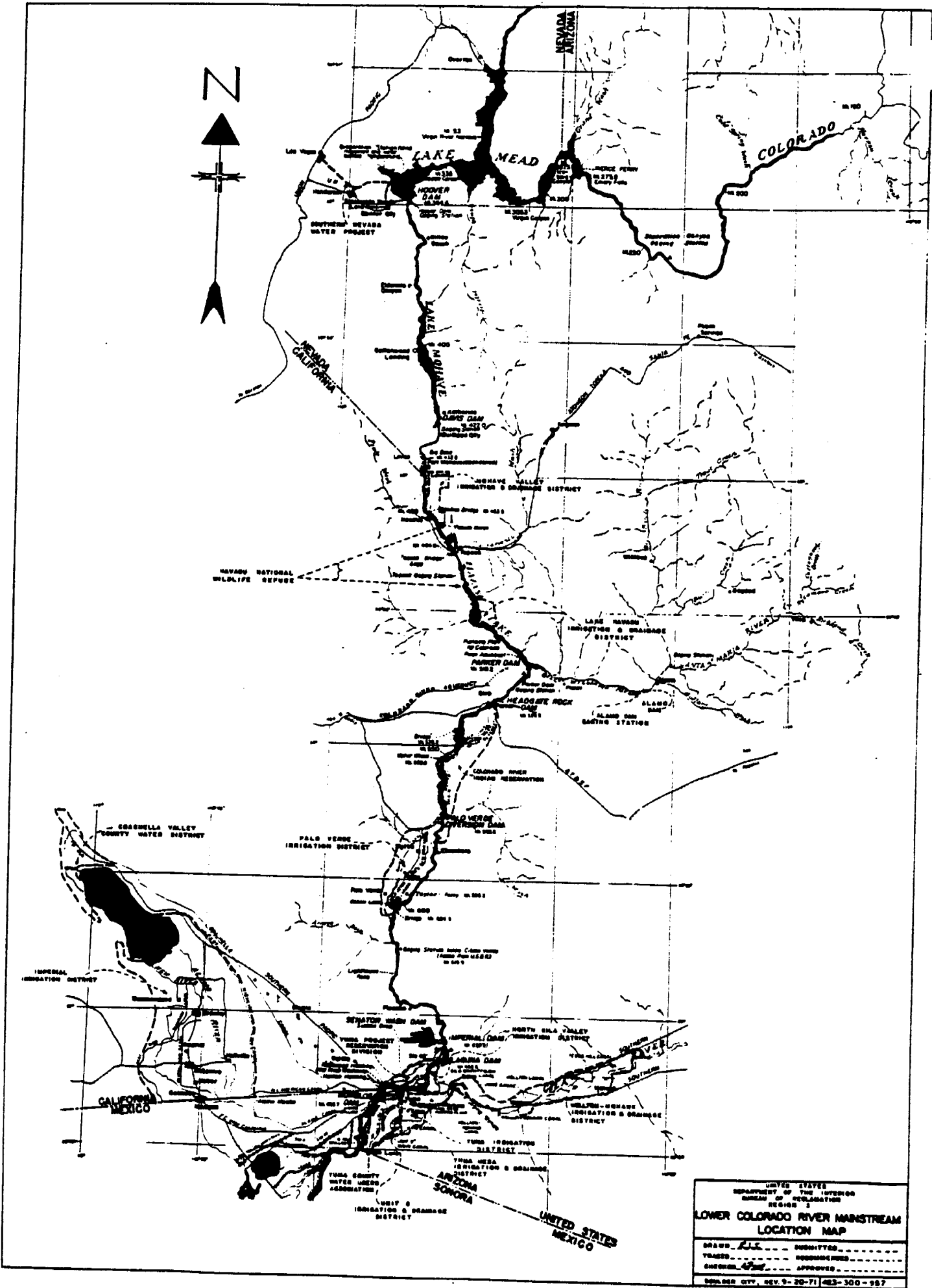


COMPILATION OF RECORDS IN  
ACCORDANCE WITH ARTICLE V OF THE  
DECREE OF THE SUPREME COURT OF  
THE UNITED STATES IN  
ARIZONA v. CALIFORNIA DATED MARCH 9, 1964

CALENDAR YEAR 1990

Bureau of Reclamation

Lower Colorado Region  
Boulder City, Nevada



UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF RECLAMATION  
 REGION 3  
**LOWER COLORADO RIVER MAINSTREAM  
 LOCATION MAP**  
 DRAWN *J.L.L.* SUBMITTED \_\_\_\_\_  
 CHECKED *J.P.M.* RECOMMENDED \_\_\_\_\_  
 APPROVED \_\_\_\_\_  
 BUREAU CITY, NEV. 9-20-71 483-300-987

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S U M M A R Y  
 WATER SUPPLY, CONSUMPTIVE USE, DELIVERY TO MEXICO, AND SYSTEM GAIN  
 CALENDAR YEAR 1990

FINAL RECORDS

(THOUSAND ACRE-FEET)

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
<b>WATER SUPPLY SUMMARY</b>													
RELEASES FROM GLEN CANYON DAM	689.9	593.1	640.3	585.6	629.3	751.1	791.5	974.0	712.8	453.3	490.3	581.9	7893.1
RELEASES FROM PAINTED ROCKS DAM (GILA RIVER)	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
LAKE MEAD EVAPORATION	45.0	45.0	32.0	48.0	84.0	75.0	87.0	88.0	92.0	64.0	77.0	64.0	801.0
CHANGE IN STORAGE (MEAD, MOHAVE & HAVASU) 1/	301.3	6.2	-263.3	-434.1	-426.0	-359.5	-389.1	-30.3	52.4	-225.6	-45.1	60.7	-1752.4
SUPPLY TOTAL	343.6	541.9	871.6	971.7	971.3	1035.6	1093.6	916.3	568.4	614.9	458.4	457.2	8844.5
<b>WATER USE SUMMARY</b>													
ARIZONA	32.1	87.7	218.3	224.1	257.5	336.2	323.8	288.0	200.4	130.7	83.7	77.9	2260.3
CALIFORNIA	266.5	324.7	453.6	516.6	566.0	529.8	571.4	513.4	431.7	400.0	332.6	313.0	5219.5
NEVADA	6.4	7.3	12.9	14.8	17.7	17.5	22.4	21.0	18.4	18.1	14.1	7.6	178.1
STATES TOTAL	304.9	419.8	684.8	755.6	841.2	883.5	917.6	822.4	650.4	548.8	430.4	398.5	7657.2
<b>MEXICO DELIVERY</b>													
MINUTE 242 BYPASS TO MEXICO	106.8	125.3	175.7	182.7	110.5	150.5	165.1	162.4	102.9	81.4	81.2	97.7	1542.0
	13.4	11.7	12.1	11.7	7.6	9.2	9.5	9.6	11.2	12.5	12.1	13.1	133.7
<b>USE TOTAL</b>													
	425.1	556.7	872.5	950.0	959.2	1043.2	1092.2	994.4	764.4	642.7	523.8	509.3	9333.5
<b>SYSTEM GAIN (USE - SUPPLY)</b>													
	81.5	14.8	0.9	-21.7	-12.1	7.6	-1.4	78.1	196.0	27.8	65.4	52.1	489.0

1/ Includes change in Lake Mead bank storage.

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 seasonable 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 1990

The following tabulations for calendar year 1990 show final records of releases of water through regulatory structures controlled by the United States. At Hoover, Davis, Parker, Palo Verde, Imperial, and Laguna Dans, 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 "Diversion 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 1990

FINAL RECORDS

(THOUSAND ACRE-FEET)

STRUCTURE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
GLEN CANYON DAM	689.9	593.1	640.3	585.6	629.3	751.1	791.5	974.0	712.8	453.3	490.3	591.9	7893.1
HOOVER DAM	543.7	467.9	947.8	920.9	952.9	966.0	1070.0	1020.0	620.4	551.3	491.1	652.9	9204.9
DAVIS DAM	407.2	573.9	922.7	983.6	978.9	1027.0	1102.0	962.2	702.6	597.4	458.8	464.6	9180.9
PARKER DAM	281.8	464.0	678.1	782.7	778.4	800.6	843.4	719.8	557.7	503.2	365.5	351.7	7126.9
HEADGATE ROCK DAM 1/	276.0	425.5	613.3	723.1	703.0	709.2	744.1	640.9	506.2	463.0	335.5	320.3	6460.3
PALO VERDE DAM	245.3	347.7	536.0	644.0	613.0	607.4	651.1	567.9	429.7	365.1	263.2	234.7	5505.1
IMPERIAL DAM	21.2	16.0	20.9	22.3	23.1	19.9	19.6	25.7	22.5	17.2	16.3	19.0	243.7
DIVERSION TO MITTRY LAKE FROM GILA MAIN CANAL	0.8	0.7	0.8	0.7	0.8	0.8	0.9	0.9	0.9	0.9	0.6	0.9	9.5
SUM IMPERIAL DAM + DIVERSION TO MITTRY LAKE	22.0	16.7	21.7	23.0	23.9	20.6	20.5	26.7	23.4	18.0	16.9	19.9	253.2
LAGUNA DAM	20.9	20.8	25.2	25.3	22.2	21.8	25.4	27.4	27.4	20.4	21.1	23.1	281.1

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 1990

The following tabulations for calendar year 1990 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 "kilowatt-hour 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 1990 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 1990  
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	12	12	18	24	36	43	44	38	27	21	16	14	306
L.C.R.D. PROJECT (DAVIS DAM) DIVERSION AT DAVIS DAM	DIVERSION RETURNS CONSUMPTIVE USE	9	7	12	13	19	20	33	26	20	20	15	9	203
MOHAVE COUNTY PARKS DIVERSION AT DAVIS DAM	DIVERSION RETURNS CONSUMPTIVE USE	2	5	12	15	15	16	22	21	13	8	6	4	139
BULLHEAD CITY PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	342	300	349	397	457	494	578	549	465	476	418	354	5179
MOHAVE WATER CONSERVATION PUMPED FROM WELLS	DIVERSION 2/ RETURNS CONSUMPTIVE USE	25	20	33	36	44	54	59	56	44	37	25	26	460
CONSOLIDATED WATER UTILITIES PUMPED FROM RIVER	DIVERSION RETURNS CONSUMPTIVE USE	21	19	24	28	34	37	39	36	32	29	26	24	349
MOHAVE VALLEY I. & D. DISTRICT PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	1158	1985	2705	3395	2885	4590	4338	4977	3319	2204	1609	1894	35059
FORT MOHAVE INDIAN RESERVATION 17 PUMPS AND WELLS IN FLOOD PLAIN	DIVERSION 2/3/4/ RETURNS CONSUMPTIVE USE	3138	2510	4279	4621	5648	6846	7474	7189	5648	4735	3366	3309	52764
GOLDEN SHORES WATER CONSERVATION DIST PUMPED FROM WELLS	DIVERSION 3/ RETURNS CONSUMPTIVE USE	21	16	28	30	37	45	49	47	37	31	22	22	385
HAVASU NATIONAL WILDLIFE REFUGE INLET-NW NE NW SEC 33 T9N R55W G&SRM PUMPED FROM WELL (TOPOCK MARSH)	DIVERSION DIVERSION 2/ RETURNS CONSUMPTIVE USE	534 24 0	2130 19 0	5880 33 0	5160 35 0	4190 43 0	4800 52 0	5060 57 0	4230 55 0	3170 43 0	1860 36 0	1130 26 0	635 25 0	38779 450 0
LAKE HAVASU IRRIGATION AND DRAINAGE DISTRICT PUMPED FROM WELLS	DIVERSION RETURNS CONSUMPTIVE USE	670	669	883	932	1127	1296	1386	1445	1079	1122	917	754	12290
CENTRAL ARIZONA PROJECT PUMPED FROM LAKE HAVASU	DIVERSION RETURNS CONSUMPTIVE USE	13001	16598	85551	78295	78396	141299	127443	119999	61708	23675	17300	15798	779054

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
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>														
PUMPED FROM RIVER	DIVERSION	0	0	0	0	14	22	22	24	13	14	2	0	111
1 WELL-NW NW NW SEC 7 T9N R19W G&SRM	DIVERSION	55	44	75	81	87	100	111	105	88	71	57	53	932
	RETURNS	0	0	0	0	2	2	2	3	2	2	0	0	13
	CONSUMPTIVE USE	55	44	75	81	99	120	131	126	99	83	59	58	1030
<b>COLORADO RIVER INDIAN RESERVATION</b>														
DIVERSION AT HEADGATE ROCK DAM	DIVERSION	5800	38530	64830	59610	75420	91450	99290	78860	51530	40210	30040	31350	656920
1 PUMP FROM RIVER (B-04-22)14 bbd	DIVERSION 3/	320	256	437	472	577	699	763	734	577	483	344	338	6000
	RETURNS	13619	15841	20586	21344	22042	23426	27963	26812	23725	21982	20470	15385	254695
	CONSUMPTIVE USE	-7499	22945	44681	38738	53955	68723	72090	52782	28382	18711	9914	14803	412225
<b>EHRENBURG IMPROVEMENT ASSN.</b>														
1 PUMP SW SEC 3 T3N R22W G&SRM	DIVERSION	14	11	19	21	25	31	33	32	25	21	15	15	252
	RETURNS													
	CONSUMPTIVE USE													
<b>CIBOLA VALLEY IRRIGATION DISTRICT</b>														
5 PUMPS SEC'S 20 & 21 T1N R23W G&SRM	DIVERSION	527	1355	3074	1807	2365	4292	4669	3279	2047	1335	991	1256	26997
	RETURNS													
	CONSUMPTIVE USE													
<b>CIBOLA NATIONAL WILDLIFE REFUGE</b>														
MONTHLY REPORTING WELL PUMPAGE	DIVERSION	589	208	329	463	821	1088	696	708	1090	1147	1496	1353	9989
ANNUAL REPORTING WELL PUMPAGE	DIVERSION 2/	18	15	25	27	33	40	43	42	33	27	19	19	340
	RETURNS	0	0	0	0	0	0	0	0	0	0	0	0	0
	CONSUMPTIVE USE	607	223	354	490	854	1128	739	750	1123	1174	1515	1372	10329
<b>IMPERIAL NATIONAL WILDLIFE REFUGE</b>														
4 WELLS T1S R23&24W G&SRM	DIVERSION	607	223	354	490	854	1128	739	750	1123	1174	1515	1372	10329
	RETURNS													
	CONSUMPTIVE USE													
<b>YUMA PROVING GROUND</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	0	0	0	4	1	0	9	0	2	1	0	4	21
	RETURNS													
	CONSUMPTIVE USE													
<b>WARREN ACT CONTRACTORS</b>														
DIVERSION AT IMPERIAL DAM (STURGES)	DIVERSION	292	308	643	463	476	557	554	539	299	305	195	310	4941
	RETURNS													
	CONSUMPTIVE USE													
<b>WELLTON MOHAWK I. &amp; D. DISTRICT</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	13564	25364	40037	44762	52646	54480	52782	41773	47135	31634	27134	21446	453807
	RETURNS	13350	12300	12810	12300	9620	9300	9510	9390	11010	12600	12450	13530	138170
	CONSUMPTIVE USE	214	14064	27227	32462	43026	45180	43272	32383	36125	19084	14684	7916	315637
<b>CITY OF YUMA</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	1387	1348	1695	1806	2200	2189	2225	2149	2124	1795	1657	1520	22095
	RETURNS	1006	923	942	869	1052	866	882	863	916	1013	872	964	11168
	CONSUMPTIVE USE	381	425	753	937	1148	1323	1343	1286	1208	782	785	556	10927
<b>MARINE CORPS AIR STATION (YUMA)</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	59	37	116	184	258	277	301	250	181	126	54	19	1862
	RETURNS													
	CONSUMPTIVE USE													

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
STATE OF ARIZONA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
SOUTHERN PACIFIC COMPANY														
DIVERSION AT IMPERIAL DAM	DIVERSION	4	4	4	4	4	4	4	4	4	4	4	4	48
	RETURNS													
	CONSUMPTIVE USE													
COUNTY OF YUMA														
DIVERSION AT IMPERIAL DAM	DIVERSION	1	1	1	1	1	1	1	1	1	1	1	1	12
(YUMA INT. AIRPORT)	RETURNS													
	CONSUMPTIVE USE													
YUMA MESA FRUIT GROWERS ASSN.														
DIVERSION AT IMPERIAL DAM	DIVERSION	1	1	1	1	1	1	1	1	1	1	1	1	12
	RETURNS													
	CONSUMPTIVE USE													
UNIVERSITY OF ARIZONA														
DIVERSION AT IMPERIAL DAM	DIVERSION	21	33	82	43	87	78	67	111	90	98	71	32	813
	RETURNS													
	CONSUMPTIVE USE													
YUMA UNION HIGH SCHOOL														
DIVERSION AT IMPERIAL DAM	DIVERSION	2	4	18	16	0	38	40	30	20	22	13	16	219
	RETURNS													
	CONSUMPTIVE USE													
CAMILLE, ALEC. JR.														
DIVERSION AT IMPERIAL DAM	DIVERSION	2	2	5	2	2	4	3	2	1	1	0	0	24
	RETURNS													
	CONSUMPTIVE USE													
DESERT LAWN MEMORIAL														
DIVERSION AT IMPERIAL DAM	DIVERSION	1	0	4	16	14	14	15	15	16	14	5	2	116
	RETURNS													
	CONSUMPTIVE USE													
NORTH GILA VALLEY IRRIGATION DISTRICT														
DIVERSION AT IMPERIAL DAM	DIVERSION	2803	3233	3760	4580	6048	5456	2740	1848	4463	6254	3741	3916	48842
	RETURNS	1619	1734	2000	2285	2957	2766	1576	1097	2363	3731	2554	2714	27396
	CONSUMPTIVE USE	1184	1499	1760	2295	3091	2690	1164	751	2100	2523	1187	1202	21446
YUMA IRRIGATION DISTRICT														
DIVERSION AT IMPERIAL DAM	DIVERSION	2617	3580	5802	5426	6177	4046	4528	4387	7319	6309	3596	4304	58691
PUMPED FROM PRIVATE WELLS (est.)	DIVERSION	170	221	201	283	627	793	797	665	268	534	924	624	6107
	RETURNS	393	523	826	771	1097	987	1061	1117	1189	1196	911	1233	11304
	CONSUMPTIVE USE	2394	3278	5177	4938	5707	3852	4264	4535	6398	5647	3609	3695	53494
YUMA MESA I. & D. DISTRICT														
DIVERSION AT IMPERIAL DAM	DIVERSION	12586	11469	17803	24164	28421	30321	30795	30205	23800	15575	11850	17975	254964
	RETURNS	3644	4431	5715	4614	4009	4199	3196	3012	2367	2989	2082	3579	43837
	CONSUMPTIVE USE	8942	7038	12088	19550	24412	26122	27599	27193	21433	12586	9768	14396	211127
UNIT "B" I. & D. DISTRICT														
DIVERSION AT IMPERIAL DAM	DIVERSION	1798	1597	2555	2872	3681	4081	4193	4019	3543	2982	1514	2084	35019
	RETURNS	643	782	1009	814	707	741	564	531	418	528	367	632	7736
	CONSUMPTIVE USE	1155	815	1546	2058	2974	3340	3629	3488	3125	2454	1247	1452	27283

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
STATE OF ARIZONA

FINAL RECORDS

(ACRE-FEET)

WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
<b>YUMA COUNTY WATER USERS ASSOCIATION</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	13226	18996	30653	36430	34878	26482	27213	28134	29801	42610	27030	19957	335416
PUMPED FROM WELLS	DIVERSION	720	631	752	671	799	777	649	821	660	793	792	731	8796
	RETURNS	8659	7167	8284	9061	9741	8334	8543	8482	8514	11565	11730	10674	110854
	CONSUMPTIVE USE	5287	12460	23121	28040	25936	18931	19319	20473	21947	31738	16092	10014	233358
<b>COCOPAH INDIAN RESERVATION</b>														
DIVERSION AT IMPERIAL DAM	DIVERSION	6	63	229	214	88	38	67	151	298	117	57	64	1392
PUMPED FROM WELLS	DIVERSION	0	2	6	4	2	1	2	4	7	2	2	2	34
	RETURNS	0	1	3	4	1	0	1	2	7	3	2	2	26
	CONSUMPTIVE USE	6	64	232	214	89	39	68	153	298	116	57	64	1400
PUMPED FROM SOUTH GILA WELLS (DPOC'S)	RETURNS 5/	2933	3813	5270	4309	4195	5261	7470	3613	4793	4390	5465	5905	57417
<b>OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN DAVIS DAM TO INTERNATIONAL BOUNDARY</b>														
	DIVERSION 6/	1776	2417	2380	2583	3374	3974	4640	3981	3498	2826	2540	2372	36350
	RETURNS													
	CONSUMPTIVE USE													
<b>ARIZONA TOTALS</b>														
	DIVERSION	77923	135244	275696	280480	312912	392050	384574	342892	255661	190793	140638	134024	2922888
	RETURNS	45866	47515	57445	56371	55423	55882	60768	54922	55304	60099	56903	56118	662616
	CONSUMPTIVE USE	32057	87729	218251	224109	257489	336168	323806	287970	200357	130694	83735	77906	2260272

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.

PUMPAGE FROM COLORADO RIVER  
AND WELLS IN FLOOD PLAIN  
DAVIS DAM TO INTERNATIONAL BOUNDARY  
CALENDAR YEAR 1990  
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(CDD)	97.1	800.0	408.0	138.9	324.4	854.1	816.0	873.8	844.3	195.4	181.9	207.7	5741.6	
Rayner, Jack Jr.	(B-04-22)34 DCC(DCD)	0.0	74.1	82.7	8.6	45.9	148.2	184.0	144.7	106.6	20.8	39.0	16.9	871.5	
Arakelian, George	(B-03-22)16 DBD(DAD) 2/	194.4	155.5	265.0	286.3	349.9	424.1	463.0	445.3	349.9	293.3	208.5	205.0	3640.0	
Towery, Adrin	(B-01022)21 BCD 2/	133.1	106.5	181.5	196.0	239.5	290.3	316.9	304.8	239.5	200.8	142.7	140.3	2492.0	
Pratt, L.	SEC14 T07S R22W ABC 2/4/	22.4	17.9	30.6	33.0	40.4	48.9	53.4	51.4	40.4	33.8	24.1	23.7	420.0	
*****	SEC07 T08S R22W BAB	11.2	17.2	18.9	62.0	86.9	70.6	173.0	60.3	55.9	45.6	42.2	6.9	650.7	
Barrett (R. Harp)	SEC06 T08S R22W BCD 2/	32.0	25.6	43.7	47.2	57.7	69.9	76.3	73.4	57.7	48.3	34.4	33.8	600.0	
Barrett (R. Harp)	SEC06 T08S R22W CBD 2/	32.0	25.6	43.7	47.2	57.7	69.9	76.3	73.4	57.7	48.3	34.4	33.8	600.0	
Dulin, A.	SEC08 T08S R22E DAC	67.3	67.9	68.1	78.1	183.9	154.4	180.1	196.9	156.7	122.1	45.6	92.6	1403.7	
Dulin, A.	SEC07 T08S R22W CCD	81.8	77.3	81.1	81.8	194.9	171.6	206.4	187.9	154.2	128.5	80.2	111.3	1557.0	
Auza, Pete	SEC18 T08S R22W CBD	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	
Magco of AZ	SEC24 T08S R22W BDD 4/	73.4	58.7	100.0	108.1	132.1	160.1	174.8	163.1	132.1	110.7	78.7	77.4	1374.0	
Auza, Pete	SEC24 T08S R22W BDD	105.3	128.9	78.3	279.3	154.8	88.6	289.9	64.4	92.3	257.7	298.9	337.5	2175.9	
Auza, Pete	SEC18 T08S R22W DDD 2/4/	76.9	94.2	57.2	204.1	113.1	64.7	211.8	47.1	67.4	188.3	218.4	246.6	1590.0	
Yowelman, R.	SEC17 T08S R22W CCB 2/4/	38.4	30.8	52.4	56.6	69.2	83.9	91.6	88.1	69.2	58.0	41.2	40.5	720.0	
Camron Bros.	SEC24 T08S R22W CCB	24.6	41.0	57.8	67.5	93.4	62.5	126.7	131.4	104.9	121.5	65.5	13.8	907.6	
Ott, Judd T.	SEC30 T08S R22W BAB	19.9	31.1	28.6	42.8	52.0	53.1	52.9	32.7	45.5	22.1	36.9	17.8	435.4	
Ott, Judd T.	SEC19 T08S R22W CCA	126.3	130.1	80.4	36.1	73.5	95.4	120.5	118.0	109.5	50.2	93.2	119.3	1152.5	
Cameron Bros	SEC24 T08S R22W CAD	5.6	43.8	51.9	57.9	69.7	29.4	59.1	30.3	0.0	0.0	0.0	0.1	347.8	
Harp (R. Harp)	SEC13 T08S R23W AAD 2/4/	77.9	62.3	106.2	114.7	140.1	169.9	185.4	178.4	140.1	117.5	83.5	82.1	1458.0	
Ott	SEC24 T08S R23W DCC	90.2	112.7	92.8	113.2	141.0	138.1	122.8	164.2	74.6	87.1	114.2	121.6	1372.5	
Peach	SEC22 T08S R23W DDC	32.3	23.6	51.8	62.2	23.1	0.0	0.0	0.0	0.0	0.9	31.0	40.2	265.1	
AZ Prod	SEC23 T08S R23W CDA	1.2	0.1	0.6	1.3	4.7	1.8	2.7	3.5	2.0	0.6	0.9	0.2	19.6	
Yucca Pwr Plant	SEC36 T16S R21E CBA 4/	25.4	20.3	34.6	37.4	45.7	55.3	60.4	58.1	45.7	38.3	27.2	26.7	475.0	
Slade, Dwane	SEC28 T16S R22E CDA	4.0	24.2	8.6	7.0	7.7	3.3	0.4	11.1	6.3	25.6	9.9	9.4	117.5	
Jennings, Curtis	SEC29 T16S R22E DAC	23.4	16.2	2.3	0.0	0.0	43.3	0.0	0.0	29.1	0.0	74.0	27.0	215.3	
Power, R.E.	SEC30 T16S R22E ACC 2/4/	152.2	121.7	207.5	224.1	273.9	332.0	362.5	348.6	273.9	229.7	163.3	160.5	2850.0	
Hall, Ansil	SEC36 T16S R21E BCB 2/4/	25.6	20.5	35.0	37.7	46.1	55.9	61.0	58.7	46.1	38.7	27.5	27.0	480.0	
Strand	SEC25 T16S R21E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	293.4	90.7	19.7	403.8	
Strand	SEC25 T16S R21E DAD	177.9	70.5	78.3	118.7	310.3	182.4	115.6	12.3	153.3	13.2	226.6	120.6	1579.7	
Cocopah Bend RV	SEC30 T16S R22E 4/	18.2	14.5	24.8	26.7	32.7	39.6	43.2	41.6	32.7	27.4	19.5	19.1	340.0	
BLM Permittees /4		5.6	4.4	7.6	8.2	10.0	12.1	13.2	12.7	10.0	8.4	6.0	5.9	104.0	
*** Total Arizona Supplemental ***		1776	2417	2380	2583	3374	3974	4640	3981	3498	2826	2540	2372	36360	

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.

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 1990  
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 7/ RETURNS CONSUMPTIVE USE	1109	887	1512	1633	1995	2419	2640	2540	1995	1673	1189	1169	20760
CITY OF NEEDLES 4 WELLS NW SW SEC 29 T9N R23E SBM	DIVERSION 6/ RETURNS CONSUMPTIVE USE	174	140	238	257	314	381	416	400	314	263	187	184	3267
METROPOLITAN WATER DISTRICT DIVERSION FROM LAKE HAVASU	DIVERSION RETURNS 2/ CONSUMPTIVE USE	97563 316 97247	92127 283 91844	100251 307 99944	96223 285 95938	105075 254 104821	102937 258 102679	105041 251 104790	103786 265 103521	102480 250 102230	102395 290 102105	100004 282 99722	110439 309 110130	1218321 3350 1214971
PARKER DAM AND GOVERNMENT CAMP DIVERSION AT PARKER DAM	DIVERSION RETURNS CONSUMPTIVE USE	11	9	12	18	27	34	30	32	25	21	11	7	237
COLORADO RIVER INDIAN RESERVATION REPORTED MONTHLY PUMPAGE	DIVERSION 4/	126	300	188	383	390	418	544	363	562	339	381	163	4156
REPORTED ANNUAL PUMPAGE	DIVERSION 6/7/ RETURNS CONSUMPTIVE USE	65 0 191	52 0 352	89 0 277	96 0 479	118 0 508	143 0 560	156 0 699	150 0 513	118 0 680	99 0 437	70 0 451	69 0 232	1224 0 5360
CITY OF WINTERHAVEN 1 WELL SE SE NE SEC 27 T16S R22E SBM	DIVERSION 6/ RETURNS CONSUMPTIVE USE	7	5	9	10	12	15	16	15	12	10	7	7	125
PALO VERDE IRRIGATION DISTRICT DIVERSION FROM PALO VERDE DAM	DIVERSION RETURNS CONSUMPTIVE USE	30920 28274 2646	54930 29770 25160	74300 36000 38300	82800 36095 46705	100900 41029 59871	111700 41590 70110	116400 44372 72028	103400 46247 57153	76330 41932 34398	62490 41890 20600	47640 35742 11898	55670 34924 20746	917480 457865 459615
YUMA PROJECTS, RES. DIV. INDIAN UNIT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	2467 66 2401	2794 34 2760	3730 38 3692	3419 50 3369	3935 46 3889	4111 20 4091	5214 85 5129	2569 18 2551	4749 90 4659	7607 148 7459	6004 122 5382	3039 88 2951	49638 905 48833
YUMA PROJECTS, RES. DIV. BARD UNIT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	2169 33 2136	2999 21 2978	4611 27 4584	5908 51 5857	6596 48 6548	5956 18 5938	5626 52 5574	2994 14 2980	4067 46 4021	5596 64 5532	3717 49 3669	2647 48 2599	52836 470 52416
RETURNS FROM YUMA PROJECT RESERVATION DIVISION RETURNS	RETURNS 3/	2019	1945	2181	2145	2967	2360	2790	3258	3055	3497	3751	3560	33538
YUMA PROJECTS, RES. DIV. USE IMPERIAL IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	CONSUMPTIVE USE DIVERSION RETURNS CONSUMPTIVE USE	2518 148808 6676 142132	3793 183656 3838 179818	6095 279270 5010 274260	7081 334350 8594 325756	7470 352684 7454 345230	7669 309179 2769 306410	7913 349455 9666 339789	2263 310329 4297 306032	5625 259418 8386 251032	9494 247682 8281 239401	5800 197666 7610 190056	1990 162804 8532 154272	67711 3135301 81113 3054188
COACHELLA VALLEY WATER DISTRICT DIVERSION AT IMPERIAL DAM	DIVERSION RETURNS CONSUMPTIVE USE	20399 915 19484	21850 457 21393	31547 566 30981	37729 970 36759	44082 932 43150	37467 336 37131	41596 1151 40445	39543 548 38995	34300 1109 33191	24879 832 24047	21895 843 21052	24332 1275 23057	379619 9934 369685

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
STATE OF CALIFORNIA

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN	DIVERSION 5/	979	1343	2006	1974	2621	2422	2642	1974	2153	1946	2224	1234	23518
DAVIS DAM TO INTERNATIONAL BOUNDARY	RETURNS													
	CONSUMPTIVE USE													
CALIFORNIA TOTALS	DIVERSION	304797	361092	497763	564799	618750	577180	629775	568094	486523	455000	380995	361764	5806532
	RETURNS	38299	36348	44129	48190	52730	47351	58367	54657	54868	55002	48398	48736	587075
	CONSUMPTIVE USE	266498	324744	453634	516609	566020	529829	571408	513437	431655	399998	332597	313028	5219457

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.

PUMPAGE FROM COLORADO RIVER  
AND WELLS IN FLOOD PLAIN  
DAVIS DAM TO INTERNATIONAL BOUNDARY  
CALENDAR YEAR 1990  
STATE OF CALIFORNIA

FINAL RECORDS

(ACRE-FEET)

WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
Land, Ralph	SEC35 T15S R23E DDC	53.7	73.0	126.7	93.6	63.3	0.0	0.0	88.1	157.0	208.0	308.5	88.1	1260.0
Living Earth Frm	SEC02 T16S R23E BBC	2.8	8.3	146.0	27.5	41.3	27.5	34.4	44.1	28.9	41.3	45.4	73.0	520.5
Land, Ralph	SEC22 T16S R23E BDD 4/	75.6	16.8	123.2	109.2	153.9	193.1	33.6	128.8	109.2	25.2	98.0	14.0	1080.6
Power, Pete	SEC14 T16S R23E CCB 2/4/	102.6	82.1	140.0	151.1	184.7	223.9	244.4	235.1	184.7	154.9	110.1	108.2	1922.0
Perez, F. (Slade)	SEC06 T08S R22W CDA	161.1	312.4	320.3	277.0	336.0	247.6	387.1	174.9	253.5	212.2	398.8	180.8	3261.7
Spencer, M.	SEC09 T16S R23E CAC	50.8	83.5	122.2	87.3	174.0	53.0	209.1	51.8	11.2	415.7	359.1	68.4	1686.1
Martin, M. (A. Dees)	SEC01 T08S R23W BBA	5.8	23.3	5.8	20.4	0.0	35.0	20.4	11.7	35.0	2.9	20.4	17.5	192.2
Martin, M.	SEC01 T08S R23W BAD													
Wavers, Edward M.	SEC01 T08S R23W BAD	19.0	44.4	66.6	73.0	146.0	177.7	133.3	41.3	60.3	3.2	50.8	41.3	856.9
Schaffer, F. (Harp)	SEC02 T08S R23W ADC 2/4/	17.6	14.1	24.0	26.0	31.7	38.4	42.0	40.4	31.7	26.6	18.9	18.6	330.0
Bros, Taylor	SEC02 T08S R23W DDA	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
Wilson (R. Harp)	SEC12 T08S R23W BBA	46.8	115.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	162.5
Easterday, Kitti	SEC01 T08S R23W DCC	0.0	0.0	82.4	59.4	118.8	168.6	164.7	1.9	145.6	82.4	0.0	74.7	898.5
Dees, Alex	(C-8-23)1DAC	66.2	70.1	134.3	190.8	257.0	272.5	272.5	221.9	225.8	60.3	87.6	83.7	1942.7
Evans, E. (R. Harp)	(C-8-23)12AAD	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
Harp, P. (R. Harp)	(C-8-23)12DAC 2/4/	102.5	82.0	139.8	151.0	184.5	223.7	244.2	234.9	184.5	154.7	110.0	108.1	1920.0
Easterday, K.	(C-8-23)12CDB	5.8	80.8	155.9	198.2	277.2	240.6	256.0	190.5	236.7	152.0	5.8	134.7	1934.2
Smith, F. (P. Power)	(C-8-23)11DCA	46.8	89.9	33.1	96.4	129.5	174.9	201.1	30.3	30.3	53.7	88.1	4.1	978.2
Valdez, Mike	SEC30 T16S R23E Ec	108.8	77.1	199.7	163.9	219.0	85.4	89.5	122.6	147.4	110.2	319.5	85.4	1728.5
Valdez, Mike	SEC30 T16S R23E Fd	16.5	92.3	55.1	107.4	130.8	49.6	79.9	135.0	137.7	97.8	99.2	31.7	1033.0
Russell Bros. (Kennedy)	SEC31 T11N R22E Cb 2/4/	32.4	25.9	44.1	47.7	58.2	70.6	77.1	74.1	58.2	48.8	34.7	34.1	666.0
Russell Bros. (Soto)	SEC36 T11N R21E Hd 2/4/	43.6	34.9	59.4	64.2	78.4	95.1	103.8	99.8	78.4	65.8	46.7	45.9	816.0
Russell Br. (Vanderslice)	SEC36 T11N R21E	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
Southern Cal Gas	SEC29 T9N R23E Qa 4/	3.4	2.7	4.6	5.0	6.1	7.3	8.0	7.7	6.1	5.1	3.6	3.5	63.0
Lye, C.L.	1S./24E.-16Gb 2/4/	1.6	1.3	2.2	2.4	2.9	3.5	3.8	3.7	2.9	2.4	1.7	1.7	30.0
Wetmore, Kenneth C. 2/4/5/		0.3	0.2	0.4	0.4	0.5	0.6	0.7	0.7	0.5	0.4	0.3	0.3	5.4
Sherman, Margaret T. 2/4/5		1.3	1.0	1.7	1.9	2.3	2.8	3.1	2.9	2.3	1.9	1.4	1.4	24.0
Glynn, Edward 4/5/		0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0
Phillips, Dorothy		0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	0.1	2.0
Bly, James R. 4/5/		0.2	0.1	0.2	0.2	0.3	0.4	0.4	0.4	0.3	0.3	0.2	0.2	3.1
Lindeman, William H 4/5/		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. 4/5/		0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.5
Bocek (Brown), Julianne 4/5/		0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.2	0.1	0.1	2.3
Williams, Jerry O. 4/		0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.1	1.1
BLM Permittees 5/		13.3	10.7	18.2	19.7	24.0	29.1	31.8	30.6	24.0	20.1	14.3	14.1	250.0
*** Total California Supplemental ***		979	1343	2006	1974	2621	2422	2642	1974	2153	1946	2224	1234	23518

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.

4/ Location of well/pump not reported.

5/ Reported annual total only, distributed monthly according to nearby users.

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
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	4	3	3	2	2	2	2	1	1	24
	RETURNS													
	CONSUMPTIVE USE													
ROBERT B. GRIFFITH WATER PROJECT														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	14662	14039	20351	22742	25577	23704	28299	26858	24029	25546	20381	13495	259684
	RETURNS													
	CONSUMPTIVE USE													
LAKE MEAD NATIONAL RECREATION AREA														
DIVERSION AT LAKE MEAD	DIVERSION	53	40	57	72	86	98	105	88	76	64	43	51	833
	RETURNS													
	CONSUMPTIVE USE													
BASIC MANAGEMENT INC.														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	499	437	402	448	382	481	553	541	508	492	424	402	5569
	RETURNS													
	CONSUMPTIVE USE													
CITY OF HENDERSON														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	195	105	49	63	188	379	342	296	265	274	273	387	2816
	RETURNS													
	CONSUMPTIVE USE													
NEVADA DEPARTMENT OF FISH & GAME														
DIVERSION AT SADDLE ISLAND, LAKE MEAD	DIVERSION	341	311	344	334	342	337	362	354	344	355	337	348	4109
	RETURNS	341	311	343	334	341	337	361	354	343	355	337	348	4105
	CONSUMPTIVE USE	0	0	1	0	1	0	1	0	1	0	0	0	4
CITY OF BOULDER CITY														
DIVERSION AT HOOVER DAM	DIVERSION	4	0	0	3	0	0	0	0	0	0	0	0	7
	RETURNS	0	0	0	0	0	0	0	0	0	0	0	0	0
	CONSUMPTIVE USE	4	0	0	3	0	0	0	0	0	0	0	0	7
PACIFIC COAST BUILDING PRODUCTS INC.														
DIVERSION AT GYPSUM WASH, LAKE MEAD	DIVERSION	64	54	52	54	54	48	51	64	37	28	20	38	564
	RETURNS													
	CONSUMPTIVE USE													
SOUTHERN CALIFORNIA EDISON														
PUMPED FROM SEC 24 T32S R66E MDB&M	DIVERSION	878	1290	1246	914	1036	1230	1597	1772	1904	1429	2125	1852	17273
	RETURNS													
	CONSUMPTIVE USE													
BIG BEND WATER DISTRICT														
1 PUMP SEC 13 T32S R66E MDB&M	DIVERSION	221	231	277	296	374	412	430	457	320	344	301	256	3913
	RETURNS													
	CONSUMPTIVE USE													
LAS VEGAS WASH RETURN FLOWS	RETURNS 2/	10210	8910	9560	9750	10040	8830	8990	9110	8750	10050	9490	8880	112580
OTHER USERS PUMPING FROM COLORADO RIVER AND WELLS IN FLOOD PLAIN DAVIS DAM TO CALIFORNIA BOUNDARY	DIVERSION 3/	0	0	0	0	0	0	0	0	0	0	0	0	1
	RETURNS													
	CONSUMPTIVE USE													
NEVADA TOTALS	DIVERSION	16918	16508	22730	24927	28042	26692	31741	30432	27485	28534	23905	16831	294795
	RETURNS	10551	9221	9903	10024	10381	9167	9351	9464	9093	10415	9827	9228	116625
	CONSUMPTIVE USE	6367	7287	12877	14843	17661	17525	22390	20968	18392	18119	14079	7503	172111

DIVERSIONS FROM MAINSTREAM-AVAILABLE RETURN FLOW  
AND CONSUMPTIVE USE OF SUCH WATER  
CALENDAR YEAR 1990  
STATE OF NEVADA

FINAL RECORDS

(ACRE-FEET)

WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	1/

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.

3/ Details on Nevada Supplemental Sheets.

PUMPAGE FROM COLORADO RIVER  
 AND WELLS IN FLOOD PLAIN  
 DAVIS DAM TO INTERNATIONAL BOUNDARY  
 CALENDAR YEAR 1990  
 STATE OF NEVADA

FINAL RECORDS

(ACRE-FEET)

WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL 1/
Boy Scouts of America SEC5 T33S R66E	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1
*** Total Nevada Supplemental ***	0	0	0	0	0	0	0	0	0	0	0	0	1

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 1990

The following tabulations for calendar year 1990 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 1990  
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	5229	0	0	12135	0	0	41357	39901	22167	695	3680	0	125164
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	5229	0	0	12135	0	0	41357	39901	22157	695	3680	0	125164
		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	609	1111	339	1964	4522	2450	1319	2206	1684	2099	1464	676	20443
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	206	351	159	1055	4052	1694	655	1016	1148	659	391	339	11775
		397	760	180	909	470	756	664	1031	536	1440	1073	287	8503
		6	0	0	0	0	0	0	159	0	0	0	0	165
NORTH GILA VALLEY I.D. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	2154	2083	2696	2319	2485	1801	3172	2450	2033	2652	3092	3199	30136
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	278	1063	1349	1357	692	339	569	613	589	143	143	739	7924
		1769	1020	1347	962	1793	1462	2603	1379	1012	2449	2949	2410	21155
		107	0	0	0	0	0	0	458	432	60	0	0	1057
WARREN ACT CONTRACTORS 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	6680	2953	2390	3437	7757	9806	10003	18419	9648	11826	6423	10046	99388
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	415	821	226	1016	1035	2305	783	1073	758	367	161	1922	10832
		5973	2132	2164	2421	6722	7501	9220	10267	6173	11033	6262	8124	77992
		292	0	0	0	0	0	0	7079	2717	426	0	0	10514
YUMA IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	591	492	296	151	472	353	623	238	232	621	879	417	5365
	DIVERTED BY OTHERS DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	71	246	101	119	85	133	159	65	40	6	34	77	1136
		496	246	195	32	387	220	464	102	152	571	845	340	4050
		24	0	0	0	0	0	0	71	40	44	0	0	179

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 1990  
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	5338	1714	2057	1753	1630	1252	2791	1496	1769	5205	3753	5556	34314
	DIVERTED BY OTHERS	105	482	496	474	361	103	357	81	286	208	113	165	3231
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	5051	1232	1561	1279	1269	1149	2434	874	1324	4749	3640	5391	29953
		182	0	0	0	0	0	0	541	159	248	0	0	1130
UNIT "B" I. & D. DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	347	407	413	307	559	307	464	607	296	843	97	994	5641
	DIVERTED BY OTHERS	58	238	77	89	52	30	117	24	28	20	0	129	862
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	281	169	336	218	507	277	347	236	268	738	97	865	4339
		8	0	0	0	0	0	0	347	0	85	0	0	440
YUMA COUNTY WATER USERS ASSN. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	3092	2487	1605	1896	4223	4005	3667	3640	2444	1765	5441	3812	38077
	DIVERTED BY OTHERS	413	1513	1234	1412	2013	2608	1375	1141	1111	1115	1414	1460	16809
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	2405	974	371	484	2210	1397	2292	1083	1002	646	4027	2352	19243
		274	0	0	0	0	0	0	1416	331	4	0	0	2025
ARIZONA TOTALS	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	24040	11247	9796	23962	21648	19974	63396	68957	40273	25706	24829	24700	358528
	DIVERTED BY OTHERS	1546	4714	3642	5522	8290	7212	4015	4013	3960	2518	2256	4931	52619
	DELIVERED TO STORAGE 2/ DELIVERED TO MEXICO IN EXCESS OF TREATY	21601	6533	6154	18440	13358	12762	59381	54873	32634	22321	22573	19769	290399
		893	0	0	0	0	0	0	10071	3679	857	0	0	15510

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 1990  
 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	3237	3473	3949	3677	2625	2963	3059	2014	420	5	96	0	25518
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	3237	3473	3949	3677	2625	2963	3059	2014	420	5	96	0	25518
		0	0	0	0	0	0	0	0	0	0	0	0	0
PALO VERDE IRRIGATION DISTRICT DIVERSION AT PALO VERDE DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	476	704	5246	397	343	430	1146	2350	2390	2198	1335	1502	18517
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	171	605	3614	238	177	260	595	645	1091	1035	522	446	9399
		228	99	1632	159	166	170	551	1203	1067	1058	813	1056	8202
YUMA PROJECT RESV. DIVISION DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	3191	1053	797	704	1123	518	492	4522	897	593	2106	3497	19493
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	1004	748	541	526	498	343	385	1624	329	264	623	1841	8726
		2012	305	256	178	625	175	107	1561	284	329	1483	1656	8971
IMPERIAL IRRIGATION DISTRICT DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	3628	3269	5201	2694	998	3267	1640	5766	2263	3882	938	835	34381
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	528	270	2108	1394	303	583	601	557	603	768	315	351	8381
		2664	2999	3093	1300	695	2684	1039	1014	341	2779	623	484	19715
COACHELLA VALLEY WATER DIST. DIVERSION AT IMPERIAL DAM	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	1291	1801	349	309	48	244	79	182	111	494	127	127	5162
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	210	1000	313	240	32	200	50	79	48	153	8	42	2375
		825	801	36	69	16	44	29	65	63	329	119	85	2481
CALIFORNIA TOTALS	ORDERED BUT NOT DIVERTED DELIVERED TO MEXICO IN SATISFACTION OF TREATY	11823	10300	15542	7781	5137	7422	6416	14834	6081	7172	4602	5961	103071
	DIVERTED BY OTHERS DELIVERED TO STORAGE 1/ DELIVERED TO MEXICO IN EXCESS OF TREATY	1913	2623	6576	2398	1010	1386	1631	2905	2071	2220	1468	2620	28881
		8966	7677	8966	5383	4127	6036	4785	5857	2175	4500	3134	3281	64887
	944	0	0	0	0	0	0	6072	1835	452	0	0	9303	

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 1990

DELIVERIES TO MEXICO IN SATISFACTION OF PART III OF 1944 TREATY  
AND  
WATER PASSING TO MEXICO IN EXCESS OF TREATY REQUIREMENTS  
CALENDAR YEAR 1990

FINAL RECORDS

(ACRE-FEET)

WATER USER	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
TO MEXICO IN SATISFACTION OF TREATY	106754	125280	175666	182669	110469	150472	165052	162426	102881	81400	81228	97691	1541988
TO MEXICO AS SCHEDULED	103994	125255	175390	182238	110135	150213	164774	140486	90381	78639	81070	97425	1500000
TO MEXICO IN EXCESS OF SCHEDULE	2760	25	276	431	334	259	278	21940	12500	2761	158	266	41988
BYPASS PURSUANT TO MINUTE 242	13395	11653	12051	11726	7578	9218	9531	9600	11163	12506	12129	13117	133667
ORDERED BUT NOT DIVERTED BELOW PARKER DAM	27397	18074	21389	15931	24160	24433	25396	41876	23767	32178	25655	30651	310917

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 1990

DIVERIONS FROM MAINSTREAM OF GILA AND SANFRANCISCO RIVERS  
 AND  
 CONSUMPTIVE USE OF SUCH WATER FOR BENEFIT OF THE GILA NATIONAL FOREST  
 CALENDAR YEAR 1990

FINAL RECORDS		(ACRE-FEET)												
WATER USER		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
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

LC-460  
WTR-4.10

JUN 10 1991

To: All Interested Persons

From: Regional Director

Subject: Annual Report "Compilations 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" (Water Accounting)

Enclosed are the compilations of records for calendar year 1990 for the mainstream of the Colorado River downstream from Lee Ferry within the United States including the reservoirs thereon. These records are prepared in accordance with Articles V, V(A), V(B), V(C), V(D), and V(E) of the Decree of the Supreme Court of the United States in Arizona v. California, dated March 9, 1964.

Detailed compilations, original records furnished by water users, the Geological Survey, our project offices, and other appropriate entities, as well as quantity computations and documented methodologies are available for inspection by interested persons during normal office hours of the Lower Colorado Regional Office in Boulder City, Nevada. Based upon requests, duplicate copies of these records may be made available for inspection at additional locations more convenient to interested persons.

We note that the records for 1989 and 1990 show that the Lower Colorado River Basin's basic apportionment of 7.5 million acre-feet (maf) was fully utilized. We expect that the Article V records will be used to determine, among other things, the extent to which individual users of Colorado River water may have exceeded their entitlement. In such cases the records will serve as the basis for requiring reductions in water use in future years in order to offset any such inadvertent overruns that may have occurred. The specific procedures implementing such a water management policy will be defined in regulations currently being drafted by the Bureau of Reclamation. The draft regulations will be available to you for review and comment prior to actual implementation.

The compilations of records enclosed utilize existing methodology for consumptive use determinations. We have installed in our office and are in the process of evaluating an accounting methodology recently developed by the Geological Survey, which is entitled the Lower Colorado River Accounting System. This methodology combines a water budget concept with remote sensing and geographic information systems technologies. We anticipate making a determination regarding operational feasibility of this accounting system within the next 2 years. Reports of the analyses and documentation will be made available for review by interested persons as they are generated in the development process. A documented study approach or tentative progress report schedule for evaluation of the new accounting method has not been developed to date.



Monthly summary compilations of actual water use to date by the users of significant amounts and forecasts of end of year total use are being sent to water contractors and other interested persons having requested these compilations. It is our hope that monthly use information will provide an opportunity for each water user to monitor water use and keep such use within their contractual entitlement.

Any questions concerning our water use accounting and projection process should be directed to Mr. Alden Briggs at 702-293-8677.

WALTER E. FITE

Enclosure

Identical letters sent to those on attached list

bc: Commissioner, Attention: W-1000, W-1170  
 (w/cy encls in duplicate to ea)  
 Assistant Commissioner - Program, Budget, and Liaison, Attention: W-6600  
 (w/cy encls in quintuple)  
 Assistant Commissioner - Resources Management, Attention: D-5000, D-5100, D-5700  
 (w/cy encls to ea)  
 Assistant Commissioner - Resources Management, Attention: D-5140  
 (w/cy encls in quintuple)  
 Field Solicitor, Phoenix AZ  
 (w/cy encls in duplicate)  
 Regional Director, Salt Lake City UT, Attention: UC-100  
 (w/cy encls in octuple)  
 Project Manager, Phoenix AZ, Attention: APO-100  
 (w/cy encls in octuple)  
 Project Manager, Yuma AZ, Attention: YPO-100  
 (w/cy encls in quadruplicate)  
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105

115

400

430

440

470

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