

Summary of Billing Data (9/2006 – 8/2007)

Detailed billing records for the past six billing cycles (one year) were studied for user demographics, to assess summer consumption in response to Voluntary and Mandatory Phase I restrictions, and to study Phase II usage limits. Last year, the system metered approximately 82% of the amount of produced finished water.

Executive Summary of Conclusions

- There was a dramatic drop in residential user consumption from the June 2007 billing to August 2007. Average consumption for residential users dropped from 190 gpd to 157 gpd (Table 1). System-wide median consumption dropped from 168 gpd to 142 gpd (Figure 1).
- This drop was also reflected among the top users (many of whom change from billing cycle to billing cycle). The suspension of summer outdoor water activities (and probably many other voluntary conservation measures by residents) returned residential usage patterns to a more winter pattern.
- Voluntary and Mandatory Phase I restrictions (along with the receipt of the June 2007 bills) were very effective in encouraging users to restrain usage. The missing component was better monitoring of non-residential usage by a few heavy users who experienced unexpected consumption.
- These restrictions and other measures reduced consumption to a winter level. If Phase II restrictions become necessary, they will need to constrain indoor usage behavior to add any more effectiveness. This entails limits that will affect large numbers of users.

Analysis of Billing Data

User accounts are billed bi-monthly (approximately 60 days). The months shown are the end of the month for which usage was measured. For example Oct-06 is the billing cycle from September 1, 2006 to October 31, 2006. Usage dates are slightly different as meters are read in the week prior to the bills being sent.

In this report, single-family residential homes are classified as “Residential.” All other accounts including commercial uses, churches, multi-family dwellings, and civic properties (such as Round Hill Elementary School) are “Commercial/Other.”

Accounts that metered at or above the minimum bill (2000 gallons) were classified as active. Active users account for 99.5% of all billed gallons. Inactive users (<33.3 gallons per day) are 8% of all water accounts.

Table 1 shows numbers of users and their usage for each of these categories.

Table 1. Summary of 9/1/06 – 8/31/07 Water Consumption From Billing Data

Data	Billing	Active Users (>1000 gal/month) By Type						Active Users Total	Inactive Users Total	All Users Total
		Commercial + Other			Residential					
		In-town	Out	Total	In-town	Out	Total			
# of Users	Oct-06	19	7	26	165	897	1062	1088	84	1172
	Dec-06	17	6	23	162	882	1044	1067	121	1188
	Feb-07	20	5	25	158	897	1055	1080	110	1190
	Apr-07	18	6	24	161	898	1059	1083	113	1196
	Jun-07	18	7	25	168	922	1090	1115	77	1192
	Aug-07	18	6	24	169	924	1093	1117	83	1200
Gallons/Day	Oct-06	172	653	302	149	152	152	155	11	145
	Dec-06	168	443	240	149	149	149	151	9	136
	Feb-07	176	594	260	153	156	155	158	8	144
	Apr-07	174	451	243	143	147	146	148	10	135
	Jun-07	162	1081	419	189	190	190	195	8	183
	Aug-07	146	2286	681	162	156	157	168	9	157
Total Gallons/Day		167	924	357	157	158	158	163	9	150
Total % of Users		1.5%	0.5%	2.1%	13.8%	75.9%	89.7%	91.8%	8.2%	100.0%
Total % of Usage		1.7%	3.2%	4.9%	14.5%	80.1%	94.6%	99.5%	0.5%	100.0%

Note: August 2007 billing was during advertised voluntary and mandatory water restrictions

As shown in Table 1:

- 2% of users are commercial/other, accounting for 5% of total use
- 14% of users are active in-town residential, with 14.5% of total use
- 76% of users are active out-of-town residential, with 80% of total use
- 8% of users are inactive (all types), for 0.5% of total use
- The average active residential user consumes 155 gallons/day “winter” use, and up to 190 gallons/day peak summer use.
- The average active commercial/other user consumes 250 gallons/day “winter” use and up to 680 gallons/day peak summer use. However, this usage is heavily concentrated (and seasonal) in a few accounts.

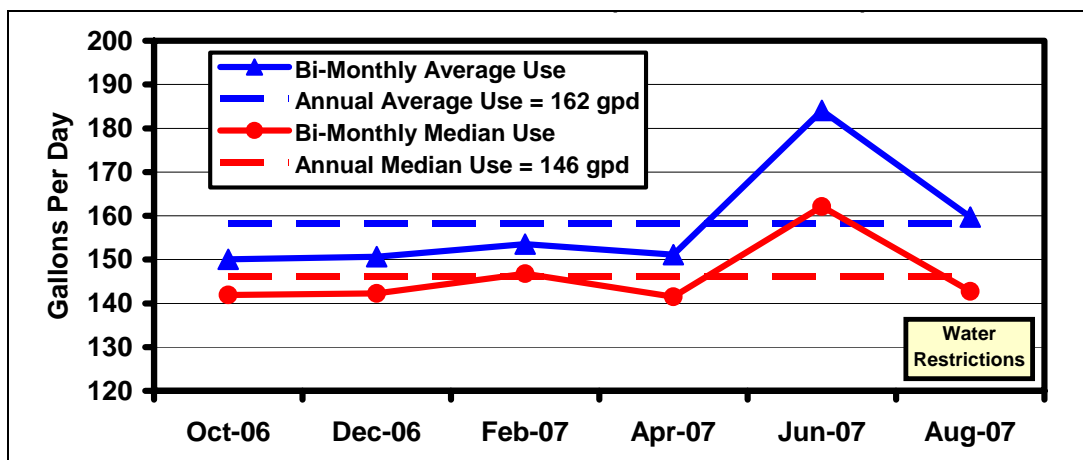


Figure 1. Seasonal Trends in Daily Usage (All Active Accounts)

A significant reduction in water usage from the June 2007 billing to the August 2007 billing can be seen in Figure 1. Median daily use during the August billing cycle was equivalent to winter-time use, indicating that the users are currently conservation-minded.

Figure 2 shows the average daily consumption of the Top 20 residential users in selected billing cycles as well as the Top 20 averages across the entire year. The spike in June is evident among the top users, with a return to a more winter pattern in August.

Figure 2. Gallons Per Day of Top 20 Residential Users

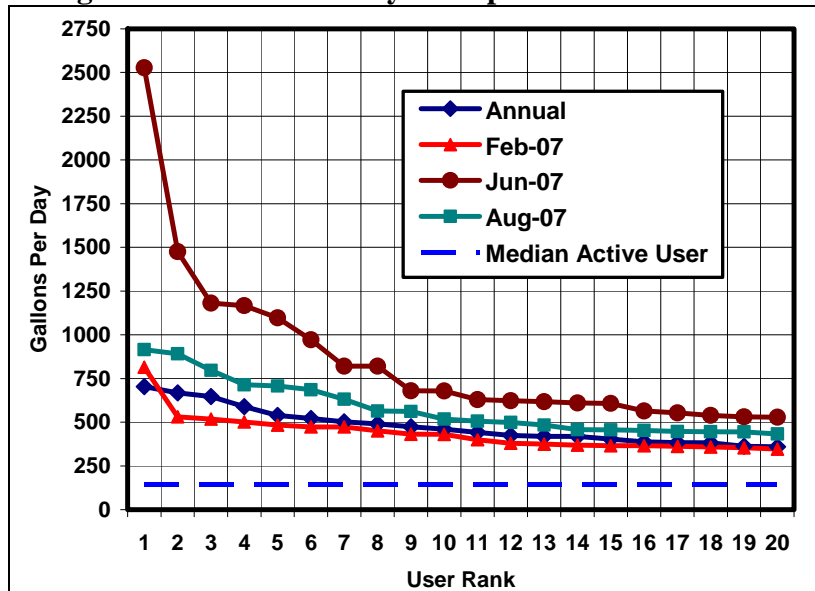


Table 2 shows the number of users in each of various consumption ranges. So for example, the column for "251-300" shows that there were 50 residential users that used between 251 and 300 gallons per day for the February 2007 billing cycle.

Table 2. Number of Users Grouped by Average Gallons Per Day

Billing Cycle	Type of User	Average Consumption (Gallons/Day)									Grand Total
		0 - 30	31 - 100	101 - 150	151 - 200	201 - 250	251 - 300	301 - 500	501 - 1000	>1000	
Feb-07	Comm/Other	5	13	3	3	0	0	2	4	1	31
	Residential	99	256	298	290	127	50	35	4	0	1159
	All Users	104	269	301	293	127	50	37	8	1	1190
Jun-07	Comm/Other	6	10	3	2	1	2	2	2	3	31
	Residential	69	192	258	276	177	90	78	15	6	1161
	All Users	75	202	261	278	178	92	80	17	9	1192
Aug-07	Comm/Other	7	11	2	1	2	3	0	3	2	31
	Residential	76	277	346	247	114	44	55	10	0	1169
	All Users	83	288	348	248	116	47	55	13	2	1200

This data shows:

- Commercial/other accounts are split into approximately 24 accounts that are at or below typical residential use, and 7 that are "heavy users" (>300 gpd).

- Most “heavy users” are residential. In the June billing there were 6 single-family residential accounts that averaged over 1000 gallons per day (more than 6 times the typical usage).

Figure 2 is the residential user data from Table 2, shown as a percentage of the total. This shows that in the June 2007 billing (the middle bars), the number of users above 200 gallons per day spiked, but dropped back down during water restrictions in August 2007.

Figure 2. Percentage of Residential Users Grouped by Average Gallons Per Day

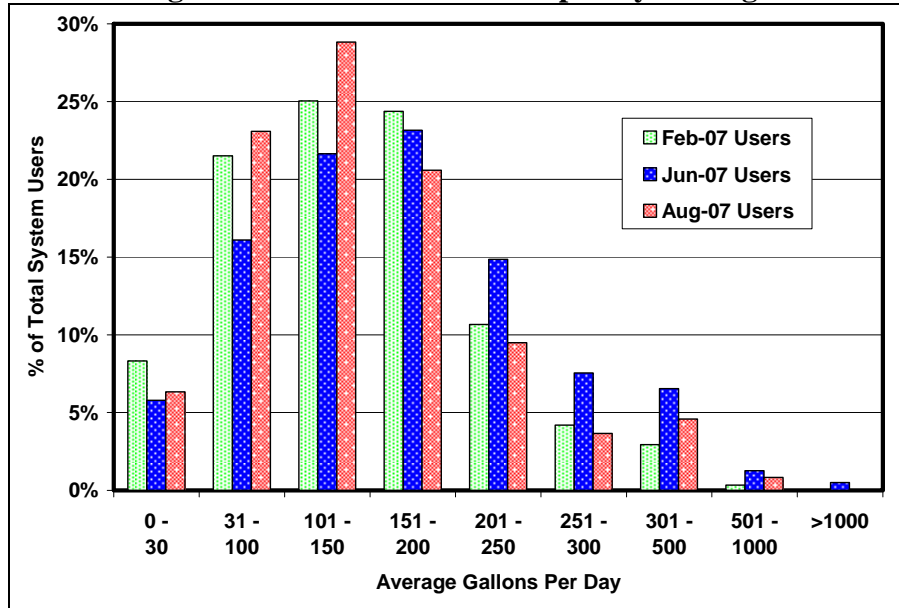
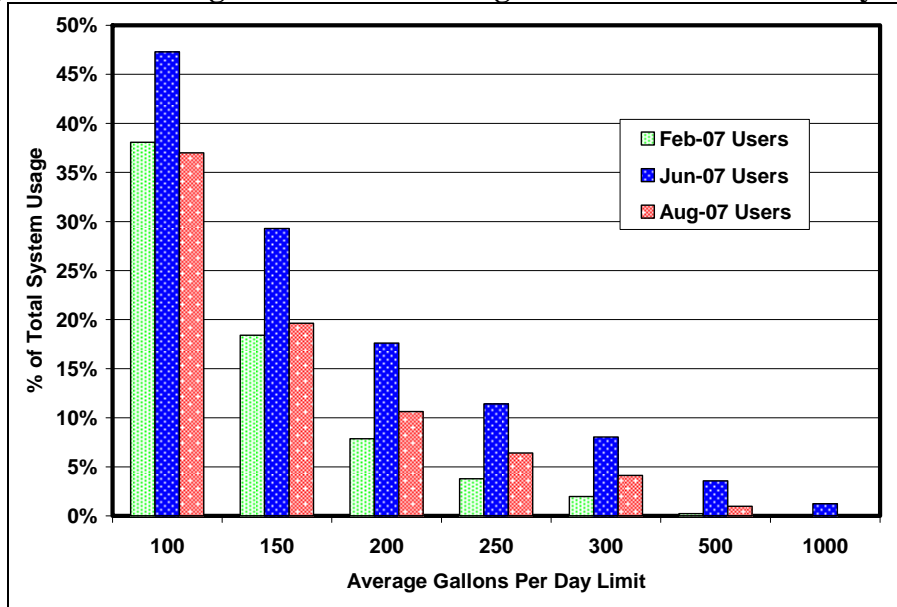


Table 3 shows the percentage of gallons used above a specific level. For example, if all residential users in the June 2007 billing had limited themselves to no more than 150 gallons per day, 29% of system gallons would have been saved. Figure 3 plots the data in Table 3 for residential users.

Table 3. Percentage of Usage Above a Gallon Per Day Level

Billing Cycle	Type of User	Consumption Above a Gallons per Day Limit							
		30	100	150	200	250	300	500	1000
Feb-07	Comm/Other	3%	3%	2%	2%	2%	2%	1%	0%
	Residential	77%	38%	18%	8%	4%	2%	0%	0%
	All Users	81%	41%	21%	10%	6%	4%	1%	0%
Jun-07	Comm/Other	4%	4%	4%	3%	3%	3%	2%	2%
	Residential	80%	47%	29%	18%	11%	8%	4%	1%
	All Users	84%	51%	33%	21%	14%	11%	6%	3%
Aug-07	Comm/Other	8%	8%	7%	7%	7%	7%	6%	5%
	Residential	74%	37%	20%	11%	6%	4%	1%	0%
	All Users	82%	45%	27%	18%	13%	11%	7%	5%

Figure 3. Percentage of Residential Usage Above a Gallons Per Day Level



Expected Impact of Usage Limits in Mandatory Restrictions, Phase II

Since Voluntary and Phase I restrictions were in effect for much of the August 2007 billing cycle, it is assumed that Mandatory Phase II restrictions would be required in circumstances where even that level of usage is too high. The data in Figure 3 can be used to estimate what percentage of system gallons would be restrained by hard usage limits. To determine an appropriate residential limit, the residential August 2007 usage should be examined. Assuming a flat limit with no waivers:

- To put 10% of system gallons above the proposed residential usage limit, a maximum of 200 gpd would be required. This would have impacted approximately 20% (223) of residential users based on the August 2007 billing. This is the recommended standard usage limit for Phase II restrictions.
- To put 20% of system gallons above the proposed residential usage limit, a maximum of 150 gpd would be required. This would have impacted around 40% (470) of users who were already at winter-time usage levels.

These figures do not include any gallons that might be put under limit in commercial accounts, however those accounts are only 5% of total system usage so their total impact will be small compared to any residential limit. These figures also did not account for any lowering of usage by users below the residential usage limit.