TABLE 6-3

Urban Depletion Reduction Due to Water Conservation Options Beyond BMPs (taf)

Region	*Opt 1*	*Opt 2*	*Opt 3*	*Opt 4*	*Opt 5*	*Opt 6*	*Opt 7*	*Opt 8*
	New	*New & Existing*	*60 gpcd*	*55 gpcd*	*3%*	*5%*	*7%*	*5%*
	0.8 ET_o Outdoor Water Use		*Indoor Water Use*		*CII Water Use Reduction*		*Distribution System Losses*	
North Coast	1	6	3	6	1	2	6	9
San Francisco Bay	2	52	38	77	11	18	D	13
Central Coast	4	13	8	17	2	3	3	8
South Coast	67	246	110	220	30	49	D	84
Sacramento River	D	D	D	D	D	D	D	D
San Joaquin River	D	D	D	D	D	D	D	D
Tulare Lake	D	D	D	D	D	D	D	D
North Lahontan	D	1	D	1	D	D	D	D
South Lahontan	20	31	7	15	2	4	4	12
Colorado River	9	18	2	3	1	2	9	13
Total (rounded)	100	370	170	340	50	80	20	140

* In some regions, these levels of conservation are already being achieved. Urban water conservation options beyond BMPs would not result in significant, cost-effective additional reductions in depletion in interior regions and are deferred (D). Only depletion reductions greater than 1 taf are considered in this table.

Although water conservation options will be carried out at the local level, they are discussed in this chapter conceptually as statewide demand reduction options for simplicity of presentation. Analyses of water conservation options for each hydrologic region are discussed in Chapters 7–9.

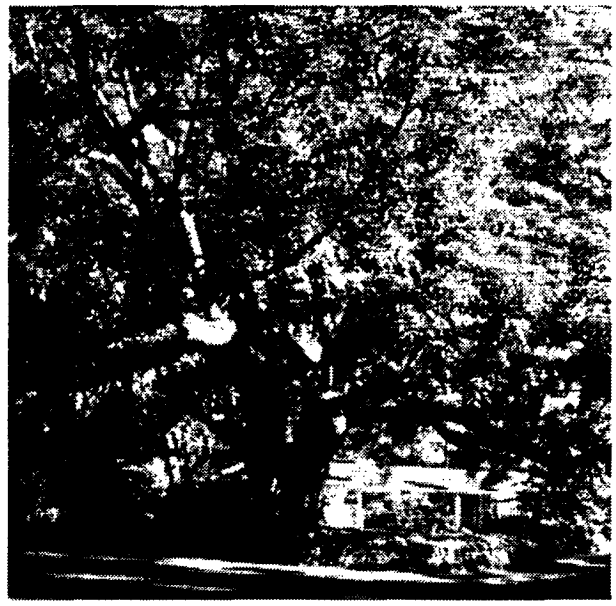
Urban Water Conservation Options

As discussed in Chapter 4, urban water use forecasts were calculated from estimates of population, urban per capita water use, and conservation savings from urban BMPs. The Bulletin assumes that urban BMPs are put into effect by 2020, resulting in an estimated 1.5 maf of demand reduction statewide.

The urban water conservation options described below assume a more intensive application of current BMPs and potential evolution of additional BMPs. If all of the options described below were implemented, nearly 1 maf/yr of depletion reduction could theoretically be attained. The level of water conserved from these options would vary for each region depending on current urban water use and the region's hydrology. Since little or no depletion reductions would be achieved in the Central Valley, urban water conservation options beyond BMPs are deferred for valley regions. Table 6-3 summarizes statewide urban water conservation options and the depletion reductions associated with each option. These options are evaluated for each region in Chapters 7–9.

Outdoor Water Use

Ideally, landscape water use could be derived by the method used for estimating agricultural water use—multiplying water use requirements for different landscape types by their corresponding statewide acreage,



The greatest potential reductions in urban water use would come from reducing outdoor water use for landscaping. Data for accurately quantifying present acreage of urban landscaping (or for forecasting future acreage) are virtually non-existent today. Photo courtesy of Barbara Cross.

Agricultural demand reduction options are evaluated for each hydrologic region and summarized in Table 6-4. The water conserved from these options varies for each region according to prevailing irrigation practices and the regional soil types and hydrology. As with urban conservation options, the purpose of implementing these agricultural conservation options is to generate new water supply (by reducing depletions). Reducing consumptive use results in additional water supply only where water would otherwise be lost to evapotranspiration or to a saline water body such as the Pacific Ocean. In California agriculture, this condition exists primarily in the Colorado River Region (which drains to the Salton Sea), parts of the coastal region, and the westside of the San Joaquin Valley. In the Sacramento River and the San Joaquin River Regions, almost all excess applied irrigation water is reused, ultimately percolating to usable groundwater or draining back into rivers that flow toward the Delta.

If all of the options discussed below were implemented, about 230 taf of depletion reduction could theoretically be achieved. In areas where no depletion reductions would be achieved by conservation beyond EWMPs (such as the Sacramento and San Joaquin River Regions), this additional conservation was deferred as a water supply option. Most of the potential for achieving depletion reductions through additional agricultural conservation occurs in the Colorado River Region. The environmental impacts of such conservation on the Salton Sea must be carefully evaluated. The Salton Sea provides valuable habitat for migratory waterfowl, and alternatives for stabilizing its increasing salinity are now being studied. Since agricultural drainage provides the bulk of fresh water inflow to the sea, actions reducing the freshwater inflow may not be implementable on a large scale.

Irrigation Management (Options 1, 2, and 3)

By 2020, the Department assumes that on-farm SAEs will average 73 percent statewide. Based on mobile laboratory studies, average SAE could reach 80 percent through programs that include irrigation system evaluations, better system design, and improved irrigation systems and management practices. Options 1, 2, and 3 represent the depletion reductions that would be obtained with improved average SAE at 76, 78, and 80 percent, respectively. Increasing average SAE from 73 to 76 percent would yield a depletion reduction of about 40 taf/yr statewide at about $100/af. Improving SAE from 73 to 78 percent would increase depletion reductions to 60 taf/yr statewide at a cost of $250/af. Improving irrigation management from 73 to 80 percent SAE would result in statewide depletion reductions of about 80 taf/yr at a cost of $450/af.

TABLE 6-4

Agricultural Depletion Reductions due to Water Conservation Options[a] Beyond EWMPs (taf)

Region	*Opt 1*	*Opt 2*	*Opt 3*	*Option 4*	*Option 5*	*Option 6*
	76%	*78%*	*80%* →			
	Seasonal Application Efficiency			*Flexible Water Delivery*	*Canal Lining and Piping*[b]	*Tailwater Recovery*
North Coast	D	D	D	D	D	D
San Francisco Bay	D	D	D	D	D	D
Central Coast	D	D	D	D	D	D
South Coast	4	7	10	D	D	D
Sacramento River	D	D	D	D	D	D
San Joaquin River	D	D	D	2	2	2
Tulare Lake	7	12	17	D	D	D
North Lahontan	D	D	D	D	D	D
South Lahontan	2	3	5	D	D	D
Colorado River[c]	22	36	50	30	45	65
Total (rounded)	40	60	80	30	50	70

[a] Implementing options in certain regions would not result in any depletion reduction. These options are deferred (D). Only depletion reductions greater than 1 taf are presented in this table.

[b] Excludes lining of major conveyance facilities (eg., All American Canal, Coachella Canal), which are treated as individual options in the regional water management chapters.

[c] These options are subject to environmental review to ensure that reduced depletions will not have significant impacts to the Salton Sea.

30 + 50 + 20 = 100

200