Appendix F

USGS Groundwater Model
Water Budget Tables for Model Subareas
(1931 to 1999)

CENTRO Model Subarea, USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Surface Water Inflow	0	330,408	33,459	37,517	0	32,340	3,458	2,582	12,639	908	113,837	203,664	14,051	15,452	120,056
Mojave River (at Helendale Fault)	0	314,428	31,349	35,358	0	27,470	3,458	2,582	12,478	908	104,437	184,864	13,972	15,452	107,836
Ungaged Tributaries	0	18,800	2,110	2,105	0	4,870	0	0	161	0	9,400	18,800	79	0	12,220
Lines (1996) Site 12. Fremont Wash	*0*	*200*	*23*	*23*	*0*	*50*	*0*	*0*	*2*	*0*	*100*	*200*	*1*	*0*	*130*
Lines (1996) Site 13. Buckthorn Wash	*0*	*3,400*	*382*	*381*	*0*	*880*	*0*	*0*	*30*	*0*	*1,700*	*3,400*	*14*	*0*	*2,210*
Lines (1996) Site 14. Wild Wash	*0*	*3,400*	*382*	*381*	*0*	*880*	*0*	*0*	*30*	*0*	*1,700*	*3,400*	*14*	*0*	*2,210*
Lines (1996) Site 15. Unnamed	*0*	*2,400*	*269*	*269*	*0*	*620*	*0*	*0*	*19*	*0*	*1,200*	*2,400*	*10*	*0*	*1,560*
Lines (1996) Site 16. Stoddard Wash	*0*	*9,400*	*1,055*	*1,053*	*0*	*2,440*	*0*	*0*	*80*	*0*	*4,700*	*9,400*	*40*	*0*	*6,110*
Artificial Recharge - Lenwood and Hodge	0	3,700	0	54	0	0	0	0	0	0	0	0	0	0	0
Recharge from Stream Leakage	0	184,152	23,799	26,661	0	34,913	4,853	2,816	14,663	2,544	115,960	61,817	15,651	17,229	63,175
Subsurface Inflow	980	3,867	1,875	1,854	1,965	1,719	1,234	1,573	1,257	1,209	1,686	1,909	980	1,028	2,072
from Transition Zone (at Helendale Fault)	482	1,668	1,209	1,189	1,668	1,408	952	1,293	978	927	1,290	1,228	650	697	1,287
from Baja (at Waterman Fault)	279	2,202	666	665	297	311	282	279	279	281	396	680	329	330	785
Irrigation Return Flow	4,040	15,195	9,585	9,207	5,130	5,310	5,440	5,595	5,625	5,730	6,010	6,240	6,370	6,776	6,880
WWTP Effluent Return Flow	0	3,150	1,179	1,358	0	0	0	0	0	0	0	550	550	550	550
Barstow upper sewage ponds	0	1,200	416	401	0	0	0	0	0	0	0	550	550	550	550
Barstow lower sewage ponds	0	3,000	671	819	0	0	0	0	0	0	0	0	0	0	0
Barstow irrigated field	0	524	55	96	0	0	0	0	0	0	0	0	0	0	0
Nebo Golf Course	0	150	36	41	0	0	0	0	0	0	0	0	0	0	0
Total Inflows			**36,438**	**39,079**	**7,095**	**41,942**	**11,528**	**9,983**	**21,545**	**9,482**	**123,655**	**70,516**	**23,551**	**25,583**	**72,677**
OUTFLOWS															
Surface Water Outflow - Mojave River (at Waterman Fault)	0	189,215	10,476	11,925	0	0	0	0	0	0	0	141,565	0	0	57,102
Groundwater Discharge to Stream (baseflow)	-3,008	0	-207	-399	0	0	0	0	0	0	0	-325	-308	-55	-456
Subsurface Outflow	-5,566	-1,601	-3,898	-3,993	-4,888	-4,971	-4,770	-4,723	-4,695	-4,689	-5,415	-5,518	-5,271	-5,129	-5,464
to Transition Zone (at Helendale Fault)	-365	0	-47	-55	0	-37	-5	-1	-3	-4	-177	-141	-35	-36	-139
to Centro (atWaterman Fault)	-3,058	-574	-2,128	-2,171	-2,375	-2,432	-2,299	-2,286	-2,283	-2,298	-2,878	-3,034	-2,886	-2,724	-2,955
to Harper (at Hinkley Gap)	-2,513	-975	-1,724	-1,768	-2,513	-2,502	-2,466	-2,436	-2,409	-2,387	-2,360	-2,343	-2,350	-2,369	-2,370
Evapotranspiration	-32,392	-8	-6,508	-5,881	-4,316	-7,936	-4,784	-3,774	-5,809	-4,157	-21,241	-30,547	-22,040	-18,536	-32,002
Total Pumping	-50,904	-10,260	-32,567	-32,402	-10,260	-10,620	-10,880	-11,190	-11,250	-11,460	-12,020	-12,480	-12,740	-13,550	-13,760
Agricultural															
Urban															
Total Outflows			**-43,181**	**-42,675**	**-19,464**	**-23,528**	**-20,434**	**-19,687**	**-21,753**	**-20,306**	**-38,676**	**-48,870**	**-40,358**	**-37,270**	**-51,682**
Annual Change in Storage (AF)			**-6,743**	**-3,596**	**-12,369**	**18,414**	**-8,907**	**-9,703**	**-208**	**-10,824**	**84,979**	**21,646**	**-16,808**	**-11,687**	**20,995**
Cumulative Change in Storage (AF)					**-12,369**	**6,045**	**-2,861**	**-12,565**	**-12,773**	**-23,597**	**61,382**	**83,028**	**66,220**	**54,533**	**75,528**

Pumping totals by type for Centro could not be accurately reproduced
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CENTRO Model Subarea, USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Surface Water Inflow	9,550	129,323	58,882	48,163	48,599	8,880	2,319	7,882	367	3,578	33,618	0	9,723	0	5,790	5,823
Mojave River (at Helendale Fault)	9,550	117,673	54,182	45,343	46,719	8,496	2,319	7,882	367	3,578	31,910	0	9,723	0	5,790	5,823
Ungaged Tributaries	0	11,650	4,700	2,820	1,880	384	0	0	0	0	1,708	0	0	0	0	0
Lines (1996) Site 12. Fremont Wash	*0*	*120*	*50*	*30*	*20*	*4*	*0*	*0*	*0*	*0*	*18*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 13. Buckthorn Wash	*0*	*2,110*	*850*	*510*	*340*	*70*	*0*	*0*	*0*	*0*	*310*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 14. Wild Wash	*0*	*2,110*	*850*	*510*	*340*	*70*	*0*	*0*	*0*	*0*	*310*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 15. Unnamed	*0*	*1,490*	*600*	*360*	*240*	*50*	*0*	*0*	*0*	*0*	*220*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 16. Stoddard Wash	*0*	*5,820*	*2,350*	*1,410*	*940*	*190*	*0*	*0*	*0*	*0*	*850*	*0*	*0*	*0*	*0*	*0*
Artificial Recharge - Lenwood and Hodge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recharge from Stream Leakage	11,020	51,372	60,943	50,320	38,362	10,186	3,816	9,214	528	3,654	37,027	168	10,566	0	5,902	5,995
Subsurface Inflow	1,116	1,902	1,712	1,530	1,536	1,149	1,143	1,091	1,553	1,701	1,581	1,493	1,771	1,739	1,873	1,996
from Transition Zone (at Helendale Fault)	655	1,167	1,155	1,027	898	673	673	623	923	1,074	975	917	1,134	1,160	1,270	1,419
from Baja (at Waterman Fault)	461	735	557	503	638	476	470	469	630	627	606	575	637	579	603	577
Irrigation Return Flow	6,945	7,155	7,316	7,925	8,235	10,095	11,306	13,715	15,195	12,630	12,692	13,903	15,160	13,895	12,737	11,826
WWTP Effluent Return Flow	550	550	550	550	550	550	550	550	550	550	640	750	750	750	750	750
Barstow upper sewage ponds	550	550	550	550	550	550	550	550	550	550	640	750	750	750	750	750
Barstow lower sewage ponds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barstow irrigated field	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nebo Golf Course	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**19,631**	**60,979**	**70,522**	**60,325**	**48,683**	**21,979**	**16,815**	**24,570**	**17,826**	**18,535**	**51,940**	**16,313**	**28,247**	**16,384**	**21,262**	**20,567**
OUTFLOWS																
Surface Water Outflow - Mojave River (at Waterman Fault)	1	79,198	94	0	11,302	0	0	0	8	1	0	0	0	0	0	0
Groundwater Discharge to Stream (baseflow)	-129	-467	-755	-635	-528	-6	0	0	0	0	-939	-168	0	0	0	0
Subsurface Outflow	-5,170	-5,473	-5,566	-5,376	-5,287	-5,148	-5,048	-4,953	-4,876	-4,661	-4,483	-4,232	-3,208	-3,165	-3,084	-2,936
to Transition Zone (at Helendale Fault)	-31	-101	-87	-60	-40	-22	-18	-14	-9	-4	-181	-3	-13	0	0	0
to Centro (atWaterman Fault)	-2,754	-2,974	-3,058	-2,897	-2,824	-2,705	-2,622	-2,577	-2,563	-2,513	-2,263	-2,382	-2,161	-2,113	-1,860	-1,689
to Harper (at Hinkley Gap)	-2,385	-2,399	-2,421	-2,419	-2,423	-2,420	-2,407	-2,362	-2,304	-2,143	-2,039	-1,847	-1,033	-1,053	-1,223	-1,247
Evapotranspiration	-21,519	-32,085	-32,392	-30,768	-29,941	-21,563	-15,521	-13,245	-1,379	-1,176	-1,933	-1,412	-1,219	-851	-678	-558
Total Pumping	-13,890	-14,310	-14,630	-15,850	-16,470	-20,190	-22,610	-27,430	-30,390	-41,882	-42,401	-46,096	-50,904	-47,422	-44,441	-42,398
Agricultural																
Urban																
Total Outflows	**-40,708**	**-52,335**	**-53,343**	**-52,629**	**-52,226**	**-46,907**	**-43,178**	**-45,628**	**-36,645**	**-47,720**	**-49,756**	**-51,907**	**-55,331**	**-51,438**	**-48,202**	**-45,892**
Annual Change in Storage (AF)	**-21,077**	**8,643**	**17,179**	**7,696**	**-3,543**	**-24,928**	**-26,364**	**-21,057**	**-18,819**	**-29,184**	**2,183**	**-35,594**	**-27,083**	**-35,055**	**-26,940**	**-25,325**
Cumulative Change in Storage (AF)	**54,451**	**63,094**	**80,274**	**87,969**	**84,426**	**59,499**	**33,135**	**12,078**	**-6,741**	**-35,925**	**-33,742**	**-69,336**	**-96,420**	**-131,474**	**-158,414**	**-183,739**

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CENTRO Model Subarea, USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Surface Water Inflow	70,388	4,653	0	2,007	14,080	0	0	55,267	26,668	5,578	0	250,390	1,642	3,523	401
Mojave River (at Helendale Fault)	67,738	4,653	0	2,007	13,983	0	0	55,267	25,849	4,638	0	231,590	1,642	3,523	401
Ungaged Tributaries	2,650	0	0	0	97	0	0	0	819	940	0	18,800	0	0	0
Lines (1996) Site 12. Fremont Wash	*30*	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*9*	*10*		*200*	*0*	*0*	*0*
Lines (1996) Site 13. Buckthorn Wash	*480*	*0*	*0*	*0*	*17*	*0*	*0*	*0*	*150*	*170*	*0*	*3,400*	*0*	*0*	*0*
Lines (1996) Site 14. Wild Wash	*480*	*0*	*0*	*0*	*17*	*0*	*0*	*0*	*150*	*170*	*0*	*3,400*	*0*	*0*	*0*
Lines (1996) Site 15. Unnamed	*340*	*0*	*0*	*0*	*12*	*0*	*0*	*0*	*90*	*120*	*0*	*2,400*	*0*	*0*	*0*
Lines (1996) Site 16. Stoddard Wash	*1,320*	*0*	*0*	*0*	*50*	*0*	*0*	*0*	*420*	*470*	*0*	*9,400*	*0*	*0*	*0*
Artificial Recharge - Lenwood and Hodge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recharge from Stream Leakage	72,218	4,878	0	2,084	14,860	0	0	48,946	27,224	7,402	0	142,492	1,872	3,756	476
Subsurface Inflow	1,948	1,811	1,874	1,964	1,999	1,816	1,815	2,223	1,843	1,870	1,910	3,004	1,982	2,163	2,216
from Transition Zone (at Helendale Fault)	1,379	1,246	1,350	1,430	1,526	1,477	1,521	1,576	1,379	1,309	1,407	1,533	1,233	1,337	1,430
from Baja (at Waterman Fault)	568	565	524	534	473	339	295	647	464	562	503	1,470	749	826	786
Irrigation Return Flow	11,806	12,290	12,579	12,692	12,454	10,998	11,176	10,361	10,366	10,947	11,559	8,884	10,052	10,639	10,537
WWTP Effluent Return Flow	860	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	1,350	3,150	1,950	1,950	1,860
Barstow upper sewage ponds	860	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	0	0	0	0
Barstow lower sewage ponds	0	0	0	0	0	0	0	0	0	0	0	3,000	1,800	1,800	1,860
Barstow irrigated field	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nebo Golf Course	0	150	150	150	150	150	150	150	150	150	150	150	150	150	0
Total Inflows	**86,832**	**20,330**	**15,803**	**18,090**	**30,664**	**14,164**	**14,341**	**62,879**	**40,783**	**21,570**	**14,819**	**157,530**	**15,856**	**18,508**	**15,089**
OUTFLOWS															
Surface Water Outflow - Mojave River (at Waterman Fault)	0	0	0	0	0	0	0	5,512	0	0	0	106,679	10	0	0
Groundwater Discharge to Stream (baseflow)	0	0	0	0	0	0	0	0	0	0	0	-214	-2	0	0
Subsurface Outflow	-3,106	-2,984	-2,808	-2,683	-2,592	-2,285	-2,015	-2,116	-2,067	-1,706	-1,601	-3,865	-3,483	-3,397	-3,275
to Transition Zone (at Helendale Fault)	-68	0	0	0	-1	0	0	-3	-1	0	0	-235	-1	0	0
to Centro (atWaterman Fault)	-1,794	-1,804	-1,668	-1,620	-1,565	-1,290	-1,039	-1,115	-1,068	-688	-574	-2,579	-2,380	-2,224	-2,020
to Harper (at Hinkley Gap)	-1,244	-1,180	-1,140	-1,063	-1,026	-995	-975	-998	-998	-1,017	-1,028	-1,051	-1,102	-1,174	-1,254
Evapotranspiration	-1,267	-800	-539	-304	-340	-176	-91	-346	-424	-290	-131	-1,983	-1,109	-878	-609
Total Pumping	-42,527	-44,646	-45,164	-44,787	-44,093	-40,344	-41,683	-38,595	-39,791	-41,376	-42,952	-34,977	-39,932	-41,327	-41,273
Agricultural															
Urban															
Total Outflows	**-46,901**	**-48,429**	**-48,510**	**-47,774**	**-47,025**	**-42,805**	**-43,789**	**-41,057**	**-42,281**	**-43,372**	**-44,685**	**-41,039**	**-44,526**	**-45,602**	**-45,157**
Annual Change in Storage (AF)	**39,931**	**-28,099**	**-32,708**	**-29,684**	**-16,361**	**-28,641**	**-29,448**	**21,822**	**-1,498**	**-21,802**	**-29,866**	**116,491**	**-28,670**	**-27,094**	**-30,068**
Cumulative Change in Storage (AF)	**-143,808**	**-171,907**	**-204,615**	**-234,299**	**-250,660**	**-279,301**	**-308,749**	**-286,927**	**-288,426**	**-310,227**	**-340,094**	**-223,603**	**-252,273**	**-279,368**	**-309,436**

Pumping totals by type for Centro could not be accurately reproduced
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CENTRO Model Subarea, USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Surface Water Inflow	0	0	0	0	1,448	218,986	17,889	244,513	0	7,160	188,215	758	1,829	666	0
Mojave River (at Helendale Fault)	0	0	0	0	1,448	212,406	17,121	226,653	0	7,160	178,815	758	1,829	666	0
Ungaged Tributaries	0	0	0	0	0	6,580	768	17,860	0	0	9,400	0	0	0	0
Lines (1996) Site 12. Fremont Wash	*0*	*0*	*0*	*0*	*0*	*70*	*8*	*190*	*0*	*0*	*100*	*0*	*0*	*0*	*0*
Lines (1996) Site 13. Buckthorn Wash	*0*	*0*	*0*	*0*	*0*	*1,190*	*140*	*3,230*	*0*	*0*	*1,700*	*0*	*0*	*0*	*0*
Lines (1996) Site 14. Wild Wash	*0*	*0*	*0*	*0*	*0*	*1,190*	*140*	*3,230*	*0*	*0*	*1,700*	*0*	*0*	*0*	*0*
Lines (1996) Site 15. Unnamed	*0*	*0*	*0*	*0*	*0*	*840*	*100*	*2,280*	*0*	*0*	*1,200*	*0*	*0*	*0*	*0*
Lines (1996) Site 16. Stoddard Wash	*0*	*0*	*0*	*0*	*0*	*3,290*	*380*	*8,930*	*0*	*0*	*4,700*	*0*	*0*	*0*	*0*
Artificial Recharge - Lenwood and Hodge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Recharge from Stream Leakage	0	0	0	0	1,642	184,152	21,180	115,043	1,008	9,314	129,508	2,392	3,586	1,212	0
Subsurface Inflow	2,234	2,585	2,577	2,580	2,542	3,867	2,076	2,654	1,851	1,932	2,561	1,801	1,512	1,848	1,952
from Transition Zone (at Helendale Fault)	1,495	1,565	1,616	1,661	1,667	1,665	1,151	1,294	891	1,020	1,321	904	637	1,109	1,214
from Baja (at Waterman Fault)	740	1,020	962	919	874	2,202	926	1,360	960	912	1,239	897	875	739	738
Irrigation Return Flow	9,487	9,416	9,344	9,279	9,204	9,134	9,063	9,102	9,027	8,955	8,884	8,817	8,743	8,670	8,529
WWTP Effluent Return Flow	1,860	1,734	1,750	1,795	1,795	1,687	2,126	2,312	2,230	2,265	2,108	1,928	2,056	1,798	2,066
Barstow upper sewage ponds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Barstow lower sewage ponds	1,860	1,734	1,750	1,795	1,795	1,687	2,126	2,312	2,223	2,239	1,788	1,478	1,647	1,270	1,630
Barstow irrigated field	0	0	0	0	0	0	0	0	0	0	285	421	383	524	428
Nebo Golf Course	0	0	0	0	0	0	0	0	7	26	35	29	26	4	8
Total Inflows	**13,581**	**13,735**	**13,672**	**13,654**	**15,183**	**198,840**	**34,445**	**129,111**	**14,116**	**22,466**	**143,061**	**14,938**	**15,896**	**13,527**	**12,547**
OUTFLOWS															
Surface Water Outflow - Mojave River (at Waterman Fault)	0	0	0	0	0	33,667	0	130,600	81	25	61,982	220	199	188	93
Groundwater Discharge to Stream (baseflow)	0	0	0	0	0	-24	0	-1,725	-1,008	-210	-2,521	-1,542	-409	-22	0
Subsurface Outflow	-3,069	-2,654	-2,590	-2,532	-2,446	-3,435	-3,580	-4,287	-4,345	-4,021	-4,548	-4,392	-4,296	-4,213	-4,009
to Transition Zone (at Helendale Fault)	0	0	0	0	0	-339	-248	-345	-40	-33	-259	-30	-25	-19	-9
to Centro (atWaterman Fault)	-1,766	-1,306	-1,220	-1,150	-1,070	-1,724	-1,951	-2,525	-2,839	-2,444	-2,683	-2,666	-2,502	-2,359	-2,116
to Harper (at Hinkley Gap)	-1,303	-1,349	-1,370	-1,382	-1,377	-1,372	-1,381	-1,417	-1,465	-1,545	-1,605	-1,696	-1,769	-1,836	-1,884
Evapotranspiration	-426	-236	-112	-44	-8	-1,728	-1,249	-2,531	-1,770	-1,456	-2,809	-1,956	-1,611	-1,251	-969
Total Pumping	-38,423	-39,874	-39,825	-39,776	-39,727	-39,678	-39,629	-39,580	-39,531	-39,482	-39,370	-39,435	-39,460	-39,301	-38,654
Agricultural															
Urban															
Total Outflows	**-41,917**	**-42,764**	**-42,527**	**-42,352**	**-42,181**	**-44,865**	**-44,458**	**-48,123**	**-46,655**	**-45,170**	**-49,248**	**-47,326**	**-45,775**	**-44,786**	**-43,632**
Annual Change in Storage (AF)	**-28,336**	**-29,029**	**-28,855**	**-28,697**	**-26,998**	**153,975**	**-10,013**	**80,988**	**-32,539**	**-22,704**	**93,814**	**-32,388**	**-29,879**	**-31,259**	**-31,085**
Cumulative Change in Storage (AF)	**-337,772**	**-366,801**	**-395,655**	**-424,353**	**-451,350**	**-297,375**	**-307,388**	**-226,400**	**-258,939**	**-281,642**	**-187,829**	**-220,216**	**-250,096**	**-281,355**	**-312,439**

Pumping totals by type for Centro could not be accurately reproduced
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CENTRO Model Subarea, USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Surface Water Inflow	0	0	0	1,252	35,664	330,408	11,779	111,812	11,542	189	74,773	3,700
Mojave River (at Helendale Fault)	0	0	0	1,252	35,664	314,428	11,779	110,419	11,542	189	73,457	0
Ungaged Tributaries	0	0	0	0	0	15,980	0	1,393	0	0	1,316	0
Lines (1996) Site 12. Fremont Wash	*0*	*0*	*0*	*0*	*0*	*170*	*0*	*15*	*0*	*0*	*14*	*0*
Lines (1996) Site 13. Buckthorn Wash	*0*	*0*	*0*	*0*	*0*	*2,890*	*0*	*252*	*0*	*0*	*238*	*0*
Lines (1996) Site 14. Wild Wash	*0*	*0*	*0*	*0*	*0*	*2,890*	*0*	*252*	*0*	*0*	*238*	*0*
Lines (1996) Site 15. Unnamed	*0*	*0*	*0*	*0*	*0*	*2,040*	*0*	*178*	*0*	*0*	*168*	*0*
Lines (1996) Site 16. Stoddard Wash	*0*	*0*	*0*	*0*	*0*	*7,990*	*0*	*696*	*0*	*0*	*658*	*0*
Artificial Recharge - Lenwood and Hodge	0	0	0	0	0	0	0	0	0	0	0	3,700
Recharge from Stream Leakage	0	0	0	2,532	37,597	145,005	15,740	113,317	13,603	2,377	79,492	1,979
Subsurface Inflow	1,976	2,001	1,997	1,627	1,446	2,261	1,241	1,976	1,632	1,529	1,964	1,758
from Transition Zone (at Helendale Fault)	1,305	1,360	1,406	1,139	961	1,205	482	1,127	1,006	934	1,424	1,208
from Baja (at Waterman Fault)	670	641	590	488	484	1,055	759	849	626	595	540	550
Irrigation Return Flow	8,595	8,937	8,743	8,427	8,114	7,791	6,660	5,809	5,655	5,193	4,040	8,486
WWTP Effluent Return Flow	1,992	1,890	1,987	1,983	2,184	2,429	2,266	2,816	2,816	2,816	2,816	2,816
Barstow upper sewage ponds	0	0	0	0	0	0	0	550	550	550	550	550
Barstow lower sewage ponds	1,548	1,438	1,502	1,521	1,751	2,045	1,823	1,823	1,823	1,823	1,823	1,823
Barstow irrigated field	421	429	437	388	378	311	371	371	371	371	371	371
Nebo Golf Course	23	23	48	74	55	73	72	72	72	72	72	72
Total Inflows	**12,563**	**12,828**	**12,726**	**14,570**	**49,341**	**157,486**	**25,907**	**123,919**	**23,706**	**11,916**	**88,313**	**15,039**
OUTFLOWS												
Surface Water Outflow - Mojave River (at Waterman Fault)	49	4	0	0	0	189,215	276	2,530	673	474	659	451
Groundwater Discharge to Stream (baseflow)	0	0	0	0	0	-1,967	-2,439	-3,008	-2,073	-943	-2,669	-1,979
Subsurface Outflow	-3,897	-3,634	-3,771	-3,446	-3,264	-5,014	-4,527	-5,072	-5,030	-4,949	-5,195	-5,133
to Transition Zone (at Helendale Fault)	-4	-1	0	0	-12	-365	-148	-202	-30	-19	-142	-22
to Centro (atWaterman Fault)	-1,973	-1,699	-1,827	-1,494	-1,296	-2,701	-2,421	-2,868	-2,922	-2,780	-2,842	-2,827
to Harper (at Hinkley Gap)	-1,920	-1,934	-1,943	-1,952	-1,956	-1,948	-1,958	-2,002	-2,077	-2,150	-2,211	-2,284
Evapotranspiration	-732	-527	-413	-263	-814	-2,313	-1,839	-2,513	-1,945	-1,578	-2,304	-1,725
Total Pumping	-38,597	-40,339	-38,337	-36,374	-35,838	-35,209	-33,172	-30,790	-31,255	-29,104	-23,659	-26,351
Agricultural												
Urban												
Total Outflows	**-43,226**	**-44,500**	**-42,521**	**-40,083**	**-39,916**	**-44,504**	**-41,977**	**-41,383**	**-40,303**	**-36,575**	**-33,827**	**-35,187**
Annual Change in Storage (AF)	**-30,663**	**-31,672**	**-29,794**	**-25,513**	**9,424**	**112,982**	**-16,070**	**82,536**	**-16,597**	**-24,659**	**54,486**	**-20,148**
Cumulative Change in Storage (AF)	**-343,102**	**-374,775**	**-404,569**	**-430,082**	**-420,657**	**-307,675**	**-323,745**	**-241,210**	**-257,807**	**-282,466**	**-227,980**	**-248,129**

Pumping totals by type for Centro could not be accurately reproduced
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SOUTH HARPER VALLEY Model Subarea,

USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Subsurface Inflow - Transition Zone (at Helendale Fault)	385	413	404	401	407	408	407	407	407	409	407	408	408	409	408
Irrigation Return Flow	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows			**404**	**402**	**407**	**408**	**407**	**407**	**407**	**409**	**407**	**408**	**408**	**409**	**408**
OUTFLOWS															
Subsurface Outflow - to South Harper Lake	-2,789	-406	-1,627	-1,706	-406	-407	-406	-406	-406	-408	-407	-408	-411	-414	-414
Total Pumping	-2	0	-1	-1	0	0	0	0	0	0	0	0	0	0	0
Total Outflows			**-1,628**	**-1,707**	**-406**	**-407**	**-406**	**-406**	**-406**	**-408**	**-407**	**-408**	**-411**	**-414**	**-414**
Annual Change in Storage (AF)			**-1,224**	**-1,305**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**-1**	**-3**	**-4**	**-6**
Cumulative Change in Storage (AF)					**1**	**2**	**3**	**3**	**4**	**5**	**6**	**6**	**3**	**-1**	**-7**

SOUTH HARPER VALLEY Model Subarea,

USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Subsurface Inflow - Transition Zone (at Helendale Fault)	408	409	410	409	409	410	411	410	411	411	412	412	412	412	413	412
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
Total Inflows	**408**	**409**	**410**	**409**	**409**	**410**	**411**	**410**	**411**	**412**	**413**	**412**	**412**	**413**	**414**	**412**
OUTFLOWS																
Subsurface Outflow - to South Harper Lake	-415	-416	-422	-428	-438	-469	-529	-606	-699	-811	-919	-1,037	-1,189	-1,335	-1,455	-1,553
Total Pumping	0	0	0	0	0	0	0	0	0	-2	-2	-2	-2	-2	-2	-2
Total Outflows	**-415**	**-416**	**-422**	**-428**	**-438**	**-469**	**-529**	**-606**	**-699**	**-813**	**-921**	**-1,039**	**-1,191**	**-1,337**	**-1,457**	**-1,555**
Annual Change in Storage (AF)	**-7**	**-8**	**-12**	**-19**	**-29**	**-59**	**-117**	**-195**	**-288**	**-402**	**-508**	**-627**	**-778**	**-924**	**-1,043**	**-1,143**
Cumulative Change in Storage (AF)	**-14**	**-21**	**-33**	**-52**	**-81**	**-140**	**-257**	**-452**	**-741**	**-1,142**	**-1,650**	**-2,277**	**-3,056**	**-3,980**	**-5,024**	**-6,166**

SOUTH HARPER VALLEY Model Subarea,

USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Subsurface Inflow - Transition Zone (at Helendale Fault)	412	411	412	410	410	409	409	407	406	405	405	403	402	401	401
Irrigation Return Flow	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Inflows	**412**	**412**	**413**	**411**	**410**	**410**	**410**	**408**	**407**	**406**	**406**	**404**	**403**	**402**	**402**
OUTFLOWS															
Subsurface Outflow - to South Harper Lake	-1,645	-1,763	-1,847	-1,955	-2,032	-2,120	-2,194	-2,243	-2,299	-2,343	-2,399	-2,424	-2,468	-2,501	-2,537
Total Pumping	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2	-2
Total Outflows	**-1,647**	**-1,765**	**-1,849**	**-1,957**	**-2,034**	**-2,122**	**-2,196**	**-2,245**	**-2,301**	**-2,345**	**-2,401**	**-2,426**	**-2,470**	**-2,503**	**-2,539**
Annual Change in Storage (AF)	**-1,235**	**-1,353**	**-1,436**	**-1,546**	**-1,623**	**-1,712**	**-1,786**	**-1,837**	**-1,894**	**-1,939**	**-1,995**	**-2,022**	**-2,067**	**-2,101**	**-2,138**
Cumulative Change in Storage (AF)	**-7,401**	**-8,754**	**-10,190**	**-11,737**	**-13,360**	**-15,072**	**-16,858**	**-18,695**	**-20,589**	**-22,528**	**-24,523**	**-26,545**	**-28,612**	**-30,713**	**-32,850**

SOUTH HARPER VALLEY Model Subarea,

USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Subsurface Inflow - Transition Zone (at Helendale Fault)	399	398	397	397	395	394	393	394	392	391	391	391	389	389	389
Irrigation Return Flow	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**400**	**399**	**398**	**398**	**395**	**395**	**394**	**394**	**392**	**391**	**391**	**391**	**389**	**389**	**389**
OUTFLOWS															
Subsurface Outflow - to South Harper Lake	-2,556	-2,585	-2,610	-2,639	-2,653	-2,669	-2,690	-2,714	-2,723	-2,742	-2,757	-2,782	-2,789	-2,666	-2,580
Total Pumping	-2	-2	-2	-2	-1	-1	-1	-1	-1	-1	-1	0	0	0	0
Total Outflows	**-2,558**	**-2,587**	**-2,611**	**-2,640**	**-2,655**	**-2,670**	**-2,691**	**-2,715**	**-2,724**	**-2,743**	**-2,757**	**-2,782**	**-2,790**	**-2,666**	**-2,580**
Annual Change in Storage (AF)	**-2,158**	**-2,188**	**-2,214**	**-2,243**	**-2,259**	**-2,276**	**-2,297**	**-2,321**	**-2,332**	**-2,352**	**-2,367**	**-2,391**	**-2,400**	**-2,277**	**-2,192**
Cumulative Change in Storage (AF)	**-35,008**	**-37,197**	**-39,410**	**-41,653**	**-43,912**	**-46,188**	**-48,485**	**-50,806**	**-53,138**	**-55,490**	**-57,856**	**-60,248**	**-62,648**	**-64,924**	**-67,116**

SOUTH HARPER VALLEY Model Subarea,

USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Subsurface Inflow - Transition Zone (at Helendale Fault)	389	388	387	387	388	386	386	386	387	385	385	385
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**389**	**388**	**387**	**387**	**388**	**386**	**386**	**386**	**387**	**385**	**385**	**385**
OUTFLOWS												
Subsurface Outflow - to South Harper Lake	-2,519	-2,495	-2,487	-2,470	-2,446	-2,397	-2,355	-2,273	-2,197	-2,093	-1,981	-1,847
Total Pumping	0	0	0	0	0	0	0	0	0	0	0	0
Total Outflows	**-2,519**	**-2,495**	**-2,487**	**-2,470**	**-2,446**	**-2,397**	**-2,355**	**-2,273**	**-2,197**	**-2,093**	**-1,981**	**-1,847**
Annual Change in Storage (AF)	**-2,130**	**-2,107**	**-2,100**	**-2,083**	**-2,058**	**-2,011**	**-1,969**	**-1,888**	**-1,811**	**-1,707**	**-1,596**	**-1,462**
Cumulative Change in Storage (AF)	**-69,246**	**-71,353**	**-73,453**	**-75,536**	**-77,594**	**-79,605**	**-81,573**	**-83,461**	**-85,272**	**-86,979**	**-88,575**	**-90,036**

SOUTH HARPER LAKE Model Subarea,

USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Subsurface Inflow	-2	10,834	5,316	5,627	-1	0	0	-1	-1	-1	-2	14	30	40	46
from North Harper Lake Model Subarea	-409	8,168	3,689	3,921	-407	-408	-407	-407	-407	-409	-408	-394	-381	-374	-367
from South Harper Valley (at Lockhart Fault)	406	2,789	1,627	1,706	406	407	406	406	406	408	407	408	411	414	414
Irrigation Return Flow	0	5,100	239	208	0	0	0	0	0	0	0	100	100	100	100
Total Inflows			**5,556**	**5,835**	**-1**	**0**	**0**	**-1**	**-1**	**-1**	**-2**	**114**	**130**	**140**	**146**
OUTFLOWS															
Total Pumping	-12,900	0	-8,320	-8,056	0	0	0	0	0	0	0	-200	-200	-200	-200
Agricultural Irrigation					0	0	0	0	0	0	0	-200	-200	-200	-200
Industrial					0	0	0	0	0	0	0	0	0	0	0
Total Outflows			**-8,320**	**-8,056**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**-200**	**-200**	**-200**	**-200**
Annual Change in Storage (AF)			**-2,764**	**-2,221**	**-1**	**0**	**0**	**-1**	**-1**	**-1**	**-2**	**-86**	**-70**	**-60**	**-54**
Cumulative Change in Storage (AF)					**-1**	**-1**	**-2**	**-2**	**-3**	**-5**	**-6**	**-92**	**-162**	**-222**	**-276**

SOUTH HARPER LAKE Model Subarea,
USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Subsurface Inflow	54	59	72	99	155	346	673	1,054	1,570	2,122	2,559	3,034	3,630	4,201	4,647	5,028
from North Harper Lake Model Subarea	-361	-358	-350	-329	-283	-122	144	448	871	1,311	1,640	1,996	2,441	2,867	3,192	3,475
from South Harper Valley (at Lockhart Fault)	415	416	422	428	438	469	529	606	699	811	919	1,037	1,189	1,335	1,455	1,553
Irrigation Return Flow	100	100	200	300	500	1,300	2,600	3,750	5,100	0	0	0	0	0	0	0
Total Inflows	**154**	**159**	**272**	**399**	**655**	**1,646**	**3,273**	**4,804**	**6,670**	**2,122**	**2,559**	**3,034**	**3,630**	**4,201**	**4,647**	**5,028**
OUTFLOWS																
Total Pumping	-200	-200	-400	-600	-1,000	-2,600	-5,200	-7,500	-10,200	-6,500	-7,400	-8,350	-9,300	-10,200	-10,350	-10,500
Agricultural Irrigation	-200	-200	-400	-600	-1,000	-2,600	-5,200	-7,500	-10,200							
Industrial	0	0	0	0	0	0	0	0	0							
Total Outflows	**-200**	**-200**	**-400**	**-600**	**-1,000**	**-2,600**	**-5,200**	**-7,500**	**-10,200**	**-6,500**	**-7,400**	**-8,350**	**-9,300**	**-10,200**	**-10,350**	**-10,500**
Annual Change in Storage (AF)	**-46**	**-41**	**-128**	**-201**	**-345**	**-954**	**-1,927**	**-2,696**	**-3,530**	**-4,378**	**-4,841**	**-5,316**	**-5,670**	**-5,999**	**-5,703**	**-5,472**
Cumulative Change in Storage (AF)	**-322**	**-363**	**-492**	**-693**	**-1,038**	**-1,992**	**-3,919**	**-6,616**	**-10,145**	**-14,523**	**-19,364**	**-24,680**	**-30,350**	**-36,349**	**-42,052**	**-47,524**

SOUTH HARPER LAKE Model Subarea,
USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Subsurface Inflow	5,634	6,174	6,490	6,905	7,194	7,501	7,770	7,957	8,164	8,326	8,529	8,620	8,778	8,895	9,024
from North Harper Lake Model Subarea	3,989	4,412	4,643	4,949	5,162	5,382	5,576	5,713	5,865	5,983	6,130	6,196	6,310	6,394	6,486
from South Harper Valley (at Lockhart Fault)	1,645	1,763	1,847	1,955	2,032	2,120	2,194	2,243	2,299	2,343	2,399	2,424	2,468	2,501	2,537
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**5,634**	**6,174**	**6,490**	**6,905**	**7,194**	**7,501**	**7,770**	**7,957**	**8,164**	**8,326**	**8,529**	**8,620**	**8,778**	**8,895**	**9,024**
OUTFLOWS															
Total Pumping	-12,200	-12,350	-12,500	-12,650	-12,800	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900
Agricultural Irrigation															
Industrial															
Total Outflows	**-12,200**	**-12,350**	**-12,500**	**-12,650**	**-12,800**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**
Annual Change in Storage (AF)	**-6,566**	**-6,176**	**-6,010**	**-5,745**	**-5,606**	**-5,399**	**-5,130**	**-4,943**	**-4,736**	**-4,574**	**-4,371**	**-4,280**	**-4,122**	**-4,005**	**-3,876**
Cumulative Change in Storage (AF)	**-54,090**	**-60,266**	**-66,276**	**-72,021**	**-77,627**	**-83,026**	**-88,156**	**-93,099**	**-97,835**	**-102,410**	**-106,780**	**-111,061**	**-115,183**	**-119,188**	**-123,064**

SOUTH HARPER LAKE Model Subarea,

USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Subsurface Inflow	9,089	9,190	9,276	9,374	9,424	9,477	9,545	9,624	9,652	9,711	9,754	9,831	9,849	10,834	9,978
from North Harper Lake Model Subarea	6,533	6,605	6,666	6,735	6,770	6,808	6,855	6,910	6,928	6,968	6,997	7,049	7,060	8,168	7,398
from South Harper Valley (at Lockhart Fault)	2,556	2,585	2,610	2,639	2,653	2,669	2,690	2,714	2,723	2,742	2,757	2,782	2,789	2,666	2,580
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**9,089**	**9,190**	**9,276**	**9,374**	**9,424**	**9,477**	**9,545**	**9,624**	**9,652**	**9,711**	**9,754**	**9,831**	**9,849**	**10,834**	**9,978**
OUTFLOWS															
Total Pumping	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-12,900	-10,563	-8,522
Agricultural Irrigation															
Industrial															
Total Outflows	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-12,900**	**-10,563**	**-8,522**
Annual Change in Storage (AF)	**-3,811**	**-3,710**	**-3,624**	**-3,526**	**-3,476**	**-3,423**	**-3,355**	**-3,276**	**-3,248**	**-3,189**	**-3,146**	**-3,069**	**-3,051**	**271**	**1,456**
Cumulative Change in Storage (AF)	**-126,876**	**-130,586**	**-134,210**	**-137,736**	**-141,213**	**-144,636**	**-147,991**	**-151,267**	**-154,515**	**-157,705**	**-160,851**	**-163,920**	**-166,970**	**-166,700**	**-165,243**

SOUTH HARPER LAKE Model Subarea,
USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Subsurface Inflow	9,625	9,749	9,615	9,378	9,085	8,714	7,838	8,223	7,790	7,258	5,786	5,226
from North Harper Lake Model Subarea	7,106	7,254	7,127	6,907	6,640	6,317	5,483	5,950	5,593	5,165	3,805	3,380
from South Harper Valley (at Lockhart Fault)	2,519	2,495	2,487	2,470	2,446	2,397	2,355	2,273	2,197	2,093	1,981	1,847
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**9,625**	**9,749**	**9,615**	**9,378**	**9,085**	**8,714**	**7,838**	**8,223**	**7,790**	**7,258**	**5,786**	**5,226**
OUTFLOWS												
Total Pumping	-8,517	-9,878	-11,201	-10,212	-9,224	-8,235	-7,252	-7,398	-6,925	-5,077	-1,138	-1,208
Agricultural Irrigation												
Industrial												
Total Outflows	**-8,517**	**-9,878**	**-11,201**	**-10,212**	**-9,224**	**-8,235**	**-7,252**	**-7,398**	**-6,925**	**-5,077**	**-1,138**	**-1,208**
Annual Change in Storage (AF)	**1,109**	**-129**	**-1,586**	**-835**	**-138**	**478**	**586**	**825**	**865**	**2,181**	**4,648**	**4,018**
Cumulative Change in Storage (AF)	**-164,134**	**-164,263**	**-165,849**	**-166,684**	**-166,823**	**-166,344**	**-165,758**	**-164,933**	**-164,068**	**-161,888**	**-157,239**	**-153,221**

NORTH HARPER LAKE Model Subarea,

USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Subsurface Inflow (from Centro at Hinkley Gap)	975	2,513	1,724	1,768	2,513	2,502	2,466	2,436	2,409	2,387	2,360	2,343	2,350	2,369	2,370
Irrigation Return Flow	0	1,058	91	216	0	0	0	0	0	0	0	0	0	0	0
Total Inflows			**1,814**	**1,984**	**2,513**	**2,502**	**2,466**	**2,436**	**2,409**	**2,387**	**2,360**	**2,343**	**2,350**	**2,369**	**2,370**
OUTFLOWS															
Subsurface Outflow to South Harper Lake	-8,168	409	-3,689	-3,921	407	408	407	407	407	409	408	394	381	374	367
Total Pumping	-3,135	0	-670	-978	0	0	0	0	0	0	0	0	0	0	0
Agricultural Irrigation					0	0	0	0	0	0	0	0	0	0	0
Industrial					0	0	0	0	0	0	0	0	0	0	0
Harper Dry Lake Evaporation	-2,942	0	-1,150	-1,000	-2,933	-2,942	-2,931	-2,924	-2,923	-2,924	-2,914	-2,895	-2,872	-2,865	-2,843
Total Outflows			**-5,509**	**-5,899**	**-2,526**	**-2,534**	**-2,525**	**-2,518**	**-2,516**	**-2,515**	**-2,506**	**-2,501**	**-2,491**	**-2,491**	**-2,476**
Annual Change in Storage (AF)			**-3,695**	**-3,915**	**-13**	**-32**	**-58**	**-82**	**-107**	**-128**	**-146**	**-158**	**-141**	**-123**	**-106**
Cumulative Change in Storage (AF)					**-13**	**-45**	**-103**	**-185**	**-292**	**-420**	**-566**	**-724**	**-865**	**-988**	**-1,094**

NORTH HARPER LAKE Model Subarea,

USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Subsurface Inflow (from Centro at Hinkley Gap)	2,385	2,399	2,421	2,419	2,423	2,420	2,407	2,362	2,304	2,143	2,039	1,847	1,033	1,053	1,223	1,247
Irrigation Return Flow	0	0	0	0	0	0	0	50	100	0	0	0	0	0	0	0
Total Inflows	**2,385**	**2,399**	**2,421**	**2,419**	**2,423**	**2,420**	**2,407**	**2,412**	**2,404**	**2,143**	**2,039**	**1,847**	**1,033**	**1,053**	**1,223**	**1,247**
OUTFLOWS																
Subsurface Outflow to South Harper Lake	361	358	350	329	283	122	-144	-448	-871	-1,311	-1,640	-1,996	-2,441	-2,867	-3,192	-3,475
Total Pumping	0	0	0	0	0	0	0	-100	-200	-200	-300	-350	-400	-500	-550	-600
Agricultural Irrigation	0	0	0	0	0	0	0	-100	-200							
Industrial	0	0	0	0	0	0	0	0	0							
Harper Dry Lake Evaporation	-2,835	-2,819	-2,820	-2,790	-2,742	-2,606	-2,458	-2,270	-2,111	-1,942	-1,813	-1,683	-1,526	-1,343	-1,164	-988
Total Outflows	**-2,474**	**-2,462**	**-2,469**	**-2,461**	**-2,458**	**-2,484**	**-2,602**	**-2,818**	**-3,182**	**-3,453**	**-3,753**	**-4,029**	**-4,367**	**-4,709**	**-4,906**	**-5,063**
Annual Change in Storage (AF)	**-89**	**-63**	**-49**	**-41**	**-35**	**-63**	**-195**	**-406**	**-778**	**-1,309**	**-1,714**	**-2,182**	**-3,334**	**-3,657**	**-3,682**	**-3,816**
Cumulative Change in Storage (AF)	**-1,182**	**-1,246**	**-1,295**	**-1,336**	**-1,371**	**-1,435**	**-1,629**	**-2,035**	**-2,813**	**-4,123**	**-5,836**	**-8,018**	**-11,353**	**-15,009**	**-18,691**	**-22,507**

NORTH HARPER LAKE Model Subarea,

USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Subsurface Inflow (from Centro at Hinkley Gap)	1,244	1,180	1,140	1,063	1,026	995	975	998	998	1,017	1,028	1,051	1,102	1,174	1,254
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**1,244**	**1,180**	**1,140**	**1,063**	**1,026**	**995**	**975**	**998**	**998**	**1,017**	**1,028**	**1,051**	**1,102**	**1,174**	**1,254**
OUTFLOWS															
Subsurface Outflow to South Harper Lake	-3,989	-4,412	-4,643	-4,949	-5,162	-5,382	-5,576	-5,713	-5,865	-5,983	-6,130	-6,196	-6,310	-6,394	-6,486
Total Pumping	-600	-650	-700	-750	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800
Agricultural Irrigation															
Industrial															
Harper Dry Lake Evaporation	-854	-706	-615	-445	-310	-153	-29	-2	0	0	0	0	0	0	0
Total Outflows	**-5,443**	**-5,767**	**-5,957**	**-6,144**	**-6,273**	**-6,335**	**-6,406**	**-6,516**	**-6,665**	**-6,783**	**-6,930**	**-6,996**	**-7,110**	**-7,194**	**-7,286**
Annual Change in Storage (AF)	**-4,200**	**-4,587**	**-4,817**	**-5,081**	**-5,247**	**-5,339**	**-5,430**	**-5,517**	**-5,667**	**-5,766**	**-5,902**	**-5,945**	**-6,008**	**-6,021**	**-6,032**
Cumulative Change in Storage (AF)	**-26,707**	**-31,294**	**-36,112**	**-41,192**	**-46,439**	**-51,778**	**-57,209**	**-62,726**	**-68,393**	**-74,159**	**-80,061**	**-86,006**	**-92,015**	**-98,035**	**-104,067**

NORTH HARPER LAKE Model Subarea,

USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Subsurface Inflow (from Centro at Hinkley Gap)	1,303	1,349	1,370	1,382	1,377	1,372	1,381	1,417	1,465	1,545	1,605	1,696	1,769	1,836	1,884
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	1,058	1,058
Total Inflows	**1,303**	**1,349**	**1,370**	**1,382**	**1,377**	**1,372**	**1,381**	**1,417**	**1,465**	**1,545**	**1,605**	**1,696**	**1,769**	**2,894**	**2,942**
OUTFLOWS															
Subsurface Outflow to South Harper Lake	-6,533	-6,605	-6,666	-6,735	-6,770	-6,808	-6,855	-6,910	-6,928	-6,968	-6,997	-7,049	-7,060	-8,168	-7,398
Total Pumping	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800	-800	-3,023	-3,023
Agricultural Irrigation														-3,023	-3,023
Industrial														0	0
Harper Dry Lake Evaporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Outflows	**-7,333**	**-7,405**	**-7,466**	**-7,535**	**-7,570**	**-7,608**	**-7,655**	**-7,710**	**-7,728**	**-7,768**	**-7,797**	**-7,849**	**-7,860**	**-11,191**	**-10,421**
Annual Change in Storage (AF)	**-6,029**	**-6,056**	**-6,096**	**-6,153**	**-6,194**	**-6,236**	**-6,274**	**-6,293**	**-6,263**	**-6,223**	**-6,192**	**-6,153**	**-6,091**	**-8,297**	**-7,479**
Cumulative Change in Storage (AF)	**-110,097**	**-116,153**	**-122,249**	**-128,402**	**-134,596**	**-140,831**	**-147,106**	**-153,399**	**-159,662**	**-165,885**	**-172,077**	**-178,230**	**-184,321**	**-192,618**	**-200,098**

NORTH HARPER LAKE Model Subarea,

USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Subsurface Inflow (from Centro at Hinkley Gap)	1,920	1,934	1,943	1,952	1,956	1,948	1,958	2,002	2,077	2,150	2,211	2,284
Irrigation Return Flow	1,058	1,058	1,058	1,058	1,058	1,058	1,052	1,052	1,052	1,052	1,052	1,051
Total Inflows	**2,978**	**2,992**	**3,002**	**3,010**	**3,014**	**3,006**	**3,010**	**3,053**	**3,129**	**3,202**	**3,263**	**3,335**
OUTFLOWS												
Subsurface Outflow to South Harper Lake	-7,106	-7,254	-7,127	-6,907	-6,640	-6,317	-5,483	-5,950	-5,593	-5,165	-3,805	-3,380
Total Pumping	-3,023	-3,023	-3,023	-3,023	-3,023	-3,023	-3,006	-3,135	-3,006	-3,006	-3,006	-3,005
Agricultural Irrigation	-3,023	-3,023	-3,023	-3,023	-3,023	-3,023	-3,005	-3,005	-3,005	-3,005	-3,005	-3,004
Industrial	0	0	0	0	0	0	-1	-130	-1	-1	-1	-1
Harper Dry Lake Evaporation	0	0	0	0	0	0	0	0	0	0	0	0
Total Outflows	**-10,129**	**-10,277**	**-10,150**	**-9,930**	**-9,663**	**-9,340**	**-8,489**	**-9,085**	**-8,599**	**-8,171**	**-6,811**	**-6,385**
Annual Change in Storage (AF)	**-7,151**	**-7,286**	**-7,149**	**-6,920**	**-6,648**	**-6,334**	**-5,479**	**-6,031**	**-5,470**	**-4,969**	**-3,549**	**-3,050**
Cumulative Change in Storage (AF)	**-207,249**	**-214,535**	**-221,683**	**-228,604**	**-235,252**	**-241,586**	**-247,065**	**-253,096**	**-258,566**	**-263,535**	**-267,084**	**-270,133**

BAJA Model Subarea, USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Surface Water Inflow	0	214,525	14,070	15,485	0	8,000	0	0	410	0	22,690	171,755	280	0	78,102
Mojave River (at Waterman Fault)	0	189,215	10,476	11,925	0	0	0	0	0	0	0	141,565	0	0	57,102
Surface Water Inflow - Ungaged Tributaries	0	30,190	3,593	3,559	0	8,000	0	0	410	0	22,690	30,190	280	0	21,000
Lines (1996) Site 17. Boom Creek	*0*	*1,510*	*161*	*145*	*0*	*400*	*0*	*0*	*20*	*0*	*1,140*	*1,510*	*14*	*0*	*1,050*
Lines (1996) Site 18. Daggett Wash	*0*	*7,550*	*917*	*909*	*0*	*2,000*	*0*	*0*	*100*	*0*	*5,670*	*7,550*	*70*	*0*	*5,250*
Lines (1996) Site 19. Calico Wash	*0*	*7,550*	*917*	*909*	*0*	*2,000*	*0*	*0*	*100*	*0*	*5,670*	*7,550*	*70*	*0*	*5,250*
Lines (1996) Site 20. Manix Wash	*0*	*9,360*	*1,138*	*1,127*	*0*	*2,480*	*0*	*0*	*130*	*0*	*7,040*	*9,360*	*90*	*0*	*6,510*
Lines (1996) Site 21. Wilhelm Wash	*0*	*3,620*	*386*	*396*	*0*	*960*	*0*	*0*	*50*	*0*	*2,720*	*3,620*	*30*	*0*	*2,520*
Lines (1996) Site 22. Unnamed	*0*	*600*	*73*	*73*	*0*	*160*	*0*	*0*	*10*	*0*	*450*	*600*	*6*	*0*	*420*
Recharge from Stream Leakage	551	155,955	12,015	13,023	894	5,264	833	939	1,425	983	12,776	74,044	1,931	1,443	70,604
Subsurface Inflow	1,947	4,210	2,921	2,947	2,631	2,692	2,565	2,558	2,563	2,585	3,170	3,323	3,164	2,999	3,231
from Centro Model Subarea (at Waterman Fault)	574	3,058	2,128	2,171	2,375	2,432	2,299	2,286	2,283	2,298	2,878	3,034	2,886	2,724	2,955
from Coyote Model Subarea	256	2,257	793	776	256	259	265	273	280	287	292	289	277	275	276
Mountain-Front Recharge (Kane Wash)	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647
Irrigation Return Flow	2,695	15,151	9,020	9,371	2,695	2,890	3,085	3,280	3,475	3,670	3,865	4,060	4,255	4,450	4,645
WWTP Effluent Return Flow	0	610	375	398	0	0	0	0	0	0	0	0	0	0	0
1. Nebo Sewage Ponds	0	610	329	346	0	0	0	0	0	0	0	0	0	0	0
2. Yermo Sewage Ponds	0	140	47	52	0	0	0	0	0	0	0	0	0	0	0
Total Inflows			**24,978**	**26,386**	**6,867**	**11,492**	**7,130**	**7,424**	**8,109**	**7,885**	**20,457**	**82,074**	**9,996**	**9,539**	**79,128**
OUTFLOWS															
Surface Water Outflow - Mojave River (to Afton)	-95,492	0	-3,806	-4,168	-746	-3,319	-902	-869	-742	-759	-8,110	-95,492	-819	-780	-7,251
Groundwater Discharge to Stream (baseflow)	-4,564	-695	-2,204	-2,182	-1,638	-2,108	-1,735	-1,807	-1,839	-1,742	-2,510	-2,693	-2,523	-2,223	-2,592
Subsurface Outflow	-2,666	-731	-1,340	-1,291	-1,244	-1,254	-1,203	-1,183	-1,165	-1,149	-1,247	-1,534	-1,208	-1,226	-1,683
to Afton	-227	-151	-170	-169	-227	-225	-217	-211	-207	-203	-201	-196	-191	-189	-187
to Coyote	-740	-95	-504	-457	-720	-718	-705	-692	-679	-665	-651	-657	-688	-707	-710
to Centro	-2,202	-279	-666	-665	-297	-311	-282	-279	-279	-281	-396	-680	-329	-330	-785
Evapotranspiration	-10,615	-898	-3,653	-3,324	-8,805	-8,690	-7,973	-7,778	-7,772	-7,557	-8,002	-10,615	-8,782	-8,349	-8,985
Troy Dry Lake Evaporation	-6	0	-1	-1	-6	-6	-6	-5	-5	-4	-4	-3	-3	-2	-2
Total Pumping	-58,757	-5,390	-32,245	-34,156	-5,390	-5,780	-6,170	-6,560	-6,950	-7,340	-7,730	-8,120	-8,510	-8,900	-9,290
Agricultural Irrigation	-55,791	-5,390	-30,866	-32,360	-5,390	-5,780	-6,170	-6,560	-6,950	-7,340	-7,730	-8,120	-8,510	-8,900	-9,290
Municipal, Industrial, Domestic	-610	0	-375	-398	0	0	0	0	0	0	0	0	0	0	0
Recreational Lakes (evaporation)	-4,387	0	-1,003	-1,398	0	0	0	0	0	0	0	0	0	0	0
Total Outflows			**-39,443**	**-40,954**	**-17,083**	**-17,838**	**-17,087**	**-17,334**	**-17,731**	**-17,793**	**-19,493**	**-22,965**	**-21,026**	**-20,701**	**-22,552**
Annual Change in Storage (AF)			**-14,465**	**-14,568**	**-10,216**	**-6,345**	**-9,957**	**-9,909**	**-9,621**	**-9,909**	**965**	**59,109**	**-11,030**	**-11,162**	**56,576**
Cumulative Change in Storage (AF)					**-10,216**	**-16,561**	**-26,518**	**-36,428**	**-46,049**	**-55,958**	**-54,993**	**4,116**	**-6,914**	**-18,076**	**38,500**

Pumping by category calculated from information in Stamos report

BAJA Model Subarea, USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Surface Water Inflow	1	99,198	8,094	5,000	14,192	786	0	0	8	1	2,890	0	0	0	0	0
Mojave River (at Waterman Fault)	1	79,198	94	0	11,302	0	0	0	8	1	0	0	0	0	0	0
Surface Water Inflow - Ungaged Tributaries	0	20,000	8,000	5,000	2,890	786	0	0	0	0	2,890	0	0	0	0	0
Lines (1996) Site 17. Boom Creek	*0*	*1,000*	*400*	*250*	*140*	*40*	*0*	*0*	*0*	*0*	*140*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 18. Daggett Wash	*0*	*5,000*	*2,000*	*1,250*	*720*	*200*	*0*	*0*	*0*	*0*	*720*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 19. Calico Wash	*0*	*5,000*	*2,000*	*1,250*	*720*	*200*	*0*	*0*	*0*	*0*	*720*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 20. Manix Wash	*0*	*6,200*	*2,480*	*1,550*	*900*	*240*	*0*	*0*	*0*	*0*	*900*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 21. Wilhelm Wash	*0*	*2,400*	*960*	*600*	*350*	*90*	*0*	*0*	*0*	*0*	*350*	*0*	*0*	*0*	*0*	*0*
Lines (1996) Site 22. Unnamed	*0*	*400*	*160*	*100*	*60*	*16*	*0*	*0*	*0*	*0*	*60*	*0*	*0*	*0*	*0*	*0*
Recharge from Stream Leakage	1,550	77,648	6,447	4,480	15,732	2,061	1,384	1,262	1,417	1,219	2,814	1,393	903	794	853	820
Subsurface Inflow	3,037	3,257	3,338	3,176	3,108	2,998	2,923	2,883	2,875	2,829	2,582	2,709	2,507	2,542	2,528	2,495
from Centro Model Subarea (at Waterman Fault)	2,754	2,974	3,058	2,897	2,824	2,705	2,622	2,577	2,563	2,513	2,263	2,382	2,161	2,113	1,860	1,689
from Coyote Model Subarea	283	283	280	280	285	292	300	306	312	316	319	327	346	429	668	806
Mountain-Front Recharge (Kane Wash)	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647
Irrigation Return Flow	4,905	5,085	5,275	5,580	5,860	6,105	6,495	6,785	7,055	4,417	4,967	6,376	6,785	7,563	6,741	6,479
WWTP Effluent Return Flow	410	410	410	410	410	410	410	410	410	410	410	463	463	463	463	463
1. Nebo Sewage Ponds	410	410	410	410	410	410	410	410	410	410	410	463	463	463	463	463
2. Yermo Sewage Ponds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**10,549**	**87,047**	**16,117**	**14,293**	**25,757**	**12,220**	**11,859**	**11,988**	**12,404**	**9,521**	**11,420**	**11,588**	**11,305**	**12,008**	**11,232**	**10,905**
OUTFLOWS																
Surface Water Outflow - Mojave River (to Afton)	-747	-21,185	-3,271	-2,284	-1,430	-817	-699	-659	-1,822	-2,254	-3,515	-3,171	-2,328	-2,378	-2,437	-2,456
Groundwater Discharge to Stream (baseflow)	-2,293	-2,981	-3,039	-2,712	-2,467	-2,238	-2,083	-1,921	-3,242	-3,472	-3,985	-4,564	-3,233	-3,168	-3,287	-3,277
Subsurface Outflow	-1,352	-1,632	-1,471	-1,420	-1,550	-1,374	-1,354	-1,333	-1,476	-1,454	-1,421	-1,370	-1,407	-1,281	-1,279	-1,236
to Afton	-183	-182	-180	-178	-176	-174	-173	-172	-172	-171	-171	-169	-167	-166	-165	-164
to Coyote	-708	-715	-734	-740	-736	-724	-711	-692	-674	-656	-644	-626	-603	-536	-510	-495
to Centro	-461	-735	-557	-503	-638	-476	-470	-469	-630	-627	-606	-575	-637	-579	-603	-577
Evapotranspiration	-8,215	-10,173	-9,185	-8,778	-8,577	-8,132	-7,917	-7,741	-1,792	-1,855	-1,932	-1,912	-1,860	-1,815	-1,810	-1,781
Troy Dry Lake Evaporation	-1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Pumping	-9,810	-10,170	-10,550	-11,160	-11,720	-12,210	-12,990	-13,570	-14,110	-16,829	-18,787	-23,510	-24,912	-27,532	-24,366	-23,565
Agricultural Irrigation	-9,400	-9,760	-10,139	-10,750	-11,310	-11,800	-12,579	-13,160	-13,700	-16,419	-18,376	-23,047	-24,449	-27,069	-23,903	-23,102
Municipal, Industrial, Domestic	-410	-410	-411	-410	-410	-410	-411	-410	-410	-410	-411	-463	-463	-463	-463	-463
Recreational Lakes (evaporation)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Outflows	**-21,671**	**-24,957**	**-24,245**	**-24,069**	**-24,314**	**-23,954**	**-24,344**	**-24,565**	**-20,620**	**-23,610**	**-26,126**	**-31,356**	**-31,412**	**-33,796**	**-30,742**	**-29,859**
Annual Change in Storage (AF)	**-11,122**	**62,090**	**-8,129**	**-9,776**	**1,444**	**-11,734**	**-12,485**	**-12,577**	**-8,216**	**-14,088**	**-14,706**	**-19,768**	**-20,107**	**-21,787**	**-19,509**	**-18,954**
Cumulative Change in Storage (AF)	**27,378**	**89,468**	**81,340**	**71,564**	**73,007**	**61,273**	**48,788**	**36,211**	**27,994**	**13,906**	**-799**	**-20,567**	**-40,674**	**-62,461**	**-81,970**	**-100,924**

Pumping by category calculated from information in Stamos report

BAJA Model Subarea, USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Surface Water Inflow	4,000	0	0	0	161	0	0	5,512	1,290	1,600	0	132,089	10	0	0
Mojave River (at Waterman Fault)	0	0	0	0	0	0	0	5,512	0	0	0	106,679	10	0	0
Surface Water Inflow - Ungaged Tributaries	4,000	0	0	0	161	0	0	0	1,290	1,600	0	25,410	0	0	0
Lines (1996) Site 17. Boom Creek	*200*	*0*	*0*	*0*	*8*	*0*	*0*	*0*	*60*	*80*	*0*	*150*	*0*	*0*	*0*
Lines (1996) Site 18. Daggett Wash	*1,000*	*0*	*0*	*0*	*40*	*0*	*0*	*0*	*320*	*400*	*0*	*7,500*	*0*	*0*	*0*
Lines (1996) Site 19. Calico Wash	*1,000*	*0*	*0*	*0*	*40*	*0*	*0*	*0*	*320*	*400*	*0*	*7,500*	*0*	*0*	*0*
Lines (1996) Site 20. Manix Wash	*1,240*	*0*	*0*	*0*	*50*	*0*	*0*	*0*	*400*	*500*	*0*	*9,300*	*0*	*0*	*0*
Lines (1996) Site 21. Wilhelm Wash	*480*	*0*	*0*	*0*	*20*	*0*	*0*	*0*	*160*	*190*	*0*	*360*	*0*	*0*	*0*
Lines (1996) Site 22. Unnamed	*80*	*0*	*0*	*0*	*3*	*0*	*0*	*0*	*30*	*30*	*0*	*600*	*0*	*0*	*0*
Recharge from Stream Leakage	2,738	627	600	571	617	552	591	7,740	1,182	1,453	555	124,006	1,075	937	773
Subsurface Inflow	2,679	2,736	2,782	3,030	3,368	3,460	3,296	3,217	3,028	2,572	2,327	4,210	4,074	3,788	3,215
from Centro Model Subarea (at Waterman Fault)	1,794	1,804	1,668	1,620	1,565	1,290	1,039	1,115	1,068	688	574	2,579	2,380	2,224	2,020
from Coyote Model Subarea	884	933	1,114	1,410	1,802	2,170	2,257	2,102	1,960	1,884	1,753	1,631	1,694	1,564	1,195
Mountain-Front Recharge (Kane Wash)	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647
Irrigation Return Flow	7,044	8,717	9,701	10,932	11,436	11,745	13,050	11,237	10,337	10,936	10,646	10,918	11,837	12,501	11,332
WWTP Effluent Return Flow	610	350	350	420	420	420	460	460	460	460	460	490	590	590	590
1. Nebo Sewage Ponds	610	350	350	350	350	350	350	350	350	350	350	380	480	480	480
2. Yermo Sewage Ponds	0	0	0	70	70	70	110	110	110	110	110	110	110	110	110
Total Inflows	**13,718**	**13,078**	**14,080**	**15,599**	**16,487**	**16,824**	**18,044**	**23,301**	**15,655**	**16,067**	**14,635**	**140,271**	**18,223**	**18,463**	**16,557**
OUTFLOWS															
Surface Water Outflow - Mojave River (to Afton)	-3,801	-2,265	-2,740	0	-2,011	-1,718	-1,552	-1,376	-1,688	-1,723	-982	-10,626	-741	-673	-686
Groundwater Discharge to Stream (baseflow)	-3,302	-2,892	-3,340	-2,367	-2,499	-2,267	-2,146	-2,032	-1,831	-1,877	-1,534	-2,311	-1,816	-1,610	-1,459
Subsurface Outflow	-1,223	-1,191	-1,142	-1,125	-1,068	-954	-929	-1,292	-1,118	-1,201	-1,127	-2,089	-1,385	-1,468	-1,405
to Afton	-164	-162	-163	-161	-161	-161	-161	-160	-160	-160	-159	-160	-158	-158	-158
to Coyote	-491	-463	-455	-429	-433	-454	-474	-485	-493	-479	-464	-459	-478	-484	-461
to Centro	-568	-565	-524	-534	-473	-339	-295	-647	-464	-562	-503	-1,470	-749	-826	-786
Evapotranspiration	-1,743	-1,659	-1,651	-1,555	-1,529	-1,429	-1,350	-1,404	-1,331	-1,301	-1,233	-1,551	-1,412	-1,355	-1,299
Troy Dry Lake Evaporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Pumping	-25,376	-31,510	-35,850	-41,423	-43,114	-45,023	-51,296	-45,367	-41,351	-43,419	-42,931	-44,733	-47,867	-50,273	-45,566
Agricultural Irrigation	-24,766	-29,638	-33,978	-39,481	-41,172	-43,081	-49,314	-43,385	-39,369	-41,437	-40,949	-43,046	-46,122	-48,138	-43,531
Municipal, Industrial, Domestic	-610	-350	-350	-420	-420	-420	-460	-460	-460	-460	-460	-490	-590	-590	-590
Recreational Lakes (evaporation)	0	-1,522	-1,522	-1,522	-1,522	-1,522	-1,522	-1,522	-1,522	-1,522	-1,522	-1,197	-1,155	-1,545	-1,445
Total Outflows	**-31,645**	**-37,252**	**-41,983**	**-46,470**	**-48,209**	**-49,674**	**-55,721**	**-50,095**	**-45,631**	**-47,797**	**-46,825**	**-50,684**	**-52,480**	**-54,706**	**-49,729**
Annual Change in Storage (AF)	**-17,926**	**-24,174**	**-27,903**	**-30,870**	**-31,722**	**-32,850**	**-37,677**	**-26,793**	**-29,976**	**-31,729**	**-32,190**	**89,587**	**-34,257**	**-36,244**	**-33,172**
Cumulative Change in Storage (AF)	**-118,851**	**-143,025**	**-170,928**	**-201,799**	**-233,520**	**-266,370**	**-304,046**	**-330,840**	**-360,816**	**-392,545**	**-424,735**	**-335,148**	**-369,405**	**-405,648**	**-438,820**

Pumping by category calculated from information in Stamos report

BAJA Model Subarea, USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Surface Water Inflow	0	0	0	0	0	43,667	1,000	160,600	81	25	81,982	220	199	188	93
Mojave River (at Waterman Fault)	0	0	0	0	0	33,667	0	130,600	81	25	61,982	220	199	188	93
Surface Water Inflow - Ungaged Tributaries	0	0	0	0	0	10,000	1,000	30,000	0	0	20,000	0	0	0	0
Lines (1996) Site 17. Boom Creek	*0*	*0*	*0*	*0*	*0*	*500*	*50*	*1,500*	*0*	*0*	*1,000*	*0*	*0*	*0*	*0*
Lines (1996) Site 18. Daggett Wash	*0*	*0*	*0*	*0*	*0*	*2,500*	*250*	*7,500*	*0*	*0*	*5,000*	*0*	*0*	*0*	*0*
Lines (1996) Site 19. Calico Wash	*0*	*0*	*0*	*0*	*0*	*2,500*	*250*	*7,500*	*0*	*0*	*5,000*	*0*	*0*	*0*	*0*
Lines (1996) Site 20. Manix Wash	*0*	*0*	*0*	*0*	*0*	*3,100*	*310*	*9,300*	*0*	*0*	*6,200*	*0*	*0*	*0*	*0*
Lines (1996) Site 21. Wilhelm Wash	*0*	*0*	*0*	*0*	*0*	*1,200*	*120*	*3,600*	*0*	*0*	*2,400*	*0*	*0*	*0*	*0*
Lines (1996) Site 22. Unnamed	*0*	*0*	*0*	*0*	*0*	*200*	*20*	*600*	*0*	*0*	*400*	*0*	*0*	*0*	*0*
Recharge from Stream Leakage	779	649	551	592	571	44,154	1,254	147,768	1,892	1,440	74,733	1,883	1,733	1,734	1,426
Subsurface Inflow	2,830	2,288	2,157	2,056	1,947	2,582	2,789	3,329	3,602	3,177	3,398	3,370	3,196	3,046	2,811
from Centro Model Subarea (at Waterman Fault)	1,766	1,306	1,220	1,150	1,070	1,724	1,951	2,525	2,839	2,444	2,683	2,666	2,502	2,359	2,116
from Coyote Model Subarea	1,064	982	937	906	877	858	838	804	763	733	716	703	694	688	695
Mountain-Front Recharge (Kane Wash)	647	647	647	647	647	647	647	647	647	647	647	647	647	647	647
Irrigation Return Flow	11,084	11,416	11,747	12,080	12,411	12,742	13,074	13,114	13,452	13,792	14,132	14,473	14,812	15,151	14,803
WWTP Effluent Return Flow	590	590	471	471	471	471	471	471	385	474	405	433	562	349	510
1. Nebo Sewage Ponds	480	480	403	403	403	403	403	403	265	364	318	374	482	296	388
2. Yermo Sewage Ponds	110	110	68	68	68	68	68	68	120	110	87	59	80	53	122
Total Inflows	**15,930**	**15,590**	**15,573**	**15,846**	**16,047**	**60,597**	**18,235**	**165,328**	**19,978**	**19,530**	**93,315**	**20,805**	**20,949**	**20,927**	**20,197**
OUTFLOWS															
Surface Water Outflow - Mojave River (to Afton)	-708	-579	-546	-476	-417	-3,585	-1,196	-9,842	-584	-49	-6,545	0	0	0	0
Groundwater Discharge to Stream (baseflow)	-1,487	-1,228	-1,097	-1,069	-988	-1,121	-1,639	-2,135	-2,474	-1,489	-2,310	-1,821	-1,733	-1,734	-1,426
Subsurface Outflow	-1,325	-1,573	-1,489	-1,424	-1,355	-2,666	-1,366	-1,811	-1,424	-1,378	-1,700	-1,337	-1,289	-1,128	-1,098
to Afton	-158	-158	-158	-158	-158	-159	-158	-159	-157	-156	-158	-155	-153	-152	-151
to Coyote	-427	-396	-370	-347	-323	-305	-282	-292	-307	-310	-303	-284	-261	-237	-209
to Centro	-740	-1,020	-962	-919	-874	-2,202	-926	-1,360	-960	-912	-1,239	-897	-875	-739	-738
Evapotranspiration	-1,287	-1,200	-1,120	-1,081	-1,028	-1,240	-1,182	-1,342	-1,234	-1,197	-1,213	-1,149	-1,112	-1,115	-1,062
Troy Dry Lake Evaporation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Pumping	-45,090	-46,283	-47,299	-48,314	-49,694	-50,345	-51,361	-51,110	-53,652	-53,539	-54,486	-55,580	-58,757	-58,114	-57,981
Agricultural Irrigation	-43,148	-44,531	-45,666	-46,681	-47,697	-48,712	-49,728	-49,477	-50,571	-51,490	-52,506	-53,593	-54,561	-55,791	-53,084
Municipal, Industrial, Domestic	-590	-590	-471	-471	-471	-471	-471	-471	-385	-474	-405	-433	-562	-349	-510
Recreational Lakes (evaporation)	-1,352	-1,162	-1,162	-1,162	-1,526	-1,162	-1,162	-1,162	-2,696	-1,575	-1,575	-1,554	-3,634	-1,974	-4,387
Total Outflows	**-49,189**	**-50,284**	**-51,004**	**-51,888**	**-53,065**	**-55,373**	**-55,549**	**-56,397**	**-58,784**	**-57,602**	**-59,710**	**-59,887**	**-62,890**	**-62,091**	**-61,568**
Annual Change in Storage (AF)	**-33,259**	**-34,694**	**-35,431**	**-36,041**	**-37,018**	**5,224**	**-37,314**	**108,931**	**-38,805**	**-38,072**	**33,605**	**-39,082**	**-41,941**	**-41,164**	**-41,371**
Cumulative Change in Storage (AF)	**-472,079**	**-506,772**	**-542,203**	**-578,245**	**-615,262**	**-610,038**	**-647,352**	**-538,421**	**-577,226**	**-615,298**	**-581,693**	**-620,775**	**-662,716**	**-703,880**	**-745,251**

Pumping by category calculated from information in Stamos report

BAJA Model Subarea, USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Surface Water Inflow	49	4	0	0	0	214,525	276	4,937	673	474	2,936	451
Mojave River (at Waterman Fault)	49	4	0	0	0	189,215	276	2,530	673	474	659	451
Surface Water Inflow - Ungaged Tributaries	0	0	0	0	0	25,310	0	2,407	0	0	2,277	0
Lines (1996) Site 17. Boom Creek	*0*	*0*	*0*	*0*	*0*	*130*	*0*	*120*	*0*	*0*	*114*	*0*
Lines (1996) Site 18. Daggett Wash	*0*	*0*	*0*	*0*	*0*	*6,500*	*0*	*602*	*0*	*0*	*569*	*0*
Lines (1996) Site 19. Calico Wash	*0*	*0*	*0*	*0*	*0*	*6,500*	*0*	*602*	*0*	*0*	*569*	*0*
Lines (1996) Site 20. Manix Wash	*0*	*0*	*0*	*0*	*0*	*8,060*	*0*	*746*	*0*	*0*	*706*	*0*
Lines (1996) Site 21. Wilhelm Wash	*0*	*0*	*0*	*0*	*0*	*3,600*	*0*	*289*	*0*	*0*	*273*	*0*
Lines (1996) Site 22. Unnamed	*0*	*0*	*0*	*0*	*0*	*520*	*0*	*48*	*0*	*0*	*46*	*0*
Recharge from Stream Leakage	1,277	1,068	1,483	745	695	155,955	2,004	6,912	2,741	2,422	3,715	2,475
Subsurface Inflow	2,667	2,403	2,541	2,219	2,031	3,422	3,117	3,521	3,542	3,383	3,447	3,424
from Centro Model Subarea (at Waterman Fault)	1,973	1,699	1,827	1,494	1,296	2,701	2,421	2,868	2,922	2,780	2,842	2,827
from Coyote Model Subarea	694	704	714	726	736	721	696	653	619	603	605	598
Mountain-Front Recharge (Kane Wash)	647	647	647	647	647	647	647	647	647	647	647	647
Irrigation Return Flow	14,462	14,563	14,682	14,518	14,255	14,190	11,988	10,246	11,315	10,300	8,858	9,738
WWTP Effluent Return Flow	509	461	457	405	537	507	586	586	586	586	586	586
1. Nebo Sewage Ponds	369	357	365	294	491	435	490	490	490	490	490	490
2. Yermo Sewage Ponds	140	104	92	111	46	72	96	96	96	96	96	96
Total Inflows	**19,562**	**19,143**	**19,810**	**18,534**	**18,166**	**174,722**	**18,342**	**21,911**	**18,831**	**17,338**	**17,254**	**16,870**
OUTFLOWS												
Surface Water Outflow - Mojave River (to Afton)	0	0	0	0	0	-57,216	0	-945	0	0	-881	-218
Groundwater Discharge to Stream (baseflow)	-1,277	-1,068	-1,483	-745	-695	-2,405	-2,004	-2,443	-2,278	-2,335	-2,752	-2,693
Subsurface Outflow	-1,004	-949	-882	-754	-731	-1,326	-1,068	-1,185	-966	-922	-860	-848
to Afton	-151	-151	-151	-151	-152	-166	-160	-163	-157	-153	-161	-160
to Coyote	-183	-157	-141	-115	-95	-104	-149	-173	-184	-174	-160	-139
to Centro	-670	-641	-590	-488	-484	-1,055	-759	-849	-626	-595	-540	-550
Evapotranspiration	-1,026	-981	-1,037	-936	-898	-1,505	-1,158	-1,163	-1,128	-1,104	-1,138	-1,124
Troy Dry Lake Evaporation	0	0	0	0	0	0	0	0	0	0	0	0
Total Pumping	-56,832	-57,332	-57,273	-56,605	-55,968	-55,372	-48,452	-41,910	-45,534	-42,120	-36,559	-39,583
Agricultural Irrigation	-52,348	-52,506	-52,764	-52,148	-51,407	-50,841	-43,842	-37,300	-40,924	-37,510	-31,949	-34,973
Municipal, Industrial, Domestic	-509	-461	-457	-405	-537	-507	-586	-586	-586	-586	-586	-586
Recreational Lakes (evaporation)	-3,975	-4,365	-4,052	-4,052	-4,024	-4,024	-4,024	-4,024	-4,024	-4,024	-4,024	-4,024
Total Outflows	**-60,140**	**-60,329**	**-60,675**	**-59,040**	**-58,292**	**-60,608**	**-52,681**	**-46,701**	**-49,906**	**-46,482**	**-41,309**	**-44,248**
Annual Change in Storage (AF)	**-40,577**	**-41,187**	**-40,865**	**-40,505**	**-40,127**	**114,114**	**-34,339**	**-24,790**	**-31,075**	**-29,144**	**-24,055**	**-27,378**
Cumulative Change in Storage (AF)	**-785,828**	**-827,015**	**-867,880**	**-908,385**	**-948,512**	**-834,398**	**-868,737**	**-893,527**	**-924,602**	**-953,746**	**-977,801**	**-1,005,179**

Pumping by category calculated from information in Stamos report

COYOTE Model Subarea, USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Subsurface Inflow from Baja	95	740	504	457	720	718	705	692	679	665	651	657	688	707	710
Mountain-Front Recharge (Coyote Lake Area)	259	259	259	259	259	259	259	259	259	259	259	259	259	259	259
Irrigation Return Flow	0	95	12	20	0	0	0	0	0	0	0	0	0	0	0
Total Inflows			**775**	**736**	**979**	**977**	**964**	**951**	**938**	**925**	**909**	**916**	**947**	**967**	**969**
OUTFLOWS															
Subsurface Outflow to Baja Model Subarea	-2,257	-256	-793	-776	-256	-259	-265	-273	-280	-287	-292	-289	-277	-275	-276
Total Pumping	-328	0	-43	-70	0	0	0	0	0	0	0	0	0	0	0
Coyote Dry Lake Evaporation	-726	-572	-701	-687	-724	-726	-724	-724	-724	-726	-724	-724	-724	-726	-724
Total Outflows			**-1,537**	**-1,533**	**-980**	**-986**	**-990**	**-997**	**-1,004**	**-1,014**	**-1,016**	**-1,013**	**-1,002**	**-1,001**	**-1,000**
Annual Change in Storage (AF)			**-762**	**-797**	**-2**	**-9**	**-26**	**-46**	**-66**	**-89**	**-106**	**-97**	**-55**	**-34**	**-32**
Cumulative Change in Storage (AF)					**-2**	**-11**	**-37**	**-83**	**-149**	**-238**	**-344**	**-442**	**-496**	**-530**	**-562**

COYOTE Model Subarea, USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Subsurface Inflow from Baja	708	715	734	740	736	724	711	692	674	656	644	626	603	536	510	495
Mountain-Front Recharge (Coyote Lake Area)	259	259	259	259	259	259	259	259	259	259	259	259	259	259	259	259
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**966**	**974**	**993**	**998**	**995**	**983**	**970**	**951**	**933**	**915**	**903**	**884**	**862**	**795**	**770**	**754**
OUTFLOWS																
Subsurface Outflow to Baja Model Subarea	-283	-283	-280	-280	-285	-292	-300	-306	-312	-316	-319	-327	-346	-429	-668	-806
Total Pumping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coyote Dry Lake Evaporation	-724	-724	-726	-724	-724	-724	-726	-723	-723	-723	-725	-723	-723	-723	-724	-722
Total Outflows	**-1,007**	**-1,007**	**-1,006**	**-1,003**	**-1,009**	**-1,016**	**-1,026**	**-1,029**	**-1,035**	**-1,039**	**-1,044**	**-1,050**	**-1,069**	**-1,152**	**-1,393**	**-1,528**
Annual Change in Storage (AF)	**-41**	**-33**	**-13**	**-5**	**-14**	**-33**	**-55**	**-79**	**-102**	**-124**	**-141**	**-165**	**-207**	**-357**	**-623**	**-774**
Cumulative Change in Storage (AF)	**-603**	**-636**	**-649**	**-654**	**-668**	**-700**	**-756**	**-835**	**-937**	**-1,061**	**-1,202**	**-1,367**	**-1,574**	**-1,932**	**-2,554**	**-3,329**

COYOTE Model Subarea, USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Subsurface Inflow from Baja	491	463	455	429	433	454	474	485	493	479	464	459	478	484	461
Mountain-Front Recharge (Coyote Lake Area)	259	259	259	259	259	259	259	259	259	259	259	259	259	259	259
Irrigation Return Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Inflows	**749**	**722**	**714**	**688**	**692**	**713**	**733**	**743**	**752**	**737**	**724**	**717**	**737**	**743**	**720**
OUTFLOWS															
Subsurface Outflow to Baja Model Subarea	-884	-933	-1,114	-1,410	-1,802	-2,170	-2,257	-2,102	-1,960	-1,884	-1,753	-1,631	-1,694	-1,564	-1,195
Total Pumping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coyote Dry Lake Evaporation	-722	-722	-723	-721	-720	-719	-720	-717	-715	-714	-713	-709	-706	-702	-701
Total Outflows	**-1,606**	**-1,654**	**-1,837**	**-2,130**	**-2,522**	**-2,889**	**-2,977**	**-2,819**	**-2,675**	**-2,598**	**-2,466**	**-2,340**	**-2,399**	**-2,267**	**-1,895**
Annual Change in Storage (AF)	**-857**	**-932**	**-1,123**	**-1,443**	**-1,831**	**-2,176**	**-2,243**	**-2,076**	**-1,923**	**-1,860**	**-1,742**	**-1,623**	**-1,663**	**-1,524**	**-1,175**
Cumulative Change in Storage (AF)	**-4,186**	**-5,118**	**-6,241**	**-7,684**	**-9,515**	**-11,691**	**-13,935**	**-16,011**	**-17,934**	**-19,795**	**-21,537**	**-23,160**	**-24,823**	**-26,347**	**-27,522**

COYOTE Model Subarea, USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Subsurface Inflow from Baja	427	396	370	347	323	305	282	292	307	310	303	284	261	237	209
Mountain-Front Recharge (Coyote Lake Area)	259	259	259	259	259	259	259	259	259	259	259	259	259	259	259
Irrigation Return Flow	0	5	9	14	18	23	27	32	36	41	45	50	54	59	60
Total Inflows	**686**	**659**	**637**	**620**	**599**	**587**	**568**	**583**	**602**	**609**	**607**	**593**	**574**	**555**	**528**
OUTFLOWS															
Subsurface Outflow to Baja Model Subarea	-1,064	-982	-937	-906	-877	-858	-838	-804	-763	-733	-716	-703	-694	-688	-695
Total Pumping	0	-16	-31	-47	-63	-78	-94	-109	-125	-141	-156	-172	-187	-203	-208
Coyote Dry Lake Evaporation	-695	-691	-687	-684	-677	-674	-669	-666	-659	-654	-649	-645	-638	-634	-629
Total Outflows	**-1,760**	**-1,689**	**-1,655**	**-1,637**	**-1,617**	**-1,610**	**-1,600**	**-1,579**	**-1,547**	**-1,527**	**-1,521**	**-1,520**	**-1,519**	**-1,524**	**-1,531**
Annual Change in Storage (AF)	**-1,074**	**-1,030**	**-1,017**	**-1,017**	**-1,018**	**-1,024**	**-1,032**	**-996**	**-945**	**-918**	**-914**	**-927**	**-945**	**-970**	**-1,003**
Cumulative Change in Storage (AF)	**-28,596**	**-29,626**	**-30,643**	**-31,661**	**-32,678**	**-33,702**	**-34,734**	**-35,730**	**-36,675**	**-37,593**	**-38,507**	**-39,434**	**-40,379**	**-41,349**	**-42,352**

COYOTE Model Subarea, USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Subsurface Inflow from Baja	183	157	141	115	95	104	149	173	184	174	160	139
Mountain-Front Recharge (Coyote Lake Area)	259	259	259	259	259	259	259	259	259	259	259	259
Irrigation Return Flow	88	86	95	90	84	78	16	70	86	83	69	72
Total Inflows	**530**	**502**	**494**	**463**	**439**	**441**	**423**	**502**	**529**	**515**	**487**	**469**
OUTFLOWS												
Subsurface Outflow to Baja Model Subarea	-694	-704	-714	-726	-736	-721	-696	-653	-619	-603	-605	-598
Total Pumping	-305	-298	-328	-309	-290	-270	-56	-240	-296	-288	-241	-247
Coyote Dry Lake Evaporation	-625	-619	-615	-609	-606	-601	-595	-591	-587	-581	-577	-572
Total Outflows	**-1,625**	**-1,621**	**-1,657**	**-1,644**	**-1,632**	**-1,592**	**-1,347**	**-1,484**	**-1,503**	**-1,472**	**-1,423**	**-1,417**
Annual Change in Storage (AF)	**-1,094**	**-1,119**	**-1,163**	**-1,180**	**-1,193**	**-1,151**	**-923**	**-982**	**-974**	**-956**	**-935**	**-948**
Cumulative Change in Storage (AF)	**-43,446**	**-44,565**	**-45,727**	**-46,908**	**-48,101**	**-49,252**	**-50,175**	**-51,158**	**-52,132**	**-53,088**	**-54,023**	**-54,972**

AFTON Model Subarea, USGS Model

	Min	Max	Ave (31-90)	Ave (31-99)	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941
INFLOWS															
Surface Water Inflow - Mojave River from Baja	0	95,492	3,806	4,168	746	3,319	902	869	742	759	8,110	95,492	819	780	7,251
Recharge from Stream Leakage	126	4,483	1,162	1,107	769	4,483	823	787	781	740	3,519	3,118	732	700	3,453
Subsurface Inflow from Baja	151	227	170	169	227	225	217	211	207	203	201	196	191	189	187
Total Inflows			**1,333**	**1,276**	**996**	**4,707**	**1,040**	**999**	**988**	**943**	**3,719**	**3,314**	**923**	**888**	**3,640**
OUTFLOWS															
Surface Water Outflow - Mojave River to Afton Canyon	-98,546	-17	-3,760	-4,159	-17	-1,443	-181	-186	-132	-132	-10,122	-98,546	-261	-217	-9,060
Groundwater Discharge to Stream (baseflow)	-168	-25	-122	-126	-25	-38	-49	-50	-55	-58	-75	-81	-83	-82	-90
Evapotranspiration	-1,323	-118	-539	-511	-118	-1,126	-619	-587	-576	-573	-1,316	-1,255	-672	-624	-1,323
Subsurface Outflow to Afton Canyon	-3,052	-24	-504	-478	-24	-1,153	-63	-62	-59	-61	-2,290	-1,969	-61	-61	-2,251
Total Outflows			**-1,165**	**-1,115**	**-167**	**-2,316**	**-731**	**-699**	**-690**	**-692**	**-3,681**	**-3,305**	**-815**	**-767**	**-3,664**
Annual Change in Storage (AF)			**167**	**161**	**830**	**2,391**	**309**	**299**	**297**	**251**	**38**	**10**	**108**	**121**	**-24**
Cumulative Change in Storage (AF)					**830**	**3,221**	**3,530**	**3,829**	**4,127**	**4,378**	**4,416**	**4,426**	**4,533**	**4,655**	**4,631**

AFTON Model Subarea, USGS Model

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957
INFLOWS																
Surface Water Inflow - Mojave River from Baja	747	21,185	3,271	2,284	1,430	817	699	659	1,822	2,254	3,515	3,171	2,328	2,378	2,437	2,456
Recharge from Stream Leakage	708	2,846	2,710	2,240	1,880	910	698	694	611	577	2,225	785	854	560	557	642
Subsurface Inflow from Baja	183	182	180	178	176	174	173	172	172	171	171	169	167	166	165	164
Total Inflows	**891**	**3,028**	**2,891**	**2,417**	**2,055**	**1,084**	**871**	**866**	**783**	**748**	**2,396**	**953**	**1,021**	**726**	**722**	**806**
OUTFLOWS																
Surface Water Outflow - Mojave River to Afton Canyon	-176	-23,111	-3,448	-2,091	-166	-178	-158	-119	-1,376	-1,844	-3,472	-2,643	-1,653	-1,999	-2,060	-1,999
Groundwater Discharge to Stream (baseflow)	-88	-97	-102	-104	-120	-111	-103	-100	-112	-116	-119	-120	-122	-128	-129	-130
Evapotranspiration	-679	-1,220	-1,202	-1,106	-977	-694	-655	-633	-285	-333	-502	-540	-424	-393	-386	-381
Subsurface Outflow to Afton Canyon	-63	-1,774	-1,664	-1,188	-58	-63	-63	-62	-63	-63	-1,661	-144	-57	-62	-63	-62
Total Outflows	**-829**	**-3,092**	**-2,968**	**-2,398**	**-1,155**	**-867**	**-820**	**-796**	**-459**	**-511**	**-2,282**	**-804**	**-603**	**-583**	**-577**	**-573**
Annual Change in Storage (AF)	**62**	**-63**	**-77**	**20**	**900**	**216**	**51**	**71**	**324**	**237**	**115**	**149**	**418**	**143**	**145**	**233**
Cumulative Change in Storage (AF)	**4,693**	**4,629**	**4,552**	**4,572**	**5,472**	**5,689**	**5,740**	**5,810**	**6,134**	**6,371**	**6,486**	**6,635**	**7,053**	**7,196**	**7,341**	**7,574**

AFTON Model Subarea, USGS Model

	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
INFLOWS															
Surface Water Inflow - Mojave River from Baja	3,801	2,265	2,740	0	2,011	1,718	1,552	1,376	1,688	1,723	982	10,626	741	673	686
Recharge from Stream Leakage	2,127	582	804	520	920	522	522	696	1,346	1,553	514	3,205	506	509	514
Subsurface Inflow from Baja	164	162	163	161	161	161	161	160	160	160	159	160	158	158	158
Total Inflows	**2,291**	**745**	**967**	**681**	**1,082**	**682**	**683**	**857**	**1,506**	**1,713**	**673**	**3,365**	**665**	**667**	**672**
OUTFLOWS															
Surface Water Outflow - Mojave River to Afton Canyon	-3,952	-1,874	-2,207	-1,469	-1,307	-1,387	-1,228	-874	-737	-1,520	-668	-11,163	-442	-371	-379
Groundwater Discharge to Stream (baseflow)	-131	-135	-133	-138	-137	-140	-142	-142	-156	-139	-148	-144	-154	-154	-153
Evapotranspiration	-506	-419	-539	-424	-397	-393	-392	-382	-476	-511	-428	-534	-433	-410	-403
Subsurface Outflow to Afton Canyon	-1,600	-62	-145	-63	-58	-63	-63	-58	-83	-870	-63	-2,662	-62	-62	-63
Total Outflows	**-2,237**	**-617**	**-817**	**-624**	**-592**	**-595**	**-596**	**-582**	**-715**	**-1,520**	**-639**	**-3,340**	**-650**	**-625**	**-619**
Annual Change in Storage (AF)	**54**	**128**	**150**	**57**	**489**	**87**	**87**	**275**	**791**	**193**	**34**	**25**	**15**	**41**	**53**
Cumulative Change in Storage (AF)	**7,627**	**7,755**	**7,905**	**7,962**	**8,451**	**8,538**	**8,625**	**8,900**	**9,691**	**9,884**	**9,918**	**9,943**	**9,957**	**9,999**	**10,052**

AFTON Model Subarea, USGS Model

	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
INFLOWS															
Surface Water Inflow - Mojave River from Baja	708	579	546	476	417	3,585	1,196	9,842	584	49	6,545	0	0	0	0
Recharge from Stream Leakage	640	510	513	511	511	3,604	1,478	2,848	569	212	3,099	158	149	144	141
Subsurface Inflow from Baja	158	158	158	158	158	159	158	159	157	156	158	155	153	152	151
Total Inflows	**799**	**668**	**671**	**669**	**668**	**3,763**	**1,636**	**3,007**	**726**	**369**	**3,257**	**313**	**302**	**296**	**292**
OUTFLOWS															
Surface Water Outflow - Mojave River to Afton Canyon	-277	-278	-240	-177	-117	-4,583	-38	-13,781	-308	-46	-9,134	-44	-39	-37	-34
Groundwater Discharge to Stream (baseflow)	-156	-155	-154	-157	-156	-151	-142	-157	-161	-164	-164	-158	-149	-144	-141
Evapotranspiration	-387	-393	-395	-396	-396	-542	-462	-519	-529	-349	-518	-321	-255	-227	-208
Subsurface Outflow to Afton Canyon	-56	-62	-63	-62	-62	-3,052	-54	-2,446	-144	-51	-2,749	-54	-49	-44	-44
Total Outflows	**-599**	**-610**	**-611**	**-615**	**-614**	**-3,745**	**-659**	**-3,122**	**-835**	**-564**	**-3,431**	**-533**	**-454**	**-415**	**-392**
Annual Change in Storage (AF)	**200**	**58**	**59**	**54**	**54**	**18**	**977**	**-115**	**-108**	**-195**	**-174**	**-220**	**-152**	**-119**	**-101**
Cumulative Change in Storage (AF)	**10,252**	**10,310**	**10,369**	**10,424**	**10,478**	**10,496**	**11,473**	**11,358**	**11,250**	**11,054**	**10,881**	**10,661**	**10,509**	**10,390**	**10,290**

AFTON Model Subarea, USGS Model

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
INFLOWS												
Surface Water Inflow - Mojave River from Baja	0	0	0	0	0	57,216	0	945	0	0	881	218
Recharge from Stream Leakage	138	136	126	132	129	2,758	152	1,450	154	147	1,366	372
Subsurface Inflow from Baja	151	151	151	151	152	166	160	163	157	153	161	160
Total Inflows	**289**	**286**	**277**	**283**	**280**	**2,924**	**312**	**1,613**	**311**	**300**	**1,527**	**531**
OUTFLOWS												
Surface Water Outflow - Mojave River to Afton Canyon	-33	-31	-30	-29	-29	-61,083	-37	-33	-39	-35	-32	-38
Groundwater Discharge to Stream (baseflow)	-138	-136	-126	-132	-129	-153	-152	-168	-154	-147	-166	-154
Evapotranspiration	-198	-190	-181	-181	-176	-502	-305	-488	-306	-242	-388	-352
Subsurface Outflow to Afton Canyon	-42	-40	-43	-36	-35	-2,401	-46	-44	-47	-43	-42	-47
Total Outflows	**-378**	**-365**	**-350**	**-349**	**-340**	**-3,057**	**-504**	**-700**	**-507**	**-432**	**-596**	**-553**
Annual Change in Storage (AF)	**-88**	**-79**	**-73**	**-66**	**-59**	**-132**	**-191**	**912**	**-196**	**-132**	**930**	**-21**
Cumulative Change in Storage (AF)	**10,202**	**10,123**	**10,050**	**9,984**	**9,924**	**9,792**	**9,601**	**10,513**	**10,317**	**10,186**	**11,116**	**11,095**

Year	Centro Management Subarea		Baja Management Subarea	
	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage	Annual Change in Groundwater Storage	Cumulative Change in Groundwater Storage
1931	-12,382	-12,382	-10,218	-10,218
1932	18,383	6,001	-6,354	-16,572
1933	-8,965	-2,964	-9,983	-26,555
1934	-9,785	-12,749	-9,955	-36,511
1935	-315	-13,064	-9,688	-46,198
1936	-10,952	-24,016	-9,998	-56,196
1937	84,832	60,817	858	-55,338
1938	21,401	82,218	59,012	3,674
1939	-17,022	65,196	-11,084	-7,410
1940	-11,874	53,321	-11,196	-18,606
1941	20,830	74,152	56,544	37,938
1942	-21,219	52,933	-11,163	26,775
1943	8,531	61,464	62,057	88,832
1944	16,990	78,454	-8,141	80,691
1945	7,434	85,888	-9,781	70,910
1946	-3,952	81,936	1,430	72,340
1947	-26,004	55,933	-11,767	60,573
1948	-28,603	27,330	-12,541	48,032
1949	-24,355	2,975	-12,656	35,376
1950	-23,415	-20,440	-8,318	27,058
1951	-35,273	-55,713	-14,212	12,846
1952	-4,879	-60,593	-14,847	-2,001
1953	-43,720	-104,313	-19,933	-21,934
1954	-36,866	-141,178	-20,314	-42,248
1955	-45,634	-186,812	-22,144	-64,393
1956	-37,369	-224,181	-20,132	-84,525
1957	-35,756	-259,937	-19,728	-104,253
1958	27,931	-232,006	-18,784	-123,037
1959	-40,215	-272,221	-25,106	-148,143
1960	-44,972	-317,193	-29,027	-177,170
1961	-42,057	-359,250	-32,313	-209,483
1962	-28,837	-388,087	-33,552	-243,035
1963	-41,091	-429,178	-35,026	-278,061
1964	-41,794	-470,971	-39,920	-317,981
1965	9,524	-461,448	-28,869	-346,851
1966	-13,796	-475,243	-31,899	-378,750
1967	-34,080	-509,323	-33,590	-412,340
1968	-42,135	-551,458	-33,932	-446,272
1969	104,244	-447,214	87,964	-358,308
1970	-40,868	-488,083	-35,919	-394,228
1971	-39,221	-527,304	-37,768	-431,995
1972	-42,114	-569,417	-34,347	-466,342
1973	-40,335	-609,752	-34,333	-500,675
1974	-40,983	-650,736	-35,724	-536,399
1975	-40,789	-691,525	-36,448	-572,847
1976	-40,619	-732,144	-37,058	-609,905
1977	-38,927	-771,071	-38,035	-647,941
1978	142,041	-629,030	4,201	-643,740
1979	-21,940	-650,970	-38,346	-682,086
1980	69,098	-581,872	107,935	-574,151
1981	-44,382	-626,254	-39,751	-613,901
1982	-34,468	-660,722	-38,990	-652,892
1983	82,109	-578,613	32,691	-620,200
1984	-44,001	-622,614	-40,009	-660,209
1985	-41,421	-664,035	-42,886	-703,095
1986	-41,562	-705,597	-42,134	-745,229
1987	-39,299	-744,896	-42,374	-787,603
1988	-38,836	-783,732	-41,671	-829,274
1989	-41,193	-824,925	-42,306	-871,580
1990	-40,629	-865,554	-42,027	-913,607
1991	-35,351	-900,906	-41,686	-955,293
1992	580	-900,326	-41,320	-996,613
1993	105,116	-795,210	112,963	-883,650
1994	-22,932	-818,142	-35,262	-918,912
1995	75,442	-742,700	-25,773	-944,685
1996	-23,013	-765,713	-32,049	-976,734
1997	-29,155	-794,868	-30,100	-1,006,834
1998	53,990	-740,878	-24,991	-1,031,824
1999	-20,641	-761,519	-28,326	-1,060,150