

## Section 4 Historical and Projected Water Demands

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This section describes the historical and projected water demands of SJBA member agencies. As described in Section 3.6, the primary water supply sources include imported water from MWDSC, groundwater from the San Juan Basin, local surface water, and recycled water.

Table 4-1 summarizes the recent (2005 through 2010) and projected (2015 through 2035) water demands<sup>27</sup> of the four SJBA member agencies. The SJBA agencies currently<sup>28</sup> (2010) have a combined service area population of about 406,200 and a total water demand of about 86,400 acre-feet per year (acre-ft/yr). Of this, 84 percent (about 72,300 acre-ft/yr) is potable water demand, and 16 percent (about 14,100 acre-ft/yr) is non-potable demand. Imported water satisfies the majority of the study area's potable water demand at about 69,600 acre-ft/yr, compared to the 3,000 acre-ft/yr produced from the San Juan Groundwater Basin. Non-potable demands of about 14,000 acre-ft/yr are met with recycled water (, local surface water diversions, and San Juan Basin Groundwater.

By 2035, the SJBA service area population is projected to increase to about 486,500 with a total water demand of about 106,400 acre- ft/yr. Compared to current conditions, the ratio of potable to non-potable water demands is expected to decrease, primarily due to the planned increase in recycled water reuse by the SJBA member agencies: potable demands will account for about 76 percent (81,100acre-ft/yr) of the total demand and will be met with a mix of imported water (about 72,200 acre-ft/yr) and groundwater from the San Juan Basin (8,900 acre-ft/yr), and non-potable demands will account for about 24 percent (26,000 acre-ft/yr) of the total demand and will be met with a mix of recycled water (20,600 acre-ft/yr), untreated San Juan Basin groundwater (2,700 acre-ft/yr), and local surface water diversions (2,700 acre-ft/yr).

Table 4-2 shows the projected amount of wastewater that will be generated within the service areas of the SJBA member agencies from 2015 through 2035 and the existing capacity to generate Title 22 recycled water. In 2015, the demand for recycled water is projected to be about 14,700 acre-ft/yr, which is about 56 percent of the existing capacity for Title 22 recycled water or 33 percent of total wastewater generated (44,800 acre-ft/yr). As indicated above, by 2035, the demand for recycled water is projected to increase to about 20,600 acre-ft/yr, which is about 80 percent of the existing capacity for Title 22 recycled water or 41 percent of the total wastewater generated (50,200 acre-ft/yr). The surplus recycled water provides an opportunity for indirect potable reuse in the San Juan Basin.

The following is a brief summary of the historical and projected demands of each of the SJBA member agencies.

*City of San Juan Capistrano.* The CSJC currently has a service area population of about 40,200 people that is expected to increase to about 44,100 by 2035. The CSJC's current water demand

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<sup>27</sup> Note that the demands in Table 4-1 reflect the total amount of water that has to be produced to meet consumptive demands. In the case of the CSJC and the SCWD, there are losses of water associated with the desalination process. For example, in order to produce 5,450 acre-ft of treated groundwater from the Groundwater Recovery Plant, the City must pump about 6,800 acre-ft of groundwater.

<sup>28</sup> The use of the modifier word "current" means 2010.

is about 8,800 acre-ft/yr: 8,400 acre-ft/yr of potable and 400 acre-ft/yr of non-potable water demands. The completion of the Groundwater Recovery Plant in December 2004 made up to 4,800 acre-ft of untreated groundwater available for use. The CSJC has not been able to take full advantage of this capacity in recent years due to MTBE contamination in groundwater near several of the City's major production wells. The installation of MTBE treatment facilities and an increase in groundwater production capacity to the Groundwater Recovery Plant will allow up to about 6,800 acre-ft/yr of San Juan Basin groundwater to be treated for future potable use. This will satisfy just over 50 percent of the City's total demands, which are expected to increase to 11,800 acre-ft/yr by 2035<sup>29</sup>. The increase of non-potable water use to about 1,950 acre-ft/yr, will also reduce the City's demand for imported water.

*Moulton Niguel Water District.* The MNWD currently has a service area population of about 172,000 people that is expected to increase to about 183,400 by 2035. The MNWD's current water demand is about 36,600 acre-ft/yr: 29,700 acre-ft/yr of potable and 6,900 acre-ft/yr of non-potable water demands. The MNWD relies solely on imported water to meet potable water demands and recycled water to meet non-potable demands. The MNWD experienced a pre-drought demand high of about 41,700 acre-ft in fiscal year 2007, but conservation measures due to drought conditions brought total demand down to the current level. Demands are projected to rebound to about 40,600 acre-ft by 2015 as emergency conservation measures are lifted, but the introduction of additional demand management practices required by SBx7-7 will reduce overall demand to about 39,500 acre-ft/yr by 2035, despite the increase in population. By 2035, recycled water use will increase to about 9,100 acre-ft/yr.

*Santa Margarita Water District.* The SMWD currently has a service area population of about 155,000 people that is expected to increase to about 217,000 by 2035. The SMWD's current water demand is about 34,200 acre-ft/yr: 28,200 acre-ft/yr of potable and 6,000 acre-ft/yr of non-potable water demands. Potable demand is met almost entirely through the purchase of imported water from the MWDOC, with only a minimal amount of San Juan Basin groundwater produced each year (<100 acre-ft/yr). Currently, non-potable demands are met through the use of recycled water, the diversion of urban run-off from Horno Creek, Oso Creek, and the Arroyo Trabuco, and in the near future, surface water diversions from the Canada Gobernadora. SMWD recycled water use will reach about 5,200 acre-ft/yr by 2015 and will increase to about 10,100 acre-ft/yr by 2030. SMWD will divert about 2,300 acre-ft/yr of surface water in 2015 and this will increase to about 2,700 acre-ft/yr by 2020. Total water demand is projected to increase to about 46,400 acre-ft/yr by 2030, of which 33,500 acre-ft/yr will be potable demands met with imported water and 12,900 acre-ft/yr will be non-potable demands met with recycled water (10,140 acre-ft/yr) and local surface water (2,700 acre-ft/yr).

*South Coast Water District.* The SCWD currently has a service area population of about 38,600 people that is expected to increase to about 41,500 by 2035. The SCWD's current water demand is about 6,900 acre-ft/yr: 6,100 acre-ft/yr of potable and 800 acre-ft/yr of non-potable water demands. Historically, imported water was the only source of potable water for the SCWD, but the demand for imported water has decreased in the last three years since the startup of the SCWD Groundwater Recovery Facility. Planned potable water production from the SCWD Groundwater Recovery Facility will reach about 1,300 acre-ft/yr by 2015 and

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<sup>29</sup> See footnote 28.

2,000 acre-ft/yr by 2020. The total water demand is projected to increase to about 8,700 acre-ft/yr by 2035<sup>30</sup>, of which 7,300 acre-ft/yr will be potable demand and 1,400 acre-ft/yr will be non-potable demand met with recycled water.

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<sup>30</sup> See footnote 28.

**Table 4-1  
Historical and Projected (Normal Year) Water Demands and Supplies for Agencies in the San Juan Basin Authority  
(acre-ft/yr)**

Agency Water Supply and Demand	Historical (Fiscal Years- July 1 through June 30)					Projection				
	05-06	06-07	07-08	08-09	09-10	2015	2020	2025	2030	2035
<b>City of San Juan Capistrano<sup>1</sup></b>										
Service Area Population	38,909	39,136	39,580	39,835	40,262	41,039	41,816	42,593	43,370	44,147
Total Water Demand	8,856	9,974	9,887	9,852	8,783	10,763	11,013	11,263	11,513	11,763
<i>Potable</i>	8,521	9,818	9,720	9,589	8,359	8,813	9,063	9,313	9,563	9,813
<i>Non-Potable</i>	335	156	167	263	424	1,950	1,950	1,950	1,950	1,950
Total Potable Supplies	8,877	9,297	9,347	9,698	8,676	8,813	9,063	9,313	9,563	9,813
<i>San Juan Basin Groundwater</i>	5,966	3,267	1,616	2,756	2,297	6,813	6,813	6,813	6,813	6,813
<i>Imported</i>	2,912	6,029	7,731	6,942	6,379	2,000	2,250	2,500	2,750	3,000
Non-Potable Supplies	335	156	167	263	424	1,950	1,950	1,950	1,950	1,950
<i>Recycled Water</i>	0	0	0	0	0	0	0	0	0	0
<i>San Juan Basin Groundwater</i>	335	156	167	263	424	1,950	1,950	1,950	1,950	1,950
<i>Surface Water Diversions</i>	0	0	0	0	0	0	0	0	0	0
<b>Moulton Niguel Water District<sup>2</sup></b>										
Service Area Population	168,172	168,327	169,361	170,675	172,068	174,342	176,616	178,891	181,165	183,439
Total Water Demand	39,819	44,730	42,670	40,941	36,593	40,600	38,000	38,500	39,000	39,500
<i>Potable</i>	33,438	36,679	35,083	33,744	29,735	32,100	29,300	29,600	30,000	30,400
<i>Non-Potable</i>	6,381	8,050	7,587	7,197	6,858	8,500	8,700	8,900	9,000	9,100
Total Potable Supplies	33,438	36,679	35,083	33,744	29,735	32,100	29,300	29,600	30,000	30,400
<i>San Juan Basin Groundwater</i>	0	0	0	0	0	0	0	0	0	0
<i>Imported from MWDOC</i>	33,438	36,679	35,083	33,744	29,735	32,100	29,300	29,600	30,000	30,400
Non-Potable Supplies	6,381	8,050	7,587	7,197	6,858	8,500	8,700	8,900	9,000	9,100
<i>Recycled Water</i>	6,381	8,050	7,587	7,197	6,858	8,500	8,700	8,900	9,000	9,100
<i>San Juan Basin Groundwater</i>	0	0	0	0	0	0	0	0	0	0
<i>Surface Water Diversions</i>	0	0	0	0	0	0	0	0	0	0
<b>Santa Margarita Water District<sup>3</sup></b>										
Service Area Population	149,107	151,847	153,264	154,174	155,229	167,663	180,097	192,531	204,965	217,399
Total Water Demand	36,562	41,362	38,642	36,866	34,169	36,006	39,599	44,987	46,409	46,409
<i>Potable</i>	32,942	34,845	32,868	30,952	28,142	28,567	29,996	32,637	33,549	33,549
<i>Non-Potable</i>	3,620	6,517	5,774	5,914	6,027	7,439	9,603	12,350	12,860	12,860
Potable Supplies	32,942	34,845	32,868	30,952	28,142	28,567	29,996	32,637	33,549	33,549
<i>San Juan Basin Groundwater</i>	71	78	65	73	65	100	116	116	116	116
<i>Imported</i>	32,871	34,767	32,803	30,879	28,077	28,467	29,880	32,521	33,433	33,433
Non-Potable Supplies	3,620	6,517	5,774	5,914	6,027	7,439	9,603	12,350	12,860	12,860
<i>Recycled Water</i>	3,620	6,517	5,774	5,914	6,027	5,154	6,883	9,630	10,140	10,140
<i>San Juan Basin Groundwater</i>	0	0	0	0	0	0	0	0	0	0
<i>Surface Water Diversions</i>	0	0	0	0	0	2,285	2,720	2,720	2,720	2,720
<b>South Coast Water District<sup>4</sup></b>										
Service Area Population	37,893	37,925	38,078	38,335	38,641	39,219	39,798	40,376	40,955	41,533
Total Water Demand	7,755	8,678	8,369	7,982	6,909	8,208	8,495	8,605	8,736	8,736
<i>Potable</i>	7,005	7,773	7,520	7,037	6,083	7,108	7,295	7,305	7,336	7,336
<i>Non-Potable</i>	750	905	849	945	826	1,100	1,200	1,300	1,400	1,400
Potable Supplies	7,005	7,773	7,520	7,037	6,083	7,108	7,295	7,305	7,336	7,336
<i>San Juan Basin Groundwater</i>	0	0	258	748	634	1,300	2,000	2,000	2,000	2,000
<i>Imported</i>	7,005	7,773	7,263	6,290	5,449	5,808	5,295	5,305	5,336	5,336
Non-Potable Supplies	750	905	849	945	826	1,100	1,200	1,300	1,400	1,400
<i>Recycled Water</i>	750	905	849	945	826	1,100	1,200	1,300	1,400	1,400
<i>San Juan Basin Groundwater</i>	0	0	0	0	0	0	0	0	0	0
<i>Surface Water Diversions</i>	0	0	0	0	0	0	0	0	0	0
<b>Private Entities</b>										
Non-Potable Supplies										
<i>San Juan Basin Groundwater</i>	660	821	752	750	653	727	727	727	727	727
<b>Total SJBA Planning Area</b>										
Service Area Population	394,081	397,235	400,283	403,019	406,200	422,263	438,327	454,391	470,455	486,518
Total Water Demand	92,992	104,743	99,569	95,641	86,454	95,577	97,107	103,355	105,658	106,408
<i>Potable</i>	81,906	89,115	85,191	81,323	72,319	76,588	75,654	78,855	80,448	81,098
<i>Non-Potable</i>	11,085	15,629	14,377	14,319	14,134	18,989	21,453	24,500	25,210	25,310
Potable Supplies	82,263	88,593	84,818	81,431	72,636	76,588	75,654	78,855	80,448	81,098
<i>San Juan Basin Groundwater</i>	6,037	3,345	1,938	3,577	2,996	8,213	8,929	8,929	8,929	8,929
<i>Imported</i>	76,226	85,248	82,879	77,854	69,641	68,375	66,725	69,926	71,519	72,169
Non-Potable Supplies	11,746	16,449	15,129	15,068	14,787	19,716	22,180	25,227	25,937	26,037
<i>Recycled Water</i>	10,751	15,472	14,210	14,056	13,710	14,754	16,783	19,830	20,540	20,640
<i>San Juan Basin Groundwater</i>	995	977	919	1,012	1,077	2,677	2,677	2,677	2,677	2,677
<i>Surface Water Diversions</i>	0	0	0	0	0	2,285	2,720	2,720	2,720	2,720

Notes:

1--Historical data for the City of San Juan Capistrano provided by San Juan Basin Authority Records. Projected data is derived from the City's 2010 UWMP. Note that the demands reflect the total amount of water that has to be produced to meet consumptive demands. There are losses of water associated with the desalination process. Thus, the demands may appear overstated relative to the consumptive demands reported in the UWMP.

2--Historical and projected data for the Moulton Niguel Water District provided by the Municipal Water District of Orange County.

4--Historical and projected data for the Santa Margarita Water District provided by Santa Margarita Water District. Historical data on the relative contributions of recycled water and surface water diversions used to meet non-potable demands not provided.

5--Historical data for the South Coast Water District provided by the Municipal Water District of Orange County. Projected Data obtained from SCWD's 2010 UWMP. Note that the demands reflect the total amount of water that has to be produced to meet consumptive demands. There are losses of water associated with the desalination process.

**Table 4-2**  
**Projected Wastewater Generation for Treatment Facilities in the San Juan Basin Authority Planning Area**  
**(acre-ft)**

Wastewater Treatment Plant	Operator	Agencies Discharging to Treatment Plant	Title 22 Recycled Water Capacity	Projected Wastewater Generation				
				2015	2020	2025	2030	2035
Jay B. Latham Regional Treatment Plant	SOCWA	CSJC, MNWD, SCWD, SMWD	0	11,200	11,200	11,200	11,200	11,200
Joint Regional Treatment Plant	SOCWA	MNWD	12,770	10,900	11,476	11,476	11,476	11,476
Coastal Treatment Plant	SOCWA	MNWD, SCWD	2,912	5,000	5,500	5,934	5,934	5,934
Plant 3A Water Reclamation Plant	SOCWA	MNWD, SCWD	2,688	3,360	3,360	3,639	3,639	3,639
Oso Creek Water Reclamation Plant	SMWD	SMWD	2,240	2,240	2,240	2,240	2,240	2,240
Chiquita Water Reclamation Plant	SMWD	SMWD	5,601	12,096	14,224	15,680	15,680	15,680
<b>Total</b>			<b>26,211</b>	<b>44,796</b>	<b>48,000</b>	<b>50,169</b>	<b>50,169</b>	<b>50,169</b>
Demand for Recycled Water <i>(from table 4-1)</i>				14,754	16,783	19,830	20,540	20,640
Remaining Unused Title 22 Recycled Water				11,457	9,428	6,381	5,671	5,571
Total Unused Wastewater <i>(Total Generation - Total Demand)</i>				30,042	31,217	30,339	29,629	29,529

Notes

1--All SOCWA plant data provided by the Municipal Water District of Orange County. All SMWD plant data provided by SMWD.