WATER CONSERVATION: SOBER UP SAN DIEGO, THE WATER PARTY IS OVER

SUMMARY

According to an old Bedouin proverb, "when it does not rain in October, sell the camel." While we do not have many camels to worry about, water has always been scarce in Southern California and is becoming increasingly in short supply. Previous Grand Jury reports have dealt primarily or exclusively with water sources; this report will examine water uses and how to reduce them. Measures for conservation considered below need to be put in place permanently and growth needs to be strictly controlled until new sources of potable water are found. Four topics are discussed: conservation water rates, water restrictions including San Diego's Water Conservation Stages, water conservation education, and the reuse of recycled water.

PURPOSE

To urge the City of San Diego to exercise leadership and address its long-term water needs and to respond to those needs more responsibly and forcefully.

PROCEDURES

After reviewing Federal and State regulations governing water conservation and the reuse of recycled water, the City of San Diego Water Reuse Study, water restriction plans all over the world, and the water rates for various cities in the County, we conducted interviews with officials from the San Diego Water Department (SDWD).

BACKGROUND

Both the City and County of San Diego are participating in the "Save 20" campaign, a voluntary program calling for each resident to reduce daily use of water by 20 gallons a day. This campaign was adopted in part because of a significant chance of reduced supply of imported water in the near future and because increasing shortages are predicted.

Public announcements and forums featuring politicians, scientists, and civil servants provide overwhelming evidence of potential shortages. Climate changes appear to be trending toward reduced rainfall here and reduced snow packs on the Sierra and the Rockies, which would lead to reductions in the amount of water that we receive via the Sacramento delta and the Colorado River. San Diego draws more water from the Metropolitan Water District (MWD) than it is legally entitled to. A Federal judge may order a significant reduction in the amount of the water sent from the Sacramento delta to Southern California as soon as this winter.

Desalination, which could provide an alternative source for potable water, will not be available for years. (The output from the planned Poseidon desalination plant to be built in Carlsbad has already been fully contracted for, and is therefore not available to the City of San Diego).

As Jacob Sewall, an assistant professor of geosciences at Virginia Tech University is quoted as saying: "The average person should start thinking seriously about where their water comes from now, what they are doing with it, and where the water will come from in 10 to 20 years." (*San Diego Union Tribune* 9/27/07) If the average person should do this, so should our political leaders. As Tim Barnett, researcher at the Scripps Institution of Oceanography was quoted as saying: "I don't know why people don't take it more seriously…We're not going to have enough water."(SDUT 9/27/07) The MWD is currently poised to issue mandatory cutbacks in water used for irrigation that will be indefinite. As Eric Larson, the farm bureau's executive director is quoted as saying: "This is open-ended… Let's not believe this will be over in a year or that it will be over in 18 months." (SDUT 9/26/07)

DISCUSSION 1: Conservation Water Rates

Many documents, from all levels of government, discuss and recommend the adoption of *conservation water rates*. Rates that decline with the amount of usage are disincentives for conservation. Flat rates are neutral with respect to conservation. The rate structure preferred in all the documents on water conservation examined is a *tiered block structure*. What *block* refers to is a range of quantities of use. For example, in San Diego single family dwellings pay base water fees for the first 7 HCF (hundred cubic feet) used, higher fees for the next 8-14 HCF used, and the highest water fees per HCF for 15 HCF and over. All recommendations for conservation water rates seek to eliminate discount water rates for certain users. In fact, the US Clean Water Act published by the U. S. Environmental Protection Agency discourages both flat and discount rates.

One essential finding of the Kroll Report (Report of the Audit Committee for the City of San Diego, Aug. 8, 2006) relates to the City's sewer fee rate structure. It found that the current rate structure amounted to "residential users subsidizing the rates of its industrial ones." (p. 137) The City was not charging proportionately for the content of the discharge. A class action lawsuit alleged that this lack of proportionate rates occurred over a 10-year period; the lawsuit succeeded, and the City is initiating this year a scheme to repay residential ratepayers approximately $40 million. The current plan for the payback involves raising sewer rates and then giving residential users a discount on their sewer bills. At the end of the payback scheme, the new rate increases will disappear. But what this payback scheme does NOT do is address the lack of proportionality that was the cause of the lawsuit in the first place. Although quality is not an issue with respect to the City's water rates, they are also in a sense not proportionate.

The following table shows how the water rates in the City of San Diego are structured:

User Type	Block	per HCF
Single family residences	1-7HCF	2.262
Commercial and Industrial		2.357
Single family	7-14HCF	2.461
Irrigation		2.524
Single-family	14+HCF	2.775

Single-family residences are divided into three categories by amount of usage; this rate structure is a tiered block type. Multiple family residences, however, pay a flat rate that is the same as that for single-family residences in the middle tier. Escondido determines the charges for such units by dividing the total usage for the complex by the number of units to determine the tier. The water rates for commercial and industrial users are almost precisely midway between the first and second tiers for single-family residences; irrigation rates are between the rates charged for the second and third tiers for single-family residences. (This lack of proportionality is carried over into the sewer rate structure and compounds the lack of proportionality there.)

Officials from the SDWD informed jurors that the block of commercial users is far from homogenous, a fact that is used to justify the lack of tiers. However, we question the argument that commercial users would keep better control of their water usage because of it being a business expense. This argument seems to be refuted, in part, by the fact that the cost of water to a company can be deducted as a business expense, thus lowering its taxes. Homeowners, who use their own money to pay their water bills, would seem to be in a better position to be fully cognizant of the cost of their usage.

FACTS/FINDINGS

Fact: Water rates for single-family dwellings are in a tiered block structure, but water rates for multiple family dwellings and commercial, industrial and agricultural users are in single blocks.

Finding: Water conservation would be increased if all users' rates were put into tiered block structures.

RECOMMENDATIONS

The 2007/2008 San Diego County Grand Jury recommends that the Mayor and the City Council of the City of San Diego:

08-05: Put the water rates for multiple-family residences, and for commercial, industrial, and agricultural users into tiered block structures to make charges proportionate to use.

DISCUSSION 2: Water Restrictions

If the current drought continues and/or if the City's proportion of imported water is further reduced, mandatory restrictions will have to be placed on water usage, or users will have to pay substantially higher water rates to cover the increased cost of buying more water. At present, the City is considering whether to institute a Water Conservation Stage 1 (a water watch), which is voluntary. The cities of Fallbrook and Long Beach have just recently entered into mandatory restrictions. Water restriction schemes in the State of Georgia were instituted in the spring of 2007, and it is now considering water rationing. Various cities in the U. S. have experienced times when no patron received a glass of water at a restaurant without requesting one. Britain has at times posted signs in the public restrooms saying: "spare your blushes, share your flushes". In Japan, one city initially cut off water except for 8 hours a day, later reducing that further to 3 hours a day. In Arabic countries the water pressure is lowered during the day. Governing authorities in Queensland, Australia, have developed the necessary water restrictions in advance and have publicized them in order to squeeze out a drop or two more of voluntary reduced use before going to higher levels of restrictions.

Another major issue facing San Diego is that we are located in what is geographically designated as an arid zone. Yet agriculture, golf courses, lawns, parks, eastern trees, car washing, etc., all seem to suggest by their every existence that the citizens of San Diego believe the water party will go on forever. Even some experts and water authorities seem to believe there will always be enough water (at greater and greater costs). But even they must admit that with both projected rates of growth in Southern California and a real chance of permanent drought conditions, the possibility exists that the upward trend in water usage and the long term fall in supplies must cross at some point. We will surely go from feast to famine in one quick leap if current practices in both growth and usage are maintained. Clearly, the public needs to change its behavior with respect to water use and needs to become much more aware of the necessity for water conservation; one effective way to educate them would be to impose water restrictions now. In addition growth needs to be controlled until adequate water supplies can be guaranteed. One way to control development with respect to water would be to base the cost of new water meters on the current and projected water conditions.

The water restriction schemes studied use triggers for restriction levels: the amount of water in storage devices or flowing in rivers. San Diego's restrictions are triggered first by the possibility, then the probability of a water shortage. This can hardly be considered concrete and definitive. Current water levels in a number of the local storage facilities are below either average or capacity, and Lake Mead (from which the Colorado River flows towards us) is also far below either average or capacity. There is talk of reducing the flow of the Colorado River in order to keep the lake up to a certain capacity so that the turbines can continue to receive enough water to produce electricity. In other words, San Diego's restrictions scheme should be triggered not only by local storage and flows, but also by conditions in other watersheds affecting us: the San Joaquin/Sacramento delta and the Colorado River. Considering the state of all of our sources, water restrictions should already have been instituted, if only to begin working on increasing the quantity

of water in our local storage facilities, and to increase public awareness of and participation in water conservation. Some restrictions in a Stage 1 water watch should be made permanent, e.g., since concrete doesn't grow, it should not be watered. The public may only come to realize the seriousness of our water problem when restrictions are in place.

Since we live in an arid, semi-desert area, adapting our life styles to fit our environment is crucial. We simply cannot be so profligate with our resources. One way to adapt is by utilizing highly drought resistant landscaping. Another is low flow or waterless car washing. Car wash businesses can use less water and can recycle most of it; car owners can save water by using buckets instead of hoses. Is all of our irrigated agriculture truly appropriate to this area? Are golf courses? Or should we at least require them to utilize the region's unused supply of reclaimed water for irrigation? Considerable thought should be given to these kinds of issues, and remedies should be addressed in planning for development and in reforming some current uses. For example, a simple walk around town always reveals some running water on the sidewalks and in the gutters from inefficient irrigation systems, water used to wash outside surfaces, and from personal car washing.

The City claims to be adhering to long-term water plans as set forth in the San Diego Water Department, Customer Support Division's Assessment Report of November 30, 2005. In particular it claims to have achieved the 1997 SDWD goal of saving 26,000 acre/foot (AF) of water by 2005; it is now aiming to save 32,000 AF by 2010, 36,000 AF by 2020, and 46,000 AF by 2030. Even if there were no problems with water supply for the present, the City must still find ways to keep reducing water usage by all users. Can this be done without permanent water restrictions and no reduction in the number of new water meters issued? The City of San Diego Water Reuse Study, page V, states that:

> "Over the past 20 years, the City's conservation programs have helped reduce per capita water use, but population growth has continued to push up overall water use. Even with continued aggressive conservation efforts, the City projects it could need 25 percent more water in 2030 than today, but has not indicated where that much water will come from. The City also faces challenges of ensuring its water supplies are reliable and environmentally sustainable. Existing imported supplies from the Colorado River and Northern California remain subject to restrictions due to droughts and court decisions. In addition, the need to import water, including water transfers, may also have incidental or unintended effects on other California ecosystems."

FACTS/FINDINGS

Fact: The current water restriction stages and conditions are not at present widely disseminated.

Fact: At present there are no mandatory restrictions on water usage in San Diego.

Fact: The triggers for imposing the several stages of water restriction are vague and indeterminate: Stage 1 is triggered by the "possibility" of certain events; Stage 2, by the "probability" of those events.

Finding: Mandatory water restrictions in a Stage 2 water alert should be made permanent.

Finding: The City of San Diego faces bleak prospects for the future in terms of the chance of growth colliding with the projected long-term dwindling of water supplies at reasonable cost.

RECOMMENDATIONS

The 2007/2008 San Diego County Grand Jury recommends that the City of San Diego Water Department and the City Council:

08-06: Consider more carefully their growth policy as it relates to San Diego's long-term water prospects and begin more rigorously enforcing the requirement that any large project proposal be able to ensure a 20-year supply of water.

08-07: Publish the current water restriction stages and conditions in order to induce greater participation in conservation efforts.

08-08: Base the cost of new water meters on the current and projected water conditions.

The 2007/2008 San Diego County Grand Jury recommends that the San Diego City Council:

08-09: Formalize concrete triggers for water alerts to make them automatic and less arbitrary.

08-10: Make some or all of the voluntary usage restrictions in Stage 1 water watch permanently mandatory in San Diego.

DISCUSSION 3: Water Conservation Education

Various governmental agencies often tout their water conservation plans and achievements in public documents, but what has actually been achieved on the ground?

It is apparent that the public regularly ignores observing water conservation; little talk about conserving water except for the campaign for a voluntary 20-gallon reduction in personal usage is heard in public or the media. For that effort to succeed much more public education and acceptance would be required. One letter to the Editor stated that a person who was already practicing water conservation should not have to participate in

the 20-gallon campaign. Other writers have asked why they should try to conserve when the SDWD is still issuing new meters. What would motivate people? About half of the City's residents receive some material on water conservation with their water bills, but the other half (residents who do not pay their water bills directly) does not. Is the problem of the cost a sufficient reason for not providing all residents with the mailers?

FACTS/FINDINGS

Fact: At present approximately one-half of San Diego's households receive written information from the SDWD on the subject of water conservation.

RECOMMENDATIONS

The 2007/2008 San Diego County Grand Jury recommends that the San Diego City Water Department:

08-11: Periodically distribute to all residents information on water conservation and pursue other methods such as media coverage to get the public's awareness of the need for a maximum effort at conservation.

DISCUSSION 4: Water Reuse

Another way to put less strain on our existing sources of water would be to increase the reuse of reclaimed water. Though the State of California says this water can be used for most human purposes, in San Diego its use is limited to irrigation and large, newly built commercial enterprises. The capacity of the two plants to produce reclaimed water is not fully utilized, and barely half of the water reclaimed is reused. The cost of recycled water has been artificially fixed at a price that cannot cover the laying of new (*purple*) pipe or other capital expenses with regard to the plants. The price of recycled water should be raised to 80% or 90% of that of potable water. This would help pay for expanding the system, the cost of which appears to be the major bottleneck for getting new users at this time.

It is also time for the City to include using recycled water as a source of potable water. If the City were to pump a large portion of the recycled water produced into its reservoirs (*reservoir augmentation*) where it would be mixed with the water from the Colorado River, then it would be treated through the City's water treatment facilities. This use is approved by the State, and would add a significant amount of water to San Diego's water resources. The Colorado River uptake point lies downstream of approximately 150 municipal sewage discharge points, so all of that water already contains a lot of recycled water. Could not at least some more permitted uses of recycled water be found? For example, could it be used in street sweepers? Could it be used in fire fighting? Again to quote from the City of San Diego Water Reuse Study, p. V:

> "Understanding the value and uses of recycled water is of critical importance in making informed choices and decisions. In developing recycled water uses, the

> City has several choices. Values, such as those listed below will be at the heart of the public dialogue…. Recycled water brings value to San Diego because it… enhances the reliability of our water supply; … promotes a sustainable balance with our environment;…is a locally controlled resource;….reduces water diversions from other California ecosystems; and….is an investment in San Diego's future."

Incidentally a "majority" of La Mesa City Council stated in a letter addressed to the Mayor of San Diego dated February 9, 2006, that they support San Diego's exploration of options for the reuse of recycled water and the expansion of the purple pipe system.

FACTS/FINDINGS

Fact: Approximately one half of the available recycled water is currently being reused.

Finding: The cost of laying purple pipe versus the current low cost of recycled water is inhibiting the extension of purple pipe systems.

Finding: Recycled water could be used for reservoir augmentation.

Finding: The City Council of San Diego has recently approved of a "pilot study" on the reuse of reclaimed water as potable water. This pilot study calls for the San Diego Water Department to conduct reservoir augmentation for a period of one year to assess the viability of this as an available option for increasing San Diego's available water supplies.

RECOMMENDATIONS

The 2007/2008 San Diego County Grand Jury recommends that the San Diego City Council:

08-12: Raise the cost of recycled water to at least 80% of that of potable water, and use this income to finance expansion of the recycled water distribution system.

08-13: Approve the use of recycled water for reservoir augmentation.

08-14: Implement the use of recycled water in all appropriate City facilities.

The 2007/2008 San Diego County Grand Jury recommends that the Mayor of the City of San Diego:

08-15: Support the pilot study in using reclaimed water as a source of potable water approved by the City Council.

REQUIREMENT AND INSTRUCTIONS

The California Penal Code §933(c) requires any public agency which the Grand Jury has reviewed, and about which it has issued a final report, to comment to the Presiding Judge of the Superior Court on the findings and recommendations pertaining to matters under the control of the agency. Such comment shall be made *no later than 90 days* after the Grand Jury publishes its report (filed with the Clerk of the Court); except that in the case of a report containing findings and recommendations pertaining to a department or agency headed by an elected County official (e.g. District Attorney, Sheriff, etc.), comment shall be made *within 60 days* to the Presiding Judge with an information copy sent to the Board of Supervisors.

Furthermore, California Penal Code §933.05(a), (b), (c), details, as follows, the manner in which such comment(s) are to be made:

(a) As to each grand jury finding, the responding person or entity shall indicate one of the following:
    (1) The respondent agrees with the finding
    (2) The respondent disagrees wholly or partially with the finding, in which case the response shall specify the portion of the finding that is disputed and shall include an explanation of the reasons therefor.

(b) As to each grand jury recommendation, the responding person or entity shall report one of the following actions:
    (1) The recommendation has been implemented, with a summary regarding the implemented action.
    (2) The recommendation has not yet been implemented, but will be implemented in the future, with a time frame for implementation.
    (3) The recommendation requires further analysis, with an explanation and the scope and parameters of an analysis or study, and a time frame for the matter to be prepared for discussion by the officer or head of the agency or department being investigated or reviewed, including the governing body of the public agency when applicable. This time frame shall not exceed six months from the date of publication of the grand jury report.
    (4) The recommendation will not be implemented because it is not warranted or is not reasonable, with an explanation therefor.

(c) If a finding or recommendation of the grand jury addresses budgetary or personnel matters of a county agency or department headed by an elected officer, both the agency or department head and the Board of Supervisors shall respond if requested by the grand jury, but the response of the Board of Supervisors shall address only those budgetary or personnel matters over which it has some decision making authority. The response of the

elected agency or department head shall address all aspects of the findings or recommendations affecting his or her agency or department.

Comments to the Presiding Judge of the Superior Court in compliance with the Penal Code §933.05 are required from the:

Responding Agency	**Recommendations**	**Date**
City Council, City of San Diego	**08-05, 08-06, 08-07 08-08, 08-09, 08-10, 08-12, 08-13, 08-14**	**05/13/08**
Mayor, City of San Diego	**08-05, 08-15**	**05/13/08**
Water Department, City of San Diego	**08-06, 08-07, 08-08, 08-11**	**05/13/08**