

5. a – Colorado Rive Water Reports

**SUMMARY WATER REPORT
COLORADO RIVER BASIN
April 4, 2011**

RESERVOIR STORAGE (as of April 3)	February 28, 2011					
	MAF	ELEV. IN FEET	% of Capacity	MAF	ELEV. IN FEET	% of Capacity
Lake Powell	12.749	3,610.2	52	13.235	3,615.0	54
Flaming Gorge	3.171	6,025.3	85	3.104	6,023.5	83
Navajo	1.328	6,058.4	78	1.328	6,058.4	78
Lake Mead	11.193	1,096.6	43	11.117	1,095.8	43
Lake Mohave	1.691	642.7	93	1.699	643.1	94
Lake Havasu	0.576	447.8	93	0.567	447.3	91
Total System Storage	31.467		53	31.866		53
System Storage Last Year	32.660		55	32.125		54

				February 28, 2011	
WY 2011 Precipitation (Basin Weighted Avg) 10/01/10 through 4/04/11			118 percent (22.6")		123 percent (18.9")
WY 2011 Snowpack Water Equivalent (Basin Weighted Avg) on day of 4/04/11			115 percent (20.2")		121 percent (17.1")
(Above two values based on average of data from 116 sites.)					
				February 15, 2011	
April 1, 2011 Forecast of Unregulated Lake Powell Inflow		MAF	% of Normal	MAF	% of Avg.
2011 April through July unregulated inflow		9.500	120 %	9.000	113%
2011 Water Year forecast		13.076	109 %	12.574	104%

USBR Forecasted Year-End 2011 and 2010 Consum. Use, April 5, 2011 a.				
		MAF		
		2011		2010
		Diversion	- Return =	Net
Nevada (Estimated Total)		0.488	0.219	0.269
Arizona (Total)		3.651	0.877	2.774
CAP Total				1.555
<i>Az. Water Banking Authority</i>				0.134
OTHERS				1.218
California (Total) b./		4.733	0.630	4.103
MWD				0.566
3.85 Agriculture				
IID c./	<u>Total</u>	<u>Conserved</u>		<u>Forecasted</u>
CVWD d./	3.137	-0.360		2.777
PVID	0.389	-0.031		0.358
YPRD	0.332	0		0.332
Island e./	0.046	0		0.046
Total Ag.	0.007	0		0.007
Others	3.911	-0.391		3.520
PVID-MWD following to storage (to be determined)				0.017
Arizona, California, and Nevada Total f./				7.146
		8.872	1.726	7.399

- a./ Incorporates Jan.-Feb. USGS monthly data and 75 daily reporting stations which may be revised after provisions; 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 MAF for 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

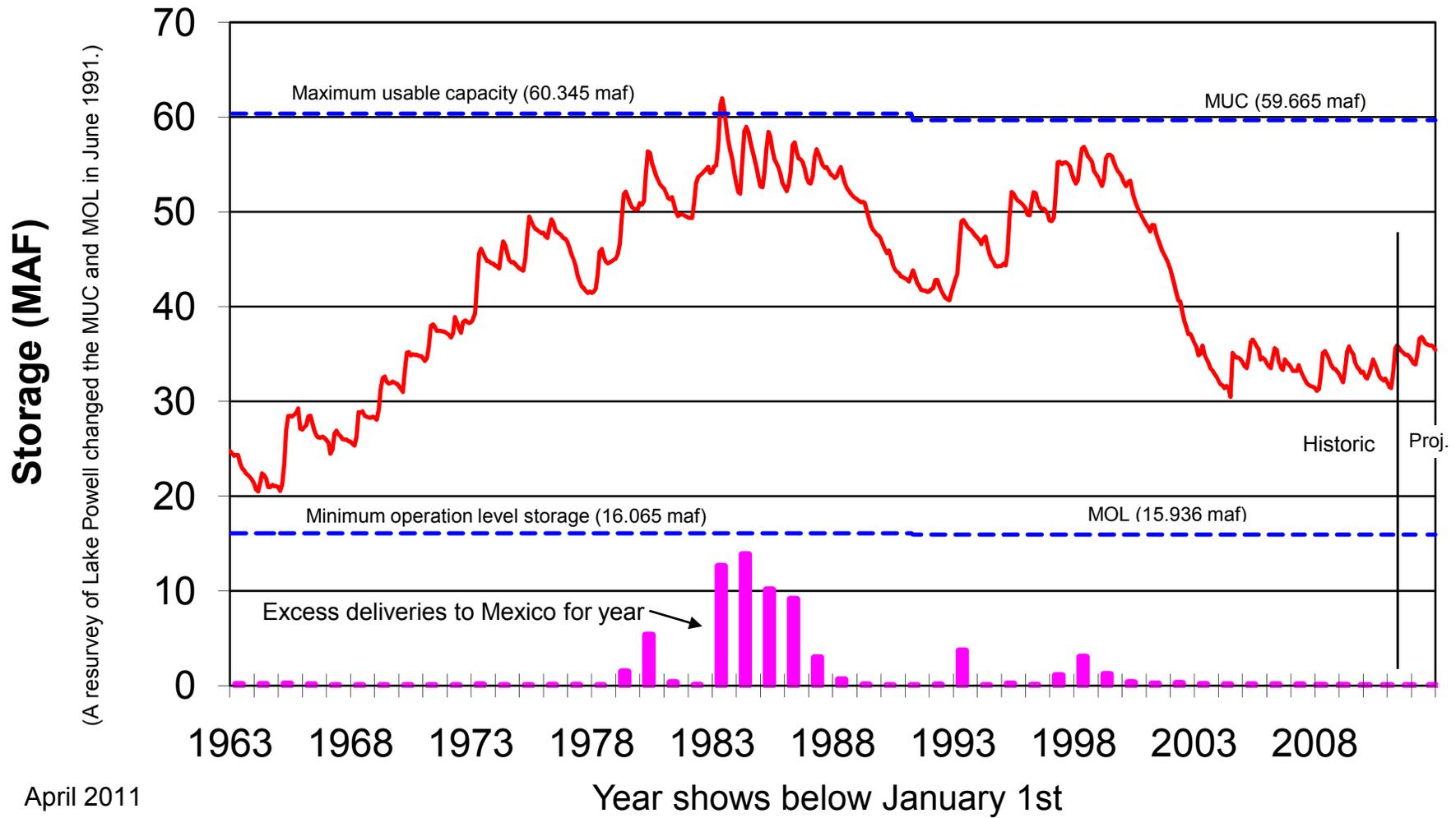
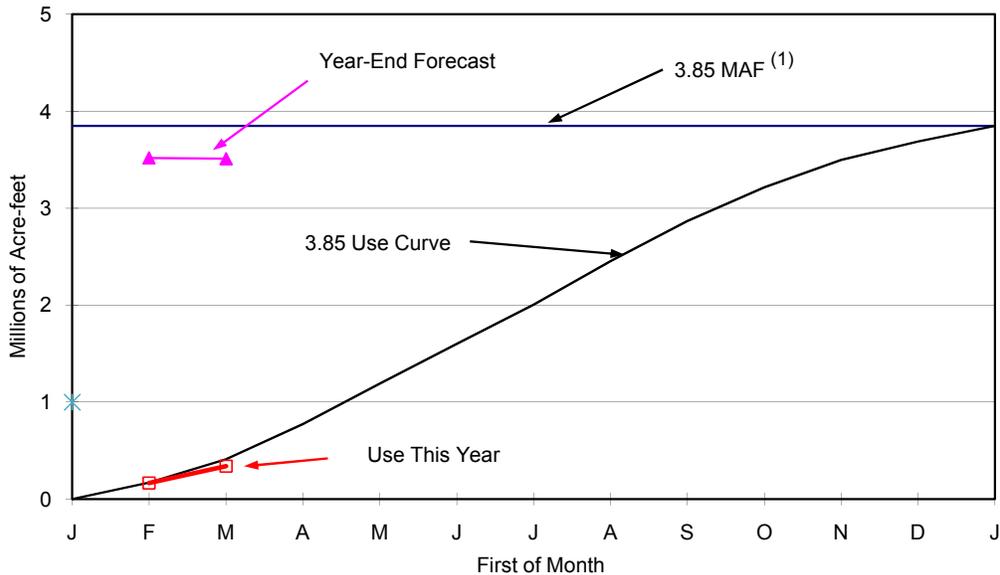


FIGURE 1
APRIL 1, 2011 FORECAST OF 2011 YEAR-END COLORADO RIVER WATER USE
BY THE CALIFORNIA AGRICULTURAL AGENCIES



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	3.519	0.023
Mar	0.340	3.510	0.032
Apr			
May			
Jun			
Jul			
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 1989 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; an 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

February 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).

<u>January 2011</u>					
<u>Upper Basin</u>	<u>Storage</u>	<u>Elevation in feet</u>	<u>% of Capacity</u>	<u>Change During Month</u>	<u>Change from 2010</u>
Lake Powell	13,828	3,620.6	57%	-641	-163
Flaming Gorge	3,112	6,023.7	83%	1	-97
Fontenelle	183	6,482.9	53%	-27	26
Navajo	1,343	6,059.6	79%	-20	117
Blue Mesa	554	7,486.4	67%	-3	-6
Morrow Point	112	7,153.7	96%	0	3
Crystal	16	6,749.0	88%	0	1
Sub-total	19,148		62%	-690	-120
<u>Lower Basin</u>					
Lake Mead	10,765	1,091.7	41%	464	-728
Lake Mohave	1,670	642.0	92%	20	-66
Lake Havasu	550	446.4	89%	-32	-47
Sub-total	12,985		45%	452	-841
Upper and Lower Basin Total	32,133 ^{2/}		54%	-238	-960

1/ Figures shown do not include reservoir dead storage.

2/ Storage above minimum operation level is 32,133 - 15,936 = 16,197 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).

<u>Station</u>	Meas. Flow January 2011	<u>Cumulative Flow</u> October thru January	<u>Meas. Flow Adjusted for CRSP Surface Storage Changes</u>	
			January 2011	% of Jan. 89- year average (1922-2010 water years)
Green River at Green River, Utah	136,200	632,400	136,900	113%
Colorado River near Cisco, Utah	162,500	820,600	159,500	89%
San Juan River near Bluff, Utah	49,300	211,100	29,800	64%
At Lee Ferry (Compact Point)	1,015,600	3,221,700	352,800	99%

III. Lower Basin Discharge (Acre-feet).

<u>Station</u>	January 2011	<u>Cumulative Flow</u> October thru January
Below Hoover Dam	539,700	2,637,900
Below Davis Dam	515,200	2,641,700
Below Parker Dam	387,200	1,579,800
Above Imperial Dam	340,100	1,478,700

IV. Consumptive Use of Lower Colorado River Mainstream Water (Acre-feet).
January, 2011

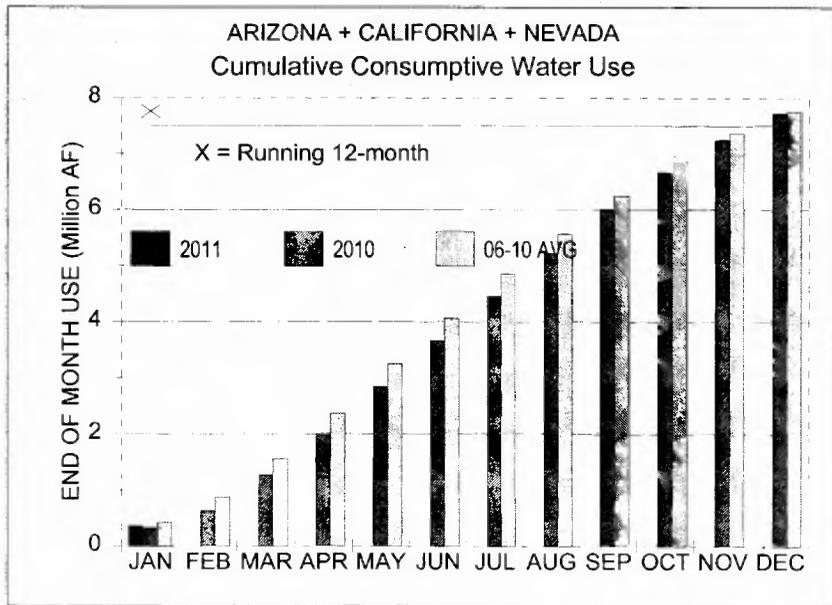
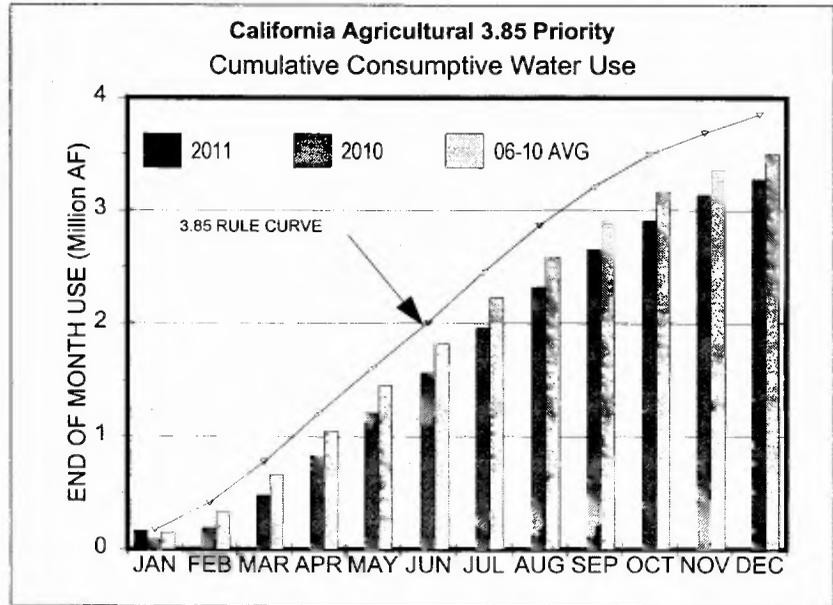
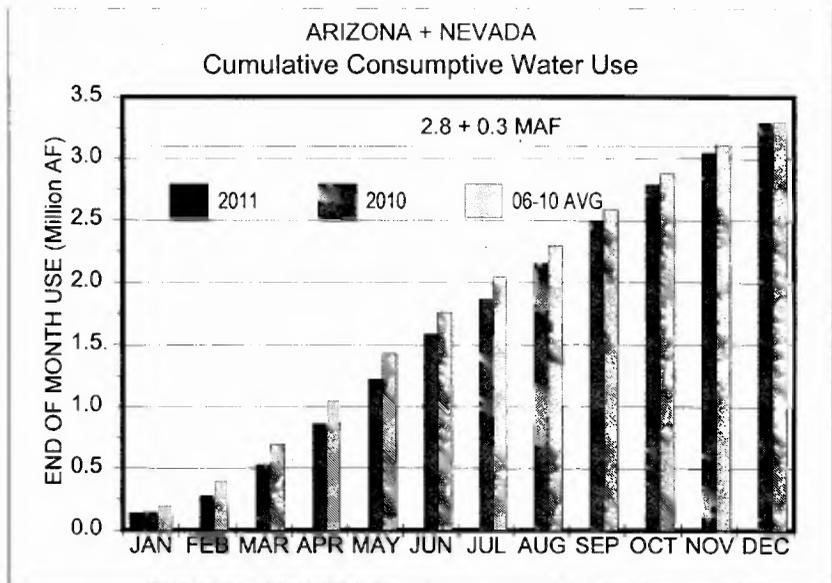
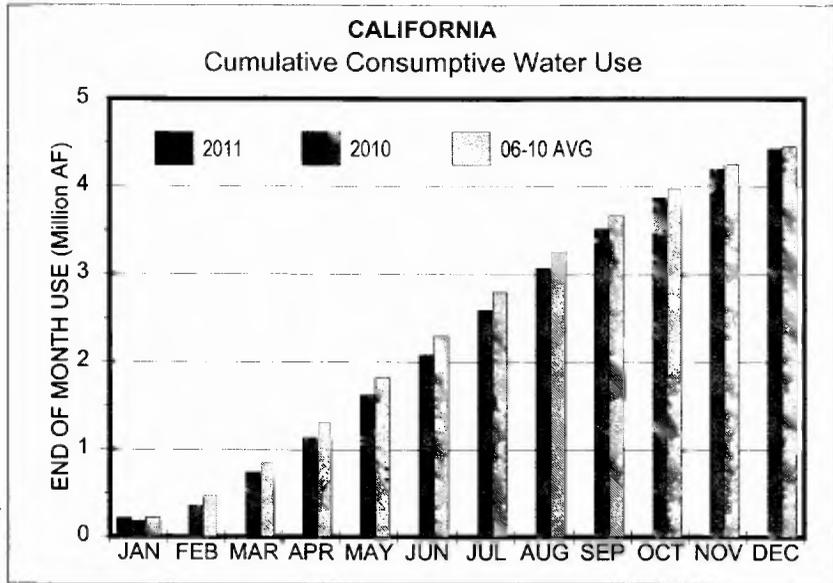
California Users	Diversion	Return	Consumptive Use	Change in	Cumulative Cons. Use		
				Cons. Use From Jan. 2010	January thru January	Change from prev. Jan. thru Jan.	12 Months thru January
Palo Verde Irrig. Dist.	31,720	28,460	3,260	13,170	3,260	13,170	323,230
Yuma Proj. (Res. Div.) ^{b/}	4,160	1,960	2,200	2,640	2,200	2,640	41,260
Imperial Irrig. Dist. ^{a/}	145,630		145,630	63,380	145,630	63,380	2,597,700
Salton Sea Mitigation	0		0	-320	0	-320	79,020
USBR Operations	0		0	0	0	0	12,490
IID plus Salton Sea Mitigation	145,630		145,630	63,060	145,630	63,060	2,689,210
Coachella Val. Wat. Dist. ^{a/}	15,570		15,570	3,980	15,570	3,980	305,870
Subtotal	197,080	30,420	166,660	82,850	166,660	82,850	3,359,570
Fort Mojave Ind. Res. ^{c/}	710	330	380	-480	380	-480	24,280
Cal. Miscellaneous ^{d/}	710		710	0	710	0	34,000
Metropolitan Water Dist.	51,970	430	51,540	-47,690	51,540	-47,690	1,048,870
Total	250,470	31,180	219,290	34,680	219,290	34,680	4,466,720
<u>Arizona Users</u>							
Central Arizona Project	89,050		89,050	-37,110	89,050	-37,110	1,614,810
Colorado River Ind. Res.	23,540	15,190	8,350	12,230	8,350	12,230	425,340
Gila Gravity Main Canal	39,160	16,120	23,040	18,020	23,040	18,020	545,030
Yuma Proj. (Valley Div.)	21,690	10,420	11,270	6,690	11,270	6,690	219,730
Fort Mojave Ind. Res. ^{c/}	1,890	870	1,020	-2,380	1,020	-2,380	82,750
Havasut Nat. Wildlife Ref.	20	0	20	-110	20	-110	35,380
Arizona Miscellaneous ^{d/}	2,280		2,280	0	2,280	0	85,000
Total	177,630	42,600	135,030	-2,660	135,030	-2,660	3,008,040
<u>Nevada Users</u>							
From Lake Mead ^{b/}	28,400	20,160	8,240	720	8,240	720	283,410
Mohave Steam Plant	10		10	-10	10	-10	360
Total	28,410	20,160	8,250	710	8,250	710	283,770
Total Consumptive Use (Ariz., Cal., Nev.)	456,510	93,940	362,570	32,730	362,570	32,730	7,758,530

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 Reclamation.

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.



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

	<u>USBR and National Weather Service</u>		<u>Change From Last</u>	
	<u>April-July 2011</u>	<u>Water Year 2011</u>	<u>April-July 2011</u>	<u>Wat Yr 2011</u>
Maximum (2)	11.800	15.776	2.500	2.782
Mean	9.500 *	13.076 **	0.200	0.082
Minimum (2)	7.500	10.476	-1.800	-2.518

* This month's A-J observed is 120% of the 30-year A-J average shown below.

** This month's W-Y observed is 109% 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)

	<u>April-July Flow</u>	<u>Water Year Flow</u>
Long-Time Average (1922-2008)	7.741	11.519
30-yr. Average (1961-90)	7.735	11.724
10-yr. Average (1999-2008)	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)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<u>Scheduled</u>	<u>Total</u>	<u>Excess</u>	<u>Other</u>	<u>Total</u>	<u>Cumulative</u>	<u>Flow</u>	<u>Flow By-Pass</u>
	<u>Flow</u> ⁽⁹⁾	<u>Arrivals</u>	<u>Arrivals</u>	<u>Excess</u>	<u>Excess</u>	<u>Excess</u>	<u>Through</u>	<u>Southerly</u>
			<u>in accord</u>	<u>Arrivals</u>	<u>Arrivals</u>	<u>Arrivals</u>	<u>NIB and</u>	<u>International</u>
			<u>with</u>				<u>Limitrophe</u>	<u>Boundary</u>
			<u>Minute 242</u>					
Jan.	128,113	146,704	5,905	12,686	18,591	18,591	130,960	5,905
Feb.	155,921							
March	195,427							
April	189,122							
May	110,741							
June	116,625							
July	123,771							
August	95,542							
Sept.	89,307							
Oct.	67,821							
Nov.	109,270							
Dec.	118,340							
	<u>1,500,000</u>	<u>146,704</u>	<u>5,905</u>	<u>12,686</u>			<u>130,960</u>	<u>5,905</u>

- 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 Irrigation 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 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 2010 as of July 14, 2010

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 Inter- national Boundary			Running 12-Month Flow-Wtd. Differential ^{2/}	
	5-Year avg. ^{1/}	2010	2011	5-Year avg. ^{1/}	2010	2011 ^{4/}	5-Year avg. ^{1/}	2010 ^{4/}	2011 ^{4/}	5-Year avg. ^{1/}	2010	2011	5-Year avg. ^{1/}	2010	2011	2010	2011
<u>Month</u>																	
Jan.	690	623	606	709	630	620	751	660	640	913	756	714	1,041	831	882	130.7	143.3
Feb.	675	628		706	660		732	690		835	729		998	856		131.2	
March	684	622		699	640		727	650		805	663		925	746		125.8	
April	680	613		700	630		714	650		801	672		892	752		123.6	
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..