

COMPILATION OF RECORDS IN  
ACCORDANCE WITH ARTICLE V OF THE  
DECREE OF THE SUPREME COURT OF  
THE UNITED STATES IN  
ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1991

Bureau of Reclamation

Lower Colorado Region  
Boulder City, Nevada



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S U M M A R Y  
 WATER SUPPLY, CONSUMPTIVE USE, DELIVERY TO MEXICO, & RESERVOIR STORAGE  
 CALENDAR YEAR 1991

	FINAL RECORDS												(THOUSAND ACRE-FEET)
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
<b>WATER USE SUMMARY</b>													
ARIZONA	17.9	91.2	101.6	179.1	222.7	251.6	295.7	266.3	172.7	133.4	91.8	40.3	1864.4
CALIFORNIA	241.0	324.6	335.6	525.4	566.1	535.2	569.5	515.5	423.1	432.5	324.3	212.7	5005.6
NEVADA	9.0	8.4	10.2	14.5	18.2	19.4	22.4	20.7	16.6	17.9	12.3	10.6	180.2
STATES TOTAL	267.9	424.2	447.4	719.0	807.0	806.2	887.6	802.5	612.5	583.9	428.5	263.6	7050.2
<b>MEXICO IN SATISFACTION OF TREATY</b>													
MEXICO IN SATISFACTION OF TREATY	125.4	113.7	171.3	189.4	119.5	146.6	169.1	141.6	92.2	74.1	78.9	99.0	1520.9
MEXICO BYPASS PURSUANT TO MINUTE 242	13.3	11.1	13.6	12.5	10.5	9.2	12.5	11.7	11.6	12.0	11.0	11.8	140.7
<b>USE TOTAL</b>	<b>406.6</b>	<b>549.0</b>	<b>632.3</b>	<b>920.9</b>	<b>937.0</b>	<b>962.0</b>	<b>1069.2</b>	<b>955.7</b>	<b>716.3</b>	<b>670.0</b>	<b>518.4</b>	<b>374.3</b>	<b>8711.7</b>
<b>END OF MONTH ACTIVE CONTENTS:</b>													
LAKE POWELL	15438	15241	15097	14587	15624	15885	15488	14990	14699	14546	14474	14252	
LAKE MEAD	20061	20149	20050	19852	19607	19446	19269	19221	19233	19070	19081	19288	
LAKE MOHAVE	1693	1703	1760	1618	1640	1591	1513	1484	1571	1597	1631	1782	
LAKE HAVASU	554	554	612	592	605	602	586	579	556	548	557	550	
LOWER BASIN TOTAL STORAGE	22308	22406	22422	22062	21852	21639	21368	21284	21360	21215	21269	21620	
<b>USE BELOW PARKER DAM:</b>													
ARIZONA	10.1	73.8	60.7	126.5	161.4	165.3	176.0	156.1	120.1	107.9	66.5	28.9	1253.1
CALIFORNIA	133.7	226.4	232.5	428.2	454.0	427.7	456.4	405.9	316.1	323.1	221.7	104.3	3729.9
MEXICO	138.7	124.8	184.9	201.9	130.0	155.8	181.6	153.3	103.8	86.1	89.9	110.7	1661.6
TOTAL USE	282.4	425.0	478.1	756.6	745.3	748.8	813.9	715.3	539.9	517.1	378.1	244.0	6644.6

ARTICLE V OF THE DECREE OF THE SUPREME COURT  
OF THE UNITED STATES  
IN ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

## Article V

V. The United States shall prepare and maintain, or provide for the preparation and maintenance of, and shall make available, annually and at such shorter intervals as the Secretary of the Interior shall deem necessary or advisable, for inspection by interested persons at all reasonable times and at a reasonable place or places, complete, detailed and accurate records of:

(A) Releases of water through regulatory structures controlled by the United States;

(B) Diversions of water from the mainstream, return flow of such water to the stream as is available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation, and consumptive use of such water. These quantities shall be stated separately as to each diverter from the mainstream, each point of diversion, and each of the States of Arizona, California and Nevada;

(C) Releases of mainstream water pursuant to orders therefor but not diverted by the party ordering the same, and the quantity of such water delivered to Mexico in satisfaction of the Mexican Treaty or diverted by others in satisfaction of rights decreed herein. These quantities shall be stated separately as to each diverter from the mainstream, each point of diversion, and each of the States of Arizona, California and Nevada;

(D) Deliveries to Mexico of water in satisfaction of the obligations of Part III of the Treaty of February 3, 1944, and separately stated, water passing to Mexico in excess of treaty requirements;

(E) Diversions of water from the mainstream of the Gila and San Francisco Rivers and the consumptive use of such water, for the benefit of the Gila National Forest.

RECORDS OF RELEASES OF WATER THROUGH  
REGULATORY STRUCTURES IN ACCORDANCE WITH  
ARTICLE V(A) OF THE DECREE OF  
THE SUPREME COURT OF THE UNITED STATES  
IN ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1991

The following tabulations for calendar year 1991 show final records of releases of water through regulatory structures controlled by the United States. At Hoover, Davis, Parker, Palo Verde, Imperial, and Laguna Dams, the records are furnished by the U.S. Geological Survey based on measurements at or below the structures.

The record of river flow through Headgate Rock Dam was computed using the record of flow at the gaging station "Colorado River below Parker Dam, Arizona-California," and deducting from it the record of flow at the gaging station "Divisions for Colorado River Indian Reservation Main Canal near Parker, Arizona." The diversions are made at Headgate Rock Dam.



RELEASES OF WATER THROUGH REGULATORY STRUCTURES  
CONTROLLED BY THE UNITED STATES  
CALENDAR YEAR 1991

STRUCTURE	FINAL RECORDS												TOTAL
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
GLEN CANYON DAM	676.4	590.0	590.4	555.4	769.0	799.1	928.6	888.6	790.3	539.6	576.4	680.6	8384.4
HOOVER DAM	494.4	542.9	772.1	784.0	990.0	967.9	1011.0	922.3	781.8	673.8	534.0	478.3	8952.5
DAVIS DAM	379.2	514.5	683.6	889.6	926.5	973.9	1069.0	933.0	673.4	625.8	484.4	307.2	8460.1
PARKER DAM	271.0	394.9	479.8	794.0	757.7	794.8	853.9	720.7	541.3	518.6	363.1	218.5	6708.3
HEADGATE ROCK DAM 1/	259.8	351.9	441.1	733.4	684.7	710.9	756.8	636.1	494.7	481.6	335.9	188.0	6074.8
PALO VERDE DAM	232.2	335.5	420.5	615.4	572.4	598.5	651.6	517.6	410.0	447.8	300.9	144.3	5246.7
IMPERIAL DAM	20.2	12.9	34.9	22.3	20.3	21.7	22.6	22.8	25.5	19.0	15.1	41.0	278.4
DIVERSION TO MITTRY LAKE FROM GILA MAIN CANAL	0.9	0.7	0.9	0.8	0.9	0.9	0.9	1.0	1.0	0.9	0.8	0.9	10.4
SUM IMPERIAL DAM + DIVERSION TO MITTRY LAKE	21.1	13.6	35.8	23.2	21.1	22.6	23.5	23.8	26.5	19.9	15.8	41.9	288.8
LAGUNA DAM	22.8	16.5	38.6	27.6	26.3	25.2	23.8	26.3	31.6	22.4	21.6	30.1	312.8

1/ Computed as Parker Dam release less diversion at Headgate Rock Dam.

RECORDS OF DIVERSIONS, RETURN FLOWS, AND CONSUMPTIVE USE  
IN ACCORDANCE WITH ARTICLE V(B) OF THE DECREE OF  
THE SUPREME COURT OF THE UNITED STATES IN  
ARIZONA v. CALIFORNIA  
DATED MARCH 9, 1964

CALENDAR YEAR 1991

The following tabulations for calendar year 1991 show final records of diversions of water from the mainstream of the Colorado River, return flow of such water to the mainstream and consumptive use of such water. The records were furnished by the U.S. Geological Survey, International Boundary and Water Commission, Bureau of Indian Affairs, Bureau of Reclamation (Reclamation), National Park Service, U.S. Fish and Wildlife Service, and water user agencies. Diversions from the All-American Canal and Gila Gravity Main Canal at Imperial Dam were assigned to each user by adding each user's proportional share of the total canal losses to the delivery taken by each user at its turnout from the canal.

The tabulations also show quantities of water pumped from the mainstream or from wells in the Colorado River flood plain. Amounts diverted by pumping were determined by: (1) For most electric pumps, diversions were computed on a monthly basis from power records and a "kilowatthour per acre-foot factor" that was determined by discharge measurement; (2) For pumps other than electric and some electric pumps, a consumptive use factor of 6 acre-feet per irrigated acre per year was used.

There are undetermined amounts of unmeasured return flow reaching the Colorado River by means of flow through aquifers connecting water use areas to the mainstream. Reclamation, working with the U.S. Geological Survey, is continuing the research and investigative program to determine the amounts of such unmeasured return flows.

Tabulations for calendar year 1991 do include acceptable determinations of the unmeasured Colorado River return flows to Lake Mead from Las Vegas Wash which accrue the State of Nevada and a portion of the unmeasured return flows from the Yuma Mesa which are credited to the State of Arizona.

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
LAKE MEAD NAT'L RECREATION, AZ. DIVERSIONS FROM LAKE MOHAVE (DAVIS & KATHERINE LANDING)	DIVERSION RETURNS CONSUMPTIVE USE	51	65	76	21	25	26	35	29	24	21	13	10	395
L.C.R.D. PROJECT (DAVIS DAM) DIVERSION AT DAVIS DAM	DIVERSION RETURNS CONSUMPTIVE USE	10	10	12	12	11	12	14	14	13	13	8	6	135
BULLHEAD CITY PUMPED FROM WELLS	DIVERSION	407	384	332	425	489	564	617	674	529	611	448	349	5829
DIV. AT DAVIS DAM, MOHAVE CO. PARKS	DIVERSION RETURNS CONSUMPTIVE USE	1	4	3	9	15	14	10	12	10	13	7	4	102
MOHAVE WATER CONSERVATION PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	408	388	335	434	504	578	627	686	539	624	455	353	5931
MOHAVE VALLEY I. & D. DISTRICT PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	24	29	24	31	36	43	49	44	44	45	32	27	428
FORT MOHAVE INDIAN RESERVATION 9 PUMPS AND WELLS IN FLOOD PLAIN	DIVERSION RETURNS CONSUMPTIVE USE	1032	1586	2057	3546	4036	4894	5756	5672	3908	2495	2083	1485	38550
GOLDEN SHORES WATER CONSERVATION DIST PUMPED FROM WELLS	DIVERSION 2/3/4/ RETURNS CONSUMPTIVE USE	3403	3730	3469	654	6610	7461	8115	6937	6283	5694	3927	3272	59556
HAVASU NATIONAL WILDLIFE REFUGE INLET-NW NE NW SEC 33 T9N R55W G&SRM WELL 8N/23E-15Aa (TOPOCK MARSH)	DIVERSION 2/ RETURNS CONSUMPTIVE USE	22	24	22	4	42	47	52	44	40	36	25	21	378
LAKE HAVASU IRRIGATION AND DRAINAGE DISTRICT PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	545	1740	3290	5730	4830	5890	7070	4860	2610	1450	833	631	39479
CENTRAL ARIZONA PROJECT PUMPED FROM LAKE HAVASU	DIVERSION 2/ RETURNS CONSUMPTIVE USE	13	14	13	3	26	29	31	27	24	22	15	13	230
CONSOLIDATED WATER UTILITIES PUMPED FROM RIVER	DIVERSION RETURNS CONSUMPTIVE USE	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIVERSION RETURNS CONSUMPTIVE USE	558	1754	3303	5733	4856	5919	7101	4887	2634	1472	848	644	39479
	DIVERSION RETURNS CONSUMPTIVE USE	672	696	706	861	1105	1221	1446	1350	1204	1158	831	711	11961
	DIVERSION RETURNS CONSUMPTIVE USE	1633	9157	30824	41270	44077	66058	96480	90494	37946	13929	17106	4857	453831
	DIVERSION RETURNS CONSUMPTIVE USE	23	22	23	25	33	34	41	40	32	30	24	20	347

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
<b>TOWN OF PARKER</b>														
<b>PUMPED FROM RIVER</b>														
1 WELL-NW NW NW SEC 7 T9N R19W G&SRM	DIVERSION	0	0	0	0	0	16	23	2	3	0	0	0	44
	DIVERSION	52	57	53	10	101	101	104	104	93	87	60	50	872
	RETURNS	0	0	0	0	0	3	3	0	0	0	0	0	6
	CONSUMPTIVE USE	52	57	53	10	101	114	124	106	96	87	60	50	910
<b>COLORADO RIVER INDIAN RESERVATION</b>														
<b>DIVERSION AT HEADGATE ROCK DAM</b>														
1 PUMP FROM RIVER (B-04-22)14 bbd	DIVERSION	11250	43040	38680	60590	73050	83870	97140	84570	46600	36980	27210	30540	633520
	DIVERSION 2/3/	343	376	349	66	666	752	818	699	633	574	396	330	6000
	RETURNS	14382	17675	21182	20447	22043	21922	24824	28007	22769	19655	18520	17392	248818
	CONSUMPTIVE USE	-2789	25741	17847	40209	51673	62700	73134	57262	24464	17899	9086	13478	390702
<b>EHRENBURG IMPROVEMENT ASSN.</b>														
<b>1 PUMP SW SEC 3 T3N R22W G&amp;SRM</b>														
	DIVERSION	18	18	21	20	27	34	34	35	31	27	19	21	305
	RETURNS													
	CONSUMPTIVE USE													
<b>CIBOLA VALLEY IRRIGATION DISTRICT</b>														
<b>3 PUMPS SEC'S 20, 21 &amp; 26T1N R23W</b>														
	DIVERSION 2/	1085	1189	1106	209	2107	2379	2587	2212	2003	1815	1252	1043	18988
	RETURNS													
	CONSUMPTIVE USE													
<b>CIBOLA NATIONAL WILDLIFE REFUGE</b>														
<b>4 PUMPS</b>														
	DIVERSION	1641	1162	519	682	2923	1350	1369	986	2012	1767	1859	1482	17751
	RETURNS													
	CONSUMPTIVE USE													
<b>IMPERIAL NATIONAL WILDLIFE REFUGE</b>														
<b>2 WELLS SEC 13 T5S R22W G&amp;SRM</b>														
	DIVERSION 2/	380	417	388	73	739	834	907	775	702	636	439	366	6656
	RETURNS													
	CONSUMPTIVE USE													
<b>YUMA PROVING GROUND</b>														
<b>DIVERSION AT IMPERIAL DAM</b>														
	DIVERSION	1	0	3	1	0	0	3	0	0	3	0	1	12
	RETURNS													
	CONSUMPTIVE USE													
<b>STURGES</b>														
<b>DIVERSION AT IMPERIAL DAM (WARREN ACT)</b>														
	DIVERSION	381	444	214	202	349	311	421	417	376	397	344	227	4083
	RETURNS													
	CONSUMPTIVE USE													
<b>WELLTON MOHAWK I. &amp; D. DISTRICT</b>														
<b>DIVERSION AT IMPERIAL DAM</b>														
	DIVERSION	14547	30687	24945	42413	49511	52811	54188	51393	49030	33157	31561	13066	447309
	RETURNS	13948	11633	14521	13491	11196	9792	13059	12068	12008	12091	11462	12001	147270
	CONSUMPTIVE USE	599	19054	10424	28922	38315	43019	41129	39325	37022	21066	20099	1065	300039
<b>CITY OF YUMA</b>														
<b>DIVERSION AT IMPERIAL DAM (AAC)</b>														
	DIVERSION	1486	1608	1303	1611	1908	2072	2289	2242	1963	1870	1660	1431	21443
<b>DIVERSION AT IMPERIAL DAM (GILA)</b>														
	DIVERSION	62	69	66	65	73	79	92	92	81	69	34	28	810
	RETURNS	999	1130	858	867	829	785	813	835	885	903	839	870	10613
	CONSUMPTIVE USE	549	547	511	809	1152	1366	1568	1499	1159	1036	855	589	11640
<b>MARINE CORPS AIR STATION (YUMA)</b>														
<b>DIVERSION AT IMPERIAL DAM</b>														
	DIVERSION	80	108	78	149	199	212	176	150	130	117	138	81	1618
	RETURNS													
	CONSUMPTIVE USE													
<b>SOUTHERN PACIFIC COMPANY</b>														
<b>DIVERSION AT IMPERIAL DAM</b>														
	DIVERSION	4	4	4	4	4	4	4	4	4	4	4	4	48
	RETURNS													
	CONSUMPTIVE USE													

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
COUNTY OF YUMA DIVERSION AT IMPERIAL DAM (YUMA INT. AIRPORT)	DIVERSION RETURNS CONSUMPTIVE USE	1	1	1	1	1	1	1	1	1	1	0	0	10
YUMA MESA FRUIT GROWERS ASSN. DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	1	1	1	1	1	1	1	1	1	1	1	1	12
UNIVERSITY OF ARIZONA DIVERSION AT IMPERIAL DAM (WARREN ACT)	DIVERSION RETURNS CONSUMPTIVE USE	81	63	51	74	94	102	119	104	93	79	34	39	933
YUMA UNION HIGH SCHOOL DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	4	4	8	14	25	31	36	29	22	19	12	3	207
CAMILLE, ALEC. JR. DIVERSION AT IMPERIAL DAM (WARREN ACT)	DIVERSION RETURNS CONSUMPTIVE USE	0	0	0	0	8	2	2	1	4	3	2	4	26
DESERT LAWN MEMORIAL DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	1	1	9	9	15	19	21	21	7	13	2	1	119
NORTH GILA VALLEY IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM 7/	DIVERSION RETURNS CONSUMPTIVE USE	2473 1632 841	3141 1699 1442	3168 1677 1491	5504 2662 2842	6805 3151 3654	4952 2500 2452	4110 2222 1888	3287 1733 1554	3874 2151 1723	6054 3455 2599	4179 2760 1419	2026 1630 396	49573 27272 22301
YUMA IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM 7/ PUMPED FROM PRIVATE WELLS	DIVERSION RETURNS CONSUMPTIVE USE	2406 829 820 2415	3663 732 932 3463	4120 327 696 3751	6008 778 1241 5545	7086 422 1120 6388	4550 801 1102 4249	5439 674 1072 5041	5318 600 1011 4907	6624 1057 1049 6632	7441 955 1323 7073	4605 783 1079 4309	2543 434 600 2377	59803 8392 12045 56150
YUMA MESA I. & D. DISTRICT DIVERSION AT IMPERIAL DAM 7/	DIVERSION RETURNS CONSUMPTIVE USE	7510 2961 4549	10661 3613 7048	12500 2045 10455	21328 3335 17993	26930 3815 23115	27192 3897 23295	30456 4939 25517	27271 4745 22526	22244 3827 18417	19728 3949 15779	12459 3556 8903	5963 2612 3351	224242 43294 180948
UNIT "B" I. & D. DISTRICT DIVERSION AT IMPERIAL DAM 7/7E/	DIVERSION RETURNS CONSUMPTIVE USE	1293 523 770	1853 638 1215	1649 361 1288	2945 589 2356	3160 673 2487	3345 688 2657	3942 872 3070	3815 837 2978	2721 675 2046	3021 697 2324	1611 627 984	1625 461 1164	30980 7641 23339
YUMA COUNTY WATER USERS ASSOCIATION DIVERSION AT IMPERIAL DAM PUMPED FROM WELLS 7E/	DIVERSION RETURNS CONSUMPTIVE USE	12286 686 9808 3164	20065 640 7653 13052	22561 722 8840 14443	35819 693 8341 28171	36713 694 9508 27899	25705 566 7844 18427	25776 499 8243 18032	28923 625 8196 21352	30948 446 8740 22654	48010 643 12752 35901	29450 601 11950 18101	13779 602 10504 3877	330035 7417 112379 225073
COCOPA INDIAN RESERVATION DIVERSION AT IMPERIAL DAM PUMPED FROM WELLS 7E/	DIVERSION RETURNS CONSUMPTIVE USE	20 1 1 20	57 2 1 58	109 3 2 110	184 4 2 186	124 2 2 124	77 2 1 78	73 1 1 73	101 2 2 101	188 3 5 186	129 2 4 127	117 2 4 115	57 2 2 57	1236 26 27 1235

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF ARIZONA

WATER USER	FINAL RECORDS	(ACRE-FEET)												
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
PUMPED FROM SOUTH GILA WELLS (DPOC'S) RETURNS 5/		5659	4833	4807	4929	5254	3002	5228	4810	3962	4941	4477	3241	55143
OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN DAVIS DAM TO INTERNATIONAL BOUNDARY	DIVERSION 6/ RETURNS CONSUMPTIVE USE	1868	3512	2761	2917	5256	4687	5929	4555	4233	4064	2930	2464	45176
ARIZONA TOTALS														
	DIVERSION	68626	141036	156570	234965	280328	303150	356950	328532	228794	193183	147115	89618	2528868
	RETURNS	50733	49807	54989	55904	57591	51536	61276	62244	56071	59770	55274	49313	664508
	CONSUMPTIVE USE	17893	91229	101581	179061	222737	251614	295674	266288	172723	133413	91841	40305	1864360

NOTE: The term 'CONSUMPTIVE USE' in this tabulation means diversions including underground pumping, less measured return flow and less current estimated unmeasured return flow to the river.

- 1/ No surface returns unless shown.
- 2/ Reported annual total only, distributed monthly according to nearby users.
- 3/ Calculated by assuming an annual diversion of 6 ac-ft per irrigated acre.
- 4/ Calculated using monthly power records.
- 5/ Pumped from underground and unassigned to district as returns; includes quantities of drainage from Yuma Mesa, Unit B, as well as from South Gila Valley.
- 6/ Details on Arizona Supplemental Sheets.
- 7/ Summation for the Yuma Mesa Division, consisting of the North Gila Valley Irrigation District, the Yuma Irrigation District, and the Yuma Mesa Irrigation & Drainage District is as follows:

Item	Annual Totals (Acre-Feet)	
-----		-----
Diversion at Imperial Dam A/		333618
Pumped from wells		8392
Surface returns from South Gila Valley (S.Gila Canal Wasteway)		3673 *
Return flow North Gila Valley (6 drains & wasteways)		8434
Return flow South Gila Valley wells (DPOC's)		55143
Return flow Yuma Mesa Outlet Drain B/		16791 *
Return flow protective and regulatory pumping unit C/		26503 *
Estimated unmeasured groundwater return flow D/		27210
Subtotal return flow E/	137754	137754 check
Consumptive Use (see note above)		204255

- (A) Total for the North Gila Valley, The Yuma Irrigation and the Yuma Mesa Irrigation and Drainage Districts, and 'Unit B'.
- (B) Estimated at 85 percent of the Yuma Mesa Outlet Drain with balance credited to 'Unit B'.
- (C) Estimated at 85 percent of Protective and Regulatory Pumping Unit with balance credited to 'Unit B'.
- (D) Estimated at 38 percent of the North Gila Valley Diversion at Imperial Dam plus 14 percent of Yuma Irrigation District diversion at Imperial Dam.
- (E) Additional unmeasured amounts of return flows from the Yuma Mesa Irrigation and Drainage District, 'Unit B', the Cocopah Indian Reservation, and the Yuma County Water Users Association (YCWUA) are utilized to meet consumptive uses in the United States and in partial satisfaction of the Mexican Treaty obligation. Some of these underground flows are recovered by pumping from wells on the Cocopah Indian Reservation and in the YCWUA area, and by some of the surface drains in the YCWUA area. Efforts will be made to at least quantify these return flows within broad limits by respective water user entities in future years.

PUMPAGE FROM COLORADO RIVER  
AND WELLS IN FLOOD PLAIN  
DAVIS DAM TO INTERNATIONAL BOUNDARY  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS

(ACRE-FEET)

WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	1/
Rayner, Jack Jr.	(B-04-22)34 DCC(COD)	138.9	1002.8	351.5	191.7	88.5	27.0	1157.7	648.9	685.7	158.5	194.2	690.7	5336.1	
Rayner, Jack Jr.	(B-04-22)34 DCC(DCD)	16.9	35.5	18.2	27.4	6.6	22.3	106.3	50.1	15.3	2.3	0.0	12.3	313.2	
Ehrenberg Water	(B-03-22)03 bac 3/	17.4	19.0	17.7	3.3	33.7	38.1	41.4	35.4	32.1	29.1	20.0	16.7	304.0	
Arakelian, George	(B-03-22)16 DBD(DAD)	2.4	86.1	0.0	85.7	159.4	172.9	153.6	126.9	205.5	118.5	30.9	0.0	1141.9	
Arakelian, George	(B-03-22)16 DBD(DAD) 3/	97.7	107.1	99.6	18.8	189.8	214.2	233.0	199.2	180.4	163.5	112.7	94.0	1710.0	
Pratt, L.	Sec14 T7S R22W ABC 2/3/	24.0	26.3	24.5	4.6	46.6	52.6	57.2	48.9	44.3	40.2	27.7	23.1	420.0	
Dulin, A.	(C-8-22) 7CCD 3/	17.4	162.1	75.8	156.5	141.6	121.5	182.3	65.7	165.4	153.2	108.1	25.4	1375.0	
Auza, Pete	SEC18 T08S R22W CBD	0.0	0.0	0.0	0.0	0.0	14.7	96.3	117.2	0.0	0.0	0.0	0.0	228.2	
Auza, Pete	SEC24 T08S R22W BDD	118.1	214.4	243.1	402.5	433.0	188.5	272.2	282.3	213.9	157.3	306.0	86.3	2917.6	
Yowelman, R.	SEC17 T08S R22W CCB 2/3/	41.1	45.1	41.9	7.9	79.9	90.2	98.1	83.9	76.0	68.8	47.5	39.6	720.0	
Camron Bros.	SEC24 T08S R22W CCB	0.6	0.2	2.2	31.6	108.4	63.6	16.9	11.5	0.0	0.0	0.0	0.0	235.0	
Ott, Judd T.	SEC30 T08S R22W BAB	37.4	25.3	28.1	70.4	104.2	109.5	70.2	68.9	0.0	0.0	0.0	0.0	514.0	
Ott, Judd T.	(C-8-22) 19CCA	80.2	65.2	55.4	54.2	48.4	62.4	69.0	81.1	0.0	0.0	0.0	0.0	515.9	
Cameron Bros	SEC24 T08S R22W CAD	0.0	0.0	24.2	66.0	115.8	137.5	89.2	4.5	0.0	0.0	0.0	0.0	437.2	
Ott	SEC24 T08S R23W DCC	124.5	170.6	123.4	163.6	163.2	155.6	155.6	203.3	0.0	0.0	0.0	0.0	1259.8	
Peach	SEC22 T08S R23W DDC	8.9	20.9	3.2	26.7	53.1	56.1	54.2	32.5	82.5	19.7	30.8	35.9	424.5	
AZ Prod	SEC23 T08S R23W CDA	0.0	0.0	3.6	3.4	7.0	7.3	9.9	10.0	0.0	0.0	0.0	0.0	41.2	
Yuca Pwr Plant	SEC36 T16S R12E CBA 3/	14.1	15.4	14.3	2.7	27.3	30.8	33.5	28.7	26.0	23.5	16.2	13.5	246.0	
Slade, Dwanee	SEC28 T16S R22E CDA	6.8	9.0	3.7	0.0	22.3	9.8	20.2	12.8	16.3	29.8	14.8	5.9	151.4	
Jennings, Curtis	SEC29 T16S R22E DAC	12.4	5.1	22.0	18.0	19.1	0.0	1.9	2.2	124.9	94.5	21.9	23.2	345.2	
Power, R.E. & P.	SEC30 T16S R22E ACC 2/3/	162.9	178.5	166.0	31.3	316.3	357.0	388.4	332.0	300.7	272.5	187.9	156.6	2850.0	
Hall, Ansil	SEC36 T16S R21E BCB 2/3/	27.4	30.1	28.0	5.3	53.3	60.1	65.4	55.9	50.6	45.9	31.6	26.4	480.0	
Burrell	SEC33 T08S R24W BAB 2/3/	17.1	18.8	17.5	3.3	33.3	37.6	40.9	34.9	31.6	28.7	19.8	16.5	300.0	
Huerta Packing	16S/21E-25Ha	20.9	27.8	18.0	47.1	71.2	72.8	84.3	0.0	52.9	127.5	74.2	41.1	637.8	
Huerta Packing	16S/21E-25DAD	52.8	84.6	48.7	117.4	147.9	118.3	113.3	18.2	131.5	105.5	123.7	64.1	1126.0	
Cocopah Bend RV	16S/22E-30Fb	19.4	21.3	19.8	3.7	37.7	42.6	46.3	39.6	35.9	32.5	22.4	18.7	340.0	
Rnc 220 Trst	SEC19 T09S R24W BAD	39.5	50.4	28.3	53.5	114.0	5.8	74.7	64.2	39.3	20.2	89.4	50.8	630.1	
Pacific Coast Fm	(C-9-24) 19BDD	31.1	41.5	22.8	42.1	89.8	4.1	58.1	49.5	23.1	15.3	70.1	45.6	493.1	
Pacific Coast Fm	(C-9-24) 19BDA	19.1	25.3	13.9	25.6	54.9	2.7	35.5	30.5	8.8	5.2	44.0	29.2	294.7	
Consoul, Lee	SEC31 T09S R24W AAA	70.5	9.8	70.5	28.3	132.6	83.8	79.6	120.5	133.8	282.1	135.6	64.5	1211.6	
Waymon Farms	(C-9-24) 31BBA	43.7	73.7	88.9	144.5	143.9	53.1	103.3	204.2	58.9	160.3	177.6	69.2	1321.3	
W. Brand-D. Donnelly	(C-9-25) 35ABA 2/3/	41.1	45.1	41.9	7.9	79.9	90.2	98.1	83.9	76.0	68.8	47.5	39.6	720.0	
J W Cuming	(C-10-25) 18BA	54.6	130.2	84.8	161.1	234.2	0.3	0.0	77.4	282.7	452.4	317.7	67.3	1862.7	
P. Sibley	(C-10-25) 2CDA 2/3/	111.4	122.1	113.6	21.4	216.4	244.3	265.7	227.1	205.7	186.4	128.6	107.1	1950.0	
J W Cuming	(C-10-25) 14ADB	23.7	55.4	44.3	13.9	97.1	89.1	150.1	0.0	23.6	175.8	128.5	83.1	884.6	
C & J Cummings	(C-10-25) 26BAB 2/3/	27.4	30.1	28.0	5.3	53.3	60.1	65.4	55.9	50.6	45.9	31.6	26.4	480.0	
J. Barkley	(C-10-25) 35CBA 2/3/	27.4	30.1	28.0	5.3	53.3	60.1	65.4	55.9	50.6	45.9	31.6	26.4	480.0	
J W Cuming	(C-11-25) 28BA	0.0	0.0	127.6	0.0	92.4	80.0	132.8	96.2	0.0	0.0	0.0	0.0	529.0	
Hughes, Earl	(C-11-25) 3DAC	0.1	0.0	0.0	359.7	438.1	508.3	2.1	182.3	261.6	151.4	54.1	0.0	1957.7	
West Cocopah Res	(C-9-25) 25DDA	25.1	28.3	15.8	33.1	89.4	83.9	102.1	65.2	58.6	75.7	15.3	52.9	645.4	
West Cocopah Res	(C-9-25) 25ADA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.7	49.3	69.0	
West Cocopah Res	(C-9-25) 25ACC	0.0	0.3	0.1	48.7	136.7	162.1	141.9	114.8	83.5	106.6	46.1	64.1	904.9	
West Cocopah Res	(C-9-25) 25ABA	60.2	77.3	105.7	0.0	0.0	62.5	27.7	0.0	21.6	53.6	0.0	0.0	408.6	
West Cocopah Res	(C-9-25) 25CBD	17.6	75.6	68.8	56.7	136.6	236.3	180.7	127.7	95.4	137.0	45.1	45.1	1222.6	
West Cocopah Res	(C-9-25) 25CBD	41.7	78.3	107.7	91.2	141.1	106.7	174.3	64.7	59.9	92.4	59.2	50.6	1067.8	
West Cocopah Res	(C-9-25) 25DDA	174.4	245.6	239.7	244.1	426.9	433.5	452.5	331.3	218.9	310.2	96.3	193.0	3366.4	
West Cocopah Res	(C-9-25) 26DDC	0.0	21.4	80.4	31.3	17.6	57.0	61.3	9.1	8.9	7.3	1.8	10.2	306.3	

\*\*\* Total Arizona Supplemental \*\*\*

1868 3512 2761 2917 5256 4687 5929 4555 4233 4064 2930 2464 45176

1595 2262 2214 2590 4778 4213 4237 3445 3114 3592 2574 1650



PUMPAGE FROM COLORADO RIVER  
 AND WELLS IN FLOOD PLAIN  
 DAVIS DAM TO INTERNATIONAL BOUNDARY  
 CALENDAR YEAR 1991  
 STATE OF ARIZONA

FINAL RECORDS

(ACRE-FEET)

WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
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- 1/ Calculated from monthly power records and power-discharge measurements where available, else from power-discharge rate.
- 2/ Calculated by assuming an annual diversion rate of 6 ac-ft per acre.
- 3/ Reported annual total only, distributed monthly according to nearby users.

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF CALIFORNIA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
FORT MOHAVE INDIAN RESERVATION PUMPED FROM RIVER AND WELLS	DIVERSION 6/7/ RETURNS CONSUMPTIVE USE	1126	1234	1148	217	2187	2468	2685	2295	2079	1884	1299	1083	19704
CITY OF NEEDLES 4 WELLS NW SW SEC 29 T9N R23E SBM	DIVERSION RETURNS CONSUMPTIVE USE	162 0 162	165 0 165	180 0 180	288 0 288	385 0 385	422 0 422	428 0 428	373 0 373	276 0 276	268 0 268	182 0 182	137 0 137	3266 0 3266
METROPOLITAN WATER DISTRICT DIVERSION FROM LAKE HAVASU	DIVERSION RETURNS 2/ CONSUMPTIVE USE	106398 312 106086	97079 275 96804	102139 315 101824	96969 282 96687	109746 279 109467	104761 245 104516	110195 267 109928	107163 267 106896	104936 258 104678	107462 261 107201	101426 300 101126	107446 307 107139	1255720 3368 1252352
PARKER DAM AND GOVERNMENT CAMP DIVERSION AT PARKER DAM	DIVERSION RETURNS CONSUMPTIVE USE	11	9	10	12	21	29	31	30	24	20	10	15	222
COLORADO RIVER INDIAN RESERVATION 1 PUMP 2 PUMPS	DIVERSION 4/6/ DIVERSION 7/ RETURNS CONSUMPTIVE USE	52 246 298	57 335 392	53 468 521	10 803 812	101 795 896	113 1136 1250	123 1055 1178	106 919 1025	96 692 787	87 541 628	60 290 349	50 262 312	906 7542 8448
CITY OF WINTERHAVEN 1 WELL SE SE NE SEC 27 T16S R22E SBM	DIVERSION RETURNS CONSUMPTIVE USE	6	10	9	10	11	11	13	12	10	10	13	14	129
PALO VERDE IRRIGATION DISTRICT DIVERSION FROM PALO VERDE DAM	DIVERSION RETURNS CONSUMPTIVE USE	29920 28830 1090	53070 29640 23430	43250 32979 10271	82250 34428 47822	92010 36509 55501	104900 37084 67816	109900 41952 67948	98760 43380 55380	78150 41233 36917	68490 40539 27951	45300 37249 8051	45920 35132 10788	851920 438955 412965
PICACHO DEVELOPMENT CORPORATION PUMPED FROM RIVER	DIVERSION RETURNS CONSUMPTIVE USE	5	13	10	10	7	10	14	10	10	9	2	7	107
YUMA PROJECTS, RES. DIV. INDIAN UNIT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	2077 73 2004	2931 57 2874	2884 49 2835	3212 31 3181	5112 69 5043	4308 44 4264	3540 41 3499	2748 33 2715	4799 101 4698	9200 218 8982	6468 171 6297	2334 78 2256	49613 965 48648
YUMA PROJECTS, RES. DIV. BARD UNIT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	1562 31 1531	2871 30 2841	3725 37 3688	6059 35 6024	7241 60 7181	6264 40 6224	5600 40 5560	4638 34 4604	4368 52 4316	5511 80 5431	4136 68 4068	1991 38 1953	53966 545 53421
RETURNS FROM YUMA PROJECT RESERVATION DIVISION RETRURNS COMBINED BARD AND INDIAN UNITS USE IMPERIAL IRRIGATION DISTRICT	RETURNS 3/ CONSUMPTIVE USE	3557 -22	2601 3114	3369 3154	2669 6536	3475 8749	3679 6809	3285 5774	2538 4781	3110 5904	4233 10180	4071 6294	3620 589	40207 61862
IMPERIAL IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	122147 7086 115061	179518 5736 173782	207602 6012 201590	345913 5958 339955	356591 8725 347866	319531 5902 313629	349244 7321 341923	313786 6572 307214	249550 8753 240797	267751 11165 256586	194396 9107 185289	79694 4423 75271	2985723 86760 2898963
COACHELLA VALLEY WATER DISTRICT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	16909 981 15928	24524 784 23740	15790 457 15333	31196 537 30659	38958 953 38005	35280 652 34628	36686 769 35917	35899 752 35147	30062 1054 29008	26377 1100 25277	19529 915 18614	16207 900 15307	327417 9854 317563

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF CALIFORNIA

WATER USER	FINAL RECORDS												TOTAL 1/	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN DAVIS DAM TO INTERNATIONAL BOUNDARY	1290	1926	1575	2411	2957	3579	3625	2345	2660	2513	3070	2063	30014	
CALIFORNIA TOTALS														
	DIVERSION	281911	363742	378842	569359	616122	582813	623139	569084	477711	490122	376181	257223	5586249
	RETURNS	40870	39123	43218	43940	50070	47646	53675	53576	54561	57596	51881	44498	580654
	CONSUMPTIVE USE	241041	324619	335624	525419	566052	535167	569464	515508	423150	432526	324300	212725	5005595

NOTE: The term 'CONSUMPTIVE USE' in this tabulation means diversions including underground pumping, less measured return flow and less current estimated unmeasured return flow to the river.

- 1/ No surface returns unless shown.
- 2/ Estimate based on measured regulatory reservoirs seepage returns less an estimated amount of phreatophyte use.
- 3/ Returns unassigned include unknown quantities of drainage from the Indian Unit and the Bard Unit in the Reservation Division but excludes seepage from the All-American Canal.
- 4/ Calculated using monthly power records.
- 5/ Details on California Supplemental Sheets.
- 6/ Reported annual total only, distributed monthly according to nearby users.
- 7/ Calculated by assuming an annual diversion of 6 ac-ft per irrigated acre.

Picacho

5 13 10 10 7 10 14 10 10 9 2 7

PUMPAGE FROM COLORADO RIVER  
AND WELLS IN FLOOD PLAIN  
DAVIS DAM TO INTERNATIONAL BOUNDARY  
CALENDAR YEAR 1991  
STATE OF CALIFORNIA

FINAL RECORDS

(ACRE-FEET)

WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
D Kenedy (Russell Bros.)	11N/22E -31Cb 2/4/	33.9	37.2	34.6	6.5	65.9	74.4	80.9	69.2	62.7	56.8	39.2	32.6	594.0
Soto (Russell Bros.)	11N/21E -36Hd 2/4/	46.6	51.1	47.5	9.0	90.6	102.2	111.2	95.1	86.1	78.0	53.8	44.8	816.0
P Lye, C. L.	1S/24E -16Gb 2/4/	1.7	1.9	1.7	0.3	3.3	3.8	4.1	3.5	3.2	2.9	2.0	1.6	30.0
Land, Ralph	SEC35 T15S R23E DDC	45.2	70.0	29.1	104.9	106.4	103.5	230.3	0.0	87.4	102.0	511.5	325.0	1715.3
Living Earth Frm	SEC35 T16S R23E BBC	13.7	21.7	31.8	41.9	39.0	27.5	19.5	21.7	39.8	20.2	27.5	11.6	315.9
Land, Ralph	SEC22 T16S R23E BDD	25.2	92.4	36.4	223.9	137.2	319.1	156.7	148.4	81.2	44.8	50.4	0.0	1315.7
Power, Pete	SEC14 T16S R23E CCB 2/4/	113.8	124.8	116.0	21.9	221.1	249.5	271.4	232.0	210.1	190.4	131.3	109.5	1992.0
Harp, P. (R. Harp)	(C-8-23)12DAC 2/4/	34.3	37.6	34.9	6.6	66.6	75.2	81.8	69.9	63.3	57.4	39.6	33.0	600.0
Spencer, Mindle	(C-8-22) 6CDA	186.7	182.7	165.0	284.9	322.2	339.9	373.3	245.6	314.4	365.4	282.9	302.6	3365.6
H & S Farms	(C-8-22) 7BAB	11.9	20.1	21.9	120.4	142.3	157.8	164.2	89.4	31.9	54.7	21.0	63.9	899.5
Ed Wavers Farms	(C-8-22) 6BCD 2/4/	13.7	15.0	14.0	2.6	26.6	30.1	32.7	28.0	25.3	22.9	15.8	13.2	240.0
Ed Wavers Farms	(C-8-22) 6CBD	211.6	300.1	200.7	194.3	211.6	408.7	585.7	113.1	281.9	132.3	186.1	113.1	2939.2
Ed Wavers Farms	(C-8-22) 6CCA	99.4	200.7	197.1	298.3	198.9	406.9	397.8	238.1	218.0	152.4	355.8	176.1	2939.5
Spencer, M.	SEC9 T16S R23E CAC	50.8	81.1	71.9	89.3	131.1	57.1	29.0	99.2	64.5	340.8	492.2	36.9	1543.9
Martin (A. Dees)	(C-8-23) 1BBA	23.3	37.9	17.5	32.1	20.4	32.1	58.3	29.1	23.3	20.4	131.2	17.5	443.1
Wavers, Edward M.	(C-8-23) 1BAD	85.9	76.3	60.4	73.1	41.3	57.2	60.4	22.3	25.4	19.1	38.2	28.6	588.2
Schaffer, F. (Harp)	(C-8-23) 2ADC 2/4/	18.9	20.7	19.2	3.6	36.6	41.3	45.0	38.4	34.8	31.5	21.8	18.1	330.0
Easterday, Kitti	(C-8-23) 1DCC	0.0	0.0	67.0	116.8	122.6	137.9	136.0	103.4	76.6	81.4	76.6	0.0	918.3
Dees, Alex	(C-8-23) 1DAC	33.1	114.9	103.2	179.1	241.4	257.0	284.2	264.7	147.9	130.4	105.1	79.8	1940.8
Harp, P. (R. Harp)	(C-8-23) 12DAC 2/4/	54.9	60.1	55.9	10.5	106.5	120.3	130.8	111.8	101.3	91.8	63.3	52.7	960.0
Easterday, K.	(C-8-23) 12CDB	6.7	102.8	42.1	144.9	347.2	274.7	202.2	198.9	55.6	59.0	156.7	1.7	1592.5
Smith, F. (P. Power)	(C-8-23) 11DCA	78.8	86.1	90.5	148.9	59.8	62.8	70.1	40.9	62.8	335.7	214.6	309.4	1560.4
Valdez, Mike	T16S R23E SEC 30Ec	46.7	127.0	74.4	160.6	112.4	121.2	48.2	32.1	504.3	118.2	51.1	289.0	1685.2
Valdez, Mike	T16S R23E SEC 30Fd	51.1	61.3	39.4	135.7	100.7	113.9	45.2	45.2	54.0	0.0	0.0	0.0	646.5
Wetmore, Kenneth C. 2/3/4/		0.3	0.3	0.3	0.1	0.6	0.7	0.7	0.6	0.6	0.5	0.4	0.3	5.4
Wetmore, Mark M. 2/3/4/		0.5	0.6	0.5	0.1	1.0	1.2	1.3	1.1	1.0	0.9	0.6	0.5	9.3
Sherman, Margaret T. 2/3/4		1.4	1.5	1.4	0.3	2.7	3.0	3.3	2.8	2.5	2.3	1.6	1.3	24.0
Williams, Jerry /3		0.0	0.1	0.0	0.0	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	1.2
Lindeman, William H. & Hazel D. 3/		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Carney, Jerome D. 3/4/		0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.5
Andrade, Dorothy L. 3/4/		0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.8
*** Total California Supplemental ***		1290	1926	1575	2411	2957	3579	3625	2345	2660	2513	3070	2063	30014
		81	87	82	16	156	177	192	164	149	135	93	77	

1/ Calculated from monthly power records and power-discharge measurements where available, else from power-discharge rate.  
2/ Calculated by assuming an annual diversion rate of 6 ac-ft per acre.  
3/ Location of well/pump not reported.  
4/ Reported annual total only, distributed monthly according to nearby users.

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF NEVADA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
BOULDER CANYON PROJECT														
DIVERSION AT HOOVER DAM	DIVERSION	1	1	2	1	2	3	3	5	8	3	2	1	32
	RETURNS													
	CONSUMPTIVE USE													
ROBERT B. GRIFFITH WATER PROJECT														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	16514	14880	17918	23342	25860	24790	27823	25984	21910	26368	20462	17937	263788
BY USER: BOULDER CTY 4/		269	304	307	482	644	792	876	784	682	571	364	290	6365
HENDERSON 4/		909	1165	1165	1878	2489	2911	3917	3752	2872	3088	2169	1794	28108
LAS VEGAS VALLEY W.D. 4/		13592	11570	14557	18509	19924	18717	20247	18919	16100	20161	15989	14238	202524
NORTH LAS VEGAS 4/		1616	1653	1702	2199	2505	2122	2534	2301	2018	2276	1767	1498	24190
NELLIS AIR FORCE BASE 4/		128	188	187	274	299	247	249	228	237	272	173	117	2600
	RETURNS													
	CONSUMPTIVE USE													
LAKE MEAD NATIONAL RECREATION AREA														
DIVERSION AT LAKE MEAD	DIVERSION	72	43	39	48	61	65	79	80	70	70	41	51	719
	RETURNS													
	CONSUMPTIVE USE													
BASIC MANAGEMENT INC.														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	624	431	433	217	315	498	552	576	549	580	525	522	5822
	RETURNS													
	CONSUMPTIVE USE													
CITY OF HENDERSON														
DIVERSION AT SADDLE ISLAND, LAKE MEAD (INCLUDES DELIVERY TO LAKE L.V.)	DIVERSION	263	320	352	482	248	521	559	582	535	323	305	348	4838
	RETURNS													
	CONSUMPTIVE USE													
NEVADA DEPARTMENT OF FISH & GAME														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	355	320	345	284	265	273	320	315	327	351	337	326	3818
	RETURNS	355	320	345	284	264	272	320	315	327	351	337	326	3816
	CONSUMPTIVE USE	0	0	0	0	1	1	0	0	0	0	0	0	2
CITY OF BOULDER CITY														
DIVERSION AT HOOVER DAM	DIVERSION	0	0	0	0	0	0	0	0	0	0	0	0	0
	RETURNS													
	CONSUMPTIVE USE													
PACIFIC COAST BUILDING PRODUCTS INC.														
DIVERSION AT GYPSUM WASH, LAKE MEAD	DIVERSION	37	37	76	33	65	68	71	66	42	35	39	30	599
	RETURNS													
	CONSUMPTIVE USE													
SOUTHERN CALIFORNIA EDISON														
PUMPED FROM SEC 24 T32S R66E MDB&M	DIVERSION	1337	1215	1280	592	1258	1270	1799	1870	1126	890	1012	1172	14821
	RETURNS													
	CONSUMPTIVE USE													
BIG BEND WATER DISTRICT														
PUMPED FROM SEC 13 T32S R66E MDB&M	DIVERSION	269	265	260	321	388	407	478	456	373	356	307	247	4127
	RETURNS													
	CONSUMPTIVE USE													
LAS VEGAS WASH RETURN FLOWS														
OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN DAVIS DAM TO CALIFORNIA BOUNDARY	RETURNS 2/	10142	8813	10194	10530	9963	8225	8918	8954	8019	10700	10348	9730	114536
	DIVERSION 3/	1	1	1	0	1	1	2	1	1	1	1	1	12
	RETURNS													
	CONSUMPTIVE USE													

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1991  
STATE OF NEVADA

WATER USER	FINAL RECORDS												(ACRE-FEET)
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
NEVADA TOTALS													
DIVERSION	19473	17513	20706	25320	28463	27896	31686	29935	24941	28977	23031	20635	298576
RETURNS	10497	9133	10539	10814	10227	8497	9238	9269	8346	11051	10685	10056	118352
CONSUMPTIVE USE	8976	8380	10167	14506	18236	19399	22448	20666	16595	17926	12346	10579	180224

NOTE: The term 'CONSUMPTIVE USE' in this tabulation means diversions including underground pumping, less measured return flow and less current estimated unmeasured return flow to the river.

1/ No surface returns unless shown.

2/ Estimated return based on historic use method adopted by the task force on unmeasured return flows on August 28, 1984 and as revised.

3/ Details on Nevada Supplemental Sheets.

4/ User deliveries adjusted by weighted use to equal total diversion at Lake Mead.

PUMPAGE FROM COLORADO RIVER  
AND WELLS IN FLOOD PLAIN  
DAVIS DAM TO INTERNATIONAL BOUNDARY  
CALENDAR YEAR 1991  
STATE OF NEVADA

FINAL RECORDS

(ACRE-FEET)

WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
Clark County Parks & Rec. 2/	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	1.8
Boy Scouts of America SEC5 T33S R66E 2/	0.6	0.6	0.6	0.1	1.1	1.2	1.3	1.1	1.0	0.9	0.6	0.5	9.8
*** Total Nevada Supplemental ***	1	1	1	0	1	1	2	1	1	1	1	1	12

1/ Calculated from monthly power records and power-discharge measurements where available, else from power-discharge rate.  
2/ Reported annual total only, distributed monthly according to nearby users.

RECORDS OF RELEASES OF MAINSTREAM WATER PURSUANT TO  
ORDERS BUT NOT DIVERTED BY PARTY ORDERING SAME  
AND QUANTITY OF SUCH WATER DELIVERED TO MEXICO IN  
SATISFACTION OF MEXICAN TREATY OR DIVERTED BY OTHERS  
IN ACCORDANCE WITH ARTICLE V(C) OF THE  
DECREE OF THE SUPREME COURT OF  
THE UNITED STATES IN  
ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1991



The following tabulations for calendar year 1991 show records of releases of mainstream water pursuant to orders thereto, but not diverted by the party ordering the same, and the quantity of such water delivered to Mexico in satisfaction of the Mexican Treaty or diverted by others in satisfaction of decreed rights. Also shown are quantities of such rejected water delivered to Mexico in excess of treaty requirements and quantities delivered to storage. The quantities delivered to storage were available to release for future use.

Water ordered but not diverted was analyzed daily for each diverter as the positive difference between the finally approved daily order and the mean daily delivery requested on the day the diversion was made. The monthly quantities shown on the tabulations are the sum of the daily positive quantities. Final approval of daily orders was given in advance of the delivery date by the amount of travel time involved in conveying the water from the storage point to the diversion point on the mainstream. To the extent possible, "water ordered but not diverted" was delivered to others in satisfaction of their rights. The quantities of such deliveries are shown on the tabulation.

Deliveries of water to Mexico in satisfaction of the Mexican Treaty were scheduled based on Mexico's daily orders. Releases from storage were scheduled in sufficient quantities, which when added to return flows, would meet Mexico's daily orders. Deliveries of water to Mexico in satisfaction of the treaty, therefore, were considered to have been made entirely from releases from storage and from return flows scheduled for that purpose and not from water ordered but not diverted by other Colorado River water users. Therefore, the tabulations show no "water ordered but not diverted" as being delivered to Mexico in satisfaction of the treaty.

To date, no orders are received for diversion from the Colorado river in Nevada so no sheet is included for Nevada. The storage capacity of Lake Mead is so large in relation to the present daily diversions from the reservoir by Nevada that any "water ordered but not diverted" would be retained for future use and would have no significant effect on scheduling of daily operations of the reservoir.

RELEASE OF MAINSTREAM WATER PURSUANT TO ORDERS  
BUT NOT DIVERTED BY PARTY ORDERING SAME  
AND  
QUANTITY OF SUCH WATER DELIVERED TO MEXICO IN SATISFACTION OF MEXICAN TREATY OR DIVERTED BY OTHERS  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
CENTRAL ARIZONA PROJECT DIVERSION AT LAKE HAVASU	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	0	764	2902	743	25	1790	2437	2653	4851	331	178	55	16729
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	0	764	2902	743	25	1790	2437	2653	4851	331	178	55	16729
		0	0	0	0	0	0	0	0	0	0	0	0	0
COLO. RIVER INDIAN RESERVATION DIVERSION AT HEADGATE ROCK	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	1333	389	781	2204	964	1626	1805	2876	2235	1192	2465	1974	19844
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	559	200	202	1414	436	758	424	783	827	496	819	508	7426
		685	189	579	790	528	868	1381	2093	1398	696	1646	1442	12295
NORTH GILA VALLEY I.D. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	4052	2521	3543	2646	2271	3453	3358	2840	2277	2739	2880	3225	35805
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	385	1012	1014	1791	855	714	452	833	589	591	1559	647	10442
		2584	1509	2529	855	1416	2739	2906	2007	1587	2148	1321	2515	24116
STURGES (WARREN ACT) GILA PROJECT DISTRICTS DIVERSION AT IMPERIAL DAM 1/	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	0	0	0	0	0	0	0	0	0	0	0	0	0
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0
WELLTON-MOHAWK I.& D. DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	6046	2529	5171	603	2348	9943	11857	6948	5887	4197	2081	4023	61633
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	307	180	95	97	252	1220	1466	470	514	238	343	113	5295
		3736	2349	5076	506	2096	8723	10391	6478	4958	3959	1738	3775	53785
YUMA IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	407	192	732	107	95	343	333	264	448	653	565	908	5047
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	54	34	42	85	44	101	34	38	117	103	202	115	969
		204	158	690	22	51	242	299	226	303	550	363	767	3875
	149	0	0	0	0	0	0	0	0	28	0	0	26	203

RELEASE OF MAINSTREAM WATER PURSUANT TO ORDERS  
BUT NOT DIVERTED BY PARTY ORDERING SAME  
AND  
QUANTITY OF SUCH WATER DELIVERED TO MEXICO IN SATISFACTION OF MEXICAN TREATY OR DIVERTED BY OTHERS  
CALENDAR YEAR 1991  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
YUMA MESA I. & D. DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	3826	3308	6066	2364	2517	1777	1075	2638	3465	3427	3457	2569	36489
	DIVERTED BY OTHERS	208	1131	309	1012	698	71	71	871	1119	724	785	331	7330
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	2563	2177	5757	1352	1819	1706	1004	1767	2154	2703	2672	2141	27815
		1055	0	0	0	0	0	0	0	192	0	0	97	1344
UNIT "B" I. & D. DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	587	375	415	379	327	458	631	347	623	395	216	609	5362
	DIVERTED BY OTHERS	48	117	103	149	63	16	61	40	180	22	6	97	902
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	357	258	312	230	264	442	570	307	439	373	210	496	4258
		182	0	0	0	0	0	0	0	4	0	0	16	202
YUMA COUNTY WATER USERS ASSN. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	4862	4800	5833	3055	2644	5395	3515	4790	2704	4606	7024	10443	59671
	DIVERTED BY OTHERS	1599	3556	1898	2063	1226	1367	1680	1632	972	1809	3443	2938	24183
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	1783	1244	3935	992	1418	4028	1835	3158	1716	2797	3581	7273	33760
		1480	0	0	0	0	0	0	0	16	0	0	232	1728
ARIZONA TOTALS	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	21113	14878	25443	12101	11191	24785	25011	23356	22490	17540	18866	23806	240580
	DIVERTED BY OTHERS	3160	6230	3663	6611	3574	4247	4188	4667	4318	3983	7157	4749	56547
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	11912	8648	21780	5490	7617	20538	20823	18689	17406	13557	11709	18464	176633
		6041	0	0	0	0	0	0	0	766	0	0	593	7400

1/ No order received.  
2 /Available for future use.

RELEASE OF MAINSTREAM WATER PURSUANT TO ORDERS  
BUT NOT DIVERTED BY PARTY ORDERING SAME  
AND  
QUANTITY OF SUCH WATER DELIVERED TO MEXICO IN SATISFACTION OF MEXICAN TREATY OR DIVERTED BY OTHERS  
CALENDAR YEAR 1991  
STATE OF CALIFORNIA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
METROPOLITAN WATER DISTRICT DIVERSION AT LAKE HAVASU	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	533	161	251	388	485	329	284	318	260	251	940	546	4746
	DIVERTED BY OTHERS													
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	533	161	251	388	485	329	284	318	260	251	940	546	4746
PALO VERDE IRRIGATION DISTRICT DIVERSION AT PALO VERDE DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	637	486	488	169	1210	5732	3431	3136	4278	1597	754	857	22775
	DIVERTED BY OTHERS	139	300	230	28	752	1700	1262	1414	2386	799	532	93	9635
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	318	186	258	141	458	4032	2169	1722	1799	798	222	736	12839
		180	0	0	0	0	0	0	0	93	0	0	28	301
YUMA PROJECT RESV. DIVISION DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	3495	1432	2029	432	966	1236	1991	3043	1652	575	1989	4477	23317
	DIVERTED BY OTHERS	859	879	532	381	532	194	609	1180	587	256	1222	938	8169
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	1728	553	1497	51	434	1042	1382	1863	1043	319	767	3414	14093
		908	0	0	0	0	0	0	0	22	0	0	125	1055
IMPERIAL IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	9660	4604	16945	1498	1898	1246	2154	6345	8063	1309	1966	14656	70344
	DIVERTED BY OTHERS	1541	1188	1914	692	899	194	530	561	904	381	1150	1738	11692
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	3952	3416	15031	806	999	1052	1624	5784	4846	928	816	12117	51371
		4167	0	0	0	0	0	0	0	2313	0	0	801	7281
COACHELLA VALLEY WATER DIST. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	228	793	3066	292	56	93	139	186	1186	248	298	1563	8148
	DIVERTED BY OTHERS	22	252	692	161	40	42	61	16	645	179	204	133	2447
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	115	541	2374	131	16	51	78	170	353	69	94	1303	5295
		91	0	0	0	0	0	0	0	188	0	0	127	406
CALIFORNIA TOTALS	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	14553	7476	22779	2779	4615	8636	7999	13028	15439	3980	5947	22099	129330
	DIVERTED BY OTHERS	2561	2619	3368	1262	2223	2130	2462	3171	4522	1615	3108	2902	31943
	DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	6646	4857	19411	1517	2392	6506	5537	9857	8301	2365	2839	18116	88344
		5346	0	0	0	0	0	0	0	2616	0	0	1081	9043

1/ Available for future use.

RECORDS OF DELIVERIES TO MEXICO OF WATER  
IN SATISFACTION OF THE TREATY OF FEBRUARY 3, 1944  
AND WATER PASSING TO MEXICO IN EXCESS OF  
TREATY REQUIREMENTS IN ACCORDANCE WITH  
ARTICLE V(D) OF THE DECREE OF  
THE SUPREME COURT OF THE UNITED STATES  
IN ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1991

DELIVERIES TO MEXICO IN SATISFACTION OF PART III OF 1944 TREATY  
AND  
WATER PASSING TO MEXICO IN EXCESS OF TREATY REQUIREMENTS  
CALENDAR YEAR 1991

FINAL RECORDS	(ACRE-FEET)												
WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
ACTUAL DELIVERY IN SATISFACTION OF TREATY	125407	113736	171314	189399	119462	146617	169148	141619	92187	74111	78915	98958	1520873
TO MEXICO AS SCHEDULED	111495	113499	170667	189152	119253	146509	169089	141168	89470	73775	78639	97284	1500000
TO MEXICO IN EXCESS OF SCHEDULE	13912	237	647	247	209	108	59	451	2717	336	276	1674	20873
BYPASS PURSUANT TO MINUTE 242	13287	11058	13634	12536	10490	9177	12464	11657	11615	11990	11016	11760	140684

RECORDS OF DIVERSIONS OF WATER FROM THE  
MAINSTREAM OF THE GILA AND SAN FRANCISCO RIVERS  
AND THE CONSUMPTIVE USE OF SUCH WATER, FOR THE BENEFIT  
OF THE GILA NATIONAL FOREST IN ACCORDANCE WITH  
ARTICLE V(E) OF THE DECREE OF  
THE SUPREME COURT OF THE UNITED STATES IN  
ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1991

DIVERIONS FROM MAINSTREAM OF GILA AND SANFRANCISCO RIVERS  
AND  
CONSUMPTIVE USE OF SUCH WATER FOR BENEFIT OF THE GILA NATIONAL FOREST  
CALENDAR YEAR 1991

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
GILA RIVER	DIVERSION	0	0	0	0	0	0	0	0	0	0	0	0	0
	CONSUMPTIVE USE	0	0	0	0	0	0	0	0	0	0	0	0	0
SAN FRANCISCO RIVER	DIVERSION	0	0	0	0	0	0	0	0	0	0	0	0	0
	CONSUMPTIVE USE	0	0	0	0	0	0	0	0	0	0	0	0	0

1/ Zero diversions reported in 1991.