

5.a. - Colorado River Water Reports

**SUMMARY WATER REPORT  
COLORADO RIVER BASIN  
February 4, 2010**

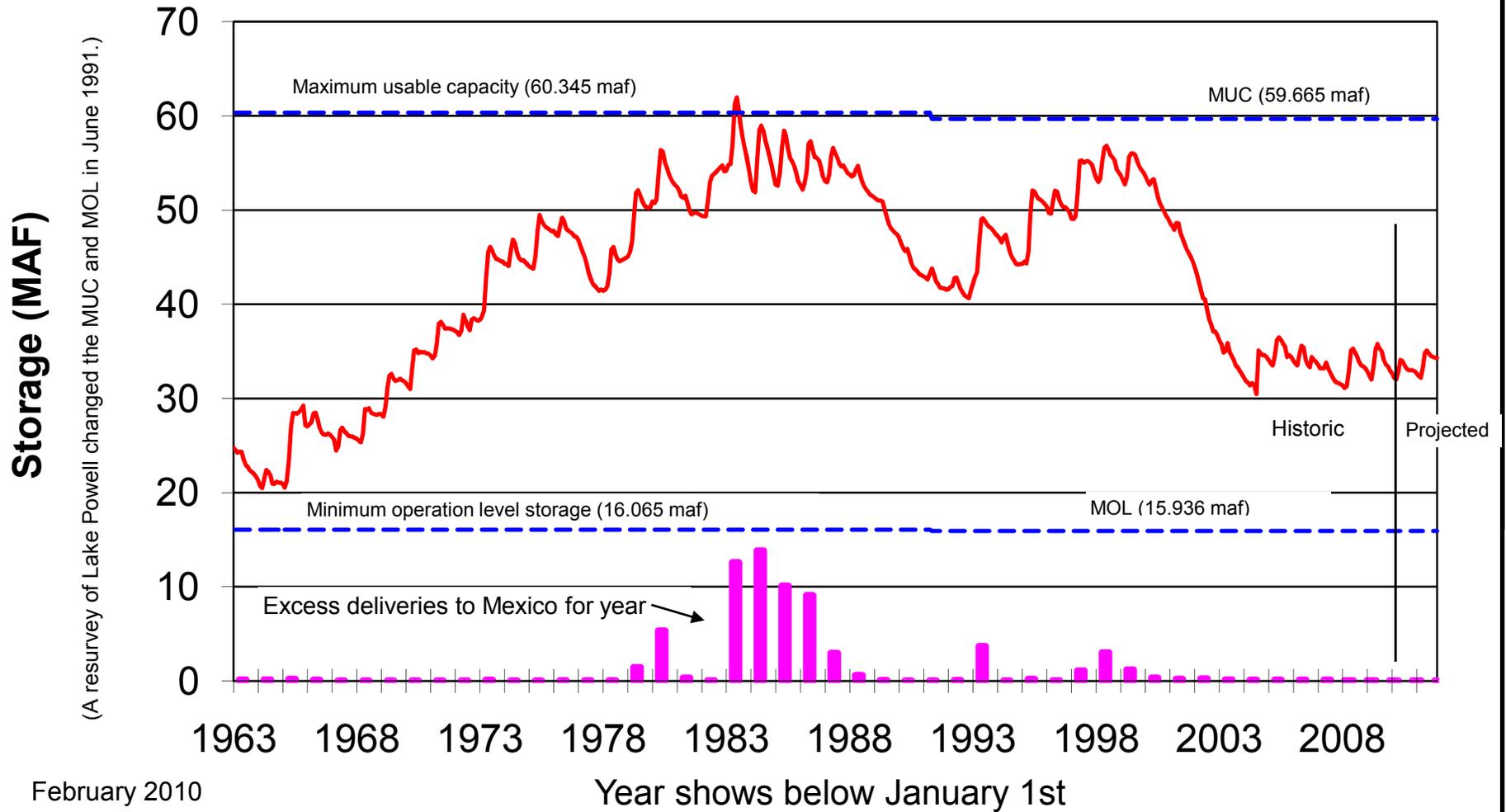
RESERVOIR STORAGE (as of January 31)	January 3, 2010					
	MAF	ELEV. IN FEET	□ of Capacity	MAF	ELEV. IN FEET	□ of Capacity
<b>Lake Powell</b>	13.991	3,622.1	<b>58</b>	14.383	3,625.8	<b>59</b>
<b>Flaming Gorge</b>	3.209	6,026.3	<b>86</b>	3.246	6,027.3	<b>87</b>
<b>Navajo</b>	1.226	6,050.0	<b>72</b>	1.243	6,051.5	<b>73</b>
<b>Lake Mead</b>	11.493	1,100.0	<b>44</b>	11.179	1,096.5	<b>43</b>
<b>Lake Mohave</b>	1.736	644.3	<b>96</b>	1.601	639.4	<b>88</b>
<b>Lake Havasu</b>	0.597	448.9	<b>96</b>	0.570	447.5	<b>92</b>
<b>Total System Storage</b>	<b>33.093</b>		<b>55</b>	<b>33.120</b>		<b>56</b>
<b>System Storage Last Year</b>	<b>33.002</b>		<b>55</b>	<b>33.319</b>		<b>56</b>

	January 3, 2010	
WY 2010 Precipitation (Basin Weighted Avg) 10/01/09 through 2/01/10	<b>85 percent (10.5")</b>	<b>83 percent (7.8")</b>
WY 2010 Snowpack Water Equivalent (Basin Weighted Avg) on day of 2/1/10 (Above two values based on average of data from 116 sites.)	<b>85 percent (9.2")</b>	<b>80 percent (6.1")</b>
	January 6, 2010	
February 3, 2010 Forecast of Unregulated Lake Powell Inflow (NWS)	MAF	% of Normal
2010 April through July unregulated inflow forecast	5.800	<b>73 %</b>
2010 Water Year forecast	8.893	<b>74 %</b>

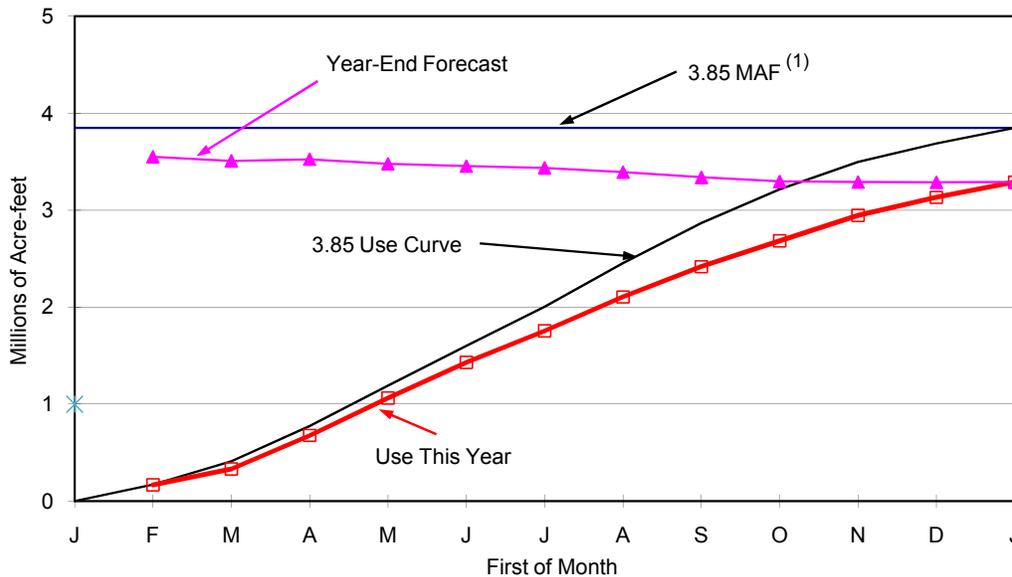
USBR Forecasted Year-End 2009 and 2008 Consum. Use, January 21, 2010 a.					MAF	
	2009		2008			
	Diversions	- Return □	Net	Net	Forecasted	Estimated
Nevada (Estimated Total)	0.458	0.210	0.248	0.269		
Arizona (Total)	3.658	0.831	2.827	2.777		
CAP Total			1.660	1.562		
Az. Water Banking Authority			0.134	0.214		
OTHERS			1.167	1.216		
California (Total) b. □	5.034	0.670	4.364	4.502		
MWD			1.105	0.906		
3.85 Agriculture	<u>Total</u>	<u>Conserved</u>			<u>Forecasted</u>	<u>Estimated</u>
IID c. □	2.843	-0.269			2.574	2.825
CVWD d. □	0.342	-0.035			0.307	0.299
PVID	0.285	0			0.285	0.376
YPRD	0.037	0			0.037	0.045
Island e. □	0.006	0			0.006	0.007
Total Ag.	3.513	-0.304			3.209	3.552
Others			0.050	0.044		
PVID-MWD following to storage (to be determined)			--	0		
<b>Arizona, California, and Nevada Total f. □</b>	<b>9.150</b>	<b>1.711</b>	<b>7.439</b>	<b>7.549</b>		

- a. □ Incorporates Jan.-Nov. USGS monthly data and 75 daily reporting stations which may be revised after provision; data reports are distributed by USGS. Use to date estimated for users reporting monthly and annually.
- b. □ California 2009 basic use apportionment of 4.4 MAF has been adjusted for approved paybacks for 01-02 obligations (3,751 AF), payback of Inadvertent Overrun and Payback Policy overruns (1,349 AF), ICS by IID (15,000 af), MWD recovery of interstate underground storage from Arizona (27,500 AF), plus delivery of Drop 2 Construction Water (2,750 af.)
- c. □ 0.105 MAF conserved by IID-MWD Agreement as amended in 2007: 90,000 AF for SDCWA under the IID-SDCWA Transfer Agreement as amended, 60,000 AF of which was diverted by MWD; 8,000 AF for CVWD under the IID-CVWD Acquisition Agreement, 65,577 AF from the All-American Canal Lining Project.
- d. □ 30,850 acre-feet conserved by the Coachella Canal Lining Project of which 591 af used for mitigation, and 3,751 af of payback.
- e. □ Includes estimated amount of 6,136 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**  
**FEBRUARY 1, 2010 FORECAST OF 2009 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	0.168	3.551	0.016
Mar	0.332	3.509	0.058
Apr	0.678	3.526	0.041
May	1.064	3.478	0.089
Jun	1.430	3.454	0.113
Jul	1.755	3.437	0.130
Aug	2.106	3.392	0.175
Sep	2.418	3.340	0.227
Oct	2.685	3.297	0.270
Nov	2.948	3.292	0.275
Dec	3.133	3.289	0.278
Jan	3.290	3.290	0.277

(1) The forecast of unused water is based on the availability of 3.568 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 plus 8,000 per CVWD-IID transfer (11/25/09) and the 1989 IID-MWD-CVWD-PVID Agreement as amended; 60,000 af of conserved water available to SDCWA under the IID-SDCWA Transfer agreement as amended being diverted by MWD; 30,259 af of conserved water available to SDCWA and MWD as a result of the Coachella Canal Lining Project; 65,577 af of water be 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; 3,751 af of CVWD; and 15,000 af of Intentionally Created Surplus by IID; Drop 2 Construction Water at 2,750 af. As USBR is charging disputed uses by Yuma islandpumpers to Priority 2, the amount of unused water has been reduced by those uses -6,136 af. The CRB does not concur with USBR's viewpoint on this matter.

COLORADO RIVER BOARD OF CALIFORNIA

December 28, 2009

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<sup>1/</sup> in Reservoirs at end of Month (Thousand Acre-feet).

November 2009

<u>Upper Basin</u>	<u>Storage</u>	<u>Elevation in feet</u>	<u>% of Capacity</u>	<u>Change During Month</u>	<u>Change from 2008</u>
Lake Powell	14,976	3,631.1	62%	-274	1,011
Flaming Gorge	3,298	6,028.7	88%	-78	286
Fontenelle	239	6,491.6	69%	-21	28
Navajo	1,265	6,053.3	75%	-17	-29
Blue Mesa	604	7,492.8	73%	0	11
Morrow Point	111	7,152.6	95%	3	-1
Crystal	<u>15</u>	<u>6,747.5</u>	<u>86%</u>	<u>-1</u>	<u>2</u>
Sub-total	20,509		66%	-389	1,308
<u>Lower Basin</u>					
Lake Mead	10,919	1,093.5	42%	22	-1,238
Lake Mohave	1,502	635.6	83%	33	7
Lake Havasu	<u>573</u>	<u>447.6</u>	<u>93%</u>	<u>-8</u>	<u>1</u>
Sub-total	12,993		45%	47	-1,229
Upper and Lower Basin Total	33,502 <sup>2/</sup>		56%	-342	79

<sup>1/</sup> Figures shown do not include reservoir dead storage.

<sup>2/</sup> Storage above minimum operation level is 33,502 - 15,936 = 17,566 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 November 2009	<u>Cumulative Flow</u> October thru November	<u>Meas. Flow Adjusted for CRSP</u> <u>Surface Storage Changes</u>	
			November 2009	% of Nov. 88- year average (1922-2009 water years)
Green River at Green River, Utah	186,900	364,900	108,400	72%
Colorado River near Cisco, Utah	209,200	472,100	211,500	96%
San Juan River near Bluff, Utah	42,000	77,100	24,700	40%
At Lee Ferry (Compact Point)	702,400	1,336,700	334,500	76%

III. Lower Basin Discharge (Acre-feet).

<u>Station</u>	November 2009	<u>Cumulative Flow</u> October thru November
Below Hoover Dam	648,200	1,261,000
Below Davis Dam	655,200	1,337,500
Below Parker Dam	360,900	832,100
Above Imperial Dam	348,800	762,000

IV. Consumptive Use of Lower Colorado River Mainstream Water (Acre-feet)  
November, 2009

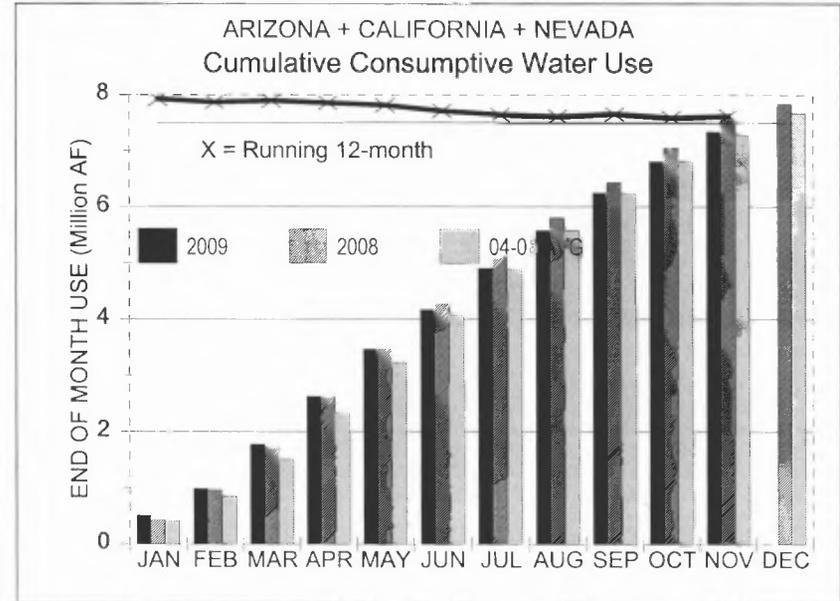
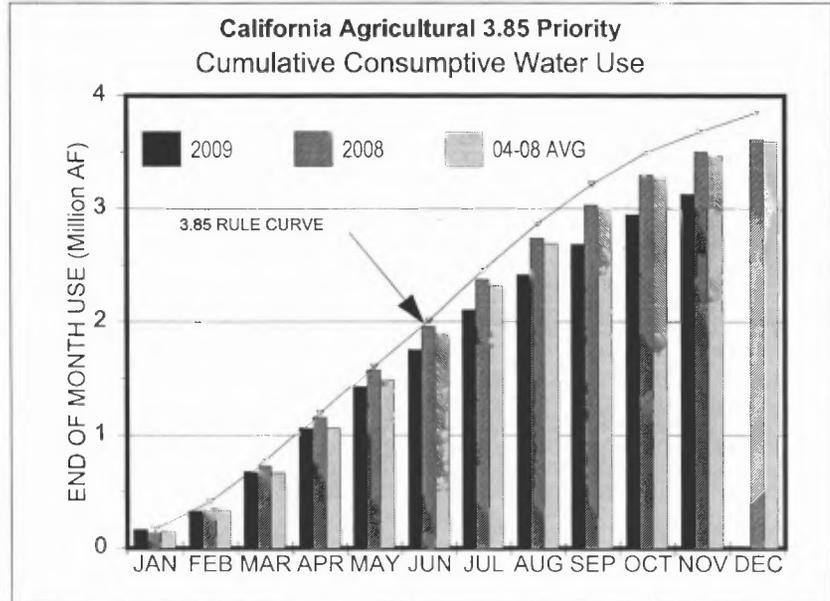
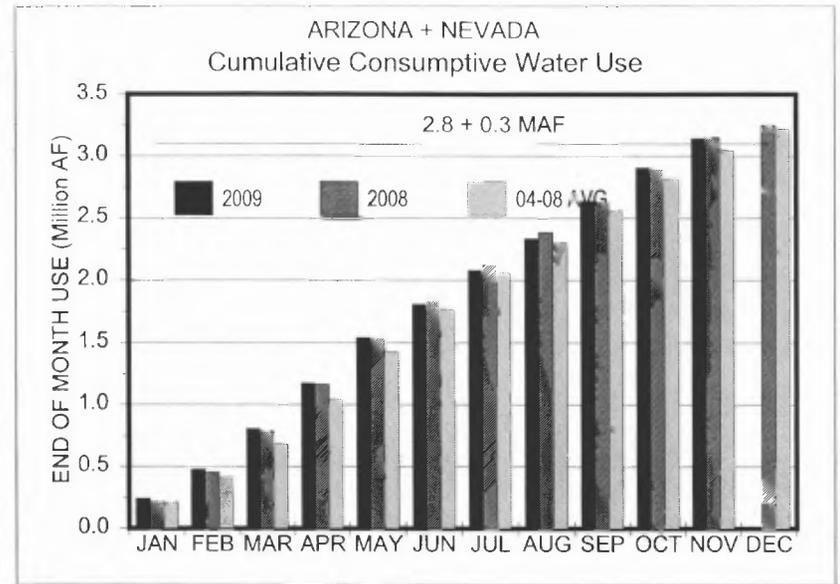
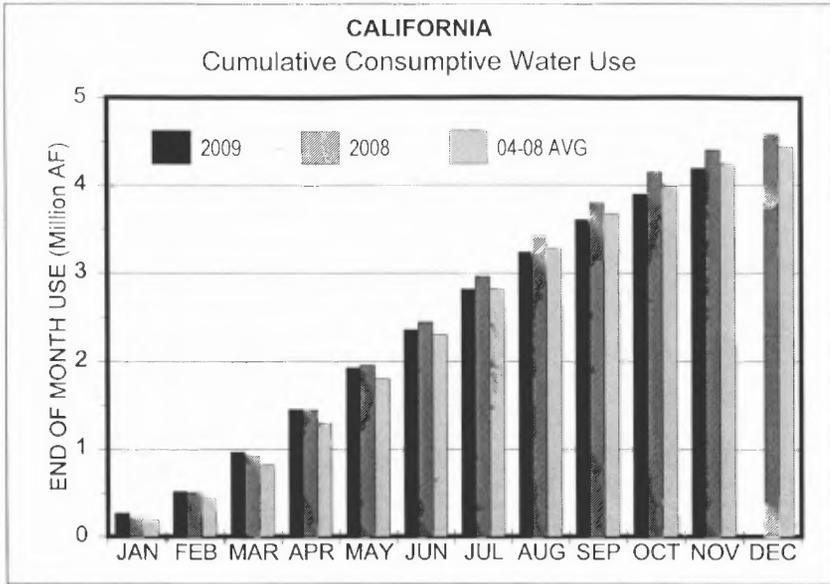
California Users	Diversion	Return	Consumptive Use	Change in Cons. Use From Nov 2008	Cumulative Cons. Use		
					January thru November	Change from prev. Jan. thru Nov.	12 Months thru November
Palo Verde Irrig. Dist.	36,560	31,440	5,120	-5,620	324,070	-99,250	326,780
Yuma Proj. (Res. Div.) <sup>b/</sup>	4,480	2,190	2,290	-30	36,640	-11,180	35,730
Imperial Irrig. Dist. <sup>a/</sup>	149,230		149,230	-6,570	2,451,650	-269,930	2,550,320
Salton Sea Mitigation	3,940		3,940	-2,240	28,890	3,240	29,290
USBR SaltonSea Operations	0		0	0	0	0	0
IID plus Salton Sea Mitigation	153,170		153,170	-8,810	2,480,540	-266,690	2,579,610
Coachella Val. Wat. Dist. <sup>a/</sup>	24,740		24,740	-420	290,780	7,070	305,600
Subtotal	218,950	33,630	185,320	-14,880	3,132,030	-370,050	3,247,720
Fort Mojave Ind. Res. <sup>c/</sup>	800		800	0	23,920	0	24,760
Cal. Miscellaneous <sup>d/</sup>	1,050		1,050	0	33,050	0	34,000
Metropolitan Water Dist.	107,100	420	106,680	53,720	1,003,870	162,200	1,070,430
Total	327,900	34,050	293,850	38,840	4,192,870	-207,850	4,376,910
<u>Arizona Users</u>							
Central Arizona Project	143,910		143,910	-24,030	1,510,560	13,710	1,575,340
Colorado River Ind. Res.	28,630	16,670	11,960	-1,090	434,640	8,240	440,740
Gila Gravity Main Canal	43,680	9,810	33,870	11,380	531,660	10,810	535,850
Yuma Proj. (Valley Div.)	28,460	12,460	16,000	1,680	199,300	-27,190	198,750
Fort Mojave Ind. Res. <sup>c/</sup>	7,450		7,450	0	77,680	0	85,130
Havasu Nat. Wildlife Ref.	780	0	780	-110	35,820	-1,560	35,820
Arizona Miscellaneous <sup>d/</sup>	4,610		4,610	0	81,300	0	85,000
Total	257,520	38,940	218,580	-12,170	2,870,960	4,010	2,956,630
<u>Nevada Users</u>							
From Lake Mead <sup>b/</sup>	32,200	12,560	19,640	-200	272,380	-12,350	284,110
Mohave Steam Plant	40		40	0	470	30	510
Total	32,240	12,560	19,680	-200	272,850	-12,320	284,620
Total Consumptive Use (Ariz., Cal., Nev.)	617,660	85,550	532,110	26,470	7,336,680	-216,160	7,618,160

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. IID diversions for April are not available

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

c. Assumed equal to August, 1983 use estimated by Fort Mojave Indian Tribe.

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.



February 3, 2010, 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 2010</u>	<u>Water Year 2010</u>	<u>April-July 2010</u>	<u>Wat Yr 2010</u>
Maximum (2)	9.700	13.193	3.500	3.844
Mean	5.800 *	8.893 **	-0.400	-0.456
Minimum (2)	4.700	6.693	-1.500	-2.656

\* This month's A-J observed is 73% of the 30-year A-J average shown below.

\*\* This month's W-Y observed is 74% 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
<u>Year 2009</u>	<u>7.804</u>	<u>10.633</u>
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 2009  
(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> <sup>(9)</sup>	<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>Arrivals</u>	<u>Arrivals</u>	<u>Arrivals</u>	<u>Limitrophe</u>	<u>Boundary</u>
			<u>Minute</u>					
			<u>242</u>					
Jan.	119,428	131,137	10,033	1,677	11,710	11,710	108,313	10,024
Feb.	152,979	171,990	9,433	9,578	19,011	30,721	151,373	9,433
March	208,455	219,177	10,164	558	10,722	41,443	195,714	10,164
April	199,629	215,258	9,702	5,927	15,629	57,072	192,856	9,702
May	112,754	132,812	10,422	9,631	20,053	77,125	110,896	10,422
June	112,353	123,213	9,645	1,215	10,860	87,985	102,298	9,645
July	118,342	129,556	9,525	1,689	11,214	99,199	108,508	9,525
August	92,284	107,840	6,621	8,935	15,556	114,755	89,839	6,621
Sept.	89,307	103,561	10,286	3,968	14,254	129,009	81,195	10,286
Oct.	72,742	88,648	11,572	4,334	15,906	144,915	64,619	11,572
Nov.	102,967	104,338	6	1,365	1,371	146,286	92,708	12,548
Dec.	118,761							
	<u>1,500,001</u>	<u>1,527,530</u>	<u>97,409</u>	<u>48,877</u>			<u>1,298,319</u>	<u>109,942</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 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 2009 as of November 20, 2009

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

Month	Below Hoover Dam			Below Parker Dam <sup>3/</sup>			Palo Verde <sup>3/</sup> Canal Near Blythe			At Imperial Dam			At Northerly Inter- national Boundary			Running 12-Month Flow-Wtd. Differential <sup>2/</sup>	
	5-Year avg. <sup>1/</sup>	2008	2009	5-Year avg. <sup>1/</sup>	2008	2009	5-Year avg. <sup>1/</sup>	2008	2009	5-Year avg. <sup>1/</sup>	2008	2009	5-Year avg. <sup>1/</sup>	2008	2009	2008	2009
Jan.	690	685	665	709	685	689	751	713		913	717	768	1,041	821	933	130.7	146.4
Feb.	675	692	655	706	678	678	732	682		835	675	745	998	822	862	135.9	145.5
March	684	674	649	699	668	663	727	686		805	717	703	925	803	804	139.4	147.0
April	680	659	636	700	675	661	714	697		801	699	710	892	805	798	144.9	144.6
May	677	676	646	698	681	673	709	696		822	725	727	962	914	907	141.4	144.0
June	678	648	637	695	671	662	712	686		812	718	717	956	896	889	137.1	143.4
July	682	655	630	688	683	638	709	701		797	720	698	909	865	847	137.3	144.0
August	690	641	619	686	677	646	706	692		800	734	706	907	894	882	135.7	145.5
Sept.	672	646	603	686	676	658	737	693		815	747	705	952	944	865	139.3	143.9
Oct.	680	638	611	689	657	657	739	689		854	758		1,070	1,010		139.6	
Nov.	682	642	626	692	674	646	746	705		897	765		1,010	931		140.2	
Dec.	681	651		702	671		731	723		877	834		999	912		140.5	

General Notes:

<sup>1/</sup> 5-Year averages are arithmetical.

<sup>2/</sup> 12-month flow-weighted differential between NIB and Imperial Dam through month shown in left column.

<sup>3/</sup> Operational values only.

<sup>4/</sup> Preliminary