

**Water Resources Planning Department**

**Projection Analysis Work Sheets  
for  
Hermosa-Redondo District**

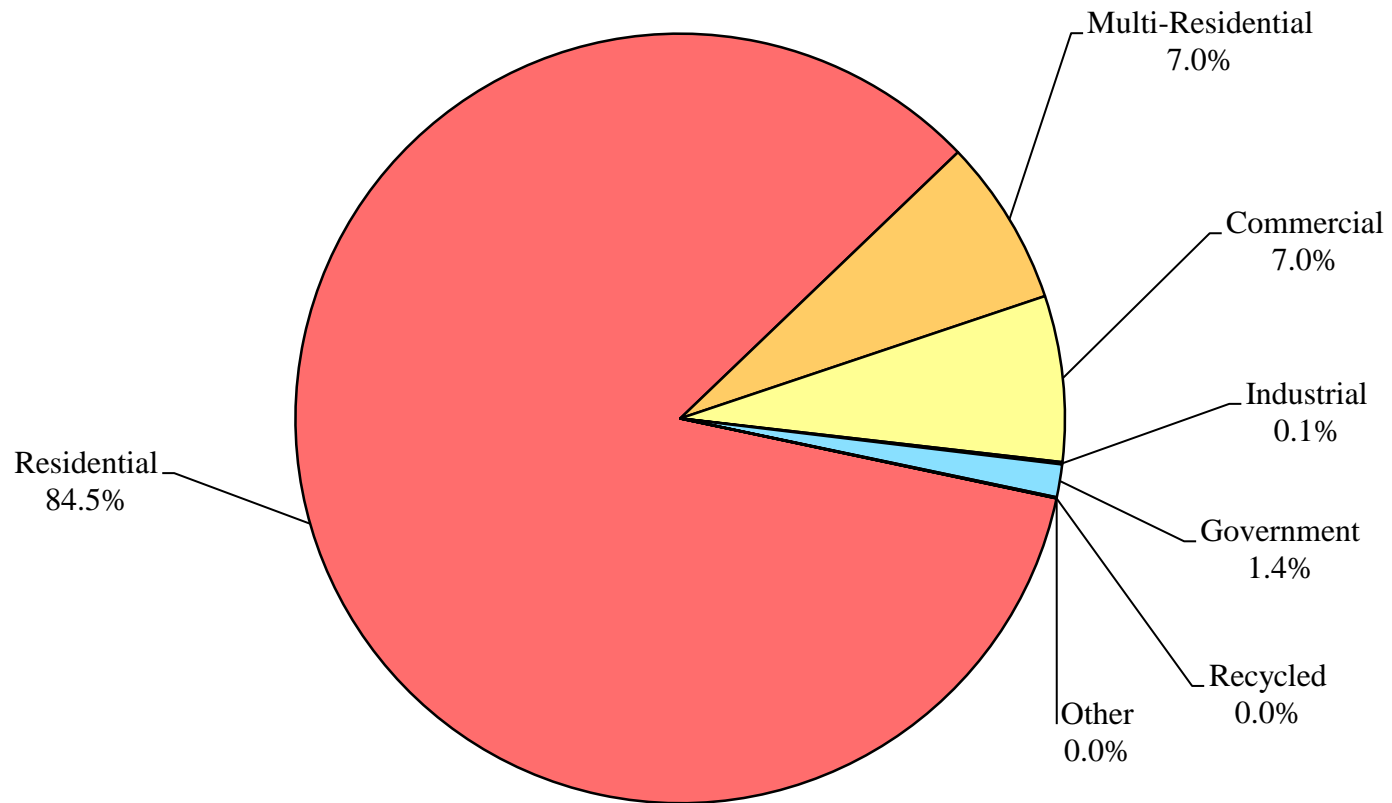
**2015**



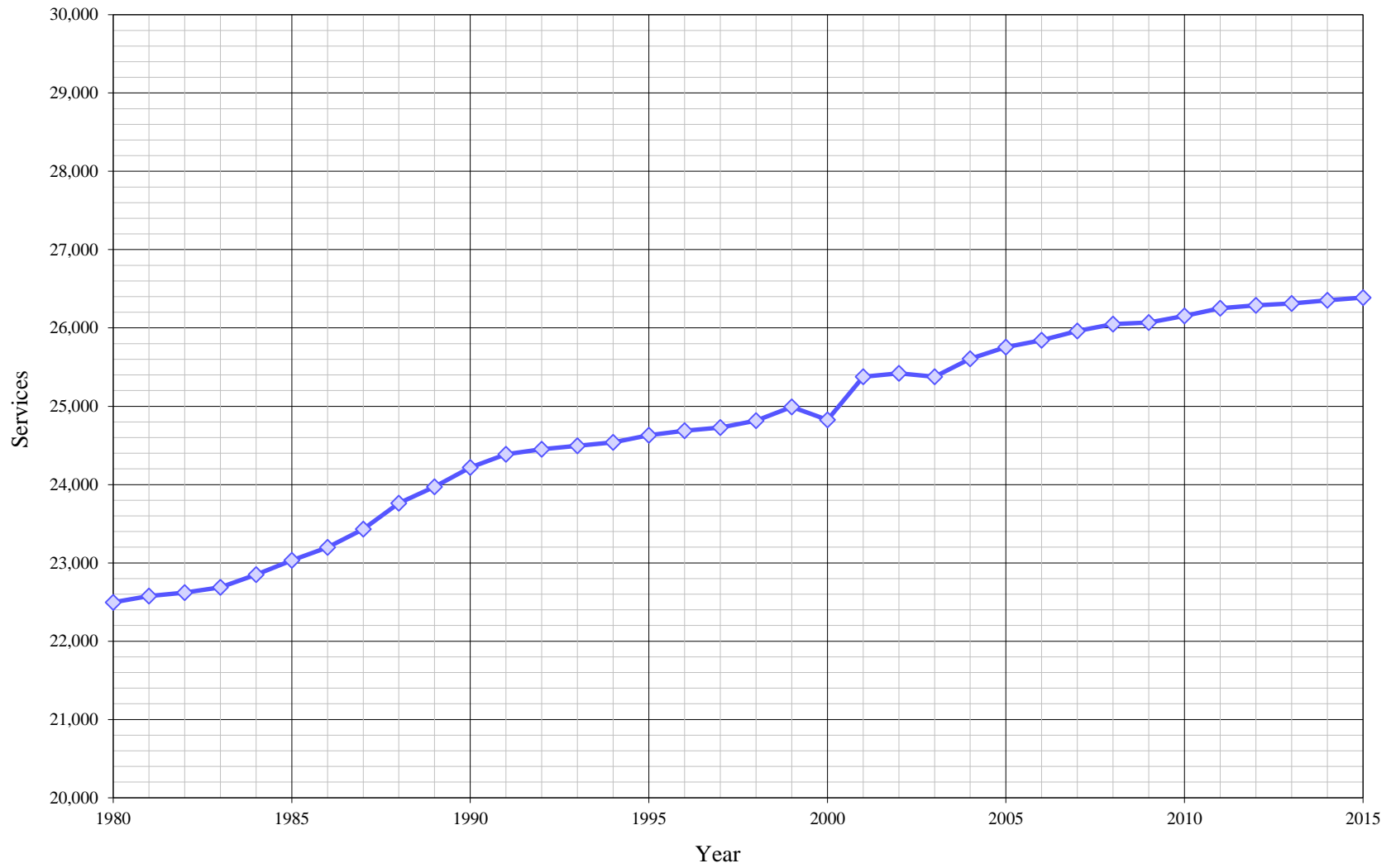
## Table of Contents for Worksheets

Worksheet	Title
1	<a href="#"><u>Annual Services</u></a>
2	<a href="#"><u>Service Growth Percentage</u></a>
3	<a href="#"><u>District Sales (AF)</u></a>
4	<a href="#"><u>Demand per Service (Gallons per Day)</u></a>
5	<a href="#"><u>Percentage Change in Annual Demand</u></a>
6	<a href="#"><u>Percentage of Total Sales</u></a>
7	<a href="#"><u>Percentage of Total Demand</u></a>
8	<a href="#"><u>Actual &amp; Projected Annual Average Services</u></a>
9	<a href="#"><u>Actual &amp; Projected Demand in Acre-Feet</u></a>
10	<a href="#"><u>Projected Annual Supply by Source</u></a>
11	<a href="#"><u>Historical and Projected Average Day, Maximum Day, and Peak Demands</u></a>
12	<a href="#"><u>Population Estimate</u></a>
13	<a href="#"><u>Temperature &amp; Rainfall History</u></a>
14	<a href="#"><u>Groundwater Facilities (if available)</u></a>
15	<a href="#"><u>Per Capita Water Demand Calculation</u></a>
16	<a href="#"><u>Indoor/Outdoor Water Usage</u></a>
17	<a href="#"><u>SB-7 Compliance Demand Worksheet</u></a>

## Distribution of Services (2015)



# Historical Services



**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Average Annual Services**

Worksheet 1

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Irrigation (IRR)	Total	Annual Change
1980	18,721	1,185	2,197	45	341	8	0	22,497	
1981	18,739	1,235	2,201	46	348	5	0	22,575	78
1982	18,746	1,264	2,215	45	348	3	0	22,621	46
1983	18,781	1,275	2,229	47	352	5	0	22,687	66
1984	18,919	1,292	2,235	44	354	5	0	22,851	164
1985	19,063	1,318	2,240	44	357	10	0	23,033	182
1986	19,201	1,348	2,240	43	355	10	0	23,197	164
1987	19,379	1,391	2,260	43	353	5	0	23,431	234
1988	19,678	1,421	2,265	43	356	0	0	23,762	331
1989	19,862	1,441	2,264	42	362	0	0	23,970	209
1990	20,100	1,455	2,255	44	365	0	0	24,218	247
1991	20,266	1,459	2,244	44	369	7	0	24,388	170
1992	20,342	1,460	2,231	42	370	8	0	24,453	65
1993	20,395	1,460	2,223	41	368	8	0	24,495	42
1994	20,452	1,458	2,216	40	361	12	0	24,538	43
1995	20,540	1,459	2,209	38	368	16	0	24,630	92
1996	20,601	1,458	2,220	38	362	8	0	24,687	56
1997	20,666	1,458	2,206	35	355	9	0	24,729	42
1998	20,780	1,457	2,194	34	345	8	0	24,818	89
1999	20,976	1,457	2,184	34	329	13	0	24,993	175
2000	20,867	1,439	2,153	34	319	14	0	24,827	-166
2001	21,292	1,469	2,220	39	345	11	0	25,376	549
2002	21,341	1,469	2,216	39	344	12	0	25,422	46
2003	21,306	1,468	2,209	38	345	9	0	25,375	-47
2004	21,551	1,464	2,195	39	348	10	0	25,607	232
2005	21,699	1,464	2,191	40	349	12	0	25,755	148
2006	21,795	1,461	2,188	40	349	9	0	25,841	87
2007	21,917	1,455	2,186	40	351	10	2	25,962	120
2008	21,980	1,644	2,019	33	360	11	2	26,050	89
2009	21,997	1,801	1,868	26	367	10	2	26,070	19
2010	22,066	1,804	1,878	25	366	11	2	26,152	83
2011	22,166	1,841	1,848	26	363	7	2	26,252	100
2012	22,203	1,841	1,847	26	365	6	2	26,289	37
2013	22,218	1,846	1,845	26	365	10	2	26,312	23
2014	22,261	1,847	1,843	26	364	9	2	26,351	40
2015	22,299	1,850	1,838	25	364	10	2	26,388	37
5 Yr Avg.	22,229	1,845	1,844	26	364	8	2	26,319	56
10 Yr Avg.	22,090	1,739	1,936	29	361	9	2	26,167	74
15 Yr Avg.	21,873	1,648	2,026	33	356	10	1	25,947	91
20 Yr Avg.	21,599	1,600	2,067	33	353	10	1	25,663	91

Note: Reclassification occurred between categories from 2007 to 2009

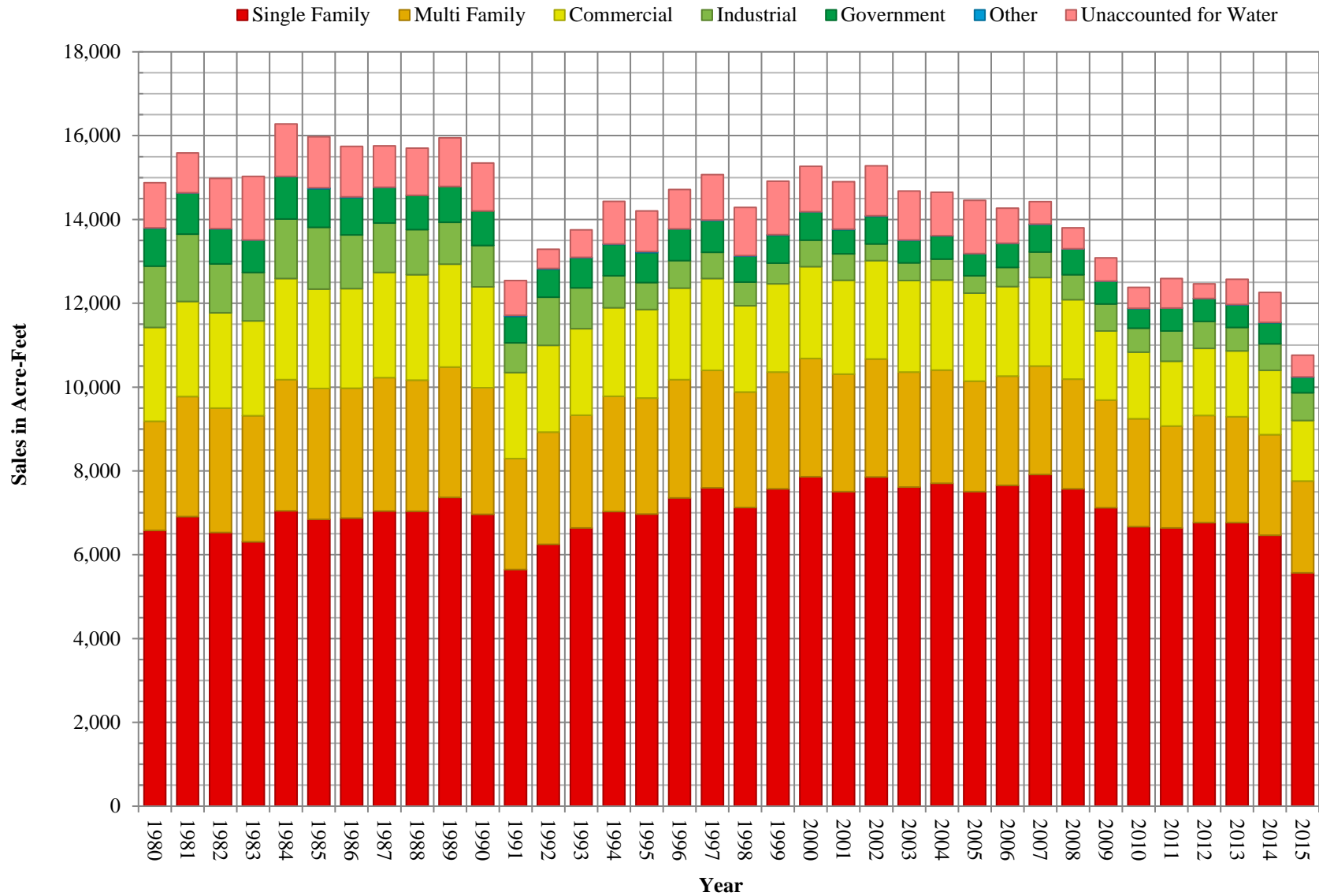
**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Service Growth Percentage**

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Irrigation (IRR)	Total
1981	0.09%	4.27%	0.20%	4.31%	2.05%	-43.00%		0.35%
1982	0.04%	2.31%	0.65%	-2.33%	-0.07%	-35.09%		0.21%
1983	0.19%	0.86%	0.62%	2.76%	0.98%	54.05%		0.29%
1984	0.74%	1.39%	0.28%	-4.65%	0.83%	10.53%		0.72%
1985	0.76%	2.01%	0.22%	-1.13%	0.80%	90.48%		0.79%
1986	0.72%	2.26%	-0.02%	-1.33%	-0.56%	-1.67%		0.71%
1987	0.93%	3.19%	0.88%	-0.77%	-0.68%	-45.76%		1.01%
1988	1.54%	2.11%	0.23%	-0.39%	0.85%	-100.00%		1.41%
1989	0.94%	1.43%	-0.05%	-2.14%	1.80%			0.88%
1990	1.20%	0.96%	-0.40%	4.37%	0.64%			1.03%
1991	0.82%	0.28%	-0.46%	-0.38%	1.14%			0.70%
1992	0.37%	0.07%	-0.57%	-3.44%	0.23%	22.22%		0.27%
1993	0.26%	0.04%	-0.37%	-2.97%	-0.50%	-2.02%		0.17%
1994	0.28%	-0.13%	-0.31%	-2.24%	-1.95%	43.30%		0.18%
1995	0.43%	0.06%	-0.33%	-5.43%	1.99%	38.13%		0.37%
1996	0.29%	-0.10%	0.51%	0.00%	-1.52%	-50.52%		0.23%
1997	0.32%	-0.01%	-0.62%	-7.28%	-2.02%	14.74%		0.17%
1998	0.55%	-0.07%	-0.57%	-3.81%	-2.65%	-11.01%		0.36%
1999	0.95%	0.00%	-0.45%	0.50%	-4.83%	65.98%		0.71%
2000	-0.52%	-1.21%	-1.40%	-0.74%	-2.89%	4.97%		-0.67%
2001	2.03%	2.09%	3.09%	16.13%	7.94%	-20.12%		2.21%
2002	0.23%	0.01%	-0.19%	1.07%	-0.15%	4.44%		0.18%
2003	-0.17%	-0.09%	-0.32%	-2.96%	0.36%	-22.70%		-0.18%
2004	1.15%	-0.28%	-0.61%	2.40%	0.63%	14.68%		0.91%
2005	0.69%	-0.02%	-0.17%	1.91%	0.31%	17.60%		0.58%
2006	0.44%	-0.18%	-0.17%	0.21%	0.12%	-25.85%		0.34%
2007	0.56%	-0.38%	-0.06%	-0.42%	0.53%	14.68%		0.47%
2008	0.29%	12.94%	-7.63%	-17.36%	2.73%	7.20%	38.10%	0.34%
2009	0.07%	9.56%	-7.51%	-21.27%	1.78%	-14.18%	-17.24%	0.07%
2010	0.31%	0.19%	0.56%	-3.54%	-0.36%	16.52%	0.00%	0.32%
2011	0.46%	2.00%	-1.62%	4.00%	-0.64%	-41.04%	0.00%	0.38%
2012	0.17%	0.04%	-0.06%	0.00%	0.48%	-15.19%	0.00%	0.14%
2013	0.07%	0.25%	-0.08%	0.00%	-0.07%	80.60%	0.00%	0.09%
2014	0.19%	0.05%	-0.13%	0.00%	-0.09%	-11.57%	0.00%	0.15%
2015	0.17%	0.18%	-0.26%	-2.88%	-0.16%	13.08%	0.00%	0.14%
5 Yr. Avg.	0.21%	0.50%	-0.43%	0.22%	-0.10%	-9.34%		0.18%
10 Yr. Avg.	0.27%	0.27%	-0.23%	-4.13%	0.43%	-4.83%		0.24%
15 Yr. Avg.	0.44%	0.30%	-1.01%	-1.51%	0.89%	-0.27%		0.41%
20 Yr. Avg.	0.41%	0.14%	-0.14%	-1.70%	-0.03%	1.98%		0.35%

Note: Values in red not included in above averages.

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# Historical Sales

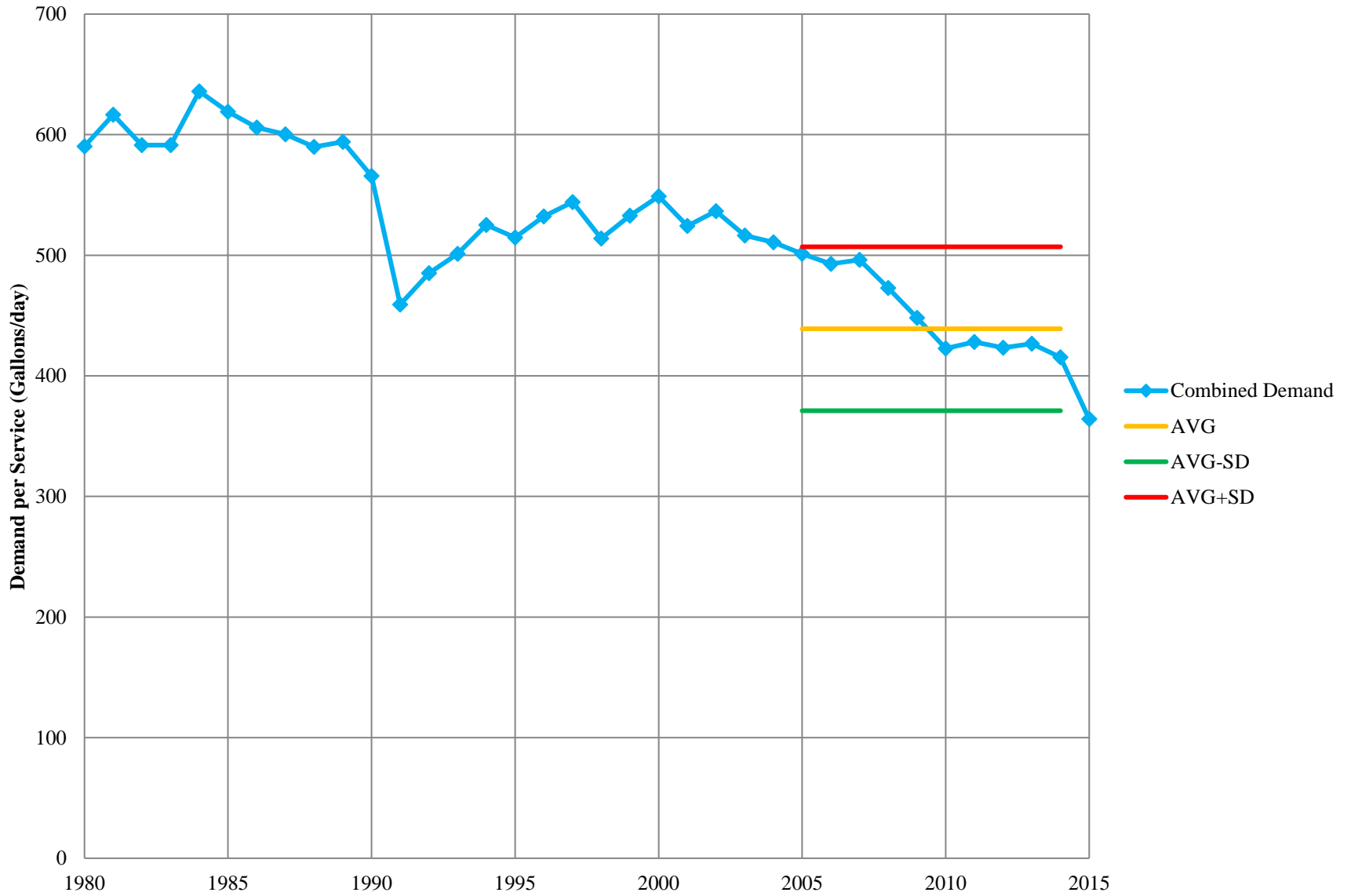




**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Sales (AF)**

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Irrigation (IRR)	Unaccounted for Water (UAFW)	Total Sales (AF)	Total Demand (AF)	Total Demand (MGal)
1980	6,582	2,604	2,237	1,462	912	5	0	1,075	13,802	14,878	4,848
1981	6,912	2,865	2,266	1,606	979	7	0	955	14,636	15,590	5,080
1982	6,532	2,966	2,275	1,169	838	4	0	1,199	13,783	14,982	4,882
1983	6,310	3,004	2,263	1,155	778	3	0	1,516	13,513	15,029	4,897
1984	7,049	3,129	2,414	1,418	1,010	7	0	1,250	15,028	16,278	5,304
1985	6,843	3,124	2,373	1,471	923	25	0	1,213	14,759	15,971	5,204
1986	6,872	3,101	2,376	1,282	894	14	0	1,202	14,539	15,742	5,129
1987	7,044	3,179	2,510	1,183	850	2	0	985	14,769	15,754	5,133
1988	7,038	3,127	2,518	1,077	816	0	0	1,124	14,576	15,700	5,116
1989	7,365	3,111	2,456	999	854	0	0	1,164	14,785	15,949	5,197
1990	6,967	3,017	2,408	986	825	0	0	1,142	14,204	15,345	5,000
1991	5,649	2,648	2,050	711	629	24	0	831	11,711	12,542	4,087
1992	6,250	2,674	2,073	1,148	669	20	0	453	12,834	13,287	4,330
1993	6,637	2,690	2,065	974	716	12	0	658	13,094	13,752	4,481
1994	7,030	2,750	2,114	764	747	13	0	1,016	13,417	14,433	4,703
1995	6,970	2,772	2,110	640	720	25	0	965	13,237	14,202	4,628
1996	7,359	2,819	2,186	655	755	3	0	939	13,776	14,715	4,795
1997	7,599	2,801	2,191	624	760	14	0	1,080	13,988	15,069	4,910
1998	7,127	2,758	2,056	566	623	6	0	1,152	13,136	14,288	4,656
1999	7,572	2,787	2,105	492	668	14	0	1,279	13,637	14,916	4,860
2000	7,864	2,819	2,188	632	676	9	0	1,078	14,188	15,266	4,974
2001	7,507	2,801	2,243	629	578	11	0	1,133	13,769	14,902	4,856
2002	7,855	2,814	2,348	399	660	13	0	1,191	14,088	15,279	4,979
2003	7,617	2,743	2,182	421	539	12	0	1,164	13,514	14,678	4,783
2004	7,705	2,699	2,151	502	549	11	0	1,035	13,616	14,651	4,774
2005	7,508	2,633	2,102	413	522	11	0	1,269	13,189	14,458	4,711
2006	7,657	2,606	2,134	459	574	4	0	833	13,434	14,267	4,649
2007	7,913	2,590	2,110	611	656	8	0	540	13,889	14,429	4,702
2008	7,572	2,617	1,897	594	615	4	1	501	13,299	13,800	4,497
2009	7,121	2,569	1,650	644	543	7	1	550	12,534	13,084	4,263
2010	6,672	2,576	1,585	574	469	7	1	499	11,882	12,382	4,035
2011	6,641	2,430	1,544	725	545	3	0	702	11,889	12,591	4,103
2012	6,764	2,561	1,601	644	538	5	1	352	12,114	12,466	4,062
2013	6,768	2,525	1,569	564	539	8	1	601	11,973	12,574	4,097
2014	6,464	2,405	1,532	634	504	6	0	718	11,544	12,263	3,996
2015	5,566	2,191	1,446	661	374	5	0	521	10,244	10,765	3,508

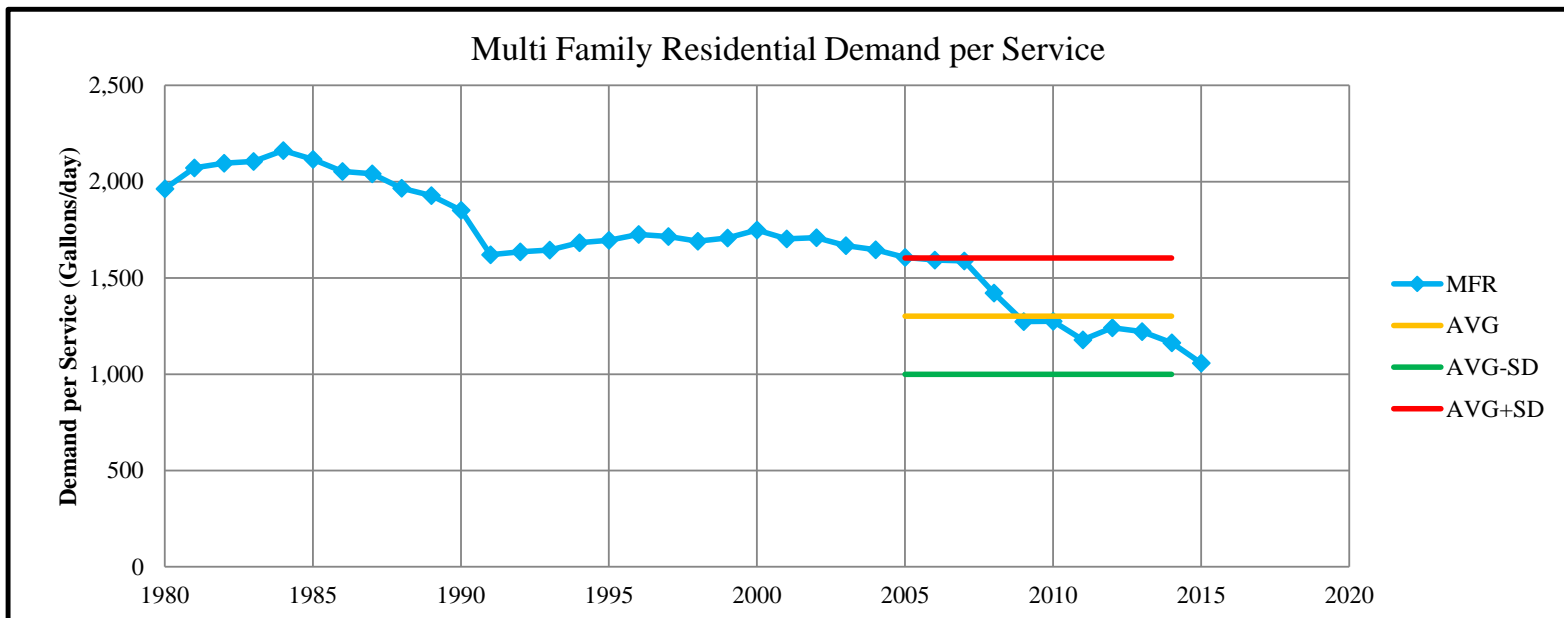
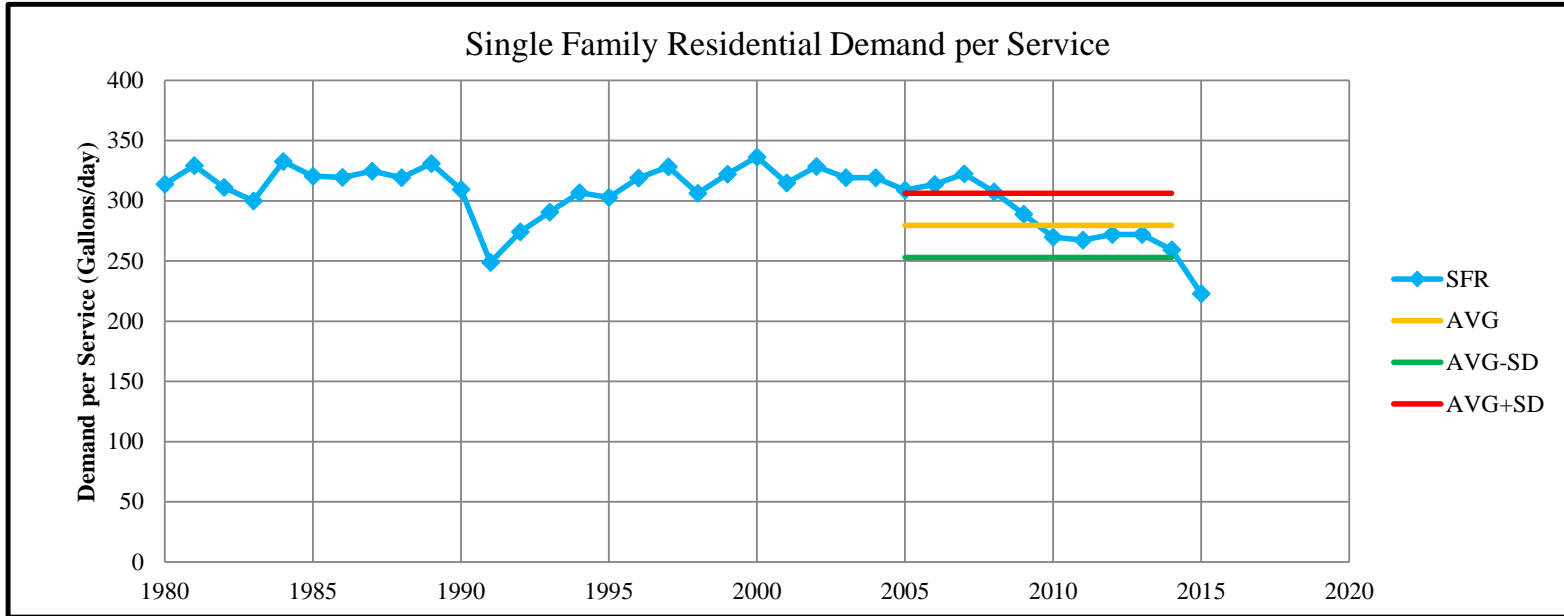
### Combined Demand per Service

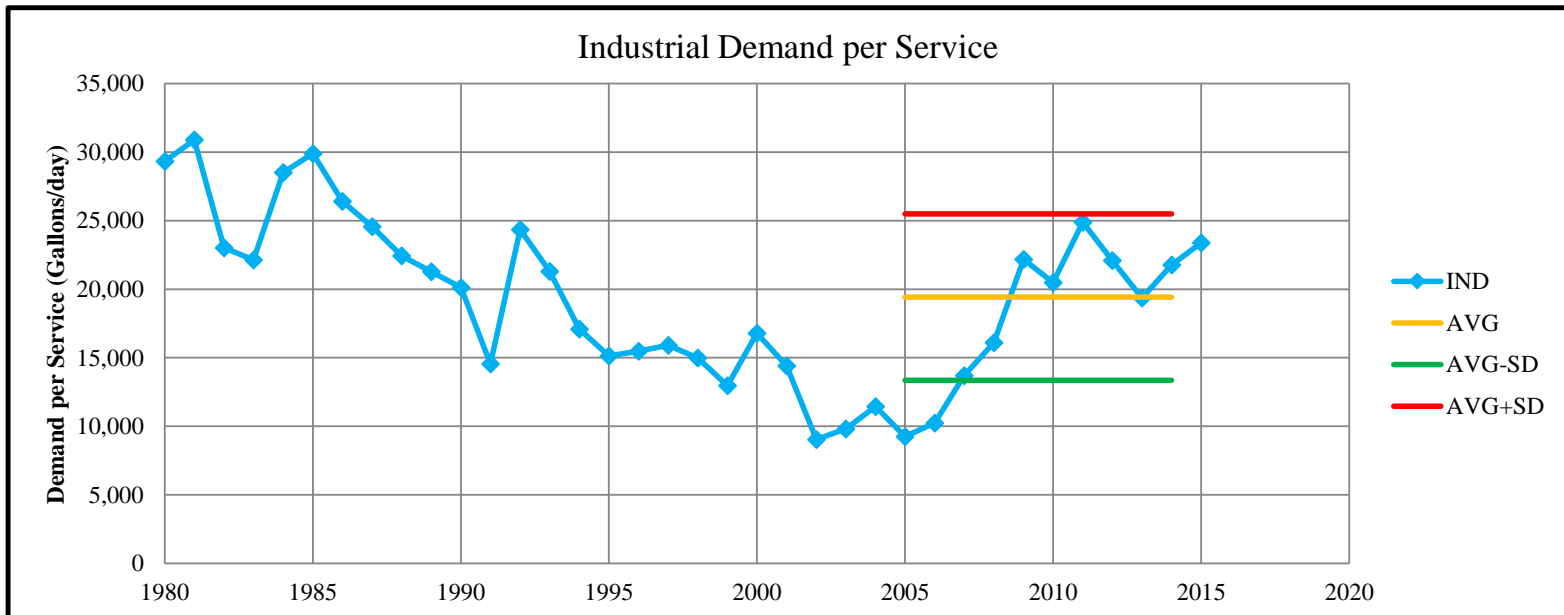
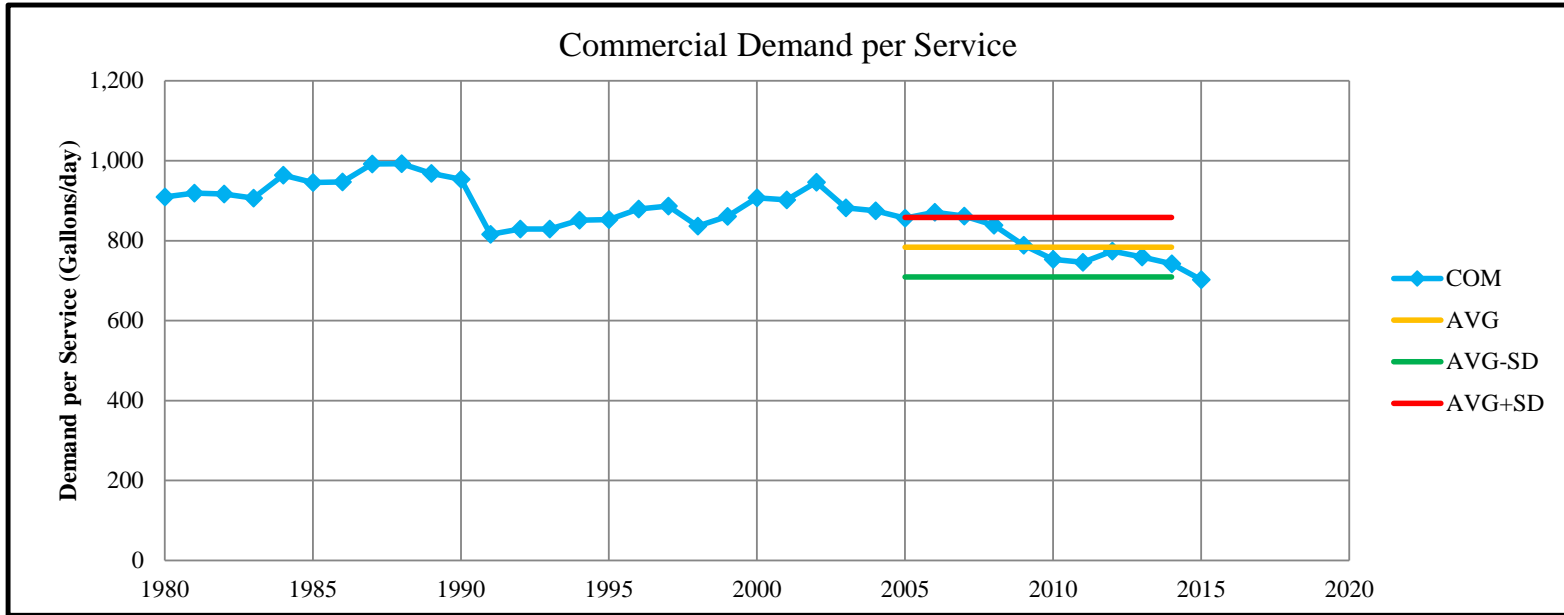


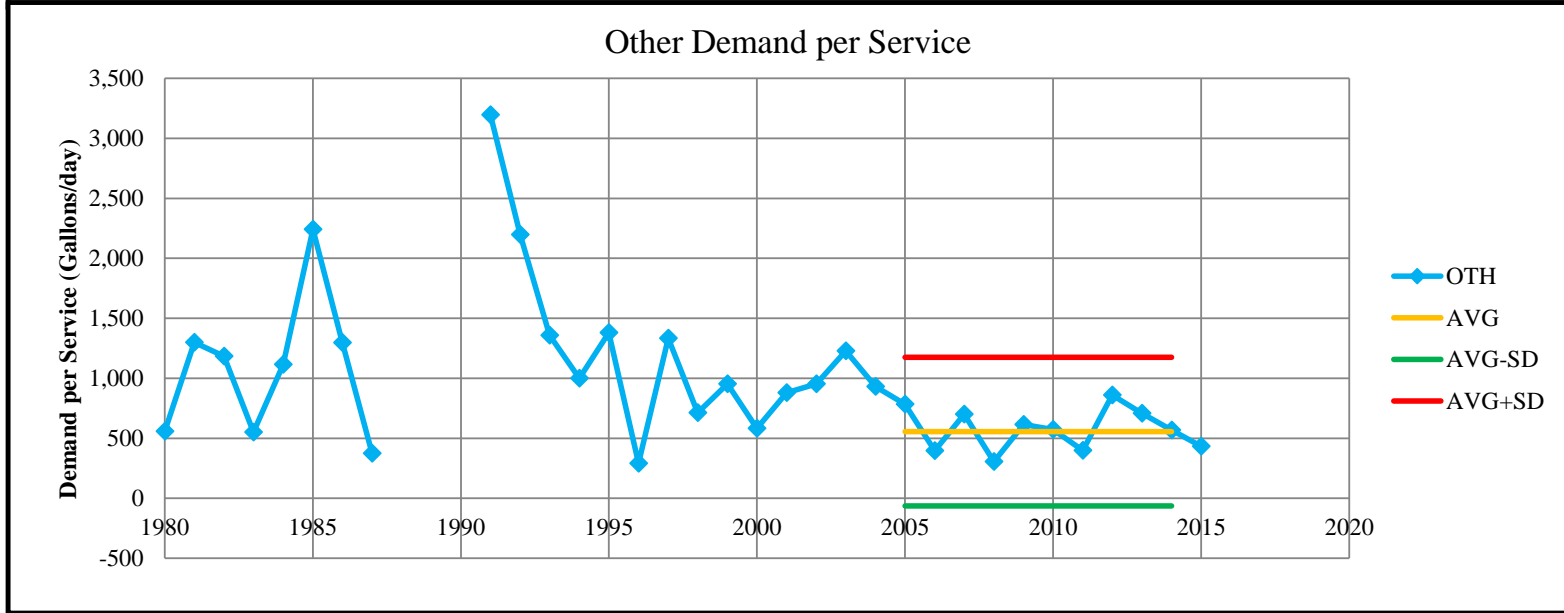
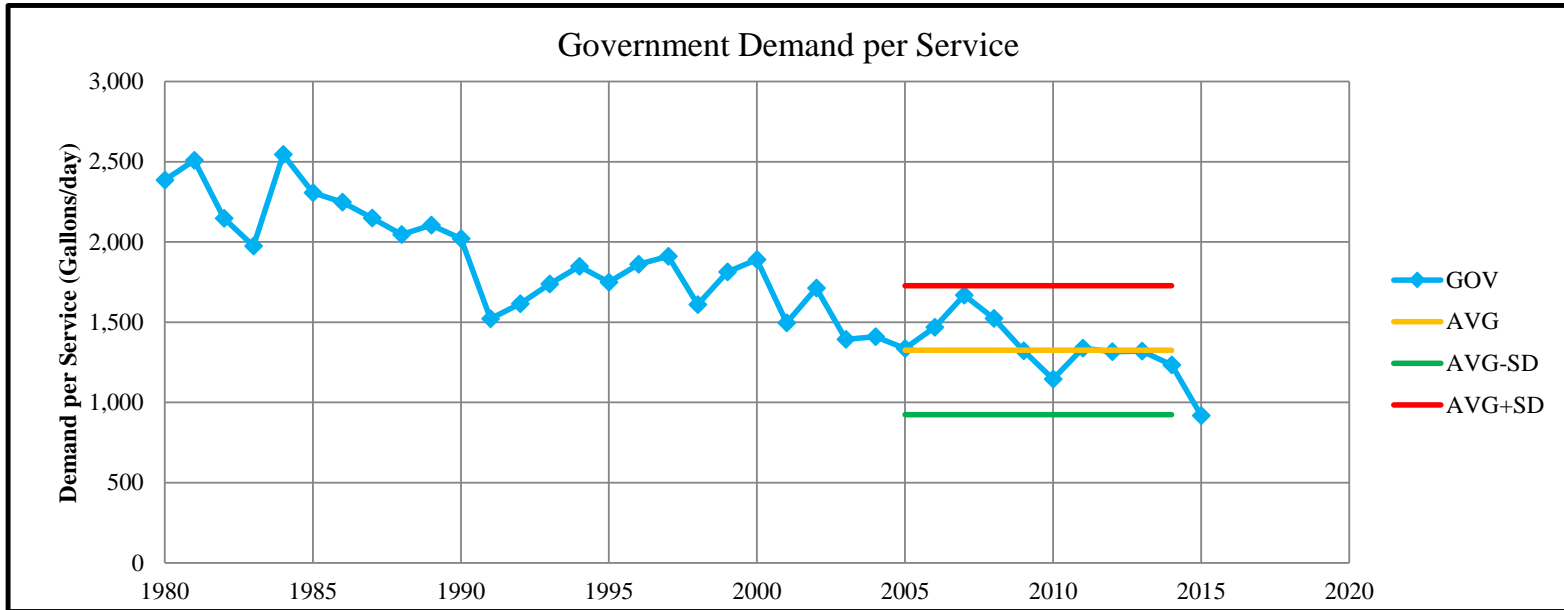
**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Demand per Service (Gallons per Day)**

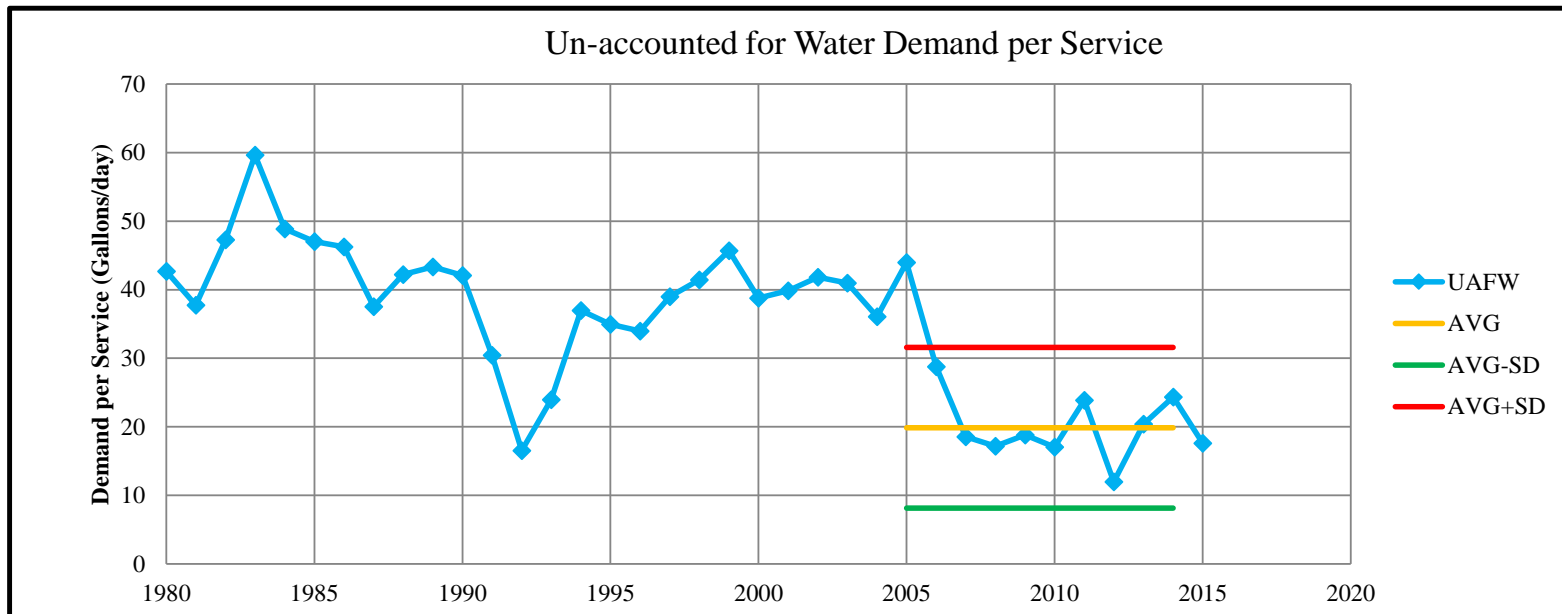
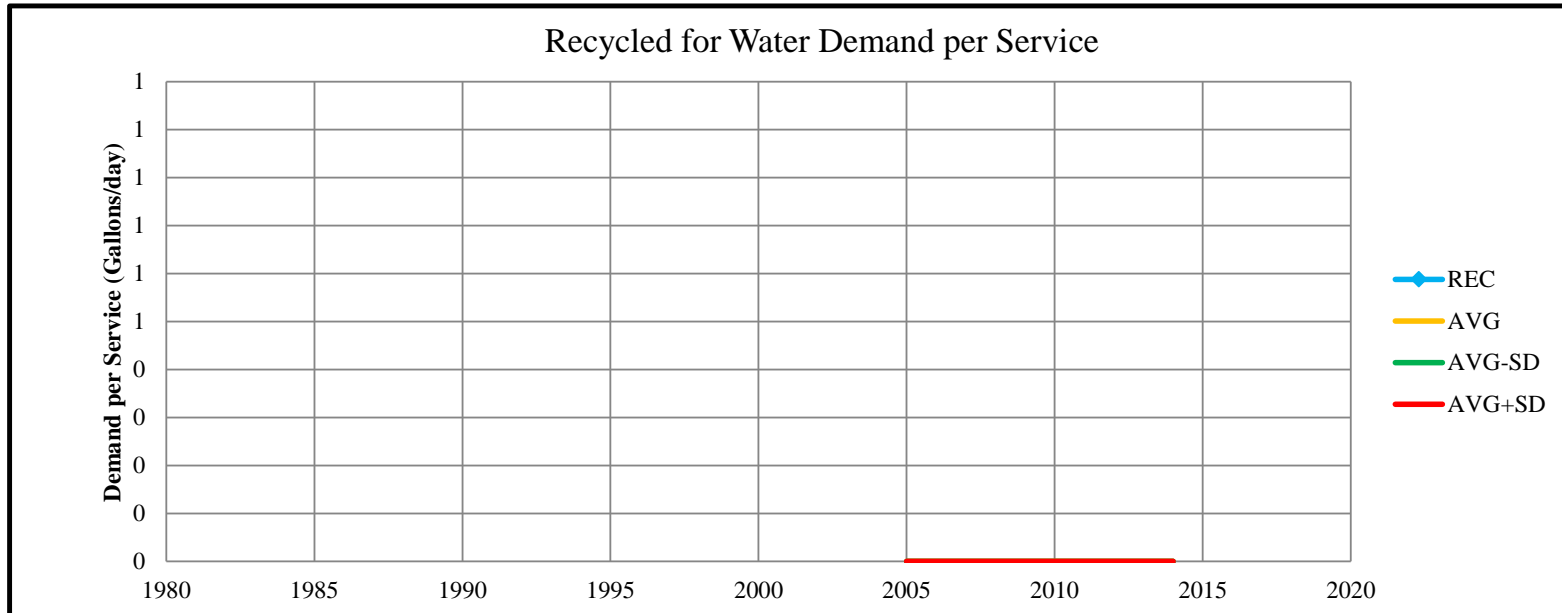
Worksheet 4

Year	SFR	MFR	COM	IND	GOV	OTH	REC	UAFW	Combined Demand/Serv
1980	314	1,962	909	29,339	2,385	558		43	590
1981	329	2,071	919	30,889	2,509	1,300		38	617
1982	311	2,095	917	23,022	2,148	1,183		47	591
1983	300	2,104	906	22,140	1,976	551		60	591
1984	333	2,161	964	28,507	2,545	1,116		49	636
1985	320	2,115	945	29,897	2,307	2,240		47	619
1986	320	2,054	947	26,408	2,247	1,296		46	606
1987	324	2,040	992	24,571	2,150	374		38	600
1988	319	1,965	992	22,443	2,047			42	590
1989	331	1,928	968	21,268	2,105			43	594
1990	309	1,852	953	20,118	2,021			42	566
1991	249	1,621	816	14,563	1,522	3,195		30	459
1992	274	1,636	829	24,350	1,616	2,196		17	485
1993	291	1,644	829	21,305	1,737	1,358		24	501
1994	307	1,683	851	17,086	1,848	1,000		37	525
1995	303	1,696	853	15,147	1,749	1,379		35	515
1996	319	1,726	879	15,486	1,862	291		34	532
1997	328	1,716	887	15,908	1,911	1,333		39	544
1998	306	1,690	837	14,996	1,609	711		41	514
1999	322	1,708	861	12,974	1,813	952		46	533
2000	336	1,749	907	16,789	1,891	581		39	549
2001	315	1,702	902	14,409	1,497	878		40	524
2002	329	1,709	946	9,041	1,712	952		42	537
2003	319	1,668	882	9,816	1,393	1,227		41	516
2004	319	1,646	875	11,436	1,410	932		36	511
2005	309	1,606	856	9,246	1,337	784		44	501
2006	314	1,593	871	10,241	1,469	397		29	493
2007	322	1,589	862	13,699	1,669	699		19	496
2008	308	1,421	839	16,101	1,523	304		17	473
2009	289	1,274	789	22,171	1,322	615		19	448
2010	270	1,274	753	20,488	1,145	572		17	423
2011	267	1,179	746	24,891	1,339	398		24	428
2012	272	1,242	774	22,105	1,317	860		12	423
2013	272	1,221	759	19,373	1,319	708		20	427
2014	259	1,163	742	21,776	1,234	568		24	415
2015	223	1,057	702	23,373	918	432		18	364
10-yr AVG	280	1,301	784	19,422	1,326	555		20	439
SD	27	302	74	6,069	402	619		12	68









**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Percentage Change in Annual Demand**

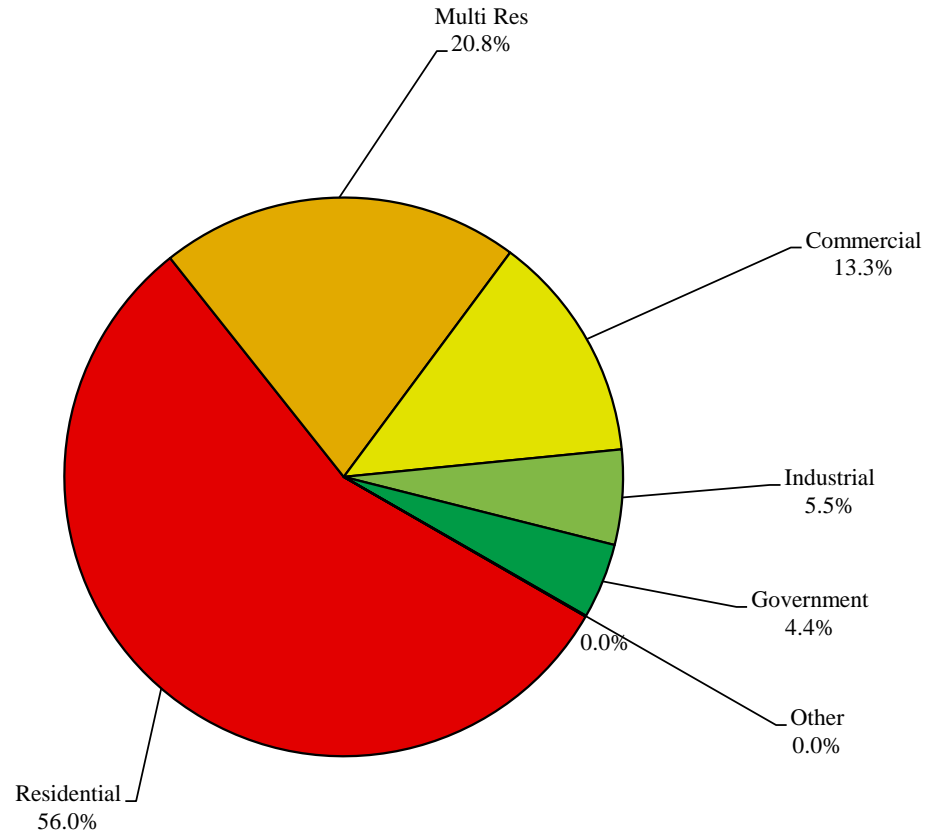
Worksheet 5

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Total
1981	5.02%	10.04%	1.31%	9.82%	7.35%	32.85%	-11.22%	6.04%
1982	-5.50%	3.50%	0.39%	-27.21%	-14.43%	-40.92%	25.56%	-5.82%
1983	-3.39%	1.31%	-0.55%	-1.18%	-7.13%	-28.31%	26.45%	-1.96%
1984	11.72%	4.14%	6.70%	22.77%	29.89%	123.98%	-17.49%	11.21%
1985	-2.92%	-0.17%	-1.73%	3.70%	-8.61%	282.47%	-3.01%	-1.79%
1986	0.42%	-0.72%	0.13%	-12.84%	-3.15%	-43.13%	-0.89%	-1.49%
1987	2.50%	2.51%	5.66%	-7.67%	-4.99%	-84.37%	-18.03%	1.58%
1988	-0.08%	-1.63%	0.30%	-9.02%	-3.96%	-100.00%	14.07%	-1.30%
1989	4.64%	-0.52%	-2.47%	-7.26%	4.69%		3.53%	1.43%
1990	-5.41%	-3.02%	-1.94%	-1.27%	-3.38%		-1.89%	-3.93%
1991	-18.93%	-12.24%	-14.86%	-27.89%	-23.82%		-27.16%	-17.55%
1992	10.65%	1.00%	1.09%	61.45%	6.39%	-15.99%	-45.56%	9.59%
1993	6.19%	0.57%	-0.38%	-15.10%	6.99%	-39.42%	45.34%	2.02%
1994	5.92%	2.23%	2.38%	-21.60%	4.32%	5.55%	54.41%	2.47%
1995	-0.85%	0.79%	-0.19%	-16.16%	-3.51%	90.53%	-5.01%	-1.34%
1996	5.58%	1.69%	3.63%	2.24%	4.83%	-89.54%	-2.69%	4.07%
1997	3.27%	-0.61%	0.22%	-4.75%	0.60%	424.51%	15.04%	1.54%
1998	-6.21%	-1.55%	-6.17%	-9.33%	-18.04%	-52.49%	6.68%	-6.10%
1999	6.23%	1.05%	2.41%	-13.06%	7.20%	122.10%	10.97%	3.82%
2000	3.86%	1.16%	3.93%	28.45%	1.30%	-35.91%	-15.71%	4.04%
2001	-4.54%	-0.63%	2.52%	-0.33%	-14.58%	20.71%	5.11%	-2.95%
2002	4.64%	0.43%	4.68%	-36.58%	14.26%	13.23%	5.10%	2.32%
2003	-3.03%	-2.51%	-7.05%	5.36%	-18.38%	-0.35%	-2.25%	-4.07%
2004	1.15%	-1.60%	-1.45%	19.29%	1.85%	-12.96%	-11.09%	0.75%
2005	-2.56%	-2.46%	-2.27%	-17.60%	-4.86%	-1.01%	22.61%	-3.14%
2006	1.98%	-1.00%	1.53%	11.00%	10.02%	-62.49%	-34.36%	1.86%
2007	3.34%	-0.62%	-1.11%	33.21%	14.21%	102.10%	-35.20%	3.38%
2008	-4.31%	1.04%	-10.12%	-2.88%	-6.25%	-53.39%	-7.10%	-4.25%
2009	-5.95%	-1.83%	-13.02%	8.41%	-11.69%	73.61%	9.65%	-5.75%
2010	-6.31%	0.26%	-3.97%	-10.86%	-13.67%	8.31%	-9.19%	-5.20%
2011	-0.45%	-5.64%	-2.55%	26.35%	16.18%	-58.90%	40.68%	0.06%
2012	1.85%	5.36%	3.68%	-11.19%	-1.18%	82.97%	-49.83%	1.89%
2013	0.05%	-1.40%	-2.02%	-12.36%	0.11%	48.63%	70.66%	-1.17%
2014	-4.49%	-4.75%	-2.34%	12.40%	-6.56%	-29.04%	19.44%	-3.58%
2015	-13.88%	-8.89%	-5.62%	4.24%	-25.69%	-13.93%	-27.51%	-11.26%



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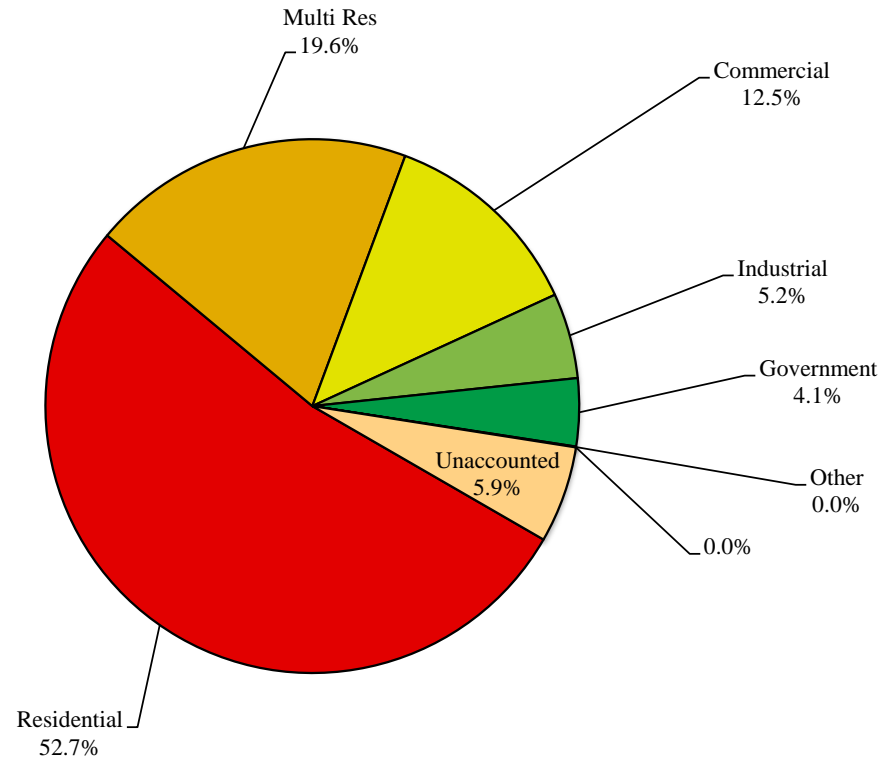
### Percent of Total Sales by Type of Use (2015)



**California Water Service Company - Hermosa-Redondo District****Water Supply and Demand Analysis and Projections****Percentage of Total Sales**

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Percent Total
1980	47.69%	18.87%	16.21%	10.60%	6.61%	0.04%	100.00%
1981	47.23%	19.58%	15.49%	10.97%	6.69%	0.05%	100.00%
1982	47.39%	21.52%	16.51%	8.48%	6.08%	0.03%	100.00%
1983	46.70%	22.23%	16.74%	8.55%	5.76%	0.02%	100.00%
1984	46.91%	20.82%	16.07%	9.44%	6.72%	0.04%	100.00%
1985	46.37%	21.16%	16.08%	9.97%	6.26%	0.17%	100.00%
1986	47.27%	21.33%	16.34%	8.82%	6.15%	0.10%	100.00%
1987	47.69%	21.53%	17.00%	8.01%	5.75%	0.02%	100.00%
1988	48.29%	21.46%	17.27%	7.39%	5.60%	0.00%	100.00%
1989	49.82%	21.04%	16.61%	6.75%	5.78%	0.00%	100.00%
1990	49.05%	21.24%	16.95%	6.94%	5.81%	0.00%	100.00%
1991	48.23%	22.61%	17.51%	6.07%	5.37%	0.21%	100.00%
1992	48.70%	20.84%	16.15%	8.94%	5.21%	0.16%	100.00%
1993	50.69%	20.54%	15.77%	7.44%	5.47%	0.09%	100.00%
1994	52.39%	20.50%	15.75%	5.69%	5.56%	0.10%	100.00%
1995	52.65%	20.94%	15.94%	4.84%	5.44%	0.19%	100.00%
1996	53.42%	20.46%	15.87%	4.75%	5.48%	0.02%	100.00%
1997	54.32%	20.03%	15.66%	4.46%	5.43%	0.10%	100.00%
1998	54.26%	21.00%	15.65%	4.31%	4.74%	0.05%	100.00%
1999	55.52%	20.44%	15.44%	3.61%	4.90%	0.10%	100.00%
2000	55.43%	19.87%	15.42%	4.45%	4.77%	0.06%	100.00%
2001	54.52%	20.35%	16.29%	4.57%	4.20%	0.08%	100.00%
2002	55.75%	19.97%	16.67%	2.83%	4.68%	0.09%	100.00%
2003	56.36%	20.30%	16.15%	3.11%	3.99%	0.09%	100.00%
2004	56.59%	19.82%	15.80%	3.68%	4.03%	0.08%	100.00%
2005	56.93%	19.96%	15.94%	3.13%	3.96%	0.08%	100.00%
2006	56.99%	19.40%	15.89%	3.42%	4.28%	0.03%	100.00%
2007	56.97%	18.65%	15.20%	4.40%	4.72%	0.06%	100.00%
2008	56.94%	19.68%	14.26%	4.46%	4.62%	0.03%	100.00%
2009	56.81%	20.50%	13.16%	5.14%	4.33%	0.05%	100.00%
2010	56.15%	21.68%	13.34%	4.83%	3.95%	0.06%	100.00%
2011	55.86%	20.44%	12.99%	6.10%	4.58%	0.02%	100.00%
2012	55.84%	21.14%	13.22%	5.31%	4.44%	0.04%	100.00%
2013	56.53%	21.09%	13.10%	4.71%	4.50%	0.07%	100.00%
2014	55.99%	20.83%	13.27%	5.49%	4.36%	0.05%	100.00%
2015	54.34%	21.39%	14.11%	6.45%	3.65%	0.05%	100.00%

### Percent of Total Demand by Type of Use (2015)

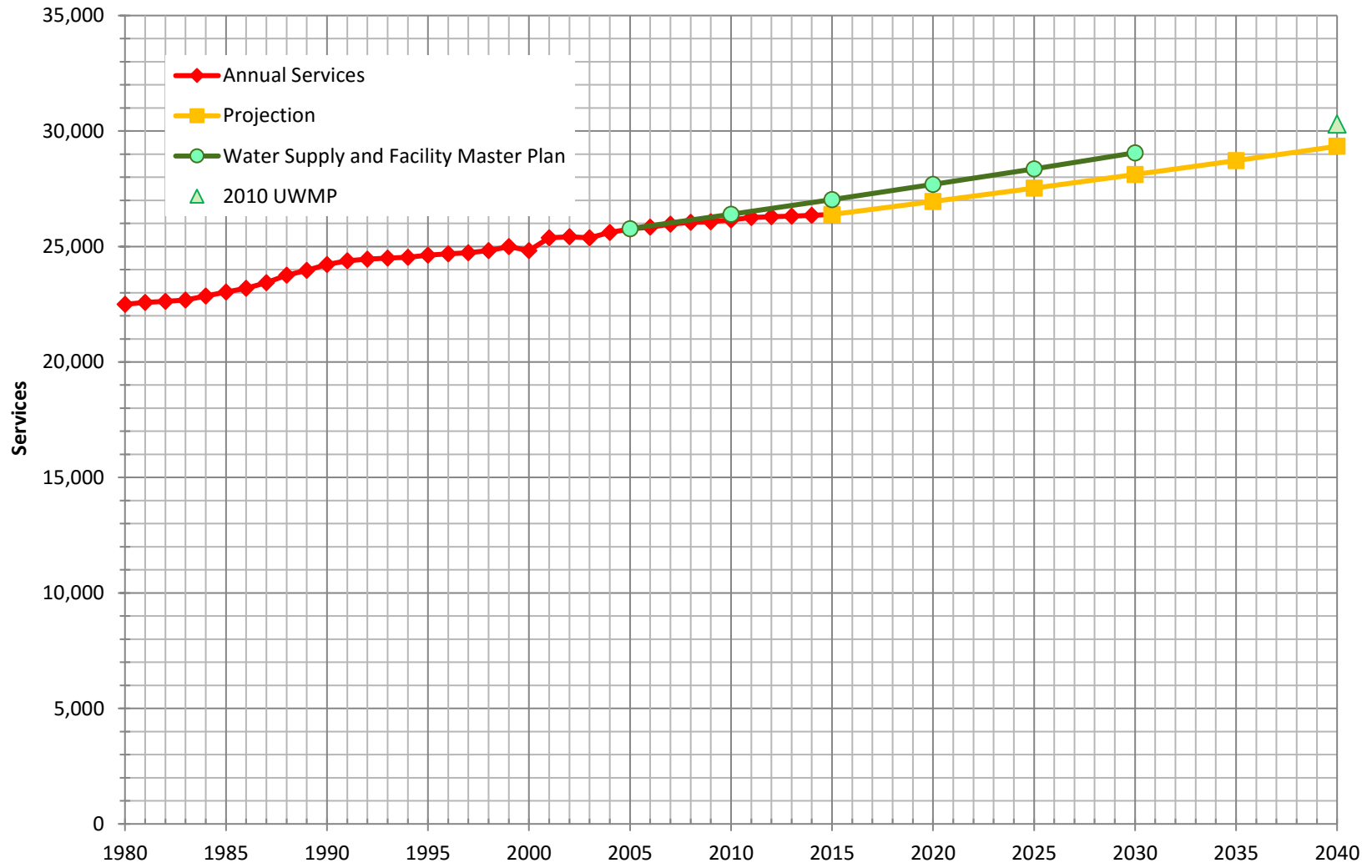


**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Percentage of Total Demand**

Worksheet 7

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Percent Total
1980	44.24%	17.50%	15.04%	9.83%	6.13%	0.03%	7.23%	100.00%
1981	44.34%	18.38%	14.54%	10.30%	6.28%	0.04%	6.12%	100.00%
1982	43.60%	19.79%	15.19%	7.80%	5.59%	0.03%	8.00%	100.00%
1983	41.99%	19.99%	15.06%	7.69%	5.18%	0.02%	10.08%	100.00%
1984	43.31%	19.22%	14.83%	8.71%	6.21%	0.04%	7.68%	100.00%
1985	42.85%	19.56%	14.85%	9.21%	5.78%	0.16%	7.59%	100.00%
1986	43.66%	19.70%	15.09%	8.14%	5.68%	0.09%	7.64%	100.00%
1987	44.71%	20.18%	15.93%	7.51%	5.39%	0.01%	6.25%	100.00%
1988	44.83%	19.92%	16.04%	6.86%	5.20%	0.00%	7.16%	100.00%
1989	46.18%	19.51%	15.40%	6.26%	5.36%	0.00%	7.30%	100.00%
1990	45.40%	19.66%	15.69%	6.42%	5.38%	0.00%	7.44%	100.00%
1991	45.04%	21.11%	16.35%	5.67%	5.01%	0.19%	6.63%	100.00%
1992	47.04%	20.13%	15.60%	8.64%	5.03%	0.15%	3.41%	100.00%
1993	48.26%	19.56%	15.01%	7.09%	5.20%	0.09%	4.78%	100.00%
1994	48.71%	19.05%	14.65%	5.29%	5.17%	0.09%	7.04%	100.00%
1995	49.08%	19.52%	14.86%	4.51%	5.07%	0.17%	6.79%	100.00%
1996	50.01%	19.15%	14.86%	4.45%	5.13%	0.02%	6.38%	100.00%
1997	50.43%	18.59%	14.54%	4.14%	5.04%	0.09%	7.17%	100.00%
1998	49.88%	19.30%	14.39%	3.96%	4.36%	0.05%	8.07%	100.00%
1999	50.76%	18.68%	14.11%	3.30%	4.48%	0.10%	8.57%	100.00%
2000	51.51%	18.47%	14.33%	4.14%	4.43%	0.06%	7.06%	100.00%
2001	50.37%	18.80%	15.05%	4.22%	3.88%	0.07%	7.60%	100.00%
2002	51.41%	18.41%	15.37%	2.61%	4.32%	0.08%	7.79%	100.00%
2003	51.89%	18.69%	14.87%	2.87%	3.67%	0.09%	7.93%	100.00%
2004	52.59%	18.42%	14.68%	3.42%	3.75%	0.07%	7.06%	100.00%
2005	51.93%	18.21%	14.54%	2.86%	3.61%	0.07%	8.78%	100.00%
2006	53.67%	18.27%	14.96%	3.22%	4.03%	0.03%	5.84%	100.00%
2007	54.84%	17.95%	14.63%	4.24%	4.55%	0.06%	3.74%	100.00%
2008	54.87%	18.96%	13.75%	4.30%	4.46%	0.03%	3.63%	100.00%
2009	54.42%	19.64%	12.61%	4.92%	4.15%	0.05%	4.20%	100.00%
2010	53.88%	20.80%	12.80%	4.63%	3.79%	0.06%	4.03%	100.00%
2011	52.75%	19.30%	12.26%	5.76%	4.33%	0.02%	5.58%	100.00%
2012	54.26%	20.54%	12.84%	5.16%	4.32%	0.04%	2.83%	100.00%
2013	53.82%	20.08%	12.47%	4.49%	4.29%	0.06%	4.78%	100.00%
2014	52.71%	19.61%	12.49%	5.17%	4.11%	0.05%	5.86%	100.00%
2015	51.71%	20.36%	13.43%	6.14%	3.48%	0.05%	4.84%	100.00%

### Historical & Projected Services

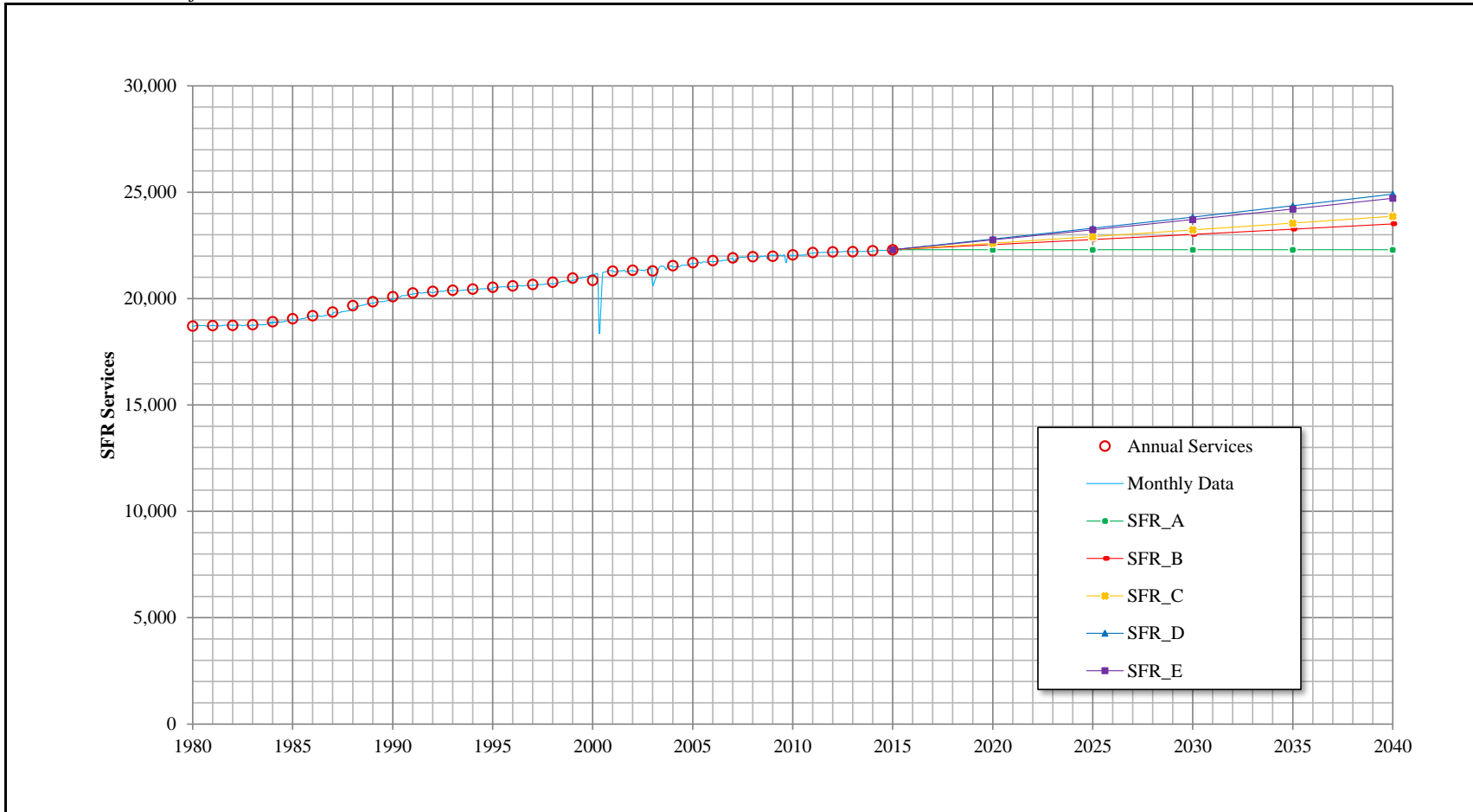


**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**

Customer Category		Selected Trend	Growth Rate	Actual Services				Projected Services					
				2000	2005	2010	Base Year 2015	2015	2020	2025	2030	2035	2040
SFR	SFR_E	20 Yr. Avg.	0.41%	20,867	21,699	22,066	22,299	22,299	22,763	23,236	23,720	24,213	24,716
MFR	MFR_B	5 Yr. Avg.	0.50%	1,439	1,464	1,804	1,850	1,850	1,897	1,945	1,995	2,046	2,098
COM	COM_E	Modified	0.43%	2,153	2,191	1,878	1,838	1,838	1,877	1,918	1,959	2,001	2,043
IND	IND_A	Zero Growth Rate	0.00%	34	40	25	25	25	25	25	25	25	25
GOV	GOV_D	15 Yr. Avg.	0.89%	319	349	366	364	364	380	398	416	435	454
OTH	OTH_B	5 Yr. Avg.	-9.34%	14	12	11	10	10	6	4	2	1	1
TOTAL		Average growth rate 2012-2040	0.43%	24,827	25,755	26,150	26,386	26,386	26,949	27,526	28,116	28,720	29,338

### California Water Service Company - Hermosa-Redondo District Water Supply and Demand Analysis and Projections

SFR Historical & Projected Services



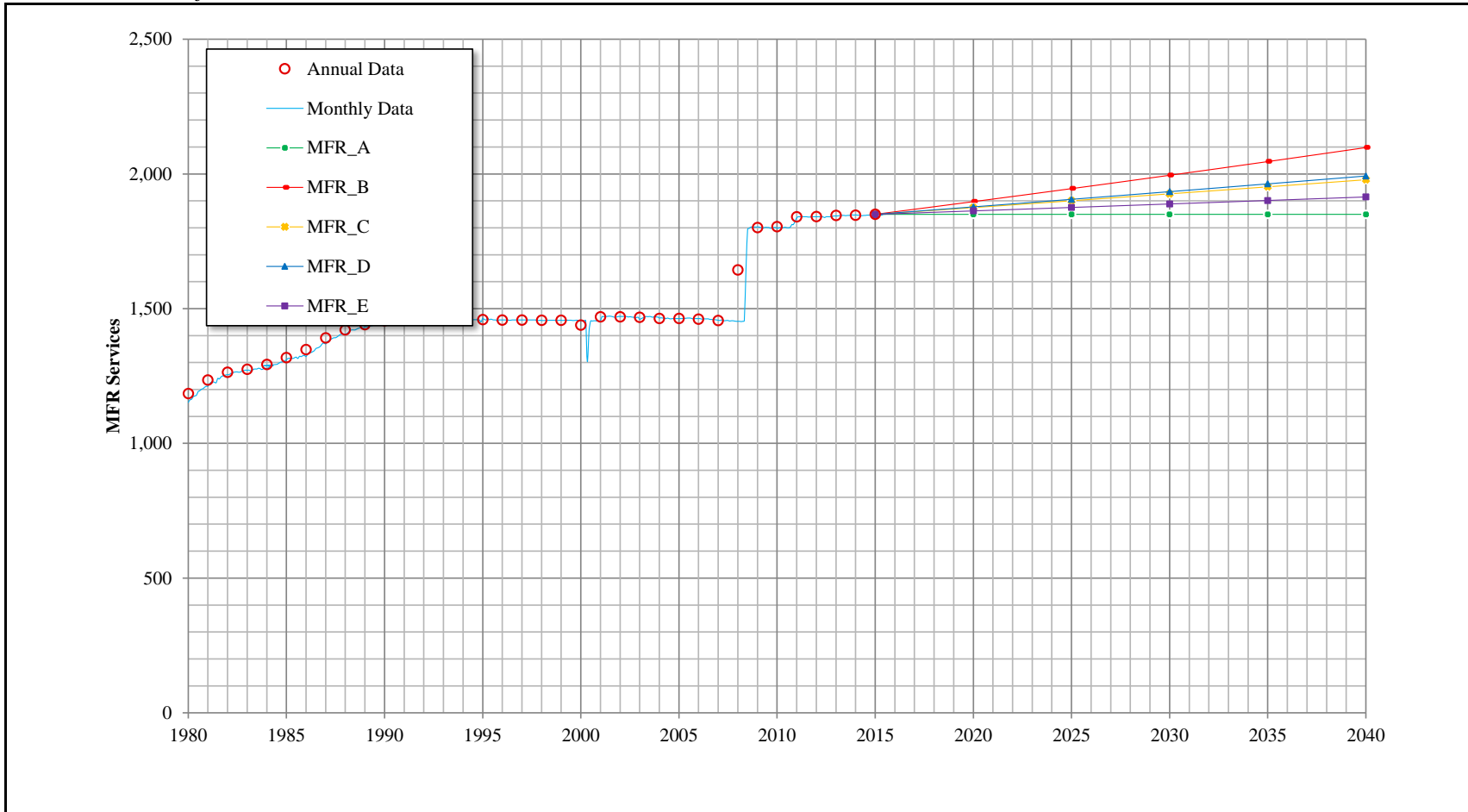
Customer Category	Trend	Growth Rate	Actual				Projected					
			2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
SFR	SFR_A	Zero Growth Rate	20,867	21,699	22,066	22,299	22,299	22,299	22,299	22,299	22,299	22,299
	SFR_B	5 Yr. Avg.				22,299	22,299	22,537	22,777	23,019	23,264	23,512
	SFR_C	10 Yr. Avg.				22,299	22,299	22,605	22,916	23,230	23,549	23,872
	SFR_D	15 Yr. Avg.				22,299	22,299	22,799	23,309	23,831	24,365	24,911
	> SFR_E	20 Yr. Avg.				22,299	22,299	22,763	23,236	23,720	24,213	24,716



### California Water Service Company - Hermosa-Redondo District

#### Water Supply and Demand Analysis and Projections

##### MFR Historical & Projected Services

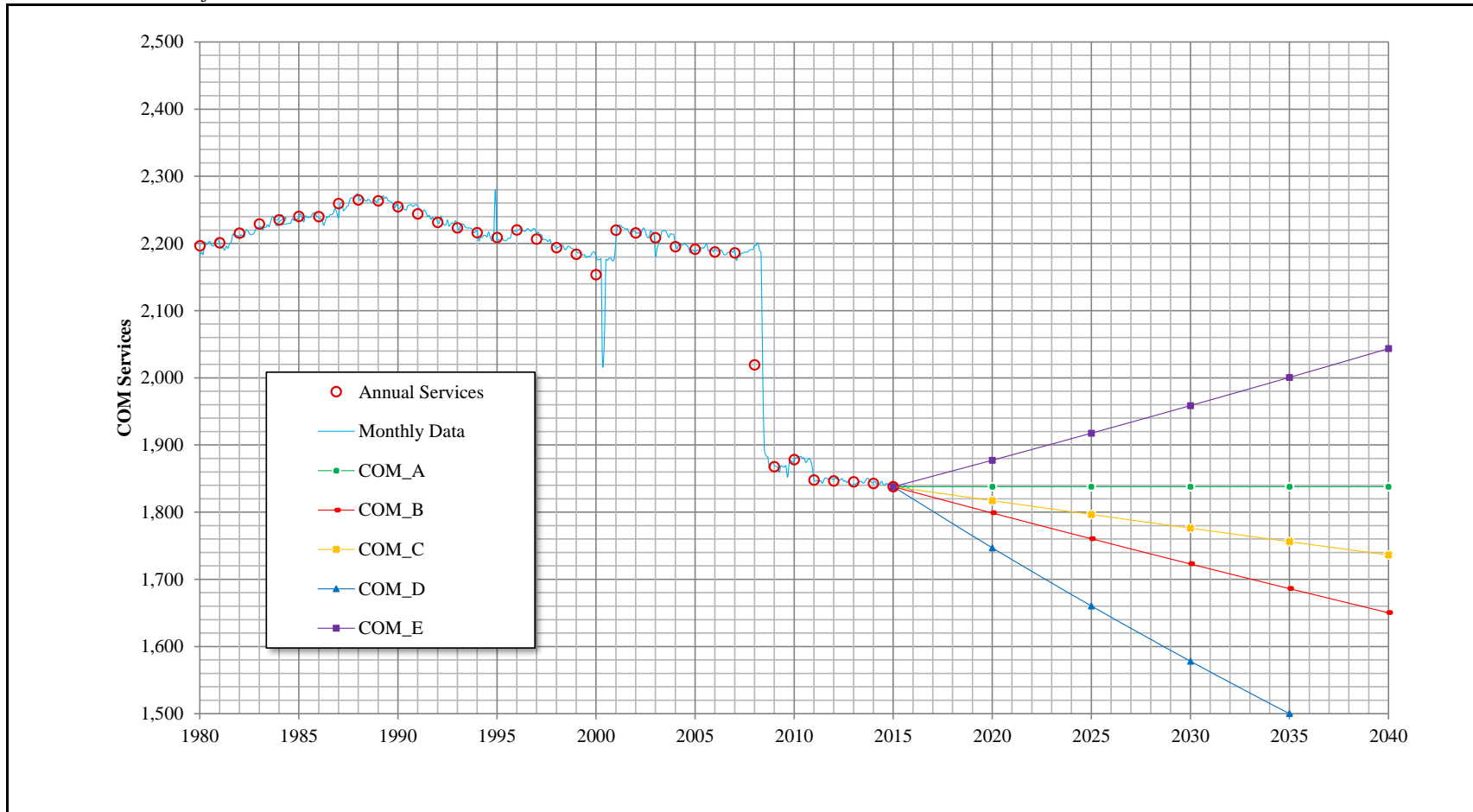


Customer Category	Trend		Growth Rate	Actual			Base Year 2015	Projected						
				2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040	
MFR		MFR_A	Zero Growth Rate	1,439	1,464	1,804	1,850	1,850	1,850	1,850	1,850	1,850	1,850	1,850
	>	MFR_B	5 Yr. Avg.				1,850	1,850	1,897	1,945	1,995	2,046	2,098	
		MFR_C	10 Yr. Avg.				1,850	1,850	1,875	1,900	1,926	1,952	1,978	
		MFR_D	15 Yr. Avg.				1,850	1,850	1,878	1,906	1,934	1,963	1,992	
		MFR_E	20 Yr. Avg.				1,850	1,850	1,863	1,876	1,888	1,901	1,915	

### California Water Service Company - Hermosa-Redondo District

#### Water Supply and Demand Analysis and Projections

##### COM Historical & Projected Services

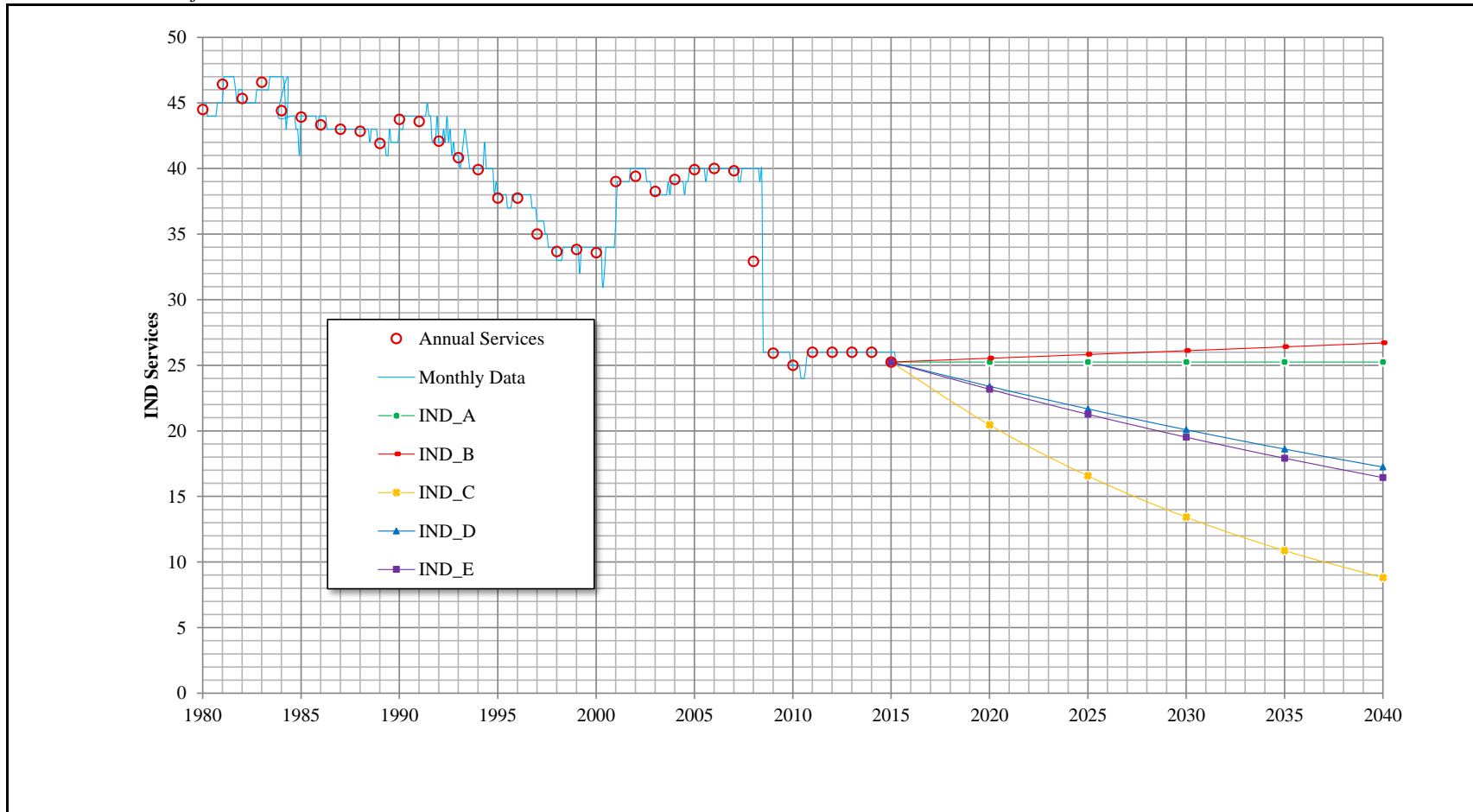


Customer Category	Trend	Growth Rate	Actual				Projected					
			2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
COM	COM_A	Zero Growth Rate	2,153	2,191	1,878	1,838	1,838	1,838	1,838	1,838	1,838	1,838
	COM_B	5 Yr. Avg.				1,838	1,838	1,799	1,760	1,723	1,686	1,650
	COM_C	10 Yr. Avg.				1,838	1,838	1,817	1,797	1,776	1,756	1,736
	COM_D	15 Yr. Avg.				1,838	1,838	1,747	1,660	1,578	1,500	1,426
	> COM_E	Modified				1,838	1,838	1,877	1,918	1,959	2,001	2,043

### California Water Service Company - Hermosa-Redondo District

#### Water Supply and Demand Analysis and Projections

##### IND Historical & Projected Services

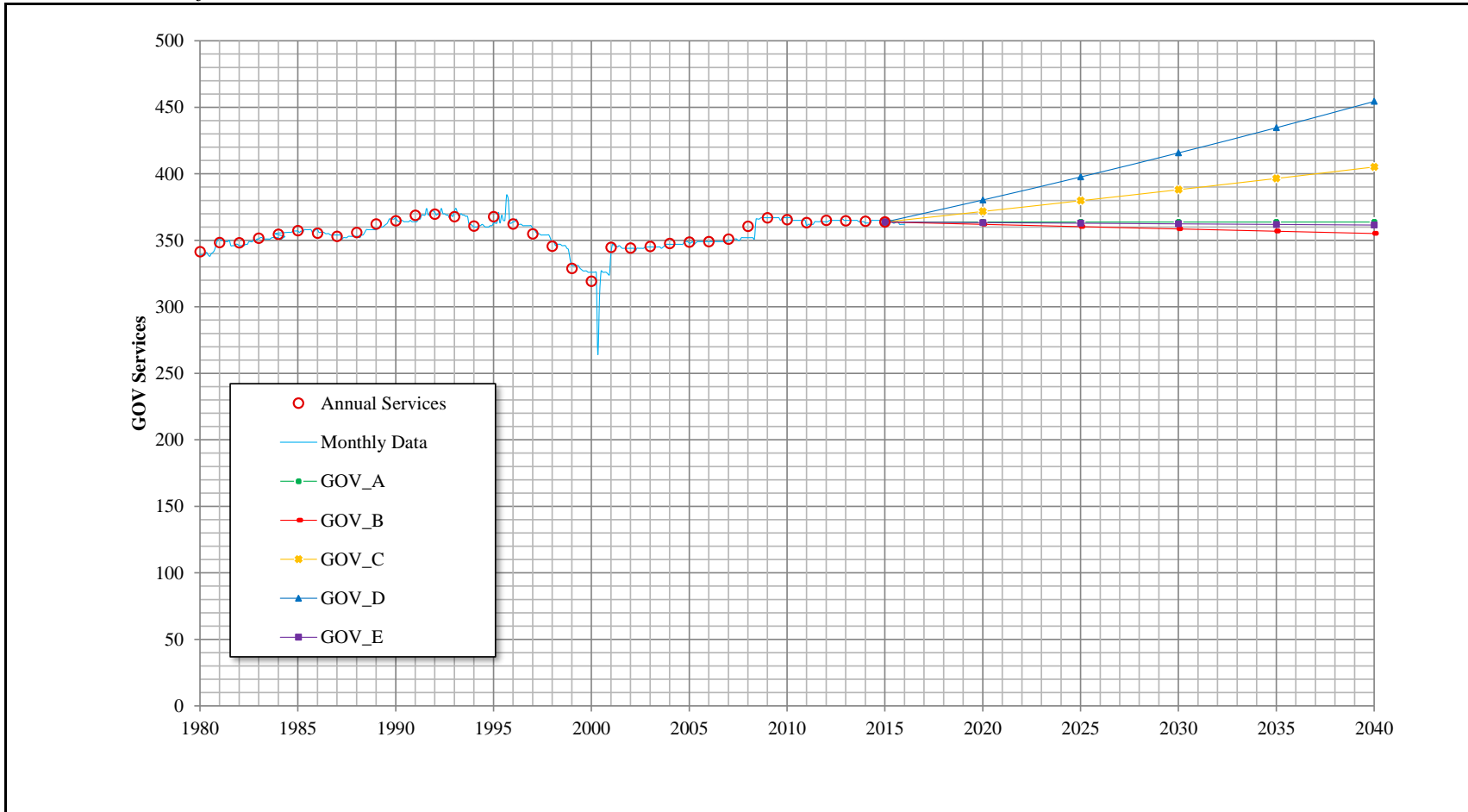


Customer Category	Trend	Growth Rate	Actual			Base Year 2015	Projected					
			2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
IND	>	IND_A Zero Growth Rate	34	40	25	25	25	25	25	25	25	25
		IND_B 5 Yr. Avg.				25	25	26	26	26	26	27
		IND_C 10 Yr. Avg.				25	25	20	17	13	11	9
		IND_D 15 Yr. Avg.				25	25	23	22	20	19	17
		IND_E 20 Yr. Avg.				25	25	23	21	20	18	16

### California Water Service Company - Hermosa-Redondo District

#### Water Supply and Demand Analysis and Projections

##### GOV Historical & Projected Services

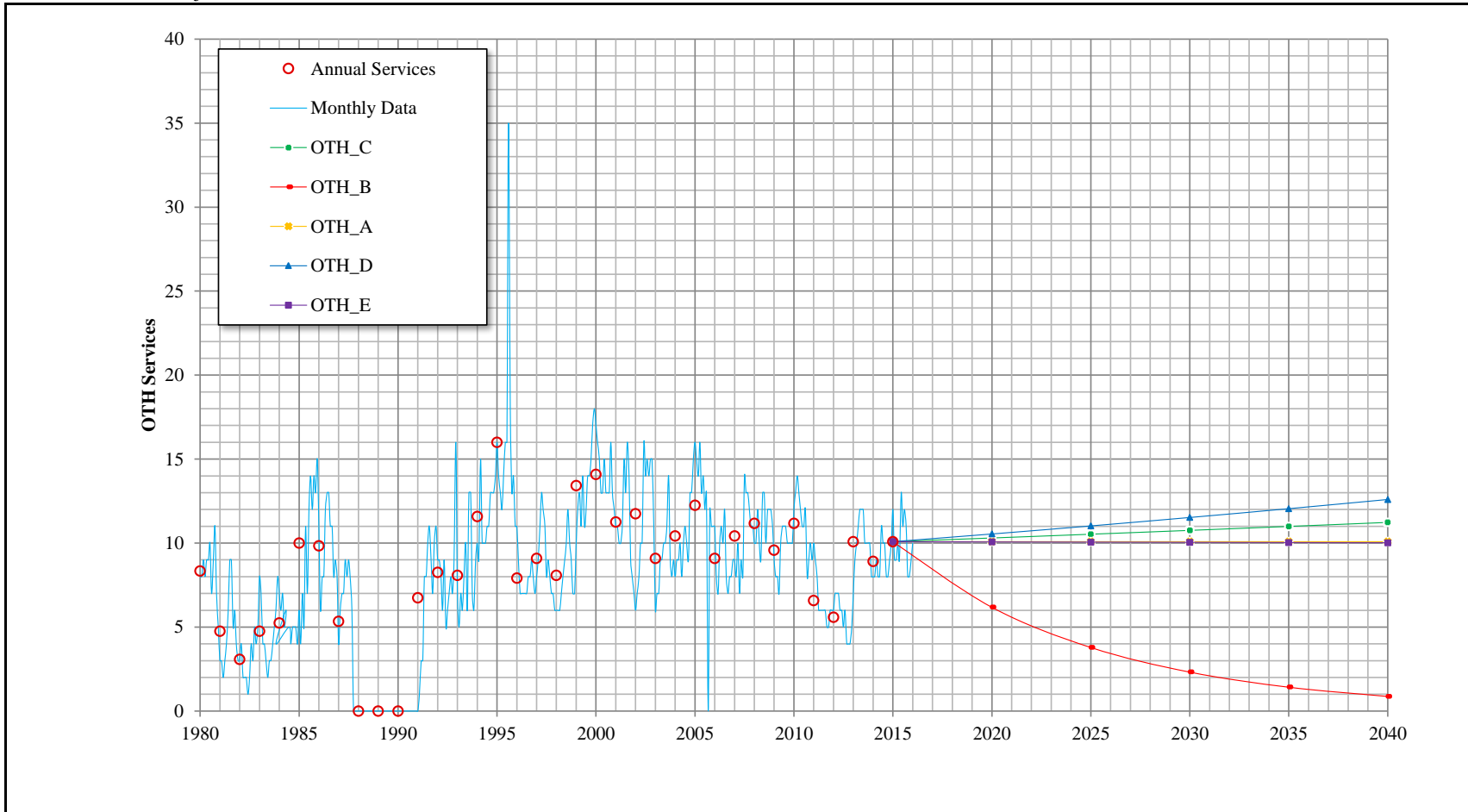


Customer Category	Trend	Growth Rate	Actual				Projected					
			2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
GOV			319	349	366	364	364	364	364	364	364	364
	GOV_A	Zero Growth Rate				364	364	364	364	364	364	364
	GOV_B	5 Yr. Avg.				364	364	362	360	359	357	355
	GOV_C	10 Yr. Avg.				364	364	372	380	388	397	405
	> GOV_D	15 Yr. Avg.				364	364	380	398	416	435	454
	GOV_E	20 Yr. Avg.				364	364	363	363	362	362	361

### California Water Service Company - Hermosa-Redondo District

#### Water Supply and Demand Analysis and Projections

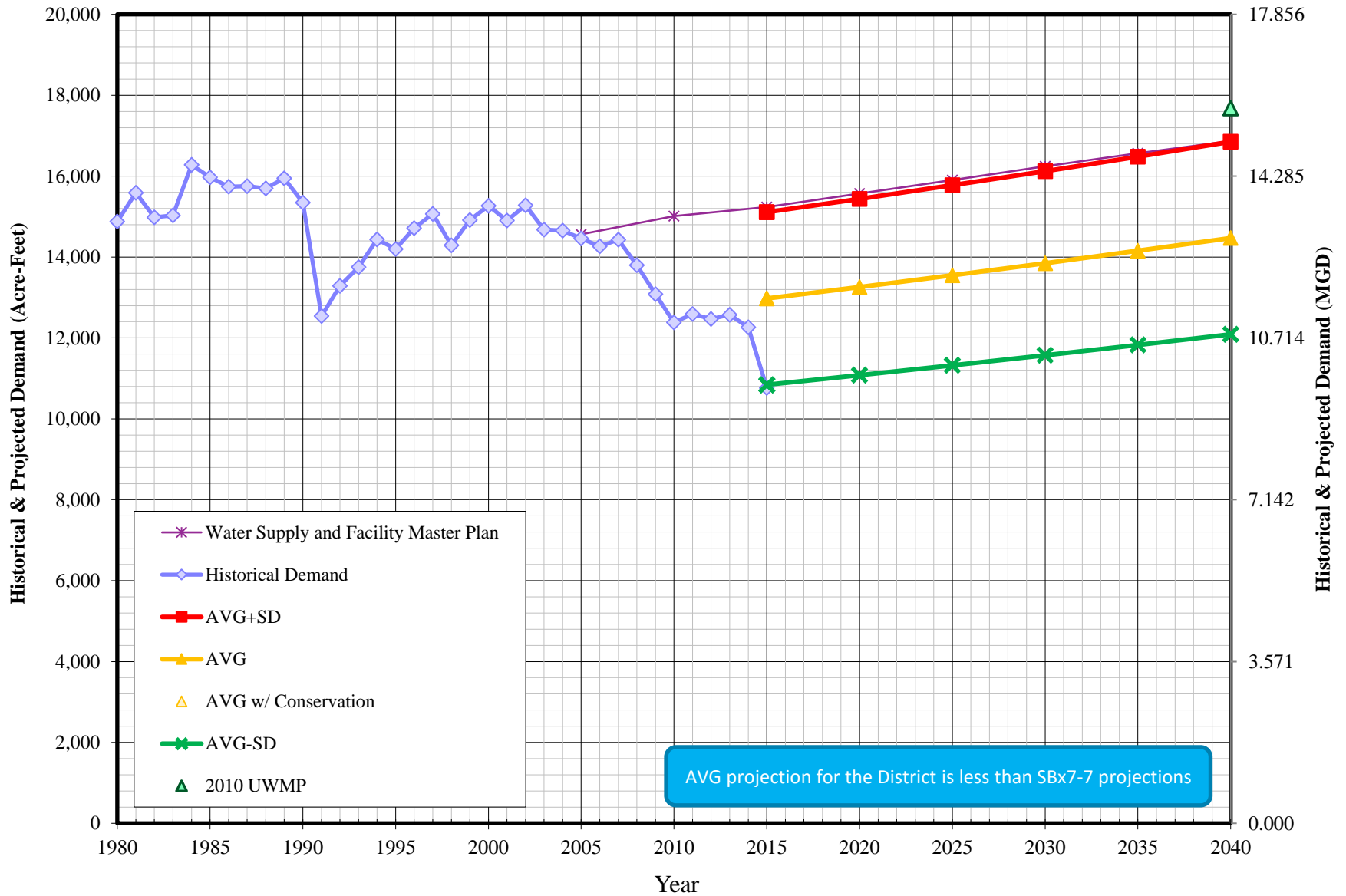
##### OTH Historical & Projected Services



Customer Category	Trend		Growth Rate	Actual				Projected						
				2000	2005	2010	Base Year 2015	Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040	
OTH		OTH_A	Zero Growth Rate	14	12	11	10	10	10	10	10	10	10	10
	>	OTH_B	5 Yr. Avg.				10	10	6	4	2	1	1	
		OTH_C	10 Yr. Avg.				10	10	10	11	11	11	11	
		OTH_D	15 Yr. Avg.				10	10	11	11	12	12	13	
		OTH_E	20 Yr. Avg.				10	10	10	10	10	10	10	
				0.00%				10						

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# Historical & Projected Demand (HR)

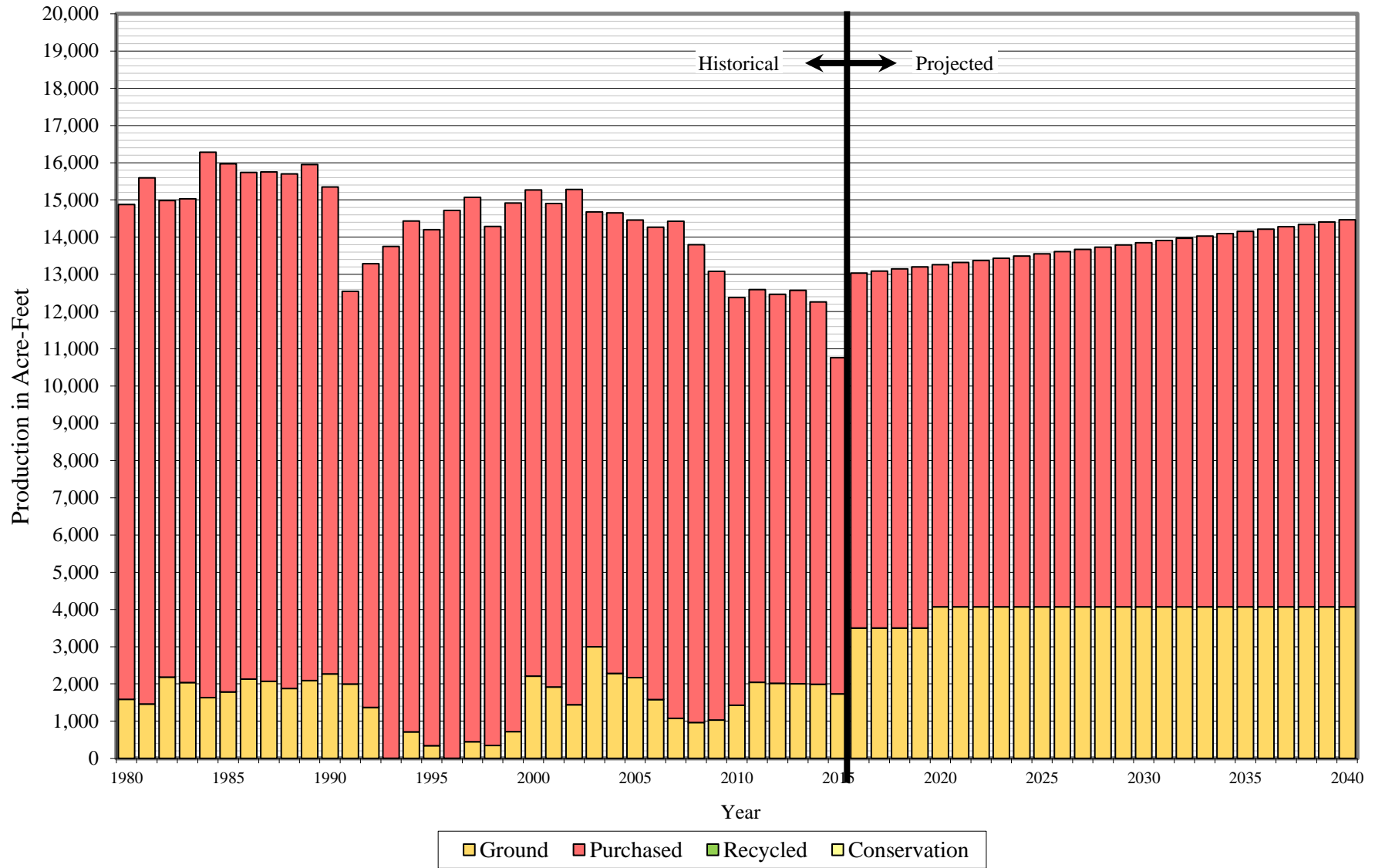


**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**

Customer Category	Actual Demand (AFY)								Projected Demand (AFY)						
	1980	1985	1990	1995	2000	2005	2010	2015	2015	2015	2020	2025	2030	2035	2040
SFR	6,582	6,843	6,967	6,970	7,864	7,508	6,672	5,566	7,650	7,650	7,809	7,971	8,137	8,306	8,479
									6,984	6,984	7,129	7,277	7,428	7,583	7,741
									6,318	6,318	6,449	6,583	6,720	6,860	7,002
									3,322	3,322	3,407	3,494	3,583	3,674	3,767
MFR	2,604	3,124	3,017	2,772	2,819	2,633	2,576	2,191	2,697	2,697	2,765	2,836	2,908	2,982	3,058
									2,071	2,071	2,123	2,177	2,233	2,290	2,348
									1,767	1,767	1,804	1,843	1,883	1,923	1,964
COM	2,237	2,373	2,408	2,110	2,188	2,102	1,585	1,446	1,613	1,613	1,648	1,683	1,719	1,756	1,794
									1,460	1,460	1,491	1,523	1,556	1,589	1,623
									721	721	721	721	721	721	721
IND	1,462	1,471	986	640	632	413	574	661	549	549	549	549	549	549	549
									378	378	378	378	378	378	378
									704	704	736	769	804	841	879
GOV	912	923	825	720	676	522	469	374	540	540	565	590	617	645	675
									376	376	394	411	430	450	470
									13	13	8	5	3	2	1
OTH	5	25	0	25	9	11	7	5	6	6	4	2	1	1	1
									-1	-1	0	0	0	0	0
									0	0	0	0	0	0	0
REC	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
									0	0	0	0	0	0	0
									933	933	953	974	995	1,016	1,038
UAWF	1,075	1,213	1,142	965	1,078	1,269	499	521	587	587	600	612	625	639	653
									241	241	246	251	256	262	268
TOTAL (AFY)	14,878	15,971	15,345	14,202	15,266	14,458	12,382	10,765	15,110	15,110	15,438	15,777	16,125	16,483	16,849
									12,976	12,976	13,259	13,550	13,849	14,155	14,469
									10,842	10,842	11,080	11,324	11,573	11,828	12,089
TOTAL (MGD)	13.282	14.258	13.699	12.678	13.629	12.907	11.054	9.610	13.489	13.489	13.782	14.085	14.395	14.715	15.042
									11.584	11.584	11.837	12.097	12.364	12.637	12.917
									9.679	9.679	9.892	10.109	10.332	10.559	10.792



# Historical and Projected Distribution of Demand by Source



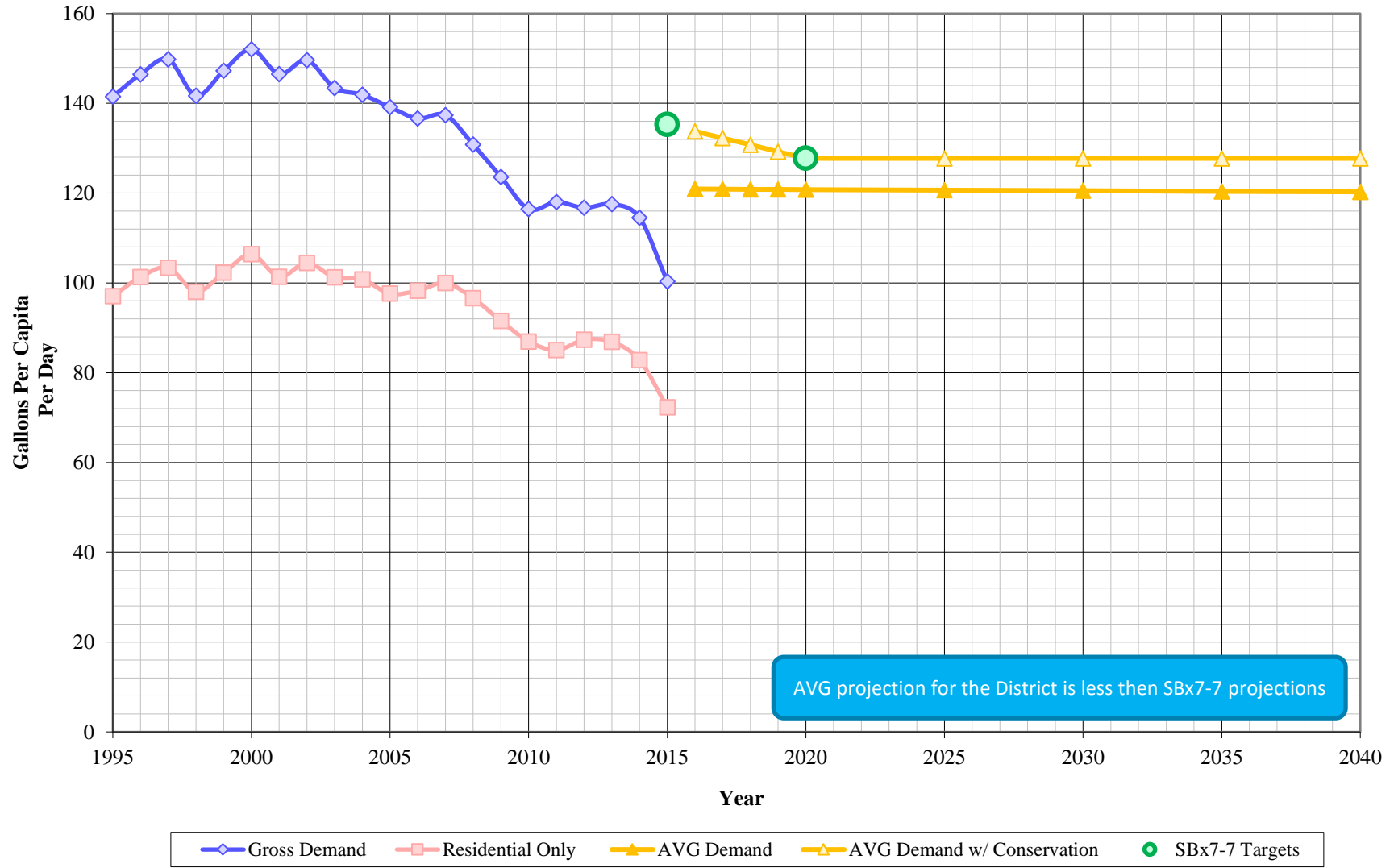
**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Historical and Projected Distribution of Demand by Source**

Worksheet 10

Year	Purchased Water		Ground Water		Recycled Water		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
1980	11.86	13,290	1.42	1,587	0.00	0			13.28	14,878
1981	12.62	14,132	1.30	1,458	0.00	0			13.92	15,590
1982	11.43	12,801	1.95	2,181	0.00	0			13.37	14,982
1983	11.60	12,989	1.82	2,039	0.00	0			13.42	15,029
1984	13.08	14,646	1.46	1,632	0.00	0			14.53	16,278
1985	12.66	14,185	1.60	1,787	0.00	0			14.26	15,971
1986	12.15	13,611	1.90	2,131	0.00	0			14.05	15,742
1987	12.21	13,682	1.85	2,072	0.00	0			14.06	15,754
1988	12.34	13,820	1.68	1,880	0.00	0			14.02	15,700
1989	12.37	13,857	1.87	2,091	0.00	0			14.24	15,949
1990	11.67	13,075	2.03	2,270	0.00	0			13.70	15,345
1991	9.42	10,548	1.78	1,994	0.00	0			11.20	12,542
1992	10.64	11,921	1.22	1,366	0.00	0			11.86	13,287
1993	12.28	13,750	0.00	2	0.00	0			12.28	13,752
1994	12.25	13,722	0.63	711	0.00	0			12.88	14,433
1995	12.37	13,860	0.31	342	0.00	0			12.68	14,202
1996	13.13	14,712	0.00	3	0.00	0			13.14	14,715
1997	13.05	14,622	0.40	447	0.00	0			13.45	15,069
1998	12.45	13,943	0.31	345	0.00	0			12.76	14,288
1999	12.68	14,199	0.64	717	0.00	0			13.32	14,916
2000	11.66	13,060	1.97	2,206	0.00	0			13.63	15,266
2001	11.59	12,986	1.71	1,916	0.00	0			13.30	14,902
2002	12.35	13,839	1.29	1,440	0.00	0			13.64	15,279
2003	10.43	11,682	2.68	2,997	0.00	0			13.10	14,678
2004	11.04	12,371	2.04	2,280	0.00	0			13.08	14,651
2005	10.97	12,288	1.94	2,170	0.00	0			12.91	14,458
2006	11.33	12,688	1.41	1,579	0.00	0			12.74	14,267
2007	11.92	13,356	0.96	1,073	0.00	0			12.88	14,429
2008	11.46	12,839	0.86	961	0.00	0			12.32	13,800
2009	10.76	12,054	0.92	1,029	0.00	0			11.68	13,084
2010	9.78	10,958	1.27	1,424	0.00	0			11.05	12,382

Year	Purchased Water		Ground Water		Recycled Water		Conservation		Total		
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY	
2011	9.42	10,550	1.82	2,041	0.00	0	0.00	0	11.24	12,591	
2012	9.33	10,453	1.80	2,014	0.00	0	0.00	0	11.13	12,466	
2013	9.44	10,573	1.79	2,001	0.00	0	0.00	0	11.23	12,574	∧
2014	9.17	10,274	1.78	1,989	0.00	0	0.00	0	10.95	12,263	
2015	8.06	9,031	1.55	1,734	0.00	0	0.00	0	9.61	10,765	ACTUAL
2016	8.51	9,532	3.12	3,500	0.00	0	0.00	0	11.63	13,032	PROJECTED
2017	8.56	9,588	3.12	3,500	0.00	0	0.00	0	11.68	13,088	
2018	8.61	9,645	3.12	3,500	0.00	0	0.00	0	11.74	13,145	∨
2019	8.66	9,702	3.12	3,500	0.00	0	0.00	0	11.79	13,202	
2020	8.20	9,189	3.63	4,070	0.00	0	0.00	0	11.84	13,259	
2021	8.26	9,247	3.63	4,070	0.00	0	0.00	0	11.89	13,317	
2022	8.31	9,305	3.63	4,070	0.00	0	0.00	0	11.94	13,375	
2023	8.36	9,363	3.63	4,070	0.00	0	0.00	0	11.99	13,433	
2024	8.41	9,421	3.63	4,070	0.00	0	0.00	0	12.04	13,491	
2025	8.46	9,480	3.63	4,070	0.00	0	0.00	0	12.10	13,550	
2026	8.52	9,539	3.63	4,070	0.00	0	0.00	0	12.15	13,609	
2027	8.57	9,599	3.63	4,070	0.00	0	0.00	0	12.20	13,669	
2028	8.62	9,659	3.63	4,070	0.00	0	0.00	0	12.26	13,729	
2029	8.68	9,719	3.63	4,070	0.00	0	0.00	0	12.31	13,789	
2030	8.73	9,779	3.63	4,070	0.00	0	0.00	0	12.36	13,849	
2031	8.78	9,840	3.63	4,070	0.00	0	0.00	0	12.42	13,910	
2032	8.84	9,901	3.63	4,070	0.00	0	0.00	0	12.47	13,971	
2033	8.89	9,962	3.63	4,070	0.00	0	0.00	0	12.53	14,032	
2034	8.95	10,023	3.63	4,070	0.00	0	0.00	0	12.58	14,093	
2035	9.00	10,085	3.63	4,070	0.00	0	0.00	0	12.64	14,155	
2036	9.06	10,147	3.63	4,070	0.00	0	0.00	0	12.69	14,217	
2037	9.11	10,210	3.63	4,070	0.00	0	0.00	0	12.75	14,280	
2038	9.17	10,273	3.63	4,070	0.00	0	0.00	0	12.80	14,343	
2039	9.23	10,336	3.63	4,070	0.00	0	0.00	0	12.86	14,406	
2040	9.28	10,399	3.63	4,070	0.00	0	0.00	0	12.92	14,469	

# Gross Per Capita Consumption (HR)

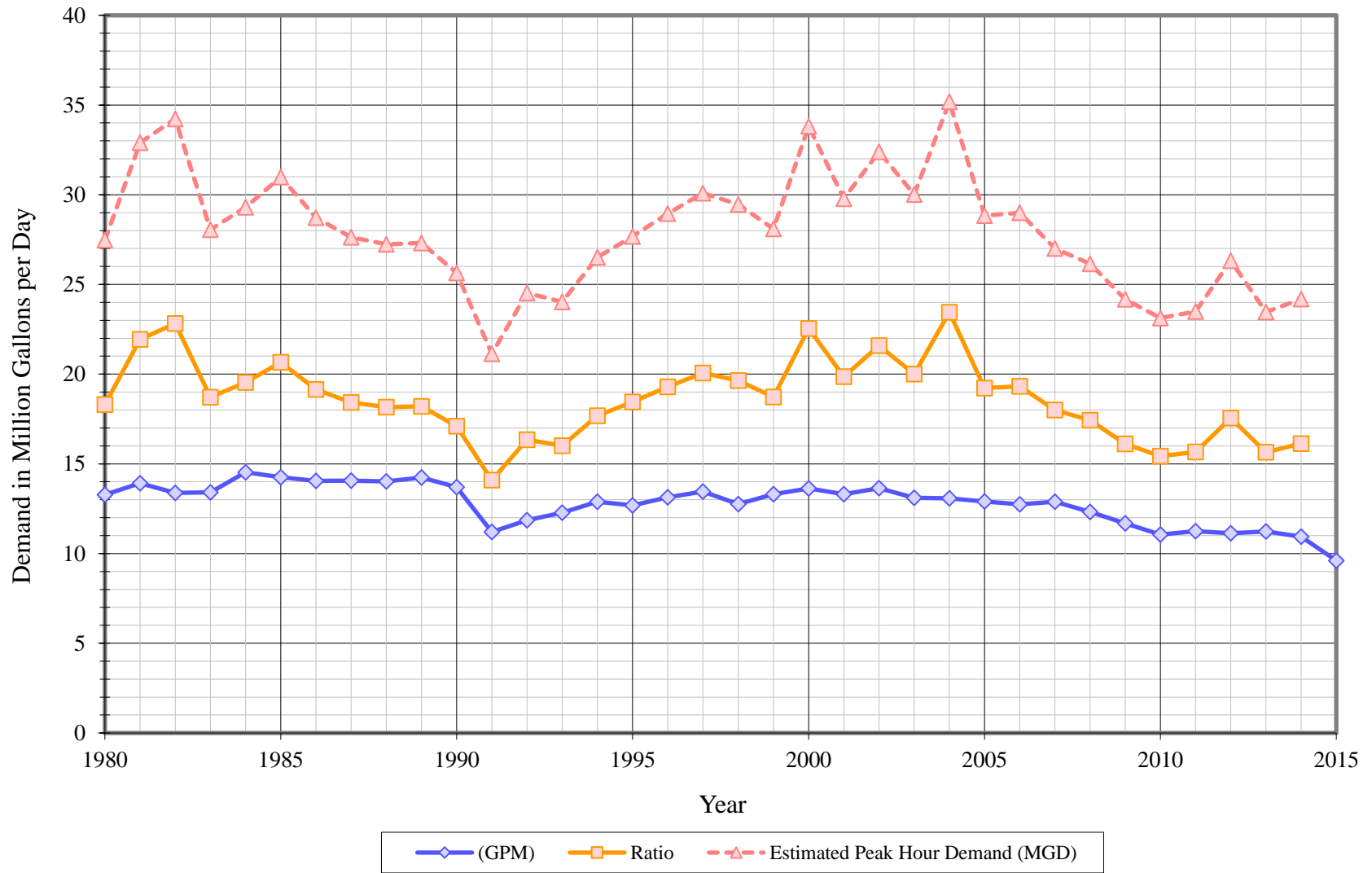


**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Per Capita Water Demand Calculation**

Worksheet 15

Year	POP	Historical				Projected			
		Gross Demand		Residential Only		Avg Demand		Avg Demand w/ Cons	
		Usage (AFY)	Per Capita (GPCPD)	Usage (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)
1995	89,608	14,202	141	9,741	97				
1996	89,685	14,715	146	10,177	101				
1997	89,815	15,069	150	10,400	103				
1998	90,020	14,288	142	9,885	98				
1999	90,429	14,916	147	10,358	102				
2000	89,637	15,266	152	10,683	106				
2001	90,795	14,902	147	10,308	101				
2002	91,174	15,279	150	10,669	104				
2003	91,375	14,678	143	10,360	101				
2004	92,164	14,651	142	10,404	101				
2005	92,753	14,458	139	10,141	98				
2006	93,232	14,267	137	10,263	98				
2007	93,769	14,429	137	10,503	100				
2008	94,183	13,800	131	10,189	97				
2009	94,497	13,084	124	9,690	92				
2010	94,925	12,382	116	9,247	87				
2011	95,243	12,591	118	9,072	85				
2012	95,338	12,466	117	9,325	87				
2013	95,493	12,574	118	9,292	87				
2014	95,605	12,263	115	8,869	83				
2015	95,774	10,765	100	7,758	72				
2016	96,213					13,032	121	14,416	134
2017	96,655					13,088	121	14,319	132
2018	97,098					13,145	121	14,221	131
2019	97,544					13,202	121	14,122	129
2020	97,992					13,259	121	14,021	128
2025	100,261					13,550	121	14,346	128
2030	102,584					13,849	121	14,678	128
2035	104,961					14,155	120	15,018	128
2040	107,393					14,469	120	15,366	128

# Average Day, Maximum Day, Peak Demand

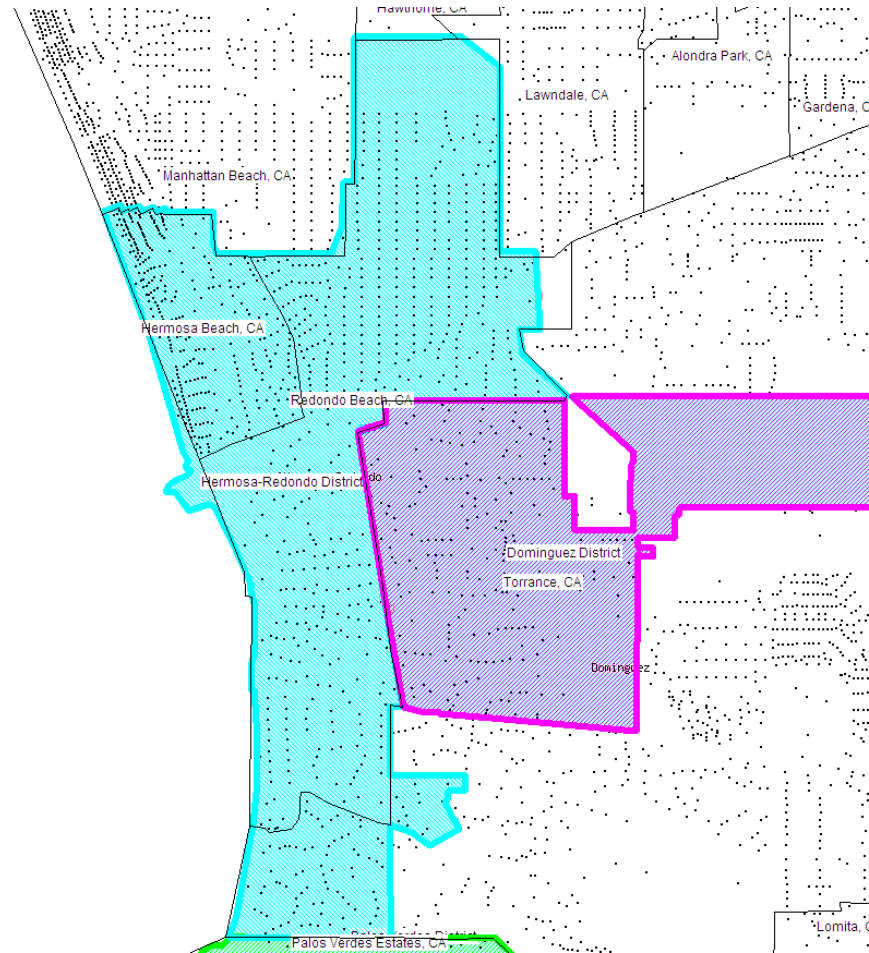


**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Historical and Projected Average Day, Maximum Day, and Peak Demand**

Worksheet 11

Year	Historical Annual Demand		Average Day Demand		Maximum Day Demand		MDD ADD Ratio	Estimated Peak Hour Demand		PHD MDD Ratio	PHD ADD Ratio	Measured Peak Hour Demand		PHD MDD Ratio
	(AFY)	(MGY)	(MGD)	Per Service (GPD)	(MGD)	Per Service (GPD)		(MGD)	(GPM)			(MGD)	(GPM)	
1980	14,878	4,848	13.28	590	18.31	814	1.38	27.47	19,074	1.50	2.07			
1981	15,590	5,080	13.92	617	21.94	972	1.58	32.90	22,849	1.50	2.36			
1982	14,982	4,882	13.37	591	22.82	1,009	1.71	34.22	23,767	1.50	2.56			
1983	15,029	4,897	13.42	591	18.71	824	1.39	28.06	19,484	1.50	2.09			
1984	16,278	5,304	14.53	636	19.54	855	1.34	29.31	20,352	1.50	2.02			
1985	15,971	5,204	14.26	619	20.66	897	1.45	30.99	21,522	1.50	2.17			
1986	15,742	5,129	14.05	606	19.15	826	1.36	28.73	19,948	1.50	2.04			
1987	15,754	5,133	14.06	600	18.42	786	1.31	27.63	19,190	1.50	1.96			
1988	15,700	5,116	14.02	590	18.16	764	1.30	27.24	18,917	1.50	1.94			
1989	15,949	5,197	14.24	594	18.21	760	1.28	27.32	18,969	1.50	1.92			
1990	15,345	5,000	13.70	566	17.10	706	1.25	25.64	17,807	1.50	1.87			
1991	12,542	4,087	11.20	459	14.09	578	1.26	21.14	14,677	1.50	1.89			
1992	13,287	4,330	11.86	485	16.35	668	1.38	24.52	17,026	1.50	2.07			
1993	13,752	4,481	12.28	501	16.01	654	1.30	24.02	16,681	1.50	1.96			
1994	14,433	4,703	12.88	525	17.67	720	1.37	26.51	18,410	1.50	2.06			
1995	14,202	4,628	12.68	515	18.45	749	1.46	27.68	19,219	1.50	2.18			
1996	14,715	4,795	13.14	532	19.30	782	1.47	28.95	20,102	1.50	2.20			
1997	15,069	4,910	13.45	544	20.06	811	1.49	30.09	20,894	1.50	2.24			
1998	14,288	4,656	12.76	514	19.64	791	1.54	29.45	20,454	1.50	2.31			
1999	14,916	4,860	13.32	533	18.73	749	1.41	28.09	19,508	1.50	2.11			
2000	15,266	4,974	13.63	549	22.55	908	1.65	33.82	23,488	1.50	2.48			
2001	14,902	4,856	13.30	524	19.85	782	1.49	29.78	20,681	1.50	2.24			
2002	15,279	4,979	13.64	537	21.59	849	1.58	32.39	22,494	1.50	2.37			
2003	14,678	4,783	13.10	516	20.01	788	1.53	30.01	20,841	1.50	2.29			
2004	14,651	4,774	13.08	511	23.45	916	1.79	35.18	24,429	1.50	2.69			
2005	14,458	4,711	12.91	501	19.22	746	1.49	28.83	20,024	1.50	2.23			
2006	14,267	4,649	12.74	493	19.33	748	1.52	28.99	20,133	1.50	2.28			
2007	14,429	4,702	12.88	496	18.00	693	1.40	27.01	18,754	1.50	2.10			
2008	13,800	4,497	12.32	473	17.44	669	1.42	26.15	18,163	1.50	2.12			
2009	13,084	4,263	11.68	448	16.11	618	1.38	24.17	16,785	1.50	2.07			
2010	12,382	4,035	11.05	423	15.42	590	1.40	23.13	16,066	1.50	2.09			
2011	12,591	4,103	11.24	428	15.66	597	1.39	23.49	16,314	1.50	2.09			
2012	12,466	4,062	11.13	423	17.55	668	1.58	26.33	18,284	1.50	2.37			
2013	12,574	4,097	11.23	427	15.64	595	1.39	23.46	16,295	1.50	2.09			
2014	12,263	3,996	10.95	415	16.12	612	1.47	24.19	16,796	1.50	2.21			
2015	10,765	3,508	9.61	364										
5-year Average			10.83	412	16.08	612	1.45	24.12	16,751	1.50	2.17			
10-year Average			11.48	439	17.05	654	1.44	25.58	17,761	1.50	2.16			

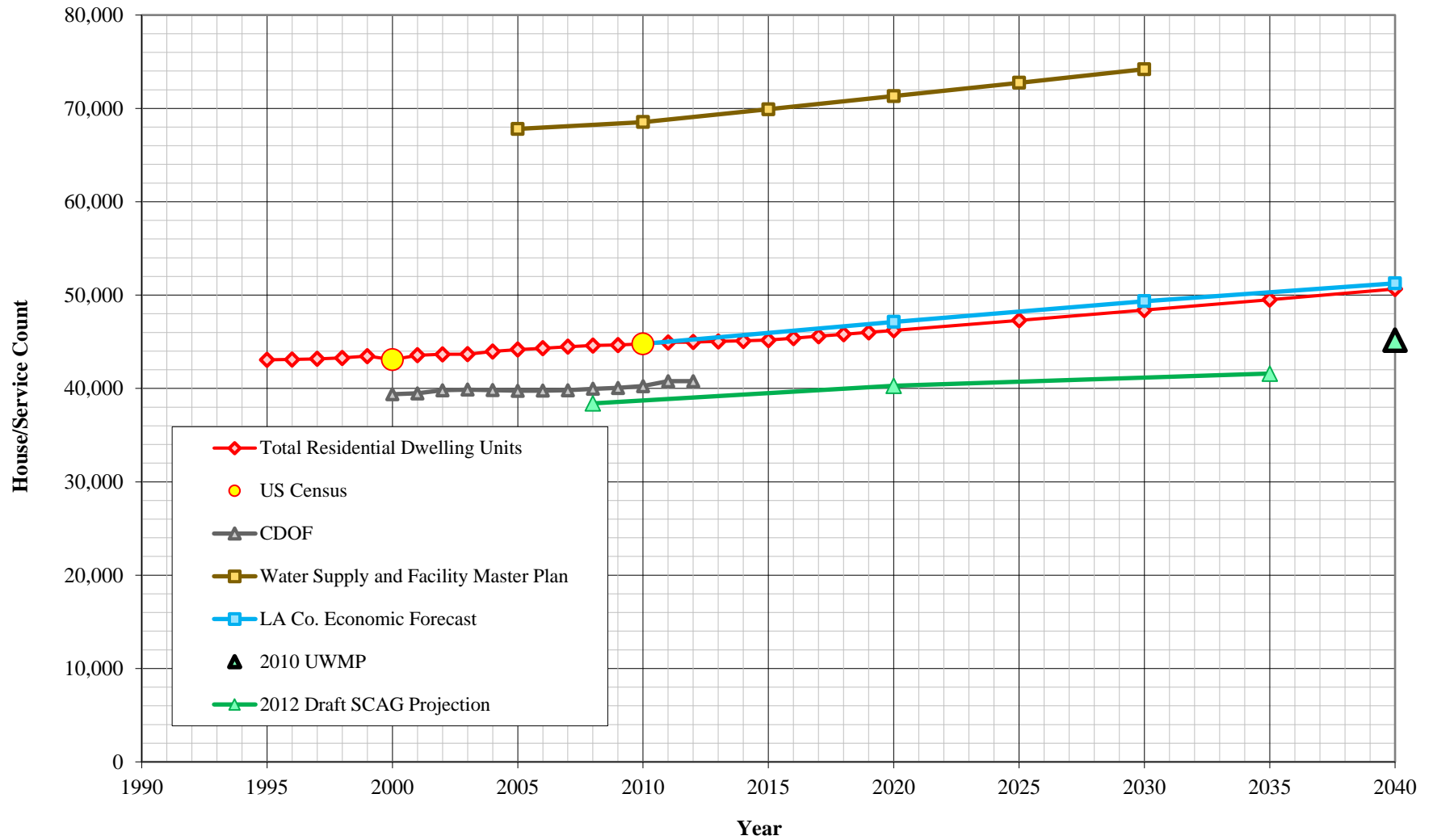
**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**MarPlot Summary**



System	US Census 2000 Summary				US Census 2010 Summary				2000-2010 Change		
	Census Tract Blocks	Population	Housing Units (HU)	Density	Census Tract Blocks	Population	Housing Units (HU)	Density	Percentage Population Change	Percentage HU Change	Density Change
Hermosa Redondo	1,003	89,637	43,084	2.08	994	94,925	44,777	2.12	5.9%	3.9%	1.9%
	1,003	89,637	43,084	2.08	994	94,925	44,777	2.12	5.9%	3.9%	1.9%

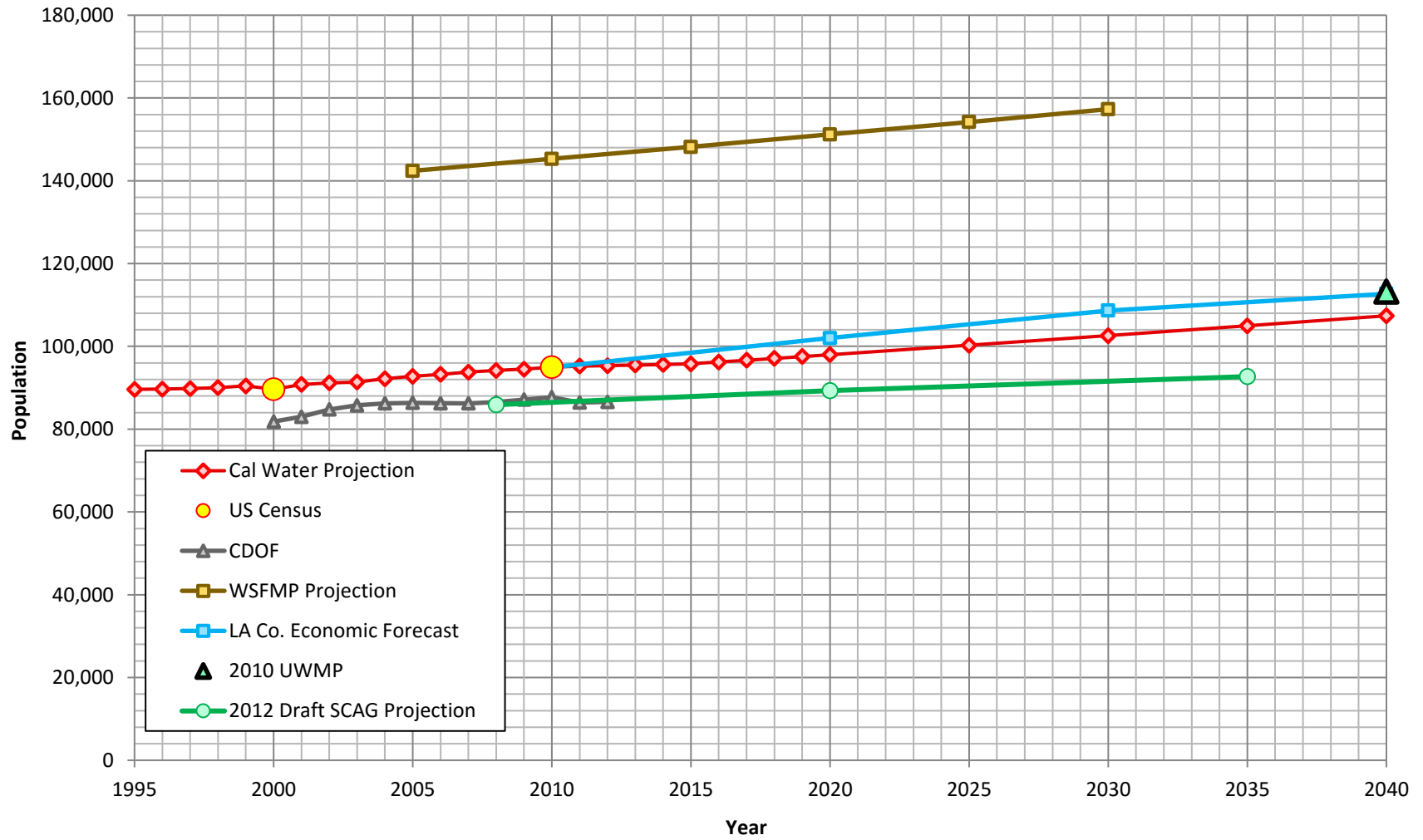
MARPLOT disclaimer: The population and housing number given above are only rough estimates. They are based on the US Census B locks. Although Census Blocks are polygons, MARPLOT uses the centroid, or center point, rather than the entire polygon. If a Census Block centroid is within any of the MARPLOT selected objects, the population and housing numbers for that block are tallied, even if only part of the block is within the selected object. It is possible for a block not be counted if its centroid is not within selected objects, even though part of the block is within the selected objects.

# Housing Projections





# Population Projections



**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**  
**Population Estimate**

Year	US Census		Persons per Housing Unit	Single Family Residential	Multi Family Residential			Flat Rate Residential
	Population	Housing Units		Services (DU)	Services	Units (DU)	Density	Services (DU)
2000	89,637	43,084	2.081	20,867	1,439	22,217	15.4	0
2010	94,925	44,777	2.120	22,066	1,804	22,711	12.6	0
	5.9%	3.9%	1.9%	5.7%	25.4%	2.2%	-18.5%	0.0%

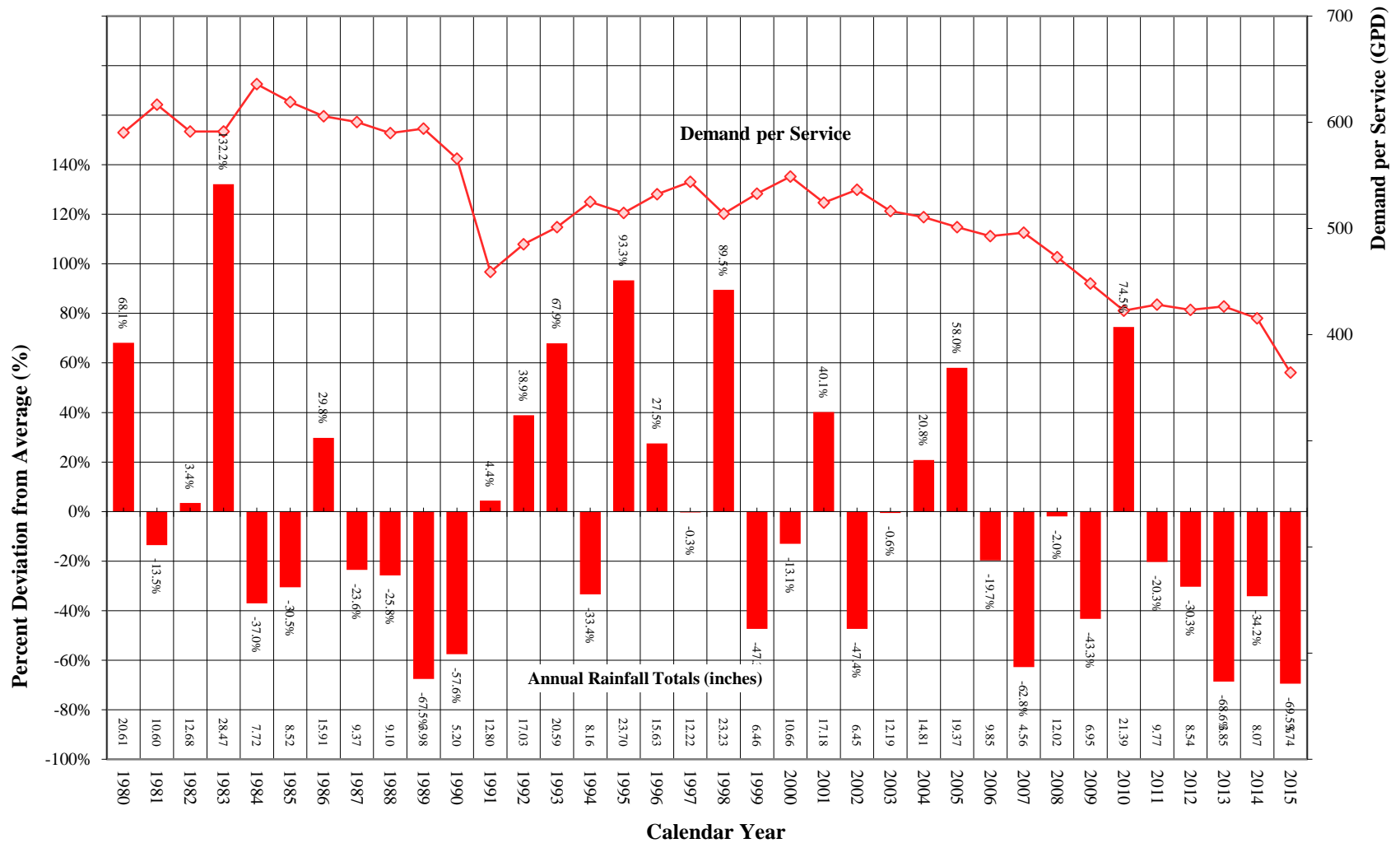
Year	Single Family Residential Services (DU)	Multi Family Residential			Flat Rate Residential Services (DU)	Total Residential Dwelling Units	Persons per Housing Unit	Estimated District Population
		Services	Residential Units (DU)	Unit Density				
1995	20,540	1,459	22,530	15.4	0	43,070	2.081	89,608
1996	20,601	1,458	22,506	15.4	0	43,107	2.081	89,685
1997	20,666	1,458	22,504	15.4	0	43,170	2.081	89,815
1998	20,780	1,457	22,488	15.4	0	43,268	2.081	90,020
1999	20,976	1,457	22,488	15.4	0	43,465	2.081	90,429
2000	20,867	1,439	22,217	15.4	0	43,084	2.081	89,637
2001	21,292	1,469	22,266	15.2	0	43,558	2.084	90,795
2002	21,341	1,469	22,316	15.2	0	43,657	2.088	91,174
2003	21,306	1,468	22,365	15.2	0	43,671	2.092	91,375
2004	21,551	1,464	22,415	15.3	0	43,965	2.096	92,164
2005	21,699	1,464	22,464	15.3	0	44,163	2.100	92,753
2006	21,795	1,461	22,514	15.4	0	44,308	2.104	93,232
2007	21,917	1,455	22,563	15.5	0	44,480	2.108	93,769
2008	21,980	1,644	22,612	13.8	0	44,593	2.112	94,183
2009	21,997	1,801	22,662	12.6	0	44,658	2.116	94,497
2010	22,066	1,804	22,711	12.6	0	44,777	2.120	94,925
2011	22,166	1,841	22,761	12.4	0	44,927	2.120	95,243
2012	22,203	1,841	22,769	12.4	0	44,972	2.120	95,338
2013	22,218	1,846	22,827	12.4	0	45,045	2.120	95,493
2014	22,261	1,847	22,837	12.4	0	45,098	2.120	95,605
2015	22,299	1,850	22,878	12.4	0	45,177	2.120	95,774
2016	22,391	1,859	22,993	12.4	0	45,385	2.120	96,213
2017	22,484	1,869	23,109	12.4	0	45,593	2.120	96,655
2018	22,576	1,878	23,226	12.4	0	45,802	2.120	97,098
2019	22,669	1,888	23,343	12.4	0	46,012	2.120	97,544
2020	22,763	1,897	23,461	12.4	0	46,224	2.120	97,992
2025	23,236	1,945	24,058	12.4	0	47,294	2.120	100,261
2030	23,720	1,995	24,670	12.4	0	48,390	2.120	102,584
2035	24,213	2,046	25,298	12.4	0	49,511	2.120	104,961
2040	24,716	2,098	25,942	12.4	0	50,658	2.120	107,393

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Notes: linear extrapolation used to estimated MFR-DU from 2000. Estimate extend until 2011 due to reclassification, afterwards a constant MFR Unit Density is used.

# Comparison of Annual Rainfall to Historical Average



**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**

Temperature & Rainfall History

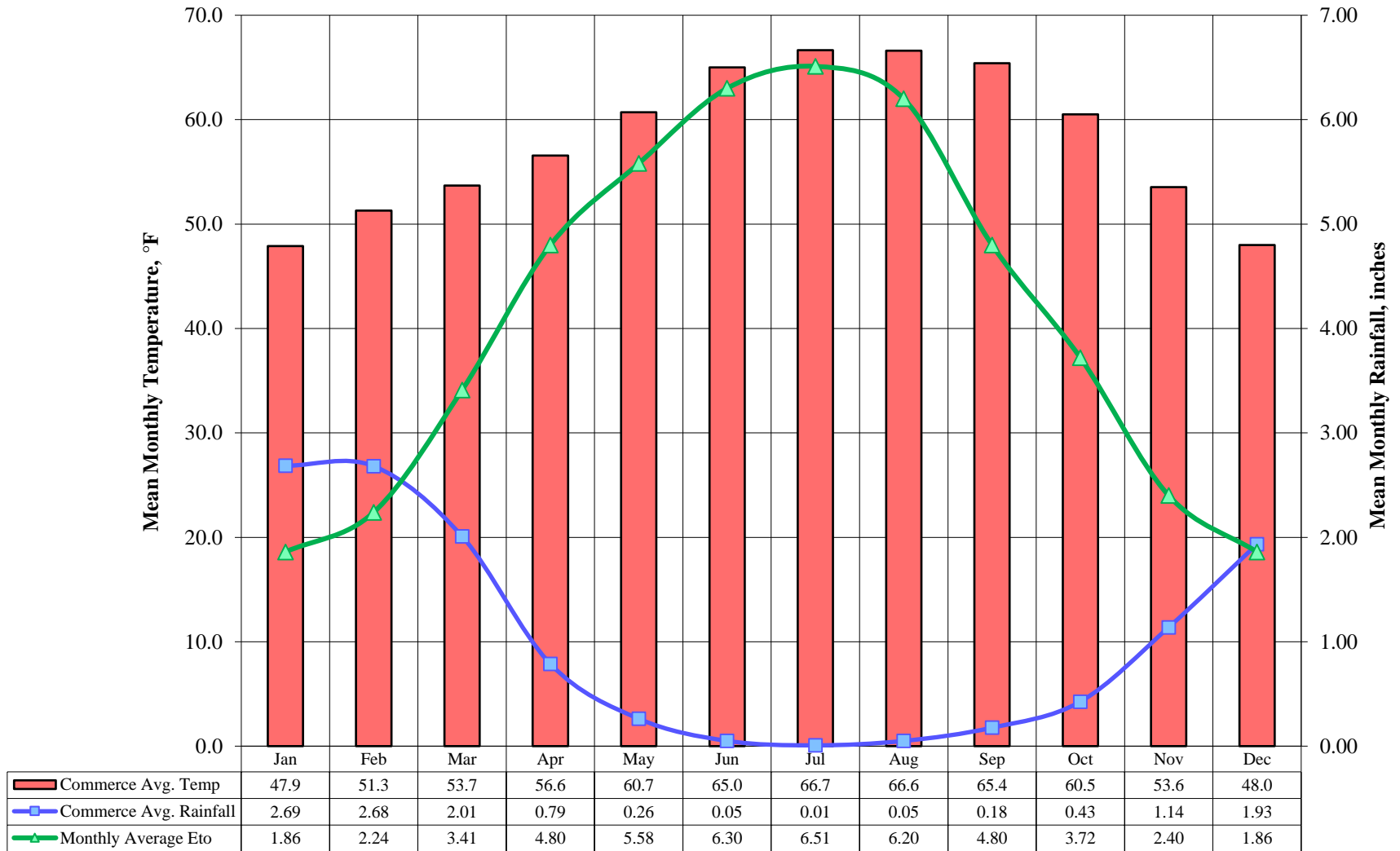
Year	Precipitation		Temperature			Demand per Service (gpd)	Percent of Average Demand
	Annual (in)	Percent Variation	Tmax (°F)	Tmin (°F)	Mean (°F)		
1980	20.61	68.1%	75.60	50.10	62.9	590	13.4%
1981	10.60	-13.5%	77.70	50.20	64.0	617	18.5%
1982	12.68	3.4%	76.90	46.70	61.8	591	13.6%
1983	28.47	132.2%	79.50	49.80	64.7	591	13.6%
1984	7.72	-37.0%	82.30	48.10	65.2	636	22.2%
1985	8.52	-30.5%	79.10	47.40	63.3	619	18.9%
1986	15.91	29.8%	73.90	48.90	61.4	606	16.4%
1987	9.37	-23.6%	74.70	45.90	60.3	600	15.3%
1988	9.10	-25.8%	73.70	47.20	60.5	590	13.3%
1989	3.98	-67.5%	75.00	45.20	60.1	594	14.1%
1990	5.20	-57.6%	77.10	45.40	61.3	566	8.7%
1991	12.80	4.4%	74.30	47.80	61.1	459	-11.8%
1992	17.03	38.9%	77.00	47.20	62.1	485	-6.8%
1993	20.59	67.9%	73.80	48.50	61.2	501	-3.7%
1994	8.16	-33.4%	78.40	47.90	63.2	525	0.9%
1995	23.70	93.3%	75.40	50.20	62.8	515	-1.1%
1996	15.63	27.5%	76.80	49.30	63.1	532	2.2%
1997	12.22	-0.3%	79.10	48.80	64.0	544	4.5%
1998	23.23	89.5%	76.20	46.80	61.5	514	-1.2%
1999	6.46	-47.3%	77.30	48.70	63.0	533	2.4%
2000	10.66	-13.1%	74.70	49.20	62.0	549	5.5%
2001	17.18	40.1%	71.70	45.60	58.7	524	0.7%
2002	6.45	-47.4%	73.40	47.50	60.5	537	3.1%
2003	12.19	-0.6%	75.80	49.40	62.6	516	-0.8%
2004	14.81	20.8%	77.30	47.70	62.5	511	-1.9%
2005	19.37	58.0%	72.40	50.00	61.2	501	-3.7%
2006	9.85	-19.7%	79.10	47.00	63.1	493	-5.3%
2007	4.56	-62.8%	74.80	44.90	59.9	496	-4.7%
2008	12.02	-2.0%	77.20	47.60	62.4	473	-9.1%
2009	6.95	-43.3%	76.60	49.40	63.0	448	-13.9%
2010	21.39	74.5%	71.40	50.00	60.7	423	-18.8%
2011	9.77	-20.3%	72.30	45.50	58.9	428	-17.7%
2012	8.54	-30.3%	76.60	47.80	62.2	423	-18.7%
2013	3.85	-68.6%	75.40	45.30	60.4	427	-18.0%
2014	8.07	-34.2%	78.10	50.30	64.2	415	-20.2%
2015	3.74	-69.5%	73.00	50.50	61.8	364	-30.0%
2016							
2017							
2018							
2019							
2020							

Precipitation (1895 - present)						Monthly Average Eto
	Mean	High	Year	Low	Year	
	in.	in.	-	in.	-	
Jan	2.69	14.21	1995	0.00	1945	1.86
Feb	2.68	12.40	1998	0.00	1896	2.24
Mar	2.01	7.84	1983	0.00	1932	3.41
Apr	0.79	5.52	1965	0.00	1896	4.80
May	0.26	3.28	1921	0.00	1899	5.58
Jun	0.05	0.79	1993	0.00	1906	6.30
Jul	0.01	0.20	1991	0.00	1967	6.51
Aug	0.05	2.97	1977	0.00	1957	6.20
Sep	0.18	4.22	1939	0.00	1895	4.80
Oct	0.43	3.72	2004	0.00	1903	3.72
Nov	1.14	8.07	1965	0.00	1897	2.40
Dec	1.93	7.94	2010	0.00	1900	1.86
Annual	12.18	28.47	1983	3.32	1947	49.68

Temperature (1895 - present)			
	Tmax	Tmin	Mean
	°F	°F	°F
Jan	57.3	38.5	47.9
Feb	61.2	41.4	51.3
Mar	64.3	43.1	53.7
Apr	68.4	44.7	56.6
May	72.9	48.5	60.7
Jun	77.4	52.6	65.0
Jul	78.4	54.9	66.7
Aug	78.5	54.7	66.6
Sep	78.2	52.6	65.4
Oct	73.0	48.0	60.5
Nov	64.4	42.7	53.6
Dec	57.8	38.2	48.0
Annual	69.3	46.7	58.0

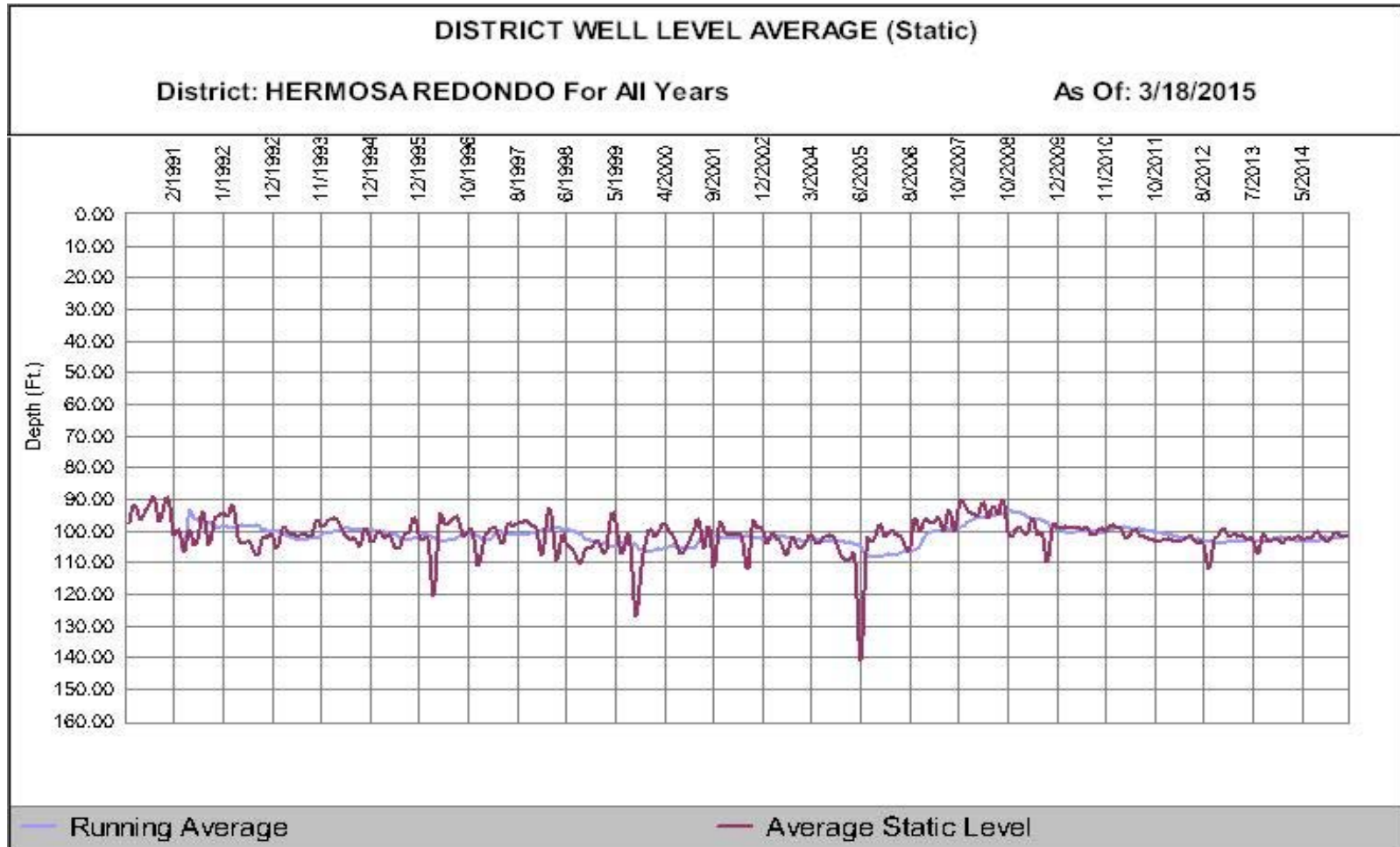
- 1) Eto values based on California Irrigation Management Information System (CIMIS), <http://www.cimis.water.ca.gov/cimis/welcome.jsp>, EvapoTranspiration (Eto) Zones Map, Zone 6
- 2) PPT, Tmax, Tmin obtained from PRISM where, PPT is total monthly rainfall, Tmax is average of maximum temperatures for given month, and Tmin is average of minimum temperatures for given month
- 3) Percent variation based on average of 1980 to present values

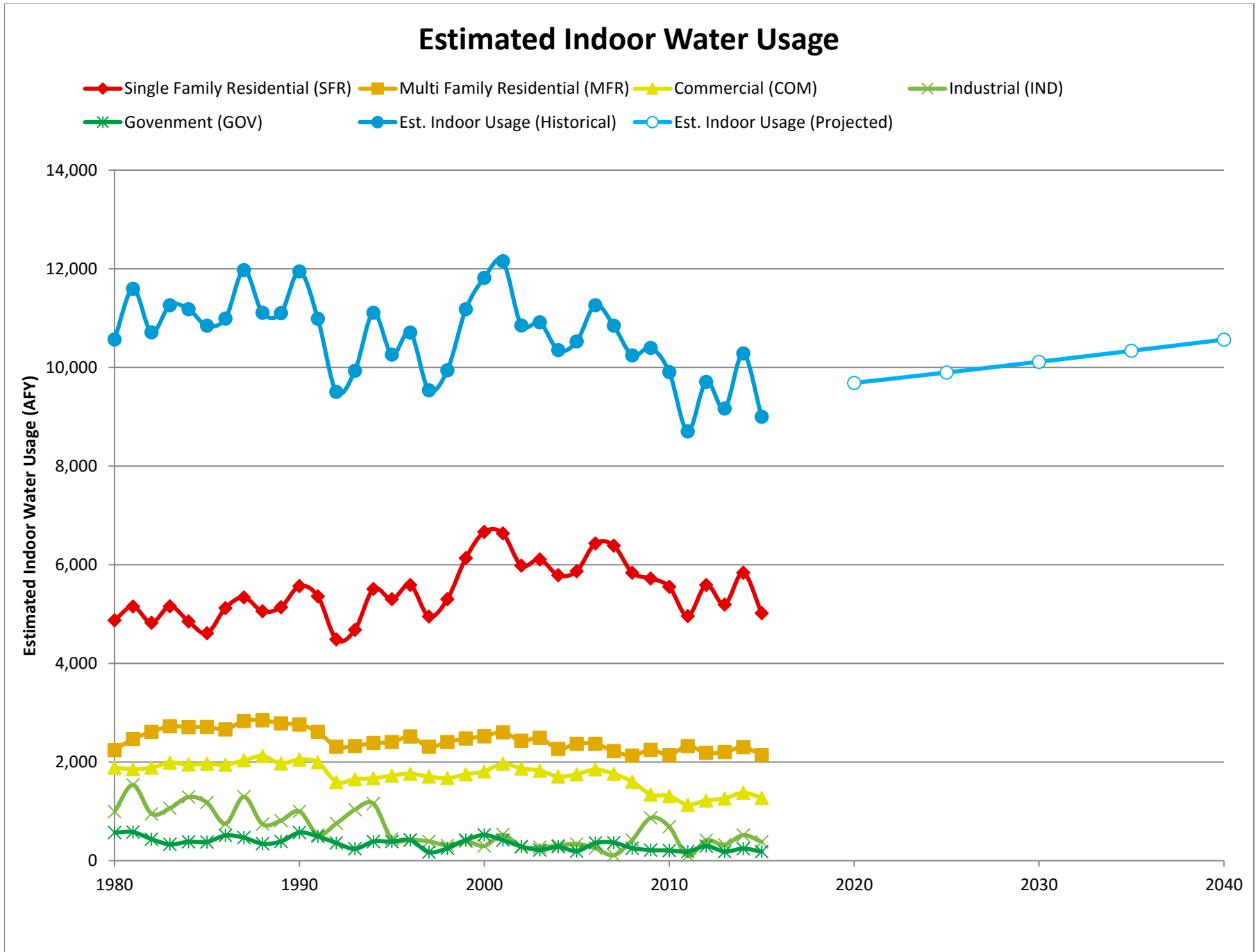
## Average Monthly Temperature, Rainfall, and Monthly Eto



# California Water Service Company - Hermosa-Redondo District Water Supply and Demand Analysis and Projections

## Groundwater Production Facilities





**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**

**Estimated Indoor/Outdoor Water Usage**

Year	Single Family Residential (SFR)								Multi Family Residential (MFR)				Commercial (COM)			
	SFR Jan Usage	Metered SFR Indoor Use (Annualized 90% of January Total)			Indoor Flat Rate Usage (AFY)	Total SFR Indoor Usage			MFR Jan Usage	MFR Indoor Use (Annualized 90% of January Total)			COM Jan Usage	COM Indoor Use (Annualized 90% of January Total)		
	JAN (CCF)	AFY	AF/Serv	AFY		GPD/Serv	%	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%	
1980	196,546	4,873	0.260	0	4,873	232	74%	90,482	2,243	1,691	86%	76,178	1,889	768	84%	
1981	207,826	5,153	0.275	0	5,153	245	75%	99,567	2,469	1,784	86%	74,886	1,857	753	82%	
1982	194,534	4,823	0.257	0	4,823	230	74%	105,426	2,614	1,846	88%	76,103	1,887	760	83%	
1983	208,049	5,158	0.275	0	5,158	245	82%	109,886	2,724	1,908	91%	80,107	1,986	795	88%	
1984	195,663	4,851	0.256	0	4,851	229	69%	109,097	2,705	1,868	86%	78,696	1,951	779	81%	
1985	185,953	4,610	0.242	0	4,610	216	67%	109,399	2,712	1,837	87%	79,293	1,966	783	83%	
1986	206,612	5,123	0.267	0	5,123	238	75%	107,349	2,662	1,762	86%	78,493	1,946	776	82%	
1987	215,359	5,339	0.276	0	5,339	246	76%	114,319	2,834	1,819	89%	82,079	2,035	804	81%	
1988	203,963	5,057	0.257	0	5,057	229	72%	114,827	2,847	1,789	91%	85,515	2,120	836	84%	
1989	207,314	5,140	0.259	0	5,140	231	70%	112,279	2,784	1,725	89%	79,554	1,972	778	80%	
1990	224,517	5,567	0.277	0	5,567	247	80%	111,278	2,759	1,693	91%	82,731	2,051	812	85%	
1991	216,119	5,358	0.264	0	5,358	236	95%	105,396	2,613	1,599	99%	80,453	1,995	794	97%	
1992	180,946	4,486	0.221	0	4,486	197	72%	93,222	2,311	1,414	86%	64,255	1,593	637	77%	
1993	188,710	4,679	0.229	0	4,679	205	70%	93,825	2,326	1,422	86%	66,665	1,653	664	80%	
1994	222,167	5,508	0.269	0	5,508	240	78%	96,220	2,386	1,460	87%	67,379	1,671	673	79%	
1995	213,815	5,301	0.258	0	5,301	230	76%	96,983	2,405	1,471	87%	69,659	1,727	698	82%	
1996	225,439	5,589	0.271	0	5,589	242	76%	101,505	2,517	1,541	89%	71,095	1,763	709	81%	
1997	199,723	4,952	0.240	0	4,952	214	65%	93,134	2,309	1,414	82%	68,827	1,706	690	78%	
1998	213,843	5,302	0.255	0	5,302	228	74%	96,940	2,403	1,473	87%	67,492	1,673	681	81%	
1999	247,435	6,135	0.292	0	6,135	261	81%	99,868	2,476	1,518	89%	70,709	1,753	717	83%	
2000	268,851	6,666	0.319	0	6,666	285	85%	101,766	2,523	1,565	90%	72,991	1,810	750	83%	
2001	267,545	6,633	0.312	0	6,633	278	88%	105,058	2,605	1,583	93%	79,364	1,968	791	88%	
2002	241,330	5,983	0.280	0	5,983	250	76%	98,057	2,431	1,477	86%	75,409	1,870	753	80%	
2003	246,441	6,110	0.287	0	6,110	256	80%	100,388	2,489	1,514	91%	73,624	1,825	738	84%	
2004	233,482	5,789	0.269	0	5,789	240	75%	91,439	2,267	1,383	84%	68,802	1,706	694	79%	
2005	236,822	5,872	0.271	0	5,872	242	78%	95,625	2,371	1,446	90%	70,664	1,752	714	83%	
2006	259,446	6,433	0.295	0	6,433	263	84%	95,473	2,367	1,446	91%	74,577	1,849	755	87%	
2007	257,590	6,387	0.291	0	6,387	260	81%	89,577	2,221	1,362	86%	71,023	1,761	719	83%	
2008	235,494	5,839	0.266	0	5,839	237	77%	85,930	2,130	1,157	81%	64,628	1,602	708	84%	
2009	230,801	5,722	0.260	0	5,722	232	80%	90,717	2,249	1,115	88%	54,199	1,344	642	81%	
2010	224,009	5,554	0.252	0	5,554	225	83%	86,523	2,145	1,061	83%	52,912	1,312	624	83%	
2011	200,024	4,959	0.224	0	4,959	200	75%	93,812	2,326	1,128	96%	45,765	1,135	548	73%	
2012	225,490	5,591	0.252	0	5,591	225	83%	88,233	2,188	1,061	85%	49,301	1,222	591	76%	
2013	209,456	5,193	0.234	0	5,193	209	77%	88,887	2,204	1,066	87%	50,859	1,261	610	80%	
2014	235,447	5,838	0.262	0	5,838	234	90%	92,780	2,300	1,112	96%	55,659	1,380	669	90%	
2015	202,479	5,020	0.225	0	5,020	217	90%	86,433	2,143			51,386	1,274			
2016					5,438	217			2,274	1,092			1,250	604		
2017					5,461	217			2,285	1,092			1,255	604		
2018					5,483	217			2,297	1,092			1,260	604		
2019					5,506	217			2,308	1,092			1,266	604		
2020					5,529	217			2,320	1,092			1,271	604		
2025					5,644	217			2,379	1,092			1,298	604		
2030					5,761	217			2,440	1,092			1,326	604		
2035					5,881	217			2,502	1,092			1,355	604		
2040					6,003	217			2,565	1,092			1,384	604		

Note: GPD/Service is estimated as the average of the last 5 years for given customer class.



**California Water Service Company - Hermosa-Redondo District**  
**Water Supply and Demand Analysis and Projections**

**Estimated Indoor/Outdoor Water Usage**

Year	Industrial (IND)				Government (GOV)			
	IND Jan Usage	IND Indoor Use (Annualized 90% of January Total)			GOV Jan Usage	GOV Indoor Use (Annualized 90% of January Total)		
	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980	40,097	994	19,944	68%	23,015	571	1,492	63%
1981	61,886	1,534	29,511	96%	23,439	581	1,489	59%
1982	38,405	952	18,751	81%	17,602	436	1,119	52%
1983	42,926	1,064	20,396	92%	13,348	331	841	43%
1984	52,041	1,290	25,934	91%	15,504	384	968	38%
1985	47,530	1,178	23,955	80%	15,278	379	947	41%
1986	30,226	749	15,439	58%	20,612	511	1,284	57%
1987	52,297	1,297	26,920	110%	18,876	468	1,184	55%
1988	29,927	742	15,465	69%	13,885	344	864	42%
1989	32,804	813	17,322	81%	15,701	389	959	46%
1990	40,353	1,000	20,416	101%	23,014	571	1,397	69%
1991	21,208	526	10,771	74%	19,905	494	1,195	78%
1992	30,455	755	16,018	66%	14,448	358	865	54%
1993	41,689	1,034	22,598	106%	9,705	241	584	34%
1994	46,681	1,157	25,885	152%	15,666	388	962	52%
1995	17,811	442	10,443	69%	15,652	388	942	54%
1996	17,121	424	10,039	65%	16,805	417	1,027	55%
1997	15,851	393	10,024	63%	7,031	174	439	23%
1998	12,538	311	8,243	55%	10,167	252	651	40%
1999	15,966	396	10,445	81%	16,962	421	1,142	63%
2000	12,065	299	7,952	47%	20,989	520	1,455	77%
2001	21,345	529	12,114	84%	16,860	418	1,083	72%
2002	11,123	276	6,246	69%	11,697	290	752	44%
2003	11,052	274	6,395	65%	8,693	216	557	40%
2004	12,472	309	7,048	62%	11,362	282	724	51%
2005	13,683	339	7,587	82%	7,848	195	498	37%
2006	10,379	257	5,743	56%	14,439	358	916	62%
2007	4,489	111	2,494	18%	14,755	366	931	56%
2008	16,935	420	11,388	71%	10,238	254	629	41%
2009	35,005	868	29,896	135%	8,674	215	523	40%
2010	27,719	687	24,541	120%	8,414	209	510	44%
2011	4,086	101	3,478	14%	7,396	183	451	34%
2012	16,646	413	14,171	64%	11,932	296	724	55%
2013	12,974	322	11,045	57%	7,519	186	456	35%
2014	20,955	520	17,839	82%	9,881	245	600	49%
2015	15,352	381			7,377	183		
2016		329	11,633			229	558	
2017		329	11,633			231	558	
2018		329	11,633			233	558	
2019		329	11,633			236	558	
2020		329	11,633			238	558	
2025		329	11,633			248	558	
2030		329	11,633			260	558	
2035		329	11,633			272	558	
2040		329	11,633			284	558	

Estimated Indoor/Outdoor Usage			
Est. Indoor Usage	Est. Outdoor Usage	Est. Indoor Usage	Est. Outdoor Usage
AFY	AFY	%	%
10,570	4,308	71%	29%
11,593	3,997	74%	26%
10,712	4,269	72%	28%
11,264	3,765	75%	25%
11,182	5,097	69%	31%
10,846	5,126	68%	32%
10,991	4,751	70%	30%
11,973	3,780	76%	24%
11,110	4,590	71%	29%
11,099	4,850	70%	30%
11,948	3,398	78%	22%
10,985	1,557	88%	12%
9,504	3,783	72%	28%
9,932	3,819	72%	28%
11,110	3,322	77%	23%
10,262	3,939	72%	28%
10,710	4,005	73%	27%
9,535	5,534	63%	37%
9,942	4,346	70%	30%
11,180	3,736	75%	25%
11,818	3,448	77%	23%
12,153	2,749	82%	18%
10,850	4,429	71%	29%
10,914	3,764	74%	26%
10,353	4,299	71%	29%
10,528	3,929	73%	27%
11,264	3,003	79%	21%
10,845	3,583	75%	25%
10,245	3,555	74%	26%
10,398	2,685	79%	21%
9,907	2,475	80%	20%
8,705	3,887	69%	31%
9,709	2,757	78%	22%
9,166	3,408	73%	27%
10,282	1,980	84%	16%
9,001	1,764	84%	16%
9,520	3,512	73%	27%
9,561	3,527	73%	27%
9,603	3,542	73%	27%
9,644	3,558	73%	27%
9,686	3,573	73%	27%
9,898	3,652	73%	27%
10,115	3,734	73%	27%
10,337	3,818	73%	27%
10,565	3,904	73%	27%

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