NR&C SEP 1 0 2008 #5

THE CITY OF SAN DIEGO

REPORT TO THE CITY COUNCIL

DATE ISSUED: September 5, 2008 REPORT NO: **08-128**

ATTENTION: Natural Resources and Culture Committee
Agenda of September 10, 2008

SUBJECT: City-wide Water Conservation Efforts

REQUESTED ACTION: THIS IS AN INFORMATION ONLY REPORT.

STAFF RECOMMENDATION: Accept the Report.

SUMMARY:

Background

The City of San Diego is located in a semi-arid coastal desert with an average rainfall of 10 inches. As such, the City imports 85 to 90% of its water from Northern California and the Colorado River. Recent developments, including extremely dry conditions around California which greatly reduced storage in key reservoirs, court-ordered pumping restrictions in the Bay-Delta, and an 8-year drought in the Colorado River basin have significantly impacted the region's water supplies.

The need for region wide water conservation was publicly identified in July, 2007. Mayor Jerry Sanders joined the San Diego County Water Authority (CWA) in promoting the "20-Gallon Challenge." This voluntary program was designed to educate and motivate the public in pursuit of a 10% reduction in water use. With the help of the City and the other member agencies, CWA developed a media campaign to encourage people to save 20 gallons every day. In support of this effort, Mayor Sanders held a series of press events encouraging conservation and promoting water efficient landscapes. The Metropolitan Water District of Southern California (MWD) also launched a multi-million dollar media campaign to raise the awareness of Southern Californians on water supply issues and the need to conserve water.

On June 4, 2008, Governor Arnold Schwarzenegger proclaimed a statewide drought and issued an Executive Order, which required immediate action to address this situation. On July 28, Mayor Sanders declared a water shortage emergency and City Council voted unanimously to implement Stage 1 – Voluntary Compliance "Water Watch" per San Diego Municipal Code 67.3801.

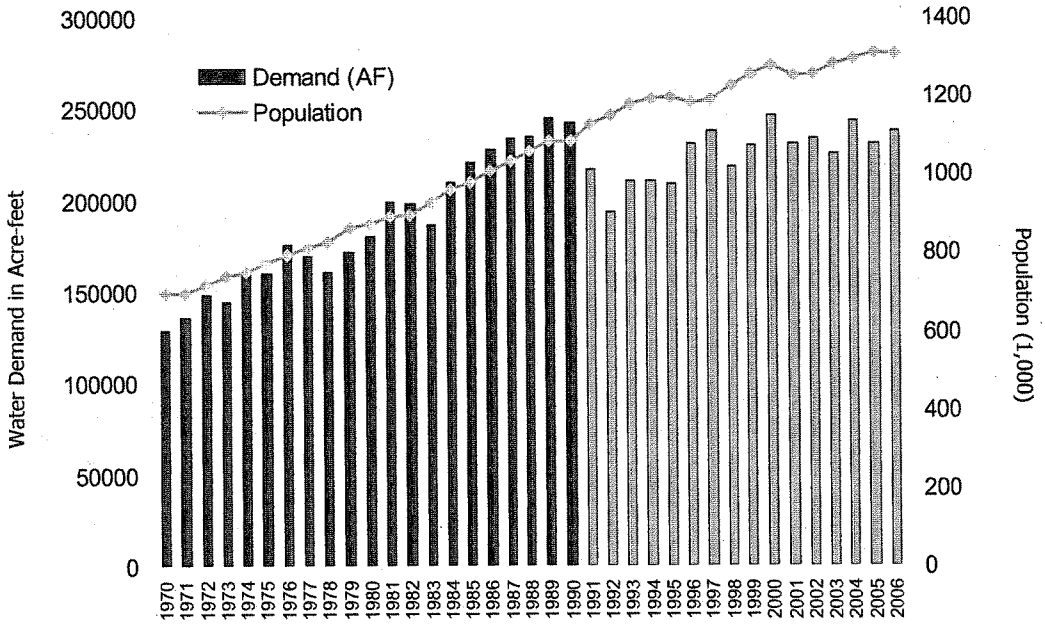
DISCUSSION:

Citywide Water Consumption

In response to the last drought of the early 1990's the City of San Diego began implementing a comprehensive water conservation program that offered incentives and assistance to identify opportunities to conserve water and install water efficient plumbing fixtures. The program continued well after the drought was over and San Diegans took advantage of services and financial incentives to make water conservation more a part of every day life. Today, the City's Water Conservation Program directly accounts for over 28.8 million gallons per day or 32,200 acre-feet of potable water savings per year. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The chart below lays out historic Citywide water usage and population growth. The scale on the left shows consumption in acre-feet while the scale on the right indicates population in 1,000 units. Largely due to water conservation efforts, usage in 2006 remained about the same level as it was in 1990, despite the significant increase in the number of people who call San Diego home.

Conservation's Impact on City of San Diego Water Use



Most of the programs developed in the 1990's addressed indoor water conservation opportunities. Through its programs, the City has installed more than 296,000 water saving toilets, more than 291,000 low-flow showerheads, and more than 34,900 high-efficiency toilets. The success in achieving indoor water conservation has lead to a shift in program emphasis which now focuses on water efficient landscaping, irrigation, and other outdoor uses.

Recent Conservation Efforts

Citywide water consumption from October 2007 (when the effects of the 20-Gallon Challenge campaign announcement would have been first recorded) through June 2008, as recorded by water meters, equal 144,463 acre-feet (af), only 2.5% lower than the average usage during the same months of the prior three years - 148,206 af, per table 1 below. (Note: The 3-year average includes water consumption during the rainy months of November 2004 through June of 2005 when San Diego recorded one of its wettest years ever.) While one can say that San Diegans have shown consistency in keeping usage down compared to pre-1989 usage, efforts to conserve water these last few months fell short of the 10% reduction target of the 20-Gallon Challenge.

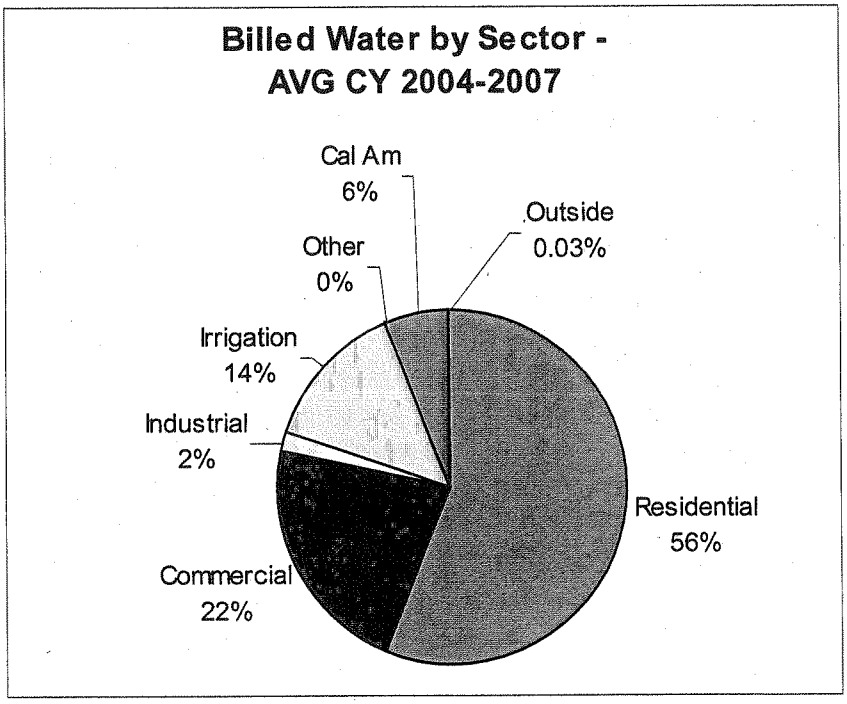
Table 1
Current vs. 3-Year Average Consumption (Acre-feet)

Total Water	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Oct - June Total
2004-05	20,592	14,492	14,256	13,777	11,959	12,589	15,427	18,682	21,068	
2005-06	20,210	16,591	17,033	15,500	14,494	14,934	13,399	15,109	19,839	
2006-07	21,372	17,538	16,667	15,618	13,841	14,128	16,918	17,215	21,371	
Hist Avg (3 yrs)	20,725	16,207	15,985	14,965	13,431	13,884	15,248	17,002	20,759	148,206
2007-08	20,241	17,249	15,481	13,004	11,843	12,069	16,306	18,962	19,308	144,463

The breakdown of water consumption by sector for the years 2004 - 2007 is illustrated in the pie chart on the next page. This pie chart indicates that the largest water use sector is residential followed by commercial and irrigation-only customers. A comparison of water use during 2007-08 to a three year average for the major sectors is as follows.

	3-Yr Ave	2007-08	% Change
Residential	84,722	83,013**	- 2.0%
Comm'l/Industrial	35,807	33,966	- 5.1%
Irrigation	17,997	18,425	+2.4%*

* Residential and irrigation consumption is highly influenced by weather conditions. While the evapotranspiration factor was not significantly higher in FY '08, there was little rain in 2007-08 (6.43 inches), while the period FY '04-'07 averaged 11.62 inches of rain because it includes a year of significant rainfall.
**While the Residential trend during the spring of FY'08 showed minimal conservation, the month of June had an impressive 11% savings.



While the City has been reporting current savings as compared to a three year average, the CWA has been tracking regionwide water savings based upon a comparison of year-over-year consumption. To be consistent with the information released by the CWA, a separate analysis is provided, comparing current year's usage with that of the last prior year. See Table 2 below.

Table 2
Current vs. Prior Year Consumption (Acre-feet)

Total Water	Oct	Nov	Dec	Jan	Feb	March	April	May	June	Oct - June Total
2006-07	21,372	17,538	16,667	15,618	13,841	14,128	16,918	17,215	21,371	154,668
2007-08	20,241	17,249	15,481	13,004	11,843	12,069	16,306	18,962	19,308	144,463
									Percent Reduction	6.6%

Water usage this current year is down 6.6% when compared to the same months from the previous year. The reduction was more pronounced during the winter months before usage grew back up during the Spring. June usage, however, was down 9.6%. A similar comparison of water use during these same periods for the major sectors is as follows.

	2006-07	2007-08	% Change
Residential	88,309	83,013	- 6.0%
Comm'l/Industrial	36,598	33,966	- 7.2%
Irrigation	20,356	18,425	- 9.5%

Water Consumption at City Facilities

From 1992 to 1999, the Water Department implemented a City Facilities Retrofit Program that installed more than 2,384 ultra-low flush toilets and 702 urinals in 494 City owned and operated facilities. The City wanted to show its commitment to water conservation by installing the water conserving plumbing fixtures in our own facilities. The biggest retrofit job, that of Qualcomm Stadium in 1998 (365 toilets and 196 urinals) was completed in time for Super Bowl XXXII, and was used in a national water conservation publication/article.

Looking at water consumed by City departments, almost 70% of all water used in City facilities is used by Park and Recreation, followed by Water (15%) and Wastewater (9%). The remaining 6% is used by all other departments combined. The Park and Recreation Department by its nature is a major user of water. This department includes joint use fields, maintenance assessment districts, one golf course (other City golf courses use recycled water) and a cemetery.

While the second largest recorded user is the Water Department, approximately 8% of that water is consumed domestically; 92% is used to mix in chemicals as part of the treatment process. That water is put back into the supply system and is not "consumed" by the department.

Water consumed by City departments from October 2007 to June 2008 was down 5.4% when compared to the prior 3-year average for the same months. Usage by Park and Recreation remained about the same when compared to the 3-year average, despite adding new parks and irrigated landscaped areas in the last three years. During the same time, a total of 3 parks were converted to recycled water.

However, when comparing current year usage to prior year, consumption by City departments was down a total of 16.4% from October to June, with Park and Recreation showing a 15% reduction in usage from last year.

Public parks benefited from a landscape survey program that set water budgets based on the size of the landscape and the water requirements of the plant material. Approximately 123 parks have the detailed budget described above and another 171 parks have a simplified budget based on the area of landscape. Monthly reports are generated by the Park and Recreation Department tracking water consumption against the baseline budget.

Over the past year, increased efforts have continued to maximize the efficient use of water at City facilities. These efforts have included tips distributed to City departments on how to save water, the reissuance of conservation plans developed during the previous drought, and information on free indoor and outdoor water audits and incentive programs.

During the fall and spring, the City Administration Building's lobby was the site of a roving water conservation display. Additionally, the Water Department's Children's Water Conservation Poster Contest was also displayed once again at City Hall.

Water conservation was promoted to the City Departments with the provision of bumper stickers for all city trucks. Classes were offered to Park and Recreation staff on California Friendly

Landscape Training. These 16-hour classes were offered twice to Park and Recreation staff and promote the efficient maintenance of irrigation systems and scheduling of irrigation clocks. An additional full day class incorporating plant identification and maintenance was presented this past spring.

Conservation staff met with Park and Recreation staff several times to discuss continuing opportunities to take advantage of incentive programs that would fund irrigation equipment upgrades leading to conservation. At least one Park and Recreation Department-wide meeting included facts and figures regarding water use and conservation presented by the Department Director.

The Water and Wastewater departments recently installed water saving devices called Autoclaves at the Alvarado and Marine Biology laboratories. These devices which capture and recirculate water, save an estimated 3.9 million gallons of water a year, valued at over $89,900 a year in avoided water and sewer costs.

Current Public Outreach Efforts

In June 2007, Mayor Jerry Sanders joined water officials and civic leaders in launching the CWA's 20-Gallon Challenge. The regional campaign provided tips on how to save water indoors and outdoors, with the hope of achieving a 10% voluntary water conservation goal. City staff participated in the development of 20-Gallon Challenge materials and the City promoted the campaign in its activities and press releases. Mayor Sanders included the 20-Gallon Challenge in the numerous press events he held through the spring of 2008 to promote the water conservation message to various industries and audiences. A follow up campaign "Save It or Lose It," based on results from recent consumer research, has been developed by the CWA which builds upon previous materials to raise public awareness of the seriousness of the water shortage. These advertising materials have been airing on local television and radio during this summer.

Complementing this regional campaign is MWD's radio public service announcements asking Southern Californians to conserve water by watering landscape one less day a week and by implementing other conservation measures. The MWD messages have been airing in the San Diego market since the Spring of this year.

In Fiscal Year 2008, City staff has more than doubled its presence at local community events, environmental and street fairs, and in giving presentations to civic and community groups, having completed 76 events and presentations compared to 36 the previous year. The City's Water Conservation booth has been a favorite among event participants, often filled with people wanting to know more on how to conserve or what the latest gadget is to conserve water, or sharing their ideas on what the City should offer as part of this program. The same materials on programs and services have been provided to Community Service Centers, recreation centers and public libraries on an on-going basis.

News on programs and incentives are always well received by community newspaper editors and City staff has regularly provided them with news articles for the local papers. Water

conservation article placements included SignOnSanDiego.com, San Diego Metropolitan, San Diego Business Journal, La Prensa, San Diego Unified School District Newsline, Mira Mesa/Scripps Ranch Sentinel, Presidion Sentinel, Tierra Times, Peninsula Beacon, California Examiner, Rancho Bernardo Sun, Mission Times Courier, FlexYourPower.org, Water Online, Scripps Ranch Civic Association Online, NTC Promenade Calendar, and the San Diego Family Magazine, to name a few.

The Water Conservation Garden at Cuyamaca College, funded in part by the City Water Department, has seen a big increase in visitors this past Fiscal Year, and 25% to 35% of them are coming from the City of San Diego. About half of the entries in recent garden contests sponsored by the Water Conservation Garden came from San Diego, and gardens of several City residents received recognition in the past few years.

Just recently, the Water Conservation Action Committee (CAC) welcomed the Mayor's staff to discuss ways the CAC members can help promote the water conservation message. Members of the CAC include, but are not limited to, the California Landscape Contractors Association, American Society of Landscape Architects, San Diego Farm Bureau, Irrigation Association, Building Industry Association, Community Association Institute, California Association of Community Managers, US Navy, biotech industries, environmental planners and product manufacturers, water districts, land use agencies, and homeowner associations.

From the time the City Council approved Stage 1 – Water Watch voluntary conservation, the Water Department has seen a significant increase in citizens sending in water waste complaints. The public has been encouraged to report any observed water waste behaviors. The Water Department performs an investigative follow-up. This usually gets the cooperation of the property owner. City staff follows through to make sure corrective action is completed. If no cooperation is achieved the Water Department can issue citations to ensure enforcement. The public can report water waste by calling (619) 515-3500, or sending an e-mail through the Water Department's webpage (water@sandiego.gov).

Participation in the landscape incentive programs has increased dramatically. A pilot residential smart controller program increased steadily from 3 applications per month at the end of 2007 to 24 applications in June 2008. Requests for other landscape incentives have doubled in July 2008 when compared to July 2007. Interest in commercial landscape surveys remains strong.

The Water Conservation Program has increased its offering of the California Friendly Plant Classes. Aside from the classes provided to the Park and Recreation Department, a similar program was offered to the San Diego Unified School District and it was well attended. Three shorter classes around the City were also offered to residential customers, some of which had an overflow of attendees.

Potential City Public Outreach Program

In the past, the City has relied on ad campaigns from both MWD and CWA to get the message across through the more expensive media. There is an opportunity, however, for the City to create its own messaging, separate from but complementing CWA and MWD messages. Unique

messages can include the water waste investigations, a showcase of examples of what residents and business can do to conserve water, general information on water use restrictions in place in the City as well as services and incentives in place to help citizens achieve their desired conservation targets, the beauty of water efficient landscaping, and further raising awareness of the water supply issue and how action is needed now. A "Hall of Shame" can be included to show inefficient, wasteful uses and what property owners and neighbors can do to correct the problem. The Water Department is currently evaluating the cost and benefits that can be realized from such a separate ad campaign.

FISCAL CONSIDERATIONS:

None. It is anticipated that additional resources may be required at a future time as water conservation becomes critical to meeting water demand management goals.

PREVIOUS COUNCIL and/or COMMITTEE ACTION:

The City Council approved "Stage 1 –Voluntary Compliance- Water Watch" on July 28, 2008.

COMMUNITY PARTICIPATION AND PUBLIC OUTREACH EFFORTS:

During FY08, the Water Conservation Section participated in 76 speaking engagements and community outreach events. See previous section entitled "Current Public Outreach Efforts."

9/4/08
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