

9.0 Water Accounting

The FY 99 water balance described in **Table 9-1** shows a total of 622,788 AF delivered to member agencies or produced in the region and 635,595 AF consumed for a difference of 12,807 AF or 2.1 percent. With one exception, the regional and member agency water balances are respectably close. Unknown, private well water use is suspected to be the cause of the discrepancy in the exception. Data sources and assumptions used to develop **Table 9-1** are listed below.

- All water use is metered except minor amounts for pipeline flushing and related uses.
- Water use and production numbers are taken from the Authority's FY 99 Annual Report.
- FY 99 agricultural water use data was derived from staff analysis and development of an agricultural forecasting model. See Table 8-3.
- No water is used directly and exclusively for recreational purposes. All water-related recreation is incidental to the reservoirs and consists primarily of walking trails and fishing.
- No water is used exclusively for environmental purposes. Minor amounts are used for revegetation in construction areas and small amounts of recycled water are used for constructed wetlands.
- No potable water is used for groundwater recharge but as discussed in Section 6.4 Water Recycling, some recycled water is used for indirect groundwater recharge.
- Currently, no water is transferred into the Authority's service area. However, member agencies transfer or exchange about 40,000 AF per year for operational purposes. These topics are discussed in Section 5.0.
- Member agencies purchase about 46,000 AF of water a year from Metropolitan via the Authority for Seasonal Storage. This water is purchased in the winter and used in the summer to reduce peak summer demands on the aqueduct system. The amount is fairly consistent from year to year and is accounted for in metered water use.
- Some member agencies share local surface water supplies, while other agencies directly sell surface water to neighboring member agencies. This information is taken into account by using metered, customer data.
- System loss is accounted for by using metered Authority deliveries and metered member agency data; however, member agencies calculate their system losses to be an average of 5 percent.
- Evaporative reservoir loss is calculated using a mean, ten-year capacity of 70 percent and five feet per year of evaporation. Because evaporation takes place before the water is metered to the customer, evaporative loss is not shown in the water balance. Open reservoirs are fed by natural run-off and imported water via Authority aqueducts.
- Efficient irrigation technology, combined with the tendency of growers to under-irrigate, greatly reduces water loss from drainage. Drainage is thought to be minor, deep percolation into perched aquifers and ephemeral streams.

- Information from member agencies without any agricultural water use or with minor agricultural water use billed as M&I was excluded. However, their crop data is shown on Table 3-2.
- Total M&I water includes metered Authority and locally produced water.

**Table 9-1
Regional Water Balance in FY 99**

All Units in Acre Feet

Agency	Authority Delivery	IN				OUT			Difference AF	Percent Difference
		Local Production	Private Wells	Effective Rainfall	Total In	Total M&I	Total Ag	Total Out		
Carlsbad MWD	17,286	1,197	0	453	18,935	17,149	2,187	19,336	-400	-2.1
Escondido	17,345	9,981	384	1,976	29,685	22,182	8,511	30,693	-1,008	-3.4
Fallbrook PUD	14,176	756	3,948	3,742	22,622	7,897	16,514	24,411	-1,789	-7.9
Oceanside	29,238	2,289	2,000	2,086	35,614	29,327	8,359	37,686	-2,073	-5.8
Olivenhain MWD	16,165	230	0	887	17,282	15,401	2,343	17,744	-461	-2.7
Otay WD	25,442	897	0	356	26,695	25,346	1,886	27,232	-538	-2.0
Padre Dam MWD	19,061	234	949	672	20,916	18,479	2,752	21,231	-315	-1.5
Pendleton	119	13,190	0	730	14,039	7,994	6,045	14,039	0	0.0
City of Poway	13,270	55	0	356	13,680	12,962	718	13,680	0	0.0
Rainbow MWD	25,403	0	6,000	8,029	39,432	8,368	31,913	40,281	-849	-2.2
Ramona MWD	9,774	1,441	2,742	2,672	16,629	7,641	12,062	19,703	-3,074	-18.5
Rincon del Diablo	8,077	0	621	643	9,342	7,110	2,730	9,840	-498	-5.3
San Diego	169,790	44,796	4,000	2,380	220,967	214,415	6,582	220,997	-30	0.0
San Dieguito WD	3,875	4,376	907	435	9,593	7,551	2,968	10,519	-926	-9.7
Santa Fe ID	6,486	6,889	0	513	13,888	13,045	2,069	15,114	-1,225	-8.8
Vallecitos WD	14,029	0	0	1,570	15,599	11,922	3,676	15,598	0	0.0
Valley Center	39,195	0	9,794	14,222	63,211	7,991	55,549	63,540	-330	-0.5
Vista ID	7,476	14,334	0	829	22,640	20,690	1,263	21,953	686	3.0
Yuima MWD	719	8,512	0	2,790	12,020	182	11,816	11,998	22	0.2
Total	436,927	109,178	31,345	45,339	622,788	455,653	179,942	635,595	-12,807	

The regional difference between water delivery/production and water consumption is -2.1%.

See text for detail.