

6.a. - Colorado River Water Reports

**SUMMARY WATER REPORT
COLORADO RIVER BASIN
January 11, 2010**

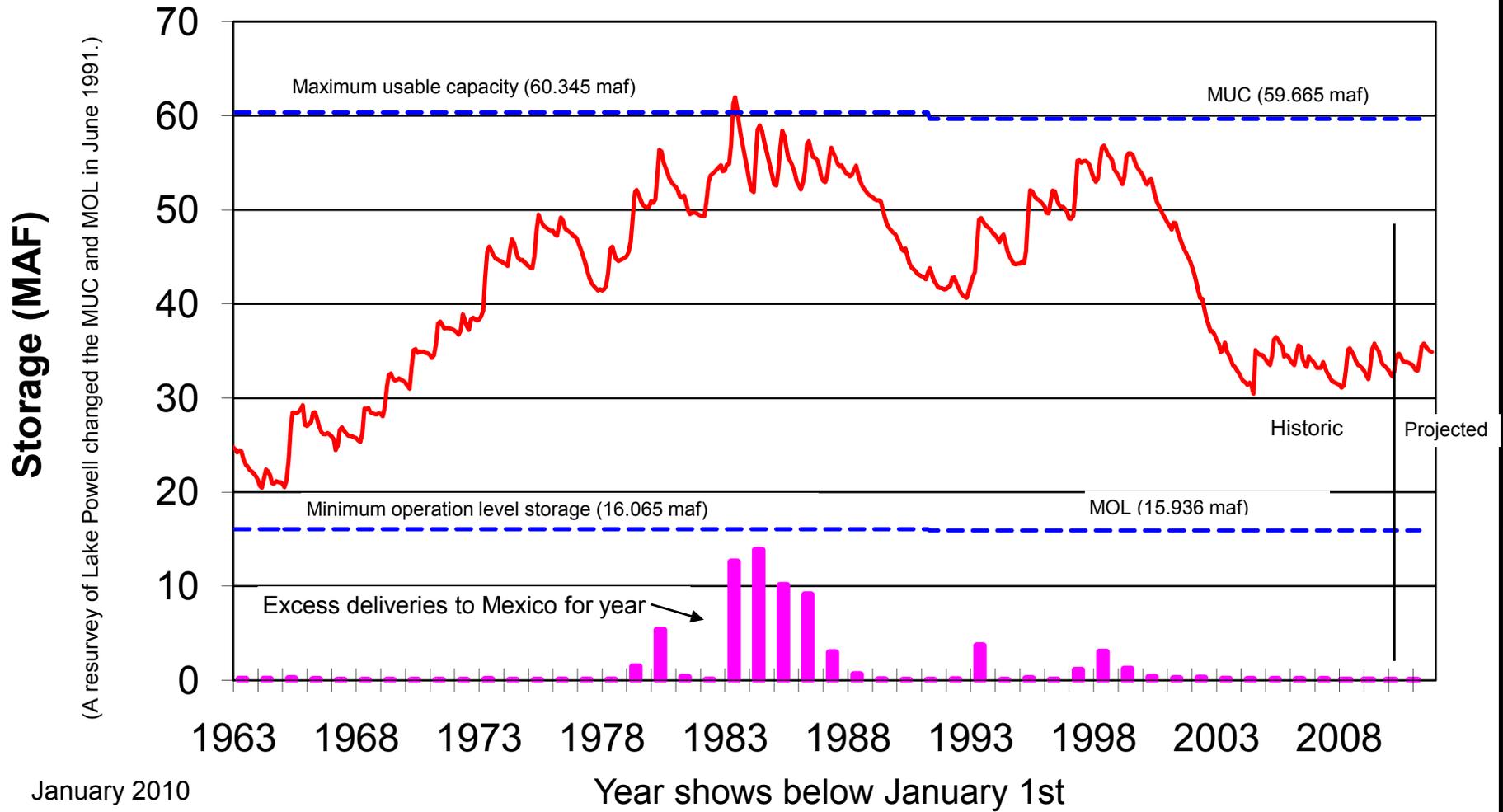
RESERVOIR STORAGE (as of January 10)	December 7, 2009					
	MAF	ELEV. IN FEET	□ of Capacity	MAF	ELEV. IN FEET	□ of Capacity
Lake Powell	14.255	3,624.6	59	14.884	3,630.3	61
Flaming Gorge	3.234	6,027.0	86	3.287	6,028.4	88
Navajo	1.238	6,051.1	73	1.261	6,052.9	74
Lake Mead	11.227	1,097.0	43	10.940	1,093.8	42
Lake Mohave	1.645	641.0	91	1.500	635.6	83
Lake Havasu	0.569	447.4	92	0.563	447.1	91
Total System Storage	33.051		55	33.390		56
System Storage Last Year	33.259		56	33.407		56

	December 7, 2009			
	MAF	% of Normal	MAF	% of Avg.
WY 2010 Precipitation (Basin Weighted Avg) 10/01/09 through 1/10/10	80 percent (8.0")		71 percent (4.0")	
WY 2010 Snowpack Water Equivalent (Basin Weighted Avg) on day of 1/10/10 (Above two values based on average of data from 116 sites.)	76 percent (6.4")		57 percent (2.6")	
			Observed	
			(Obs. WY09) Dec.16, 2009	
January 6, 2010 Forecast of Unregulated Lake Powell Inflow				
2010 April through July unregulated inflow forecast	6.200	78 %	7.804	98%
2010 Water Year forecast	9.348	78 %	10.624	88%

USBR Forecasted Year-End 2009 and 2008 Consum. Use, January 6, 2010 a.	MAF			
	2009		2008	
	Diversion	- Return =	Net	
Nevada (Estimated Total)	0.458	0.210	0.248	0.269
Arizona (Total)	3.660	0.833	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./	2.842	-0.269	2.573	2.825
CVWD d./	0.342	-0.034	0.308	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.	3.512	-0.303	3.209	3.552
Others			0.050	0.044
PVID-MWD following to storage (to be determined)				0
Arizona, California, and Nevada Total f./	9.152	1.713	7.439	7.549

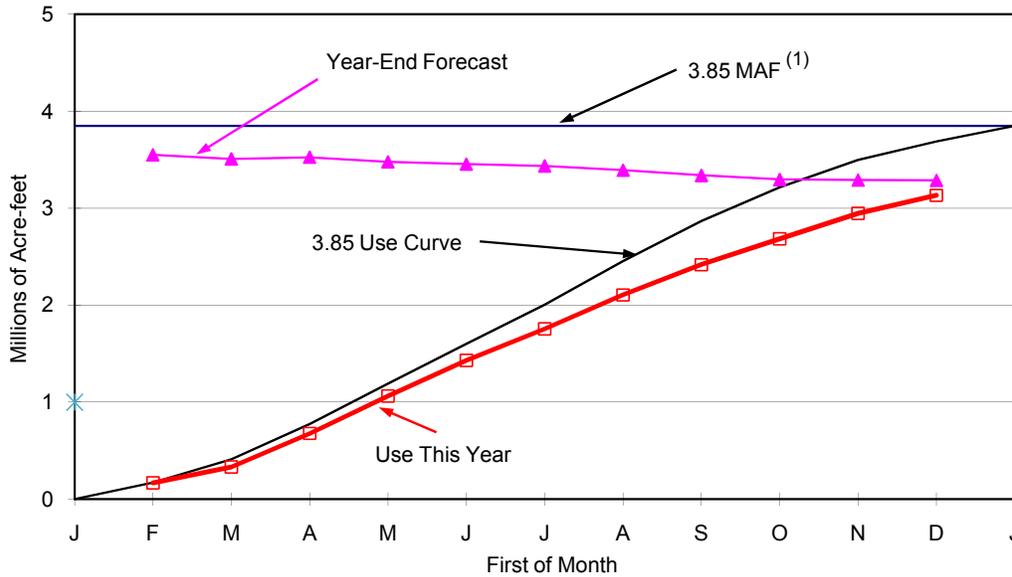
- a./ Incorporates Jan.-Nov. USGS monthly data and 75 daily reporting stations which may be revised after provision; data reports are distributed by USGS. Use to date estimated for users reporting monthly and annually.
- b./ California 2009 basic use apportionment of 4.4 MAF has been adjusted for approved 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



January 2010

FIGURE 1
JANUARY 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			

(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

November 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^{1/} in Reservoirs at end of Month (Thousand Acre-feet).

	<u>October 2009</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 2008</u>
Lake Powell	15,251	3,633.5	63%	-212	1,079
Flaming Gorge	3,376	6,030.7	90%	-18	362
Fontenelle	260	6,494.7	75%	-16	29
Navajo	1,283	6,054.8	76%	-32	-25
Blue Mesa	604	7,492.8	73%	-47	6
Morrow Point	108	7,148.2	92%	1	-4
Crystal	17	6,751.9	93%	2	2
Sub-total	20,898		67%	-322	1,448
<u>Lower Basin</u>					
Lake Mead	10,897	1,093.3	42%	-36	-1,316
Lake Mohave	1,469	634.3	81%	-33	25
Lake Havasu	581	448.0	94%	17	28
Sub-total	12,946		45%	-52	-1,264
Upper and Lower Basin Total	33,844 ^{2/}		57%	-374	184

1/ Figures shown do not include reservoir dead storage.

2/ Storage above minimum operation level is 33,844 - 15,936 = 17,908 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 October <u>2009</u>	<u>Cumulative Flow</u> October thru <u>October</u>	<u>Meas. Flow Adjusted for CRSP</u> <u>Surface Storage Changes</u>	
			October <u>2009</u>	% of Oct. 88- year average (1922-2009 <u>water years</u>)
Green River at Green River, Utah	178,000	178,000	160,100	102%
Colorado River near Cisco, Utah	262,900	262,900	218,100	93%
San Juan River near Bluff, Utah	35,100	35,100	3,600	4%
At Lee Ferry (Compact Point)	634,300	634,300	327,900	66%

III. Lower Basin Discharge (Acre-feet).

<u>Station</u>	October <u>2009</u>	<u>Cumulative Flow</u> October thru <u>October</u>
Below Hoover Dam	612,800	612,800
Below Davis Dam	682,300	682,300
Below Parker Dam	471,200	471,200
Above Imperial Dam	413,200	413,200

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

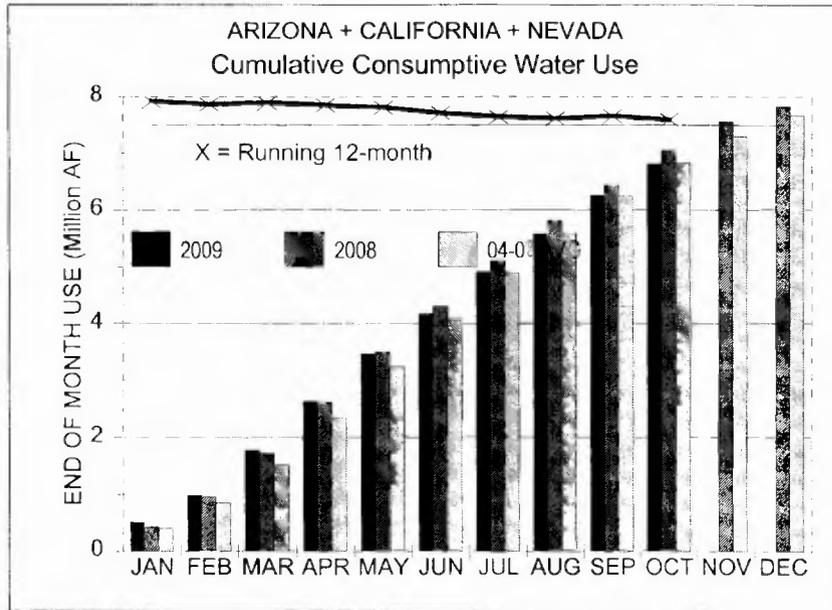
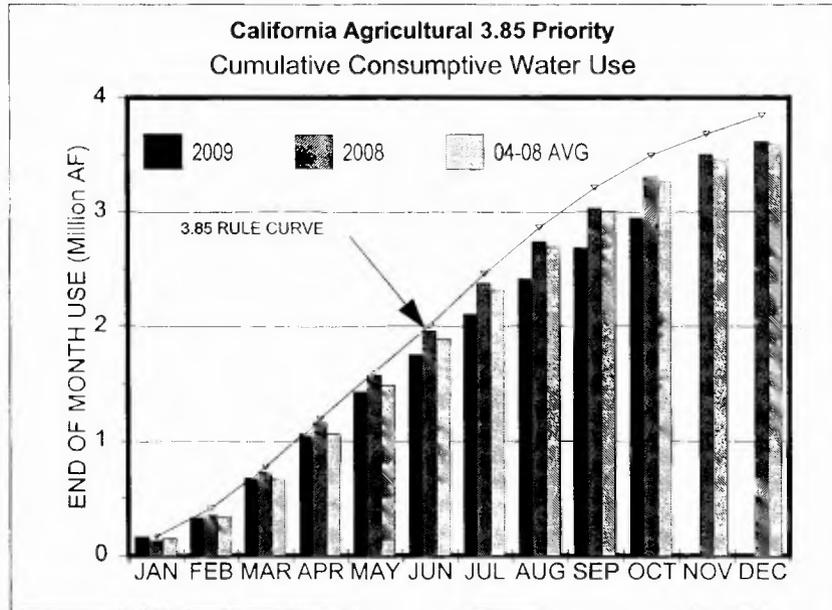
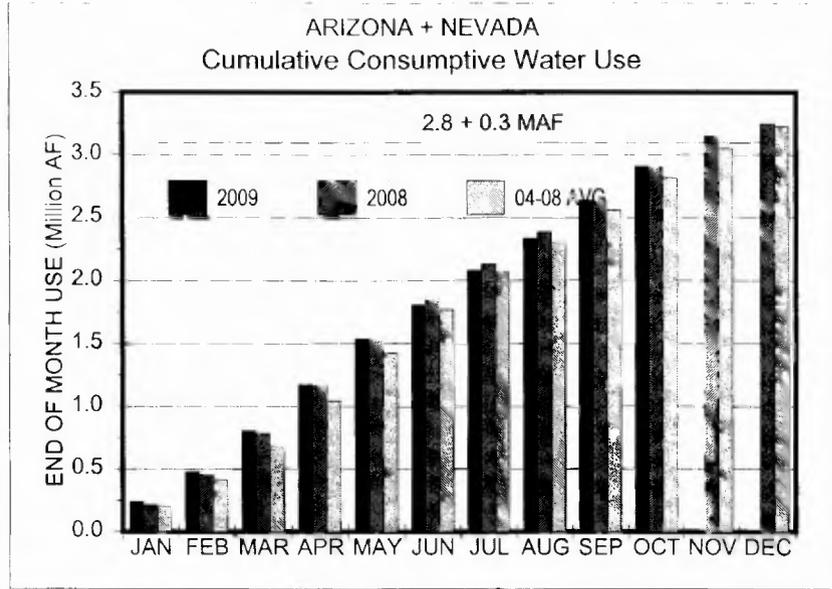
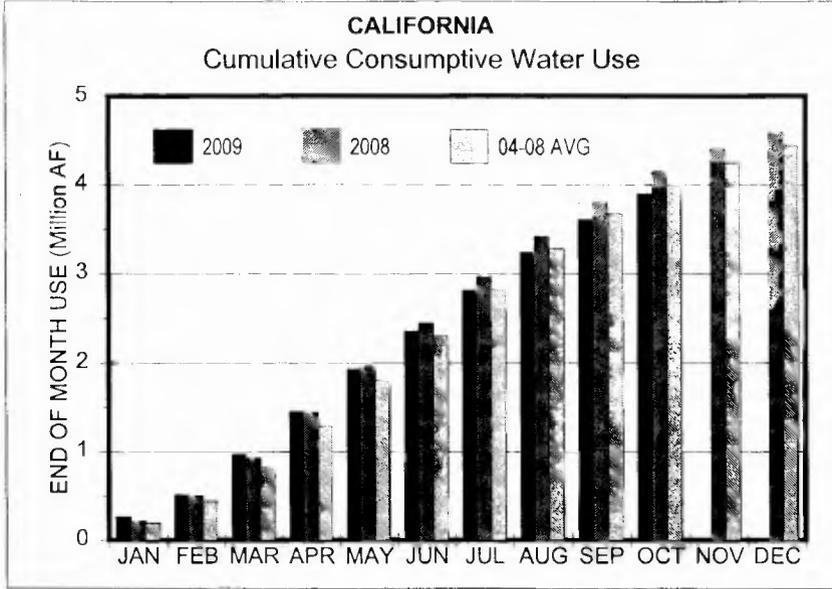
California Users	Diversion	Return	Consumptive Use	Change in Cons. Use From Oct. 2008	Cumulative Cons. Use		
					January thru October	Change from prev. Jan. thru Oct.	12 Months thru October
Palo Verde Irrig. Dist.	52,020	38,720	13,300	-12,060	318,950	-93,630	332,400
Yuma Proj. (Res. Div.) ^{b/}	7,420	2,260	5,160	540	34,350	-11,150	35,760
Imperial Irrig. Dist. ^{a/}	213,270		213,270	5,670	2,302,420	-263,360	2,556,890
Salton Sea Mitigation	4,230		4,230	-690	24,950	5,480	31,530
USBR SaltonSea Operations	0		0	0	0	0	0
IID plus Salton Sea Mitigation	217,500		217,500	4,980	2,327,370	-257,880	2,588,420
Coachella Val. Wat. Dist. ^{d/}	26,590		26,590	-1,040	266,040	7,490	306,020
Subtotal	303,530	40,980	262,550	-7,580	2,946,710	-355,170	3,262,600
Fort Mojave Ind. Res. ^{c/}	2,000		2,000	0	23,120	0	24,760
Cal. Miscellaneous ^{d/}	1,670		1,670	0	32,000	0	34,000
Metropolitan Water Dist.	26,640	430	26,210	-50,360	897,190	108,480	1,016,710
Total	333,840	41,410	292,430	-57,940	3,899,020	-246,690	4,338,070
<u>Arizona Users</u>							
Central Arizona Project	133,090		133,090	-2,630	1,366,650	37,740	1,599,370
Colorado River Ind. Res.	42,380	18,760	23,620	-710	422,680	9,330	441,830
Gila Gravity Main Canal	57,170	14,020	43,150	210	497,790	-570	524,470
Yuma Proj. (Valley Div.)	38,950	13,180	25,770	-860	183,300	-28,870	197,070
Fort Mojave Ind. Res. ^{c/}	5,450		5,450	0	70,230	0	85,130
Havasu Nat. Wildlife Ref.	900	0	900	-410	35,040	-1,450	35,930
Arizona Miscellaneous ^{d/}	5,930		5,930	0	76,690	0	85,000
Total	283,870	45,960	237,910	-4,400	2,652,380	16,180	2,968,800
<u>Nevada Users</u>							
From Lake Mead ^{b/}	41,870	12,980	28,890	-1,390	252,740	-12,150	284,310
Mohave Steam Plant	50		50	10	430	30	510
Total	41,920	12,980	28,940	-1,370	253,170	-12,120	284,820
Total Consumptive Use (Ariz., Cal., Nev.)	659,630	100,350	559,280	-63,720	6,804,570	-242,630	7,591,690

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.



December 16, 2009, 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 2009</u>	<u>Water Year 2009</u>	<u>Month's Projected</u>	<u>Wat Yr 2009</u>
Maximum (2)	7.804	10.633	0.000	0.000
Mean	7.804 *	10.633 **	0.000	0.000
Minimum (2)	7.804	10.633	0.000	0.000

* This month's A-J observed is 98% of the 30-year A-J average shown below.

** This month's W-Y observed is 88% 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)
	Scheduled	Total	Excess	Other	Total	Cumulative	Flow	Flow By-Pass
	<u>Flow</u> ⁽⁹⁾	<u>Arrivals</u>	in accord	Excess	Excess	Excess	Through	Southerly
			with	Arrivals	Arrivals	Arrivals	NIB and	International
			Minute	Arrivals	Arrivals	Arrivals	Limitrophe	Boundary
			242					
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
ϕ 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.	102,966							
Dec.	118,761							
	<u>1,500,000</u>	<u>1,423,192</u>	<u>97,403</u>	<u>47,512</u>			<u>1,205,611</u>	<u>97,394</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)

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

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.