

## Las Vegas Still Has Much to Gain Through Conservation

Although Las Vegas has greatly reduced its per-capita water use in recent years, largely due to its highly publicized turf replacement program, a recent study by the Pacific Institute and Western Resource Advocates say the region could save significantly more. The results of the study were recently published in the report, "Hidden Oasis: Water Conservation and Efficiency in Las Vegas." The study was requested by the Progressive Leadership Alliance of Nevada, a nonprofit group that opposes the large-scale groundwater transfer project proposed by the Southern Nevada Water Authority (SNWA).

The researchers reviewed Las Vegas' water conservation and efficiency efforts and potential and asserted that considerably more could be done to capture existing inefficient and wasteful water uses, both indoors and out. And many of the efficiency improvements could be implemented at a lower cost and with fewer social and environmental impacts than developing new water supplies.

"Ninety percent of Las Vegas' water efficiency money is spent on one program—turf removal. This program is important, but participation has waned and it is far from the only tool at their disposal,"

said Heather Cooley, report co-author and Pacific Institute Senior Associate.

By improving and expanding existing programs and adding programs proven elsewhere in the West, including rebates, incentives, rate structures, and penalties for high water use, the authors claim that SNWA could cut Las Vegas homeowners' indoor water use by 40 percent (31,000 acre-feet per year) and hotel and casino water use by 30 percent (6,300 acre-feet per year).

The report maintains that water agencies in the Las Vegas Valley have not prioritized measures to improve indoor water-use efficiency because they earn return-flow credits for wastewater returned to the Colorado River. But by doing so, the agencies end up with relatively higher energy and chemical costs associated with pumping, treatment, and transportation of water and wastewater; higher energy-related greenhouse gas emissions; fewer customers being served by a given amount of water; greater dependence on drought-vulnerable water sources; and greater need for significant capital investments in expanded conveyance and treatment infrastructure.

The report also notes an imbalance in the Las Vegas region's budget priorities. For every fourteen dollars spent developing new sources of water, only one dollar is

spent helping customers use water wisely, and less than a dime of that goes to indoor efficiency efforts. As a result, researchers stated that more balanced funding, better implementation, and incorporation of proven strategies could greatly improve the area's indoor and outdoor efficiency efforts.

In an e-mail reply to questions posed by the *Las Vegas Sun*, SNWA Director Pat Mulroy wrote, "We appreciate the input from the Pacific Institute and recognize that conservation must continue to be a top priority for Southern Nevada's residents and businesses. However, conservation is not an adequate substitute for developing an independent and readily available water supply that will provide our community badly needed drought protection."

View the report at [www.pacinst.org/reports/las\\_vegas/](http://www.pacinst.org/reports/las_vegas/). Also visit [www.lasvegassun.com](http://www.lasvegassun.com).

## Clean Water Act Violations Tallied

U.S. PIRG, the federation of state public interest research groups (PIRGs), recently completed an analysis of major facilities that exceeded their Clean Water Act (CWA) permits during 2005, the latest year for which data were available from the U.S. Environmental Protection Agency. "Major" facilities are so designated based on an EPA scoring

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system that considers a combination of factors, including toxic pollutant potential, streamflow volume, public health impacts, and proximity to coastal waters.

Any exceedance of any parameter during any reporting period was counted in the PIRG analysis, with parameters ranging from pH and biological oxygen demand to heavy metals, organics, and pesticides. The analysis revealed the type of pollutants being discharged into waterways and the extent to which facilities are exceeding their permit levels.

The results can be downloaded by state in the form of a spreadsheet containing facility name, county, receiving water, parameter that exceeded its standard, and percent exceedance.

Nationally, more than 3,600 major facilities exceeded their CWA permit limits at least once during the study year. California came out on several "top 10" lists, including the top 10 states with:

- highest percentage (69) of major facilities exceeding their CWA permit at least once;
- most exceedances (1,330) of CWA permits for the year; Texas was also in this top-10 list at 1,348 exceedances;
- highest average permit exceedance (405 percent); New Mexico topped

this list at 1,153 percent, and Arizona came in third at 822 percent;

- at least 100 exceedances (194) of at least 500 percent above the CWA permit limit (only three states exceeded 100).

In addition, Los Angeles County was the county with the second highest number of facilities (22) exceeding their CWA permits at least once. Harris County, Texas topped the list at 96.

A *San Diego Tribune* article in October, the same month the PIRG report was issued, provides an example of how and why CWA exceedances occur. According to the article, San Diego was preparing to request its third waiver from CWA requirements for its Point Loma Wastewater Treatment Plant on the grounds that "a panel of scientists hired by the city" found that the data showed "no evidence of significant adverse impacts" to the ocean where it is discharged, four and a half miles offshore. If the exemption is granted, the city would be able to delay upgrading the facility for at least five more years, the article said. The *Tribune* noted that "the Point Loma plant is the largest in the country that doesn't have at least a plan to meet the CWA's standard of giving wastewater a secondary level of treatment to reduce solids and other pollutants."

The City of San Diego is listed on the PIRG study as exceeding by 567 percent

the instantaneous maximum for settleable solids into the Pacific Ocean in 2005.

*The PIRG report and state-by-state appendices are available at [static.uspirg.org/reports.asp?id2=35946](http://static.uspirg.org/reports.asp?id2=35946). Visit [www.signonsandiego.com](http://www.signonsandiego.com).*

## **Water Hardness and Health Link Studied**

Earlier this year, the World Health Organization (WHO) convened a meeting to kick-start a coordinated, multicountry study on the possible protective effect of hard water against cardiovascular disease. According to WHO, numerous research papers have been published over the last 50 years suggesting an inverse association between drinking water hardness and cardiovascular mortality, yet the question of whether or not the consumption of hard water protects against death from cardiovascular disease continues to be debated.

An impetus for the current study is the increased usage of desalinated water for drinking water consumption and the potential for modification of its mineral content. If drinking water hardness is in fact found to cause changes in cardiovascular health, that finding would have widespread public health implications.

*continued on next page*

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## R & D (continued)

WHO believes more well-designed epidemiological studies using a common protocol are needed, particularly community intervention studies, in which communities that have experienced a notable change in drinking water hardness concentrations are studied for corresponding changes in health outcomes. Changes in hardness typically result from a change in source water or the introduction of water softening.

WHO seeks participation from interested countries that wish to be a part of this study. While WHO is not providing any funding for such participation, the agency will collate and analyze the data in order to arrive at a definite conclusion on the relationship between drinking water hardness and cardiovascular health.

Visit [www.who.int/water\\_sanitation\\_health/gdwqrevision/epi\\_study/en/](http://www.who.int/water_sanitation_health/gdwqrevision/epi_study/en/).

### UA Researchers to Expand PPCP Research

A news article from the University of Arizona's Institute for the Study of Planet Earth announced funding of a new water quality laboratory on campus to study micropollutants and emerging water contaminants in Arizona's groundwater and surface water. The research is being led by Jon Chorover of the university's soil, water, and environmental science faculty, who noted that many natural water bodies in the Southwest are impacted by wastewater discharge, and much more research is needed to understand the impact of pharmaceuticals and other personal care products (PPCPs)—which are not necessarily removed in the wastewater treatment process—on both wildlife and humans.

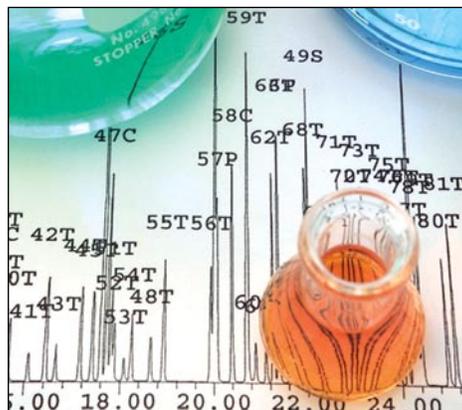
A multidisciplinary group of researchers recently received a \$539,000 grant from

the National Science Foundation for two new mass spectrometers to help in this research; the grant was matched by four other colleges on campus. Colleagues from Arizona's two other universities as well as the Arizona Water Institute and the state's Department of Health Services will also be involved.

Visit [www.ispe.arizona.edu/news/articles/general/chorovergrant.html](http://www.ispe.arizona.edu/news/articles/general/chorovergrant.html).

### Dogs Sniff Out Quaggas

In the battle against the invasion of quagga mussels into western waters (see *Southwest Hydrology*, Nov/Dec 2007), all help is needed. Quaggas have the potential to cause millions of dollars worth of damage to waterworks, the power industry, and recreationists, and were first identified in the West just over a year ago. Now, the California Department of Fish and Game is training dogs to sniff them out,



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reported the *Sacramento Bee*, and it turns out they're good workers. The best way to control quaggas is to limit their spread to new waters, and the dogs can quickly find quaggas on boats and trailers at inspection points. According to the *Bee*, a trained dog costs between \$8,000 and \$12,000 plus an additional \$6,000 per year, and saves the department about 800 work hours. They plan to train 22 dogs over the next three years, at an estimated cost of \$250,000.

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### Fast-Track Research Grants from AwwaRF

Awwa Research Foundation (AwwaRF) recently launched the Rapid Response Research Program. The program allows AwwaRF to respond rapidly to urgent, immediate, or unforeseen research needs of the drinking water community.

Projects will focus primarily on determining the scope of a selected issue and its impacts, defining the current state of knowledge, and identifying knowledge gaps to direct follow-on research efforts under other AwwaRF research programs, if warranted. The program emphasizes delivery of credible information to help subscribers communicate to their consumers effectively about pressing, high-profile issues. Issues are prioritized for funding consideration based on time sensitivity, the type of impact (human health is rated highest, followed by cost and water sector reputation/image), extent of the issue, and whether a potential research solution can be readily identified and carried out quickly enough to have an impact on the issue.

Projects typically are competitively procured among prequalified contractors by requests for proposals; in some instances a project may be sole-sourced to a prequalified contractor. Project funding is limited to \$50,000 and project duration is limited to six months.

Visit [www.awwarf.org/theFoundation/ourPrograms/ResearchProgramRapidResponse.aspx](http://www.awwarf.org/theFoundation/ourPrograms/ResearchProgramRapidResponse.aspx).



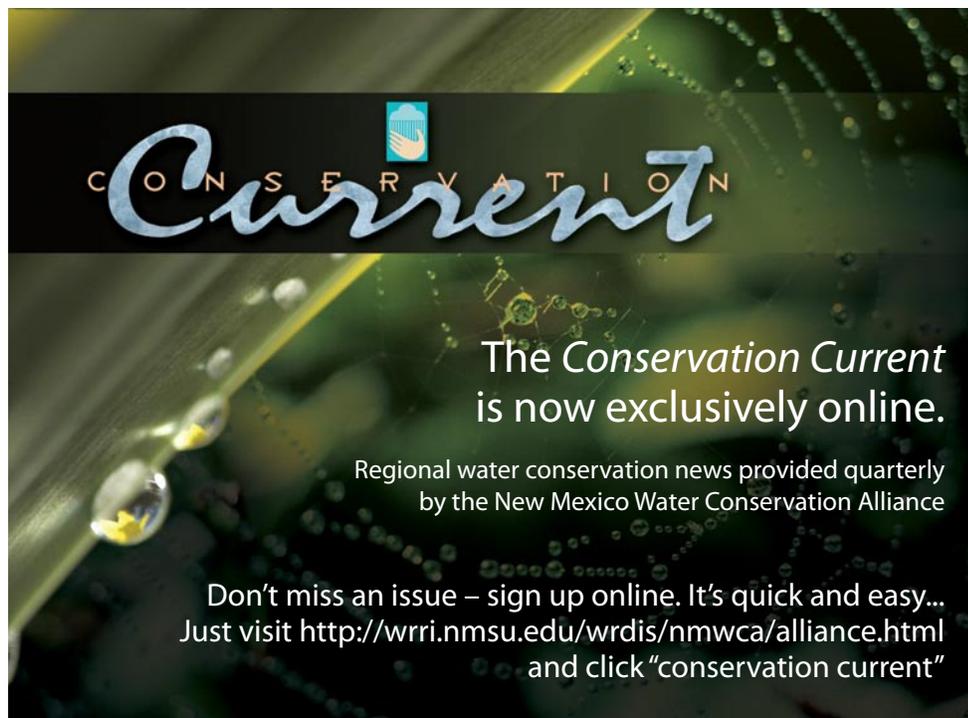
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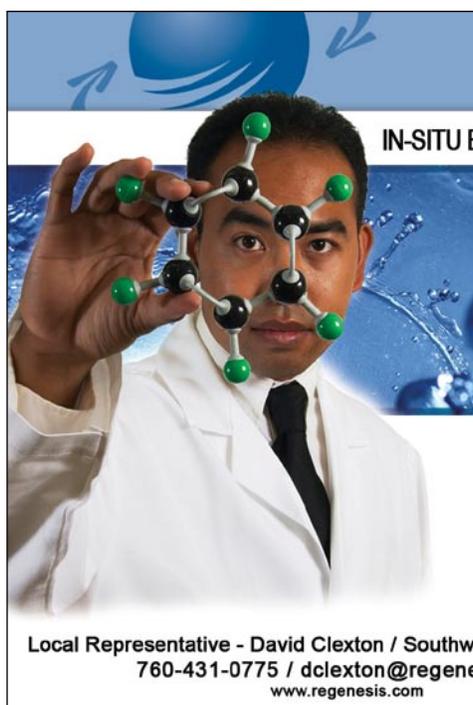


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