected to produce 4,300 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Irvine Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, OCWD filed a Notice of Preparation of an Environmental Impact Report (EIR) on October 27, 1989. The final EIR was adopted in 1990.

Lower Sweetwater Desalter

Project Description

The Lower Sweetwater Desalter includes wells, replenishment facilities, a treatment plant, neutralization plant, brine disposal, and pipelines. The treatment plant employs reverse osmosis and blending to desalt brackish water. Product water is pumped to the Sweetwater Authority's distribution system for use by National City and South Bay Irrigation District. Concentrate is discharged to San Diego Bay through the Upper Paradise Creek flood control channel.

Term of the Activity

The 20-year agreement between Metropolitan and the San Diego County Water Authority terminates at the end of January 2020.

Estimate of the Amount of Water that Will be Conserved

The Lower Sweetwater Desalter is projected to produce 3,200 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Lower Sweetwater Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Sweetwater Authority prepared and certified an EIR for the Lower Sweetwater Desalter. Mitigation measures were made a condition of approval of the project by the Sweetwater Authority. A Notice of Determination for the project was filed on May 23, 1996. Metropolitan's Board of Directors certified that it reviewed and considered the EIR for the project on July 9, 1996.

Madrona Desalination Facility

Project Description

The Madrona Desalination Facility includes two wells and treatment of water from the West Coast Basin by reverse osmosis. Product water is conveyed to the City of Torrance's distribution system by booster pump. Concentrate is discharged to the ocean.

Term of the Activity

The 20-year agreement between Metropolitan and the City of Torrance terminates at the end of June 2022.

Estimate of the Amount of Water that Will be Conserved

The Madrona Desalination Facility is projected to produce 1,500 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Madrona Desalination Facility.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Water Replenishment District of Southern California (WRD) prepared and approved a Mitigated Negative Declaration for the Madrona Desalination Facility. Metropolitan's Board of Directors certified that it reviewed and considered the Initial Findings

and Mitigated Negative Declaration for the project and adopted the WRD finding related to the project on October 13, 1998.

Menifee Desalter

Project Description

The Menifee Desalter treats brackish water from five wells in the Perris and Menifee Subbasins through reverse osmosis. Product water is pumped into Eastern Municipal Water District's potable distribution system. Concentrate is disposed through the Temescal Valley and Santa Ana regional interceptors to the ocean.

Term of the Activity

The 20-year agreement between Metropolitan and Eastern Municipal Water District terminates at the end of November 2022.

Estimate of the Amount of Water that Will be Conserved

The Menifee Desalter is projected to produce 2,800 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Menifee Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the Eastern Municipal Water District prepared an EIR for the Menifee Desalter. On February 9, 1993, Metropolitan's Board of Directors certified that it considered the environmental effects of the Menifee Basin Desalter as shown in the EIR prior to making a decision on the project and found that the mitigation measures for the project were within the responsibility and jurisdiction of other public agencies and have been or can and should be adopted by those agencies.

Oceanside Desalter (Mission Basin Expansion)

Project Description

The Oceanside Desalter (Mission Basin Expansion) includes three wells, a cartridge filtration facility, and water conveyance facilities. Brackish water is pumped from the Mission Basin. Product water is delivered to the City of Oceanside. Concentrate is disposed into the ocean.

Term of the Activity

The 20-year agreement between Metropolitan and the San Diego County Water Authority terminates at the end of July 2023.

Estimate of the Amount of Water that Will be Conserved

The Oceanside Desalter (Mission Basin Expansion) is projected to produce 2,900 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Oceanside Desalter (Mission Basin Expansion).

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the City of Oceanside, prepared and approved a Negative Declaration and Notice of Exemption for the Oceanside Desalter (Mission Basin Expansion). Mitigation measures were made a condition of approval of the project by Oceanside. A Notice of Exemption for the project was filed on February 11, 1998 and a Notice of Determination for the project was filed on July 22, 1998. Metropolitan's Board of Directors certified that it reviewed and considered the Negative Declaration and Notice of Exemption for the project and adopted Oceanside's finding related to the project on August 18, 1998.

San Juan Basin Desalter

Project Description

The San Juan Basin Desalter consists of five wells, a four million gallon per day reverse osmosis treatment plant, pretreatment to remove iron and manganese, a pump station, a product water pipeline, and a concentrate disposal pipeline. Brackish water is pumped from the Lower San Juan Basin. Product water is delivered to the Capistrano Valley Water District. Concentrate is conveyed to the ocean through the Chiquita Land Outfall and the Serra Ocean Outfall.

Term of the Activity

The 20-year agreement between Metropolitan and the Municipal Water District of Orange County terminates at the end of December 2024.

Estimate of the Amount of Water that Will be Conserved

The San Juan Basin Desalter is projected to produce 2,400 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the San Juan Basin Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, the San Juan Basin Authority prepared and approved a Mitigated Negative Declaration for the San Juan Basin Groundwater Management and Facility Plan that addressed the San Juan Basin Desalter. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Plan prior to reaching a decision on the project and adopted the San Juan Basin Authority's findings related to the project on August 18, 1998.

Temescal Basin Desalter

Project Description

The Temescal Basin Desalter includes wells, reverse osmosis treatment, transmission, product water, and brine disposal pipelines. Brackish water is pumped from the Temescal Subbasin. Product water is delivered to the City of Corona. Brine is discharged to the ocean through the Santa Ana Regional Interceptor.

Term of the Activity

The 20-year agreement between Metropolitan and Western Municipal Water District terminates at the end of July 2021.

Estimate of the Amount of Water that Will be Conserved

The Temescal Basin Desalter is projected to produce 10,000 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Temescal Basin Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Corona prepared and approved a Mitigated Negative Declaration for the Temescal Basin Desalter. Mitigation measures were made a condition of approval of the project. Metropolitan's Board of Directors certified that it reviewed and considered the information provided in the Mitigated Negative Declaration for the Temescal Basin Desalter and adopted Corona's findings related to the project on February 9, 1999.

Tustin Desalter

Project Description

The Tustin Desalter includes wells, a two million gallon per day reverse osmosis desalination plant, and pipeline. Brackish water is pumped from the Orange County Basin. Product water is delivered to the City of Tustin. Brine is conveyed to the County Sanitation Districts of Orange County wastewater treatment facilities via a sewer.

Term of the Activity

The 20-year agreement between Metropolitan and the Municipal Water District of Orange County terminates at the end of August 2016.

Estimate of the Amount of Water that Will be Conserved

The Tustin Desalter is projected to produce 2,000 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the Tustin Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, Orange County Water District prepared an Initial Study and Negative Declaration for the Tustin Desalter. Mitigation measures were made a condition of approval of the project. A Notice of Determination for the project was filed on July 18, 1991. Metropolitan's Board of Directors certified that it reviewed and considered the information contained in the Initial Study and Negative Declaration and found that any changes and alterations were within the responsibility of another agency on December 10, 1991.

West Basin Desalter

Project Description

The West Basin Desalter includes a 1.5 million gallon per day reverse osmosis desalination system, yard piping, and brine disposal piping. Treatment facilities consist of threshold inhibitor and acid injection systems, cartridge filters, booster pumps, reverse osmosis membrane units, decarbonation facilities, chlorine disinfection, and an on-site storage reservoir. Brackish water is pumped from the West Coast Basin. Product water is delivered to the California Water Service Company. Brine is disposed and conveyed to the Los Angeles County Sanitation District's Carson Industrial Wastewater Treatment Plant.

Term of the Activity

The 20-year agreement between Metropolitan and West Basin Municipal Water District terminates at the end of May 2013.

Estimate of the Amount of Water that Will be Conserved

The West Basin Desalter is projected to produce 700 acre-feet of water during calendar year 2012.

Proposed Methodology for Verification of the Amount of Water Conserved

Upon request, Metropolitan will make available to Reclamation for inspection Metropolitan's verification file for the West Basin Desalter.

Documentation Regarding State or Federal Permits or Other Regulatory Approvals

Pursuant to CEQA, West Basin MWD prepared an Initial Study and Negative Declaration for the West Basin Desalter. Mitigation measures were made a condition of approval of the project. A Notice of Determination for the project was filed on December 12, 1991. Metropolitan's Board of Directors considered the Initial Study and Negative Declaration and found that any mitigation changes and alterations were within the responsibility of another agency on February 11, 1992.

Documentation that the Intentionally Created Surplus Is in Addition to Conservation Implemented to Meet Other Obligations

Metropolitan is the beneficiary of the water being desalted through each of the 12 projects. Metropolitan would not transfer the desalted water to another agency, nor would Metropolitan desalt the water for another agency, nor would Metropolitan pay back an Inadvertent Overrun and Payback Policy obligation in 2012 as Metropolitan does not have existing obligations to do

so. A copy of the agreements which Metropolitan has executed to provide financial support to implement the desalination projects is available upon Reclamation's request.

Total Volume of Water to be Conserved and/or the Time Period for the Conservation Project

The total volume of water to be conserved and the time period for each desalting project is as follows:

Project	Time Period for Metropolitan Financial Support	Total Volume of Water to be Conserved (acre-feet)
Beverly Hills Desalter	2003-2023	35,000
Capistrano Beach Desalter	2007-2027	19,000
Chino Basin Desalination Program	2000-2031	670,000
Irvine Desalter	2007-2027	104,000
Lower Sweetwater Desalter	2000-2020	62,000
Madrona Desalination Facility	2002-2022	35,000
Menifee Desalter	2002-2022	49,000
Oceanside Desalter (Mission Basin Expansion)	1994-2023	100,000
San Juan Basin Desalter	2004-2024	66,000
Temescal Basin Desalter	2001-2021	194,000
Tustin Desalter	1996-2016	44,000
West Basin Desalter	1993-2013	15,000
Total		1,393,000

Capital Investment Required to Implement the Project and Annual Operation, Maintenance, and Replacement Costs

Metropolitan's payments for water desalted by each of the projects and the amount of desalted water for which payment has been made is as follows:

Project	Total Payments through Fiscal Year 2010-11 (million $)
Beverly Hills Desalter	2.5
Capistrano Beach Desalter	0.6
Chino Basin Desalination Program	32.2
Irvine Desalter	3.6
Lower Sweetwater Desalter	6.9
Madrona Desalination Facility	3.5
Menifee Desalter	4.3
Oceanside Desalter (Mission Basin Expansion)	6.6
San Juan Basin Desalter	4.0
Temescal Basin Desalter	9.5
Tustin Desalter	3.2
West Basin Desalter	2.5
Total	79.4

Analysis Supporting the Capital Investment and/or Operation, Maintenance, and Replacement Costs

Extraordinary conservation measures can be distinguished from ordinary conservation measures. An example of an ordinary conservation measure is a practice that would be funded by an irrigation district to permit it to meet its water users' needs for water in the current year.

Metropolitan has provided $79.4 million in financial support for the 12 projects through fiscal year 2010-11. The agencies operating the desalting projects have desalted 412,548 acre-feet of water in return for that financial support. Dividing the financial support provided by the amount of water desalted results in a unit rate of $192 per acre-foot.

For the purpose of determining whether the water desalted by the Metropolitan funded water supply from desalination is water made available though extraordinary conservation measures in 2012, the measure of the unit rate of the Program is compared to the 2010 rate which Reclamation agreed to pay for System Conservation--$90 per acre-foot. As the unit rate of the water desalted by the projects ($192 per acre-foot) exceeds the rate Reclamation agreed to pay for System Conservation, the water desalted by the projects is extraordinary conservation for the purpose of creation of ICS in 2012.

Following creation of ICS in 2012, Metropolitan will utilize the portion of the ICS remaining in future years.

Amount of Water Conserved by the Program to Date and Utilization of the Conserved Water to Date to Meet Specific Conservation Requirements Including ICS Creation

The amount of desalted water for which Metropolitan payments have been made and the amount of ICS created have been as follows:

Project	Amount of Water for Which Payments Have Been Made (acre-feet)	Amount of ICS Created (acre-feet)
Beverly Hills Desalter	9,939	
Capistrano Beach Desalter	2,447	
Chino Basin Desalination Program	128,843	
Irvine Desalter	14,304	
Lower Sweetwater Desalter	34,381	
Madrona Desalination Facility	14,129	
Menifee Desalter	17,768	
Oceanside Desalter (Mission Basin Expansion)	38,725	
San Juan Basin Desalter	15,890	
Temescal Basin Desalter	94,544	
Tustin Desalter	31,494	
West Basin Desalter	10,084	
Total	412,548	0

Time Remaining for the Program and/or the Volume of Water that Remains to be Conserved

The amount of time remaining for each desalting project and the volume of water for which Metropolitan financial support is anticipated are:

Project	Remaining Time Period for Metropolitan Financial Support	Estimate of Total Volume of Water to be Conserved (acre-feet)
Beverly Hills Desalter	2011-2023	25,100
Capistrano Beach Desalter	2011-2027	16,600
Chino Basin Desalination Program	2011-2031	541,200
Irvine Desalter	2011-2027	89,700
Lower Sweetwater Desalter	2011-2020	27,600
Madrona Desalination Facility	2011-2022	20,900
Menifee Desalter	2011-2022	31,200
Oceanside Desalter (Mission Basin Expansion)	2011-2023	61,300
San Juan Basin Desalter	2011-2024	50,100
Temescal Basin Desalter	2011-2021	99,500
Tustin Desalter	2011-2016	12,500
West Basin Desalter	2011-2013	4,900
Total		980,600

2.d. – Basin States Discussions

7 Basin States Technical Work Group Meeting

October 5, 2011

McCarran Airport, Mezzanine Room No. ___

10:00 AM to 3:00 PM

Draft Agenda

1. Welcome and introductions
2. Review of the agenda
3. Hydrology status and update
4. Discussion of the WY 2012 Hydrograph (should have been recently approved)
5. Equalization status report
    a. WY2011 - results
    b. WY 2012 – forecasted and anticipated
    c. Discussion of any operational impacts
    d. Review of Equalization technical evaluation from our April meeting
6. Discussion of the 2012 Operating Tier
7. Discussion of the status of modeling changes
    a. Lower basin tributaries
    b. Implementation of mass balance procedures
    c. CRBFC hydrology updates for the 30 year averages
8. Glen Canyon operations
    a. Status of Grand Canyon Trust lawsuit
    b. Status of the proposed LTEMP and discussion of impacts
    c. Status of EA for Experimental High Flows – hydropower revenue impacts?
    d. Status of EA for mechanical fish removal – activities planned for 2011 and possible impacts in court proceedings
    e. Status of the AMWG – state concerns
9. Status of binational discussions

10. Status Reports
    a. Lake Powell Pipeline
    b. Flaming Gorge Pipeline
    c. Brock Reservoir Operations
    d. YDP Pilot Run operations
    e. Basin Study update
    f. San Diego Desalination Project
    g. QSA Litigation Status
    h. Long rang Operating Criteria Review
11. Other items
12. Schedule for the next meeting – suggest second week of April?

2.e. – Colorado River Environmental Issues

Governor's Representatives on Colorado River Operations
States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming

July 19, 2011

Via E-Mail - Protocol@usbr.gov

Mr. Larry Walkoviak, Regional Director
Attn: Mr. Dennis Kubly
Bureau of Reclamation
Upper Colorado Regional Office
125 South State Street, Room 7218
Salt Lake City, Utah 84138

Re: Comments on the second *Draft Environmental Assessment for Development and Implementation of a Protocol for High-flow Experimental Releases from Glen Canyon Dam, Arizona, 2011-2020*

Dear Messrs. Walkoviak and Kubly,

The Colorado River Basin States and the Upper Colorado River Commission (referred to herein as "the States") appreciate the opportunity to comment on the second *Draft Environmental Assessment for Development and Implementation of a Protocol for High-Flow Experimental Releases from Glen Canyon Dam, Arizona, 2011-2020* ("DEA") released by the Bureau of Reclamation ("Reclamation") on July 1, 2011.

Consistent with the interests identified in the joint Colorado River Basin States comment letter, dated March 18, 2011, we ask that you please consider the following comments in finalizing the National Environmental Policy Act ("NEPA") process for the Development and Implementation of a Protocol for High-Flow Experimental Releases ("HFE Protocol") and include them in its administrative record.

1. <u>Overall:</u> The DEA is an improvement over the prior DEA. Reclamation's revisions to this DEA better clarify: 1) the purpose and need for the HFE Protocol; 2) the rapid-response approach; 3) the need for consultation with the States in the decision to conduct a high-flow experimental release ("HFE"); and 4) the supremacy of the requirement to comply with the 2007 Interim Guidelines during the project. While this letter identifies additional clarifications that will benefit the document, we very much appreciate Reclamation's efforts in refining these issues. There are, however, remaining concerns with the proposed action's decision-making processes, linkage to non-native fish control mechanisms, and the description of the experimental action, which are the subject of specific comments and observations set forth below.

2. Decision-Making Process: The DEA summarizes a process for determining whether and when to implement an HFE under the Protocol. DEA at 35-45. Per this description, the States applaud the Protocol's requirement to consult with the Basin States, to consider the input of the Adaptive Management Working Group ("AMWG"), and to consider potential effects on other resources before determining whether to conduct any particular HFE. As described, however, the decision-making framework for the HFE Protocol may not obviate the need for additional NEPA analyses to conduct, at the very least, consecutive HFEs.

To assure continued NEPA compliance throughout the life of the Protocol, the Final Environmental Assessment and/or decisional documentation should set forth in greater detail how the Department of Interior ("Interior") will determine and weigh the suitability of resource conditions in the face of uncertain impacts involved in conducting consecutive HFEs. *See* DEA at 50. To this end, the States recommend clarifying:

i. The standards relied upon to determine when resource conditions are suitable for an HFE.
ii. When the annual agency report assimilating and synthesizing the effects of HFEs will be finalized to inform the decision-making process. See DEA at 35, 36. Will the annual report be completed so as to inform decisions for the upcoming HFE window? If not, how will Interior decide to conduct an HFE in the absence of updated information?
iii. How limitations identified in Section 1.8.2 (pages 20-21), as well as the additional limits set forth in this comment letter, will be incorporated into the decision-making process.
iv. Why there is a need to distinguish between staff recommendations that Interior will consider and AMWG recommendations that Interior may consider. DEA at 41. How does this distinction fit with the Protocol's dependence on funding through the biennial Glen Canyon Dam Adaptive Management Program budget under the Planning and Budget Component? See DEA at 35.
v. Where the decision to conduct an HFE based on the above variables will be documented.

3. Non-native Fish Control: The DEA's description of the linkages and differences between the HFE Protocol and Non-Native Fish Control EAs is much appreciated. It remains unclear, however, whether and to what extent the Protocol can be implemented in the absence of non-native fish controls. The DEA appears to rely on implementation of the non-native fish control action as mitigation to HFE impacts. *See, e.g.,* DEA at 12, 94, 96. At the same time, Interior is still in the process of determining how non-native fish controls will be implemented. The DEA should, therefore, clarify whether non-native fish control is needed to mitigate impacts to resources as a result of high flow events and/or that the HFE Protocol will not be implemented unless and until non-native fish control measures or suitable alternatives are implemented.

4. Experimental Action: The DEA's description of the HFE Protocol and beach/habitat building flows ("BHBFs") in the Purpose and Need section remains confusing. At page 19, the DEA discusses the HFE Protocol but does not clearly identify it as an experimental action.

The DEA also inserts a new paragraph discussing the BHBF as a management action that the Protocol will not modify. Such description implies that BHBFs may occur in addition to the Protocol, which is not the intent as understood by the States. The Protocol does modify the BHBF management action by imposing an experimental action for a temporary period. Following that temporary period, the management action as set forth in the 1996 Record of Decision ("ROD") or 1997 Operating Criteria will be reinstated. Any future modification to the management actions, therefore, would still require environmental compliance pursuant to NEPA. Finally, the DEA states that the HFE Protocol is not intended to determine the legal issues that went into formulating the BHBF approach, and that "positions and rights concerning the issues related to BHBF management strategies as compared to experimental releases of water from Lake Powell are reserved. . . ." The meaning of the quoted statement is unclear. To be clear, we reserve our positions and rights concerning high-flow releases whether they are deemed experimental or management actions. In the past, we have agreed to not challenge a high-flow release that bypasses the power plant facilities in the interest of comity and gaining useful information. That, however, does not presume we have acquiesced to any and all experiments in the future.

To address the above comments, the States recommend editing the DEA to identify the HFE Protocol as an experimental action, clarify how the Protocol fits with the management actions under the 1996 ROD, and state Interior's intention that development and implementation of the HFE Protocol as an experimental action does not reflect any legal determination as to whether operation of Glen Canyon Dam can include bypassing the power plant in the absence of dam safety needs.

5. <u>Specific Observations:</u>

a) *<u>Executive Summary</u>* – <u>At vii-xii:</u> In summarizing the HFE Protocol's predicted impacts on natural resources, the Executive Summary intermittently mentions what Interior may do to mitigate impacts or uncertainties. This summary should be consistent to explain what mitigation, if any, will be applied in the event a negative impact occurs throughout the 10-year life of the protocol. *Compare* Executive Summary description of Aquatic Food Base, Humpback Chub, and Hydropower *with* description of Cultural Resources and Recreation.

b) *<u>Relationship to LTEMP</u>* – <u>At 9</u>: The DEA states that information from the Protocol is "essential to ensuring that fully informed decisions are made as part of the LTEMP [Long Term Experimental and Management Plan] process." It would be helpful to understand whether and to what extent implementation and analysis of the HFE Protocol will be timed to be useful to the LTEMP process.

c) *<u>Purpose and Need</u>* – <u>At 10</u>: The purpose and need statement should further clarify the Protocol's specific goals and identify how sediment deposition would likely achieve those goals in a manner that can be readily assessed. To this end, the FEA and decisional documentation should, in addition to identifying a generic objective that sediment conservation can "provide for key fish and wildlife habitat, protect archeological sites and vegetation structure, and provide camping opportunities in Grand Canyon," clarify the Protocol's anticipated achievements.

d) *<u>Sandbars/Beaches</u>* – <u>At 10, para.1:</u> The Purpose and Need section should include citations to support the following statements:

- "Sandbars and beaches can provide key fish and wildlife habitat, protect archeological sites and vegetation structure, and provide camping opportunities in Grand Canyon."
- "One of the best tools available for rebuilding sandbars is to use dam operations to release short-duration high flows, preferably after sediment-laden tributary floods deposit new sand into the main channel."
- "Conservation of fine sediment and building of sandbars and beaches has not occurred to the degree anticipated in the 1996 Record of Decision."

e) *Agency Roles* – At 14-15: In order to provide an accurate depiction of the complexity and issues associated with identifying the HFE Protocol's impacts, it may be important to expand the description of the "Role of the Agencies" to include more than their limited role under the GCPA. Specifically, the description would benefit from elaborating on the agencies' roles regarding operation of Glen Canyon Dam over and above the requirements under the GCPA.

f) *Authorizing Actions, Permits or Licenses* – At 19: In addition to acknowledging the need for Bureau of Indian Affairs permits for cultural/archeological work, the States recommend:

i. Recognizing the U.S. Fish and Wildlife Service's role in providing an Incidental Take Statement to address the potential effect of HFEs on the endangered humpback chub; and

ii. Acknowledging the appropriateness of consulting with the Upper Colorado River Commission ("UCRC" or "Commission") to regularly inform the Commission of the progress and results of the HFEs that have the potential to affect interests in the Upper Basin. This latter recommendation is provided in recognition that the UCRC, in conjunction with the Upper Division States, plays a direct role in determining how to allocate and manage the Upper Basin's apportionment of Colorado River water. As such, it would be both useful and appropriate for the Bureau to inform the Commission of plans, activities, and results of the experimental operations at Glen Canyon Dam that could impact monthly, daily, or hourly reservoir storage as well as hydropower production and revenues from the Glen Canyon power plant.

g) *Potential Limitations to HFE* – At 20-23: The DEA recognizes specific limitations to conducting HFEs. The States recommend the DEA identify in this section the additional limitations set forth in other areas of the document. For example, on page 31, the DEA recognizes that water may be a limiting factor to the extent it cannot be moved from other months to assure sufficient water is available for an HFE without violating the Law of the River. Likewise, to remain consistent with representations throughout the document, the Potential Limitations section should clarify that a decision to perform either a spring or fall HFE will be precluded if it would hinder access to Colorado River entitlements or otherwise interfere with application of the Interim Guidelines, including but not limited to application of the mid-year review process. Specific examples of limitations the Interim Guidelines could impose on HFE implementation would be appropriate. Finally, this section should discuss whether and to what extent HFEs could be limited by the specific operating constraints for Glen Canyon Dam operations pursuant to the 1996 ROD and 1997 Operating Criteria.

h) *Proposed Action Description* - At 26: The DEA states: "Water year releases would follow the MLFF [Modified Flow Fluctuating Flow] preferred alternative . . . ." However, water year releases are governed by the 2007 Interim Guidelines over and above MLFF. The DEA should remain consistent with this hierarchy. The DEA further states: "For the remainder of the proposed action period, through 2020, dam releases would follow the provisions of MLFF as defined in the 1996 ROD and the 2007 ROD unless required as an outcome of future ESA consultation." The States question the need to call out that operations would follow the 1996 and 2007 RODs unless required by future ESA [Endangered Species Act] consultations. Is there a specific consultation to which the DEA is referring? If not, isn't that the case regardless, and why would it be called out specifically here?

i) *Rapid Response Approach* – At 28-29: The States appreciate and support Interior's commitment to test the rapid response approach as soon as practicable within early stages of the implementation of the HFE Protocol.

j) *Decision and Implementation Component* – At 41: The DEA states that a decision process could result in an HFE being considered whether or not a positive sand balance is projected. However, the purpose and scope of the HFE Protocol is to authorize high-flow releases to determine how sand conservation could be improved for the benefit of downstream resources. *See* DEA at viii, 59-61, 65. The DEA should clarify what this statement means, and under what circumstances a decision to conduct an HFE in the absence of a positive sand balance could occur.

k) *2007 Interim Guidelines* – At 41: The States appreciate and support inclusion of this Section in the DEA analysis.

l) *Fall and Spring HFEs* – At 43, 44: The DEA makes a number of statements about the timing of HFEs within the spring and fall HFE implementation periods that include the phrase "as practicable" or "to the degree practicable." The DEA should clarify what is meant by these phrases. Is there a possibility that an HFE could occur outside the fall or spring windows? Are impacts considered for that? The DEA should also clarify, consistent with representations in other parts of the document, that implementation of the HFE Protocol, including reallocation of monthly releases to accomplish an HFE, will not affect or influence annual release determinations for Lake Powell or Lake Mead.

m) *Role of Adaptive Management* – At 44-48: In characterizing the role of the GCAMP and identifying the priorities of the desired future conditions, it is important to recognize that the primary purpose of Glen Canyon Dam has been and remains water operations, not the preservation of the Grand Canyon ecosystem as it existed prior to dam construction. As such, it is important for the GCAMP to consider all possible management actions, not just dam operations, in determining how to sustain and improve resources downstream of Glen Canyon Dam consistent with the GCPA.
At 45: The States recommend the Science Plan include core monitoring components that will remain consistent during the life of the proposed action so that useful and comparable information can be analyzed.
At 46 – Overarching Question #1: The States recommend inserting "naturally occurring sediment inputs to the Colorado River" to clarify the type of sediment the HFE Protocol is considering. The question would read: "Is there a 'Flow Only' operation (that is, a strategy for dam releases and *naturally occurring sediment inputs*

to the Colorado River, including managing tributary inputs with HFEs without sediment augmentation) that will rebuild and maintain sandbar habitats over decadal timescales?"

At 46 – Overarching Question #1b: The States recommend editing the question to include the underlined language and delete the strike outs as follows to accurately capture the purpose of the HFEs consistent with the language of the GCPA: Research Question #1b: Are there optimal times to conduct high flows *to conserve sediment and build sandbars/beaches, increase* ~~in regard to sediment building,~~ humpback chub survivability, and *sustain or improve* ecosystem *values* ~~response~~?

At 46-48: In addition to the research questions identified as part of the Science Plan in the DEA, the FEA and decision documentation should commit to evaluate the effects of trout populations on humpback chub as a result of implementing the HFE Protocol.

n) *Dam Releases* – At 55: The DEA proposes to adjust monthly release volumes as necessary to achieve a high-flow event in October-November or March-April. Such adjustments, according to the DEA, will not affect annual water year volumes. In arriving at this conclusion, it is important to recognize the Interim Guidelines refined the operational guidelines to include a combined monthly/annual methodology for determining the annual release volume for Lake Powell. Interim Guidelines at 16. The purpose of this combined methodology is to provide flexibility and "to respond to changing inflow forecasts while ensuring that the operation does not result in excessive changes in monthly releases form Lake Powell." *Id.* Decisions to adjust monthly release volumes to accomplish an HFE must keep this refined operational methodology in mind.

o) *Water Quality* – At 56: The DEA should clarify whether slight increases to salinity as a result of an HFE will impact requirements under Minute 242 of the International Boundary Water Commission or the Salinity Control Act of 1973.

p) *Air Quality* – At 57-58: What impact, if any, will increased emissions as a result of an HFE or consecutive HFEs have on the Grand Canyon National Park's ability to make progress in reducing haze pursuant to the Government Performance and Results Act?

q) *Sediment* – At 67: The DEA should explain what is meant by the statement, "The manner for slowing erosion of sandbars following and HFE is an important piece of information that can be gathered from future HFEs." Does this imply that steady flows may be part of future HFEs without additional NEPA analyses?

r) *Aquatic Food Base* – At 75: The DEA states the foodbase is expected to recover within 1-4 months of a Spring HFE. However, Table 9 indicates that foodbase recovery took 1-8 months following the 1996 BHBF and up to 16 months after the 2008 HFE. It would be helpful to understand the basis for the DEA's expectation for foodbase recovery.

At 76-78: The DEA appears to identify a potential impact to the foodbase after a Fall HFE without identifying possible mitigation. If the foodbase is impacted, what standard will Interior use to determine whether the status of the resource is suitable for conducting future HFEs? *See* decision-making comment above.

s) *Humpback Chub* – At 88: The DEA should cite to materials supporting the conclusion that HFEs are not expected to affect adult habitat use, feeding, or moving to and from spawning sites.

At 89: What is the basis for the DEA's conclusion that two consecutive HFEs are not expected to have long-term effects on chub populations?
At 89: The DEA acknowledges uncertainty of effects on chub from conducting more than two consecutive HFE. If negative effects are found during the monitoring and investigation, what will Reclamation/Interior do to mitigate the impacts? For example, Reclamation should delineate a population trigger for humpback chub below which high flow events would be suspended until the cause of the population decline is better understood. Similarly, Reclamation should also adopt a trigger for trout populations above which high flow events would be suspended until the increase in trout population and its associated impact on chub populations is better understood.
At 92-98: The DEA recognizes a potential impact to young-of-year chub as a result of HFE, but does not identify a mitigation approach. Instead, it points to the fact that effects are not having an impact on population, and are assumed not to have an effect in the future. What will Reclamation/Interior do, if such assumption is wrong? This is the type of standard that should be identified in the determining the suitability of resources under the decision-making process. *See comment 2 above.*
At 98: The DEA should summarize the conclusion for humpback chub in the document in addition to pointing to the summary table.

t) *Cultural Resources* – At 111: The DEA identifies a potential adverse impact on cultural resources. What mitigation, if any, will be undertaken to alleviate the affects and support the EA process?

u) *Hydropower* – At 112-115: The States welcome the DEA's consideration of "capacity" in addition to energy as part of the impacts analysis.
At – 113: The hydropower impacts analysis should recognize that customers of the Western Administration Power Administration ("Western") may be impacted by HFEs if Western is not required to provide replacement power.
At 114: The DEA states that water bypassing the power plant to conduct and HFE is water that is "spilled" and does not produce electricity. In this situation, the bypass of the power plant does not constitute a spill and should not be characterized as one. Rather, the bypass is an experimental action that has the potential consensus support of the states despite the fact that it does not constitute as spill.
At 120: The DEA would benefit from explaining why the simplified hydropower analysis is sufficient for the EA analysis but not an EIS analysis.
At 125: The DEA should identify that the non-use economics analysis may soon be outdated following the compilation of results from an upcoming survey to be implemented by Interior.

v) *Table 18* – At 134: Where do the amounts for hydropower impacts come from? They do not appear to track with the estimates identified in the description of hydropower impacts, Tables 14-16.

x) *Cooperating Agencies* – At 140: Although the UCRC includes state representatives, it is not specifically a state agency or entity. This is especially true, given the fact that the make up of the Commission includes a Federal Commissioner.

y) *Errata:*

i) At 5, para. 3 – insert "prey" in last sentence ". . . trout that have been documented to *prey* upon native, endangered humpback chub."

ii) At 35, Figure 3 – The *Science Plan* box in the planning and budgeting schematic is missing a word – (Research and ?).

iii) At 39 – Reference to Section 2.2.4.3 is no longer accurate.

iv) At 40 – Figure 5 – The Decision and Implementation component figure should include: 1) Consideration of limits to protocol in the Staff Review Box; and 2) Basin State Input in the Interior Consideration box.

v) At 87 – "Canyon" should be added between "Glen" and "Dam" in the first full paragraph.

vi) At 89 – Discussing downstream displacement, the DEA is missing a word between "preferred" and "can."

vii) At 113 – Second full paragraph, "than" should be changed to "that" to read: "The maximum amount of electric energy *that* can be produced . . ."

z) *Science Plan – Appendix B:* The proposed science plan identifies a mechanism for monitoring the natural resources in an appropriate manner. To be successful, the core elements of the monitoring plan should remain sufficiently stable during the life of the HFE Protocol to allow for development and analysis of comparable results.

aa) *Hydrology Input – Appendix D:* Given the summary description of how the hydrology model was disaggregated to hourly flows, the analysis and results done outside the Colorado River Simulation System should be considered more for comparative purposes and limited to use in the HFE Protocol.

ab) *Sediment Analysis – Appendix E:* The sediment model is a simple, sand-mass balance used to help decide which type of HFE to run based on sediment inputs and potential hydrologies. It is important to note that the model does not differentiate between sediment in the channel, sandbar sediments, or other sediment sources. Furthermore, while the hydrographs for the model are important, water is presumed to always be available to manage any sediment input by making the necessary HFE release from the dam and then assuming flows as necessary for the remainder of the month to stay within the monthly volume identified in the Annual Operating Plan and 24-month studies. To the extent the decision on the type of HFE to run could coincide with operational decisions pursuant to the 2007 Interim Guidelines, the model must not influence the system's operational determinations.

6. Reservation of Rights. In the course of reviewing the material included in the DEA, the States may have overlooked other factual or legal assertions that impact our respective interests. Our failure to raise such concerns in these comments, or to correct what we believe to be inaccurate assertions, shall not be construed as an admission with respect to any factual or legal issue, or a waiver of any rights for the purposes of any future legal administrative or other proceeding.

[Signatures on following page]

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Utah Division of Water Resources
Utah Interstate Stream Commissioner

Don A. Ostler
Executive Director
Upper Colorado River Commission

John W. Shields
Interstate Streams Engineer
Wyoming State Engineer's Office

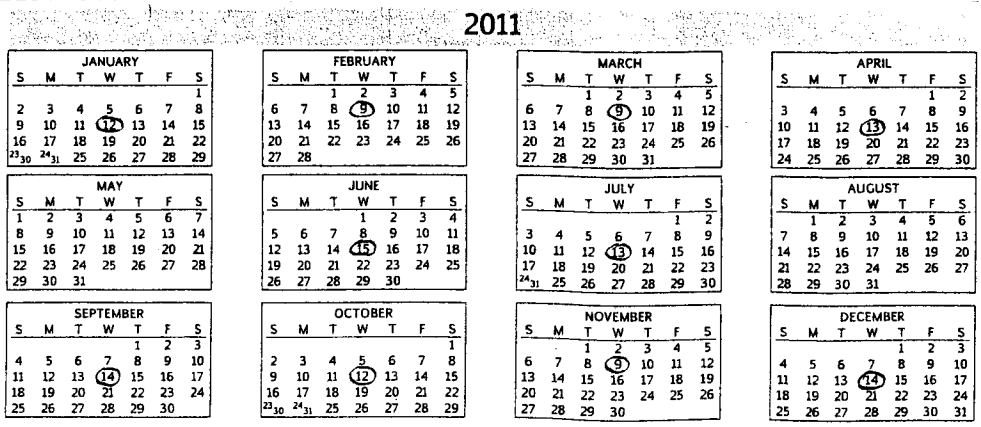
cc: Anne Castle, Assistant Secretary, Water and Science, U.S. Department of Interior
Michael L. Connor, Commissioner, U.S. Bureau of Reclamation
Lorri Gray-Lee, Regional Director, U.S. Bureau of Reclamation

3.a. – Revised 2011 Board Meeting Schedule

COLORADO RIVER BOARD OF CALIFORNIA
Calendar Year 2011 Meetings

December 15, 2010
(August 8, 2011, Revised)

Board Meeting Date	Other Meetings and Events
January 12	January 1: New Year's Day Holiday January 17: Martin Luther King Jr. Day Holiday
February 9	February 21: President's Day Holiday
March 9	March 1-3: ACWA 2011 Washington D.C. Conference, The Washington Court Hotel, Washington, D.C. March 29-April 1: CMUA 79th Annual Conference, Rancho Las Palmas, Rancho Mirage, CA March 31: Cesar Chavez Day Holiday
April 13	April 4-6: NWRA Federal Water Issues Conference, The Washington Court Hotel, Washington, D.C.
	May 10-13: ACWA 2011 Spring Conference, Sacramento, CA May 30: Memorial Day Holiday
June 15	
July 13	July 4: Independence Day Holiday July 25-27: NWRA Western Water Seminar, Cheyenne Mountain Resort, Colorado Springs, CO
August 10 **(Canceled)**	August 24-26: UWII 18th Annual So. California Urban Water Conference, Hilton Mission Bay Resort, San Diego, CA
September 14	September 5: Labor Day Holiday
October 12	
November 9	November 11: Veteran's Day Holiday November 16-18: NWRA 80th Annual Conference, Ventana Canyon Resort, Tucson, AZ November 24-25: Thanksgiving Day Holiday November 29-December 2: ACWA 2011 Fall Conference, Anaheim Marriott, Anaheim, CA
December 14 (**Special Meeting** in conjunction with CRWUA Conference)	December 14-16: CRWUA 66th Annual Conference, Caesars Palace, Las Vegas, Nevada December 26: Christmas Day Holiday



ACWA - Association of California Water Agencies	(916)441-4545	FAX (916)325-4849
CMUA - California Municipal Utilities Association	(916)326-5800	FAX (916)326-5810
CRWUA- Colorado River Water Users Association	(760)398-2651	FAX (760)398-3711
NWRA - National Water Resources Association	(703)524-1544	FAX (703)524-1548
UWII - Urban Water Institute, Inc.	(949)679-9676	FAX (949)474-8258

NOTE: Regular Meetings are held on Wednesday following the second Tuesday in the month. Unless otherwise noted, Regular Meetings will be held in Ontario area, California, or in the Board's office, 770 Fairmont Avenue, Conference Room, Glendale, California, and will start at 10:00 a.m.