

residential users, 5% reduction to commercial and institutional users, and 5% reduction to most industrial users.

The City used the Department of Water Resources' Bulletin 160-98 the California Water Plan Update, chapters 7, 8 and 9, Options for Meeting Future Water Needs, in the development of the reliability comparison section.

Frequency and Magnitude of Supply Deficiencies

During the 1987-89 drought, Sanger was prepared to handle the drought because: (1) the City Council adopted a "No Sale of Water Outside the City Limits"; (2) the City Council adopted a "Water Conservation Ordinance in 1992; (3) successful voluntary rationing on the part of the community; and (4) effective water conservation programs, including: free showerheads and toilet leak detection dye tablets for all residential customers, an educational water conservation program with the local schools, and residential water audits. A 25% reduction in water demand was achieved.

The current and future supply projections through 2025 are shown in Table 6.

Plans to Assure a Reliable Water Supply

The future supply projections assume normal average annual recharge to the groundwater aquifer. Recharge from secondary effluent is a very reliable water source, because it is consistently available. The likeliest interruption would be as a result of loss of power or facility failure at the Sanger Wastewater Treatment Plant.

Reliability Comparison

Table 6 details estimated water supply projections associated with several water supply reliability scenarios. For further information on the data, see Three-year Minimum Supply and Water Shortage Contingency Plan sections.

Table 6 Supply Reliability				
Average/ Normal Water Year 2005 (Volume)	Single Dry Water Year (Volume)	Multiple Dry Water Years		
		Year 1 (Volume) 2006	Year 2 (Volume) 2007	Year 3 (Volume) 2008
14,458	10,844 (25%)	14,458 (0%)	12,289 (15%)	12,289 (15%)
Unit of Measure: Acre-feet/Year				

Table 7 Basis of Water Year Data	
Water Year Type	Base Year(s)
Average Water Year	2005
Single-Dry Water Year	1987
Multiple-Dry Water Years	1988-1989

Table 18
Single Dry Year and Multiple Dry Water Years

Water Supply Sources	Current Supply 2005 (Volume)	Single Dry Water Year (Volume)	Multiple Dry Water Years		
			Year 1 (Volume)	Year 2 (Volume)	Year 3 (Volume)
Supply totals	14,458	10,844	14,458	12,289	12,289
Percent Shortage		25%	0%	15%	15%
Demand totals	5,364	5,364	5,533	5,707	5,887
Difference	9,094	5,480	8,925	6,582	6,402
Unit of Measure: Acre-feet/Year					

Table 19
Projected single dry year Water Supply - AF Year

	2010	2015	2020	2025
Supply	13,775	16,717	19,657	22,597
% of projected normal	0.0%	0.0%	0.0%	0.0%

Table 20
Projected single dry year Water Demand - AF Year

	2010	2015	2020	2025
Demand	8,263	7,331	8,582	10,045
% of projected normal	0.0%	0.0%	0.0%	0.0%

Table 21
Projected single dry year Supply and Demand Comparison - AF Year

	2010	2015	2020	2025
Supply totals	13,775	16,717	19,657	22,597
Demand totals	8,263	7,331	8,582	10,045
Difference	7,512	9,386	11,075	12,552
Difference as % of Supply				
Difference as % of Demand				

Table 22
Projected supply during multiple dry year period ending in 2010 - AF Year

	2006	2007	2008	2009	2010
Supply	11,430	12,048	12,854	13,306	13,775
% of projected normal	75%	75%	75%	75%	75%

Table 23
Projected demand multiple dry year period ending in 2010 - AFY

	2006	2007	2008	2009	2010
Demand	5,546	5,734	5,929	6,131	6,263
% of projected normal	100%	100%	100%	100%	100%

Table 24
Projected Supply and Demand Comparison during multiple dry year period ending in 2010- AF Year

	2006	2007	2008	2009	2010
Supply totals	11,430	12,048	12,854	13,306	13,775
Demand totals	5,546	5,734	5,929	6,131	6,263
Difference	5,884	6,314	6,925	7,175	7,512
Difference as % of Supply					
Difference as % of Demand					

Table 25
Projected supply during multiple dry year period ending in 2015 - AF Year

	2011	2012	2013	2014	2015
Supply	14,353	14,956	15,584	16,239	16,717
% of projected normal	75%	75%	75%	75%	75%

Table 26
Projected demand multiple dry year period ending in 2015 - AFY

	2011	2012	2013	2014	2015
Demand	6,475	6,696	6,923	7,159	7,331
% of projected normal	100%	100%	100%	100%	100%

Table 27
Projected Supply and Demand Comparison during multiple dry year period ending in 2015- AF Year

	2011	2012	2013	2014	2015
Supply totals	14,353	14,956	15,584	16,239	16,717
Demand totals	6,475	6,696	6,923	7,159	7,331
Difference	7,878	8,260	8,661	9,080	9,386
Difference as % of Supply					
Difference as % of Demand					

Table 28					
Projected supply during multiple dry year period ending in 2020 - AF Year					
	2016	2017	2018	2019	2020
Supply	17,302	17,907	18,534	19,164	19,657
% of projected normal	75%	75%	75%	75%	75%

Table 29					
Projected demand multiple dry year period ending in 2020 - AFY					
	2016	2017	2018	2019	2020
Demand	7,580	7,837	8,104	8,380	8,582
% of projected normal	100%	100%	100%	100%	100%

Table 30					
Projected Supply and Demand Comparison during multiple dry year period ending in 2020- AF Year					
	2016	2017	2018	2019	2020
Supply totals	17,302	17,907	18,534	19,164	19,657
Demand totals	7,580	7,837	8,104	8,380	8,582
Difference	9,722	10,070	10,430	10,784	11,075
Difference as % of Supply					
Difference as % of Demand					

Table 31					
Projected supply during multiple dry year period ending in 2025 - AF Year					
	2021	2022	2023	2024	2025
Supply	20,246	20,854	21,479	22,124	22,597
% of projected normal	75%	75%	75%	75%	75%

Table 32					
Projected demand multiple dry year period ending in 2025 - AFY					
	2021	2022	2023	2024	2025
Demand	8,873	9,175	9,487	9,810	10,045
% of projected normal	100%	100%	100%	100%	100%

Table 33
Projected Supply and Demand Comparison during multiple dry year period ending in 2025- AF Year

	2021	2022	2023	2024	2025
Supply totals	20,246	20,854	21,479	22,124	22,597
Demand totals	8,873	9,175	9,487	9,810	10,045
Difference	11,373	11,679	11,992	12,314	12,552
Difference as % of Supply					
Difference as % of Demand					

The City will continue to drill additional wells to meet the projected water demand. The City will continue to examine supply enhancement options, including water transfers, additional groundwater recharge, and water recycling as a part of the Wastewater Treatment Plant Expansion.