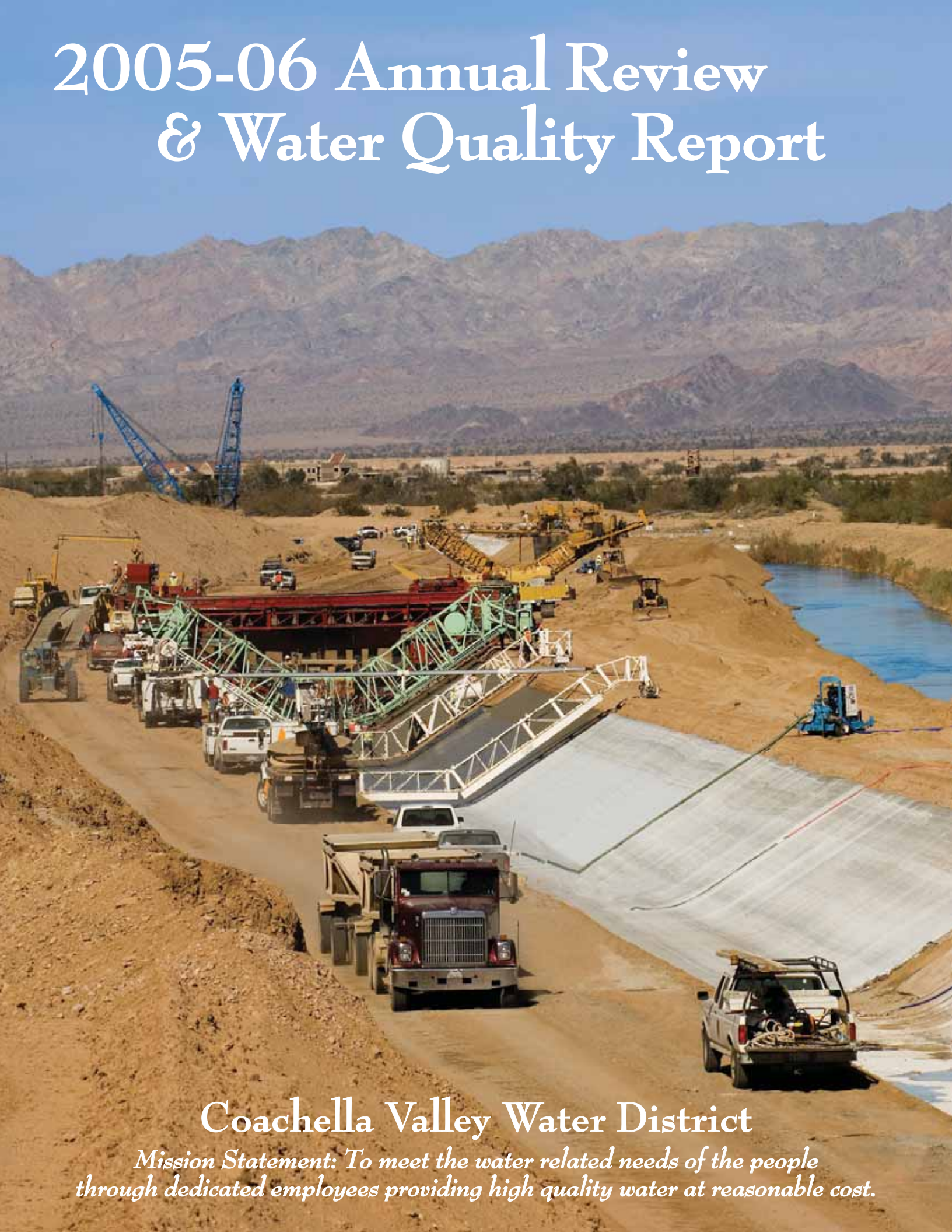
2005-06 Annual Review & Water Quality Report



Coachella Valley Water District

Mission Statement: To meet the water related needs of the people through dedicated employees providing high quality water at reasonable cost.

The Coachella Valley Water District is a government agency run by a five-member board of directors, elected at-large to represent the five divisions within CVWD's service area. The directors serve four-year terms.

Board meetings are open to the public and generally held on the second and fourth Tuesday of each month at 9 a.m. in Forbes Auditorium, at CVWD's Coachella office.

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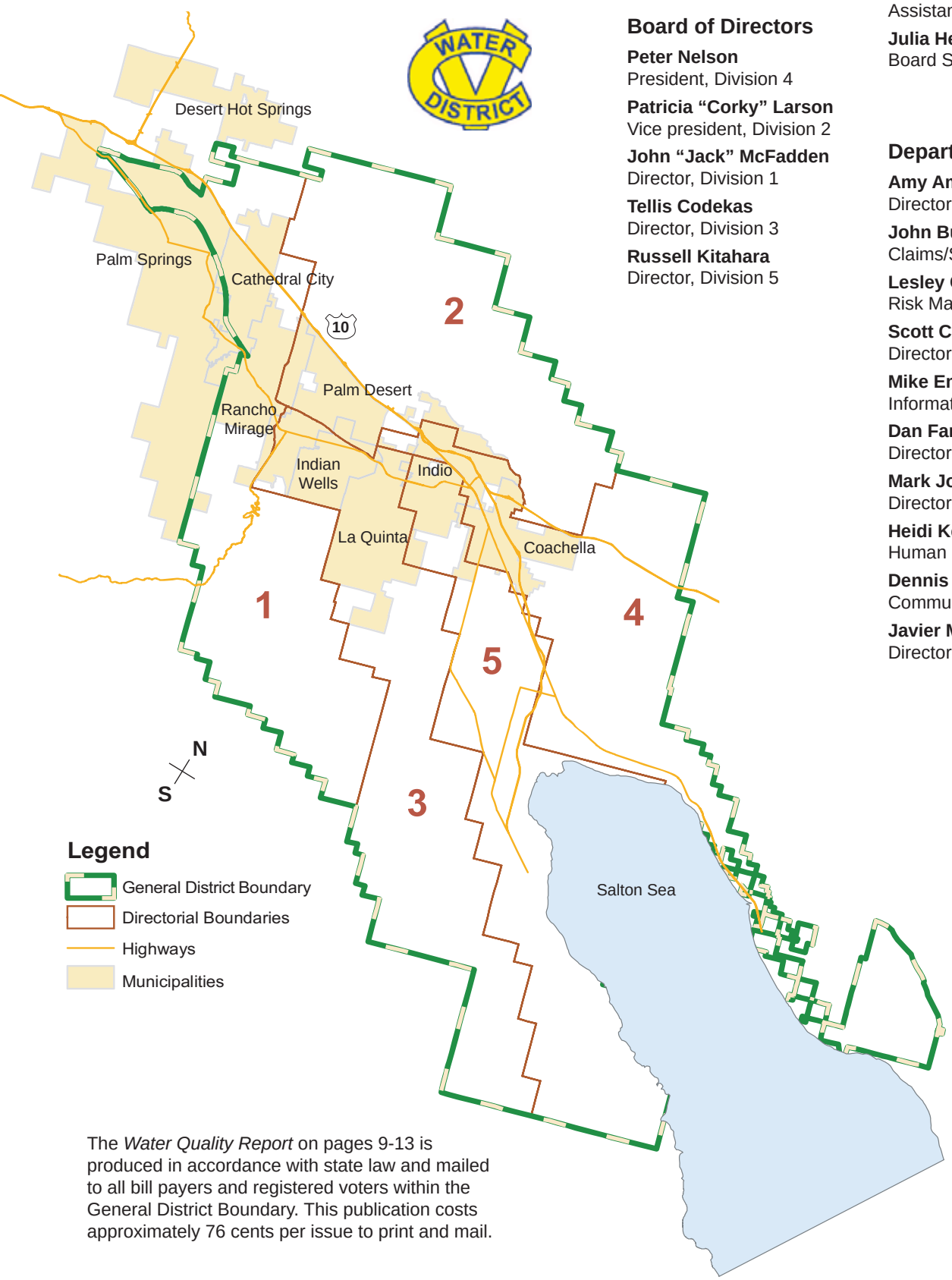

The *Water Quality Report* on pages 9-13 is produced in accordance with state law and mailed to all bill payers and registered voters within the General District Boundary. This publication costs approximately 76 cents per issue to print and mail.

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The *2005-06 Annual Review* is produced by the CVWD Communication & Legislation office.

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Robert Keeran & David Anderson
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Dennis Mahr & Jack Porrelli
Writers

Cover photo: Construction continues on the Coachella Canal lining project. More details and photos are on pages 23-24.

At left: Jon Otterson, a 20-year employee, performs a routine test of the water's chlorine level at a domestic well site.

Below: Lake Cahuilla in La Quinta is the man-made terminal reservoir for the Coachella Canal.

Bottom left: An aerial view of Cathedral City shows the valley's growth. CVWD is committed to providing a reliable source of water to keep up with the valley's growth.

Bottom right: Many valley farmers use drip irrigation systems to minimize water use and maximize efficiency.

Back cover: The David Harbison Water-Efficient Garden, located at the CVWD office in Coachella, is open to the public for viewing examples of water-efficient plants and landscaping techniques.

General Manager's Message

We never stop planning for the future

Growth continued to be the buzzword of 2005-06 for cities, developers, residents, businesses and even the water district. In January, the Coachella Valley Water District commemorated the installation of its 100,000th domestic water meter with a small ceremony at a home development in north Indio. The event included remarks from district officials and the building industry, as well as a ceremonial placing of the 100,000th meter.

The ceremony wasn't so much a celebration of volume, but rather a recognition of the insightful planning by past and current water district leaders that has allowed the agency to continue providing affordable, quality water in spite of the growth.

Forward thinking is a never-ending process. While the insight that led to the Coachella Canal and Whitewater recharge ponds has been exceptionally beneficial to today's water users, planning must continue for future generations.

In this article, I will provide a brief update on recent steps the water district has taken to accommodate growth and the important planning that's occurring now to take us into the future. More details about these issues and others are included in this *Annual Review and Water Quality Report* to keep water users and stakeholders informed about our most precious resource – water.

Water Management Plan

In 2005, the five-year update process began for the Coachella *Valley Water Management Plan*. The plan, approved by the board of directors in 2002, is the district's road map for ensuring a reliable water supply. It calls for a multi-faceted approach that: includes increasing the amount of water being recharged into the aquifer; helps irrigation water users utilize recycled water or Colorado River water instead of the aquifer; finds new sources of water, such as additional entitlement to the State Water Project; and encourages all water users to conserve.

A key component of the plan is the Mid-Valley Pipeline project, which would eventually provide a blend of recycled and Colorado River water to 50 golf courses currently drawing from the aquifer. You can read more about this project on page 15.

Another project which will be officially studied for feasibility in 2006 is the Desert Aqueduct. This would bring State Water Project water directly to the Coachella Valley, eliminating CVWD's and Desert Water Agency's need to rely solely on their ability to trade their entitlements of this water for the same amount of Colorado River water. You can read more about this project on pages 16-17.

Technological advances

With more than 100,000 domestic meters to be read, the district has joined water districts throughout the country by installing Automatic Meter Reading (AMR) meters. These state-of-the art meters transmit water use information electronically to a data collecting computer, eliminating the need for an employee to manually visit the meter each month. These devices have an extremely high accuracy rate and, by streamlining the process, minimize the number of new employees that need to be hired. There are currently more than 5,000 AMRs in place with more planned in the future.

Another technological change that's streamlining the process involves providing some employees with laptop computers and specialized software to make them more efficient in the field.

CVWD General Manager-Chief Engineer Steve Robbins, center, turned the meter wrench to ceremoniously start water service to the district's 100,000th domestic customer. He is flanked by Assistant General Manger Mark Beuhler, left, and Henry Torres, crew supervisor for New Meter Installation, who installed the water meter at the ceremony site. Henry retired from the district in December, 2005 after 34 years of service but was invited back to participate in the momentous occasion.

Left: Bureau of Reclamation Commissioner John Keys addresses a small crowd during a ceremony at the district's Coachella office. The commissioner later presented the district with a $300,000 grant.

Below: Dan Parks, assistant to the general manager, addresses the board of directors during a regularly scheduled meeting.

Zanjeros and Mark & Locate crews started using the computers in early 2006, enabling them to access and input information in a more timely manner, improving response times and customer service. You can read more about this project on page 20.

The computer systems utilized by office workers are being looked at for technological upgrades in the future. Later this year, the district will launch a needs assessment to determine the best and most cost effective way to integrate various software systems being used by separate departments within the district. Long-term plans also include investment in a Geographic Information System (GIS) to analyze data in a geographic framework.

The overall goals are to provide employees better access to up-to-date information, eliminate redundancy and streamline work flows for increased efficiency and productivity.

Special guests

The district was honored to host several government officials and other dignitaries for tours, presentations and other events. In October, Bureau of Reclamation Commissioner John Keys presented the district with a $300,000 grant during an informal ceremony. During his visit, Keys (who retired in April 2006) toured area farms and complimented growers for their dedication to water conservation efforts. You can read more about this grant program on Pages 23-24.

In November, CVWD and neighboring Imperial Irrigation District co-hosted a helicopter and ground tour of waterways and farmlands for Congressman George Radanovich (R-Mariposa), chairman of the House of Representatives' Resources Subcommittee on Water and Power.

In addition, leaders from throughout the water and construction industries have visited the district to see the massive construction project at the Coachella Canal. You can read more about this project on pages 23-24.

These are but a few highlights of the past year and a little insight into the district's future plans. I hope the residents of the Coachella Valley know they can rely on CVWD to meet all their water-related needs, from providing high quality drinking water at a reasonable cost to protecting life and property from flooding. District employees are proud of CVWD's reputation as a reliable and professional agency and are dedicating to providing a high level of service to the community for years to come.

Sincerely,

Public Outreach

Educating through literature, displays & tours

The Coachella Valley Water District offers a number of programs and resources for individuals and groups seeking information about the district, water issues in general and conservation techniques. From school tours to educational displays at community events, public outreach efforts are an important part of being a government agency and a key component to meeting water conservation goals.

In 2005, the district conducted a comprehensive domestic water conservation advertising campaign. The "Mind Your Water" campaign included radio, television and newspaper advertisements, news articles and free brochures, all presented in both English and Spanish, promoting water conservation to residential customers.

Area businesses supported the campaign by allowing brochures to be distributed at their stores. The campaign brochures — as well as other district brochures and newsletters — are distributed at public events and available at city halls, libraries and nurseries throughout the Coachella Valley. Information is still available at the campaign-specific Web site, www.mindyourwater.com.

A new pilot program to promote the use of weather-based irrigation controllers, which cut water use at the home by approximately 30 percent, was promoted through bill inserts, news releases and advertisements.

The district sponsored 13, 30-minute episodes of educational television programming ranging from water-efficient landscaping techniques to an overview of district responsibilities. The programs were hosted by local journalist David Garcia and broadcast on Time Warner Cable's Channel 10.

Other outreach efforts for domestic customers include: the annual Landscape Workshop, providing classroom-style instruction for creating and maintaining water-efficient landscaping; a revised version of *Lush & Efficient Gardening in the Coachella Valley*, a 160-page instruction guide complete with hundreds of plant descriptions and color photos, due out at the end of the year; and an interactive CD-ROM, also due out at the end of the year, providing instructions for creating water-efficient landscaping and including real-life photographs from homes throughout the Coachella Valley.

But water conservation messages aren't isolated to residential customers alone. Outreach in the form of newsletters, advertising,

Above: in the fall, the district organized an educational field trip for more than 500 Palm Desert Middle School students to get an up-close look at aquaculture at Kent SeaTech's facility in Thermal. CVWD organizes field trips for schools within district boundaries.

Left: Fairgoers learned about water-efficient landscaping and the valley's water delivery system at the interactive display at the Riverside County Fair and National Date Festival, held annually in Indio.

The annual Landscape Workshop provides classroom-style instruction on landscape and irrigation issues. More than 400 people attended the 2005 workshop held at The Living Desert.

meetings, presentations and more are targeted to businesses, agricultural users, golf courses and homeowner's associations.

For example, in 2005 the district worked more with the business community to prevent wasteful water use. Staff analyzed water use by businesses to identify those that are using an excessive amount and then worked with them one-on-one to reduce water use and, in turn, monthly water bills.

Golf courses, homeowner's associations and large water users receive the *Water Wise* newsletter with news and water conservation information geared specifically toward them.

The agricultural community receives the *Farm Water Watch* newsletter, also including news and information tailored specifically to them.

The district's outreach efforts include an emphasis on educating school-age children. Two credentialed teachers on staff visit more than 16,000 public and private school students each year with standards-based presentations about water safety, water science or conservation, depending on the grade level. These teachers also participate in local science fairs, presenting special awards for outstanding water-related projects.

The district mails public and private school teachers the *Water Wheel* newsletter with advice on how to incorporate water education into everyday lessons.

Hundreds of students are treated to district-led tours of farms and district facilities to learn about water issues. Middle school students, for example, learn the science of a wastewater reclamation plant by visiting the district's largest plant in Palm Desert.

Tours aren't just for kids though. The district has organized educational tours for agriculture teachers, college students from other countries, trade organizations and government leaders.

Is my tap water "hard"?

Hardness in tap water is caused by calcium and magnesium, which are common minerals found in Coachella Valley groundwater supplies.

The amount of hardness varies in the valley's drinking water and some areas do have hard water. Most CVWD customers receive water with only a moderate hardness.

Do I need a water softener?

No. Regardless of your hardness level, you do not need a water softener for your home. More importantly, there can be negative effects from water softeners.

Softened water is more corrosive than tap water and can leach lead and copper from your plumbing into your drinking water. Of particular concern are self-regenerating softeners.

CVWD does not prohibit the use of water softeners, but district ordinance does prohibit the discharge of excess salt down the drain. The discharged salt eventually makes its way back to the groundwater, which increases future costs of providing sewer and water services.

Need more information?

For more information about water hardness levels throughout the valley, read the water quality table on pages 12-13. Questions may be directed to CVWD's Water Quality Division at (760) 398-2651.

Smart controllers save water & money with little effort

Programming sprinkler system controllers can be a complicated task; Remembering to adjust the program each month can be more difficult. Even professional landscapers sometimes err on the side of over-irrigation, a wasteful and costly practice.

One way to ensure proper irrigation is the use of a self-adjusting weather-based controller, also called a "smart controller." These controllers determine how much water is needed based on historical and, in more advanced models, current weather conditions. The weather-based controller removes many of the complications and guesswork associated with proper irrigation. Proper irrigation saves water and results in healthier plants, reduced run-off and lower water bills.

Coachella Valley Water District officials estimate that homeowners who switch to a weather-based controller can expect an average 30 percent decrease in water usage, though specific savings depend on efficiency prior to the switch.

The district launched a pilot program in late 2005 to encourage homeowners to replace their old controllers with these water-saving controllers. The program offers a limited number of six-station indoor controllers for $50 and eight-station outdoor controllers for $100, representing approximately a 75 percent discount from the retail price. The cost of the controllers is subsidized by the district, participating cities and Riverside County. Participating cities are Palm Desert, Indian Wells, Cathedral City, La Quinta and Rancho Mirage.

There's been an overwhelming response from residents wanting to participate. The participants' water usage will be monitored for one year to track water savings. Data gathered will help determine whether to implement a full-scale program.

For more information about the program, visit the district's Web site at www.cvwd.org or call the district's Water Management staff at (760) 398-2651.

A self-adjusting irrigation controller is the easiest way to reduce water usage. If you don't have one, cut out this chart and place it where it can act as a monthly reminder that desert plants need much less water in the cooler months than in the summer. If you hire a professional to maintain your landscaping, make sure that person knows that you support conservation efforts and expect to see a lower water bill during the cooler months.

Irrigation Guide

This table shows the approximate amount of water different types of landscaping typically need each month. Individual watering times may vary due to soil and other conditions. Gradually reduce the amount of water you're using to find an adequate amount for your situation without being wasteful. Use this guide as a reminder to change your sprinkler system each month. **When there's measurable rain, turn your sprinkler system off and keep it off until the ground has dried.**

	Water-efficient shrubs	Water-efficient trees	Non-desert trees	Turf grass
January	.7 gal./day 2 days/week	14 gal./day 2 days/week	45 gal./day 2 days/week	Spray system: 4 min./day; 7 days/week Rotor system: 9 min./day; 7 days/week
February	.9 gal./day 3 days/week	21 gal./day 3 days/week	56 gal./day 3 days/week	Spray system: 6 min./day; 7 days/week Rotor system: 15 min./day; 7 days/week
March	.9 gal./day 4 days/week	16 gal./day 4 days/week	53 gal./day 4 days/week	Spray system: 9 min./day; 7 days/week Rotor system: 21 min./day; 7 days/week
April	1 gal./day 5 days/week	17 gal./day 5 days/week	59 gal./day 5 days/week	Spray system: 12 min./day; 7 days/week Rotor system: 27 min./day; 7 days/week
May	.9 gal./day 6 days/week	18 gal./day 6 days/week	60 gal./day 6 days/week	Spray system: 15 min./day; 7 days/week Rotor system: 33 min./day; 7 days/week
June	.9 gal./day 7 days/week	18 gal./day 7 days/week	59 gal./day 7 days/week	Spray system: 17 min./day; 7 days/week Rotor system: 38 min./day; 7 days/week
July	.9 gal./day 7 days/week	18 gal./day 7 days/week	59 gal./day 7 days/week	Spray system: 16 min./day; 7 days/week Rotor system: 38 min./day; 7 days/week
August	.9 gal./day 6 days/week	17 gal./day 6 days/week	57 gal./day 6 days/week	Spray system: 15 min./day; 7 days/week Rotor system: 33 min./day; 7 days/week
September	1 gal./day 5 days/week	18 gal./day 5 days/week	63 gal./day 5 days/week	Spray system: 12 min./day; 7 days/week Rotor system: 28 min./day; 7 days/week
October	.9 gal./day 4 days/week	16 gal./day 4 days/week	52 gal./day 4 days/week	Spray system: 9 min./day; 7 days/week Rotor system: 19 min./day; 7 days/week
November	.7 gal./day 3 days/week	14 gal./day 3 days/week	44 gal./day 3 days/week	Spray system: 5 min./day; 7 days/week Rotor system: 13 min./day; 7 days/week
December	.7 gal./day 2 days/week	14 gal./day 2 days/week	42 gal./day 2 days/week	Spray system: 4 min./day; 7 days/week Rotor system: 7 min./day; 7 days/week

How to create a water-efficient landscape

1. Take out a small portion of grass: In the front yard, for example, build a flower bed of water-efficient plants to reduce the amount of area that needs daily watering. In the backyard, consider expanding hardscape areas, such as patios or walking paths, or creating a dry stream bed from stones.

2. Make smart plant choices: When planting flowers, shrubs and trees, select desert-friendly, water-efficient species. Cacti aren't the only choices. There are many desert-friendly options that are colorful and lush, though you may have to visit more than one nursery to find them.

3. Don't drown your landscaping: Buying and planting water-efficient plants with low water needs alone won't make a difference. You have to remember to cut back your water use. Regardless of your landscape type, water times should be adjusted monthly to reflect the weather change. Use the irrigation schedule on the opposite page for recommended watering times. If you suspect you're giving your landscaping more water than it needs, reduce the amount gradually to avoid harming plants.

4. Use separate valves: When you add water-efficient plants or hardscape areas to your landscaping, you should adjust your irrigation system to reflect your new needs. Place sprinklers for water-efficient plants on a separate valve than the grass and program your irrigation system to water the separate valves accordingly. Consider replacing rotary sprinklers with a drip irrigation system for areas with plants but no grass.

Need more information?

• Coachella Valley Water District publishes *Lush & Efficient Gardening in the Coachella Valley,* a 160-page guide to desert landscaping including photos and information on hundreds of water-efficient plants and trees. The district also publishes a number of newsletters and brochures with landscaping and other conservation information.

• In 2006, the district will publish an interactive CD-ROM to help with converting a grass lawn into desert landscaping, designing a beautiful landscape and selecting the perfect plants, shrubs and trees.

• Each November, the district hosts its annual Landscape Workshop with classroom-style instruction for creating and maintaining a desert landscape. Look for sign-up information in your bill.

To obtain copies of these and other district publications, complete the postcard order form inside this book or call the water district's Communication & Legislation staff at (760) 398-2651.

Businesses can conserve by eliminating cooling devices

Some cooling devices are designed to discharge water down the drain in a single pass operation, which is a wasteful practice that also places an unnecessary burden on the district's sanitation system. Because of this, CVWD prohibits this type of discharge.

Examples include, but are not limited to, some types of refrigerators, freezers, ice makers, chillers, air conditioners, heat exchangers, ice cream and yogurt dispensers, pre-coolers and vehicle washers that are designed to discharge water through a constant flow. Water curtains sometimes used in restaurants to cool cooking areas are also prohibited.

Businesses are asked to replace equipment that uses water for cooling with upgraded equipment that uses less water. Coachella Valley businesses that have changed equipment in the past have seen significant water savings and water bills cut in half or more.

The following are additional water-saving tips for businesses:

• When washing dishes, minimize use of the pre-wash sprayer and never let the water run continually from the sink.

• Run the dishwashers only with a full load.

• Use a broom instead of hose to clean patios and porches.

• Emphasize the overall importance of water conservation to all employees. When conservation efforts prove successful, share the information with employees as a reinforcement of their contribution.

Violation of the district's ordinance prohibiting this wasteful water practice can result in a fine, excess sanitation capacity charges and/or discontinuance of service.

Stormwater Protection

In October, John Van Winkle, left, and Jearl Zabalza were among several employees who worked through the night to repair water main breaks near the Salton Sea. A storm caused damage that resulted in a loss of drinkable water for four days.

Stormwater protection is a year-round effort

While the Coachella Valley averages only about three inches of rain annually, regional stormwater protection is a major function of CVWD. Swift flows through the valley from mountain storms used to wreak havoc on valley residents. Today, most of these flows have been channelized and floodwater is carried safely from canyon mouths to the Salton Sea through the Whitewater River and Coachella Valley Stormwater channels and their man-made tributaries.

Two areas of the valley remain relatively unprotected because of the tremendous expense of building facilities and the lack of local funding to finance them.

The district has been working with the Army Corps of Engineers since 1994 to develop flood protection for Thousand Palms. A plan has been generated which calls for construction with the aid of state and federal funding. Approximately $1 million is needed to finish the design phase and another $30.5 million (based on cost estimates generated in 2000) for land acquisition and construction. During the last year, the Corps received approximately $100,000 in federal funds.

Congresswoman Mary Bono (R-Palm Springs) has been working closely with the district in the effort to get needed funds to complete the work, but higher priorities continue to push the project out of federal budgets. When funding becomes available, final design is expected to take a year to complete while construction is expected to take an additional two to three years.

In the meantime, NorthStar Country Club, in cooperation with the district and the Corps of Engineers, has designed and built its golf course to be part of the Thousand Palms flood control project.

The other area still relatively unprotected is Oasis. Construction of flood control facilities for this area remains prohibitively expensive. To help warn residents of the area of flood threats, CVWD, in cooperation with the National Weather Service, maintains a weather radio broadcast for watches and warnings in Spanish and English. The district offers free radio receivers to those who need them in low-income communities.

To help property owners get flood insurance in the Oasis area and to identify risk, the district has been working with the Federal Emergency Management Agency to develop flood insurance rate maps for the area.

While much of the district's stormwater efforts focus on flooding of roads and homes, a storm can cause different types of damage. In October, thunderstorms near the Salton Sea caused a power line to fall and melt through a water line, which was partially exposed due to rain-induced erosion. The result was a water main break that severely limited water pressure and compromised the quality of the drinking water.

Residents in Desert Shores, Salton Sea Beach and Salton City were asked to boil their drinking water for four days while district crews worked through the night to make necessary repairs and perform water quality tests to ensure the water was drinkable.

In the end, the Department of Health Services determined the quality of the drinking water was not compromised. Nonetheless, the incident serves as a reminder for residents to keep a supply of drinking water available for emergencies.

Water Quality

Coachella Valley residents drinking high quality water

At the Coachella Valley Water District, Water Quality staff members make it their top priority to ensure that your drinking water meets all federal and state water quality standards. These highly trained employees collect and test drinking water, review the latest scientific studies on water contaminants and monitor government action to change drinking water standards.

The Coachella Valley Water District is governed by a locally elected board of directors, who normally meet in public session at 9 a.m. on the second and fourth Tuesdays of each month at the district's Coachella office at Avenue 52 & Highway 111.

This annual report documents the extremely high quality of water served to all Coachella Valley Water District's water users.

All domestic water served by the Coachella Valley Water District is obtained locally from wells drilled into the Coachella Valley's vast groundwater basin.

Most water quality testing is performed in the district's state-certified laboratory. A few highly specialized tests are performed by other laboratories.

In addition to the detected constituents listed in the table on the following pages, CVWD's water quality staff monitors for more than 100 other regulated and unregulated chemicals. All of these are below detection levels in CVWD's domestic water.

While all of CVWD's domestic water supply meets current requirements, drinking water supplied to some service areas does contain low levels of arsenic. The standard for arsenic balances the current understanding of the chemical's possible health effects against the costs of removing this naturally occuring element from drinking water. The California Department of Health Services continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations, and is linked to other health effects such as skin damage and circulatory problems.

With respect to the presence of arsenic in drinking water in excess of 10 ug/L but less than 50 ug/L — which is the case for wells supplying the communities of Mecca, Bombay Beach, North Shore, Hot Mineral Spa and Valerie Jean — the state Department of Health Services warns that some people who drink water containing arsenic in excess of the maximum contaminant level (MCL) over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

Radon is a naturally occurring, radioactive gas — a by-product of uranium — that originates underground but is found in the air. Radon moves from the ground into homes primarily through cracks and holes in their foundations. While most radon enters the home through soil, radon from tap water typically is less than two percent of the radon in indoor air.

The federal Environmental Protection Agency (EPA) has determined that breathing radon gas increases an individual's chances of developing lung cancer, and has proposed a maximum contaminant level of 300 picoCuries per liter (pCi/L) for radon in drinking water. This proposed standard is far less than the 4,000 pCi/L in water that is equivalent to the radon level found in outdoor air. The radon level in district wells ranges from 80 to 360 pCi/L, significantly lower than that in the air you breathe.

Nitrate in drinking water at levels above 45 milligrams per liter (mg/L) is a health risk for infants younger than six months old. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in serious illness; symptoms include shortness of breath and blueness of skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Groundwater nitrate is the most closely monitored chemical in drinking water and nitrate levels do not change quickly in the district's deep wells used to supply drinking water. If the nitrate level in a well begins to increase, CVWD increases its monitoring frequency and, if necessary, wells are taken out of service before they become unsafe.

As noted, all drinking water served by CVWD comes from

Continued on next page

"Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/ Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791 or www.epa.gov/safewater."

—California Department of Health Services

Above: Coachella Valley Water District chemist Mike Stenzel, a 14-year employee, tests water using an Atomic Absorption Spectrometer in the water district's state-certified laboratory.

Far left: Trained laboratory technicians, such as Carlos Ceja, a 20-year employee, analyze water samples daily. CVWD analyzes more than 20,000 water samples annually in the district's laboratory and through outside sources to ensure your drinking water meets federal and state standards.

Continued from previous page

wells. The California Department of Heath Services requires water agencies to state, however, "the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity."

"Contaminants that may be present in source water include:

• Microbial contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

• Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

• Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.

• Organic chemical contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.

• Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities."

"In order to ensure that tap water is safe to drink, USEPA and the state Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

"Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800-426-4791)."

The district has conducted source water assessments to provide information about the vulnerability of district wells to contamination. Those results are included here:

Cove Communities

An assessment of the drinking water sources for this water system was completed in November 2005. Water from wells serving this area is considered most vulnerable to the following activities associated with detected contaminants: known contaminant plumes, dry cleaners and irrigated crops.

In addition, water from wells serving this area is considered most vulnerable to the following activities not associated with any detected contaminants: known contaminant plumes, dry cleaners, underground storage tanks-confirmed leaking tanks, high density septic systems, automobile gas stations, historic gas stations, historic waste dumps/landfills, automobile repair shops, illegal activities/unauthorized dumping, sewer collection systems, pesticide/fertilizer/petroleum storage, transfer areas and utility stations' maintenance areas.

The Cove Community water system, consisting of 92 wells, is the district's largest system. It serves the communities of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta and portions of Bermuda Dunes, Cathedral City and Riverside County adjacent to these communities. The drinking water served to these communities complies with all drinking water standards.

Indio Hills, Sky Valley & areas adjacent to Desert Hot Springs

This assessment was completed in December 2002. Water from wells serving this area is considered most vulnerable to activities not associated with any detected contaminants. These are automobile repair shops, illegal activities/unauthorized dumping and low-density septic systems.

All four wells in the system are located in a rural area with a small amount of residential development. Although the possible contaminating activities listed exist, they occur in small numbers. The drinking water served to these communities complies with all drinking water standards.

Valerie Jean

This assessment was completed in October 2003. Water from wells serving this area is considered most vulnerable to high density septic systems, which are not associated with any detected contaminants.

The wells are located in an agricultural area with some small residential areas. The number of septic systems is small. Future development in the area is expected to include centralized sewer collection which will replace existing on-site sewage disposal facilities. The drinking water served to these communities complies with all drinking water standards.

Thermal

This assessment was completed in December 2002. Water from wells serving this area is considered most vulnerable to activities not associated with any detected contaminants. These are airport maintenance and fueling areas, agricultural drainage, illegal activities/unauthorized dumping, low density septic systems and irrigation wells.

The two wells in this system draw from a confined aquifer where the thickness of confining sediments is more than 170 feet. The drinking water served to these communities complies with all drinking water standards.

Desert Shores, Salton Sea Beach & Salton City

This assessment was completed in 2002. No identified activity other than well operations represents a threat to the wells serving this area.

All three wells are located in a remote area surrounded by desert with some agriculture in the outer zones. CVWD owns and maintains the wells. The drinking water served to these communities complies with all drinking water standards.

Mecca, Bombay Beach, North Shore & Hot Mineral Spa

This assessment was completed in December 2002. Water from wells serving this area is considered most vulnerable to activities not associated with any detected contaminants. These are agricultural drainage and sewer collection systems.

These wells are located within agricultural and residential areas and draw from a confined aquifer, where the thickness of confining sediments ranges from 100 feet to more than 400 feet. Drinking water served to these communities complies with all drinking water standards.

To receive a summary of the district's source water assessments, or for additional water quality data or clarification, readers are encouraged to call the district's Water Quality Division at (760) 398-2651.

Complete copies of source water assessments may be viewed at the Coachella Valley Water District office, 85-995 Avenue 52, Coachella, CA 92236.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien. También puede llamar al distrito de agua al número de teléfono (760) 398-2651.

Definitions & Abbreviations

AI or Aggressive Index — This is a measurement of corrosivity. Sources with AI values of 12 or greater are non-corrosive. AI values between 10 and 12 are moderately corrosive and AI values less than 10 are corrosive

AL or Regulatory Action Level — The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow

MCL or Maximum Contaminant Level — The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to public health goals or maximum contaminant level goals as economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water

MCLG or Maximum Contaminant Level Goal — Level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the federal EPA

mg/L — Milligrams per liter (parts per million)

MRDL or Maximum Residual Disinfectant Level — The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap

MRDLG or Maximum Residual Disinfectant Level Goal — The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the U.S. Environmental Protection Agency

N/A — Not applicable

NA — Not analyzed

ND — None detected

ng/L — Nanograms per liter (parts per trillion)

NL or Notification Level — Health based advisory level established by the California Department of Health Services for chemicals in drinking water that lack maximum containment levels (MLCs) as stated by CDHS.

None — The government has not set a Public Health Goal or Maximum Contaminant Level for this substance.

NTU — Nephelometric turbidity units (measurement of suspended material)

pCi/L — picoCuries per liter

PHG or Public Health Goal — Level of a contaminant in drinking water below which there is no known or expected risk to health. Public Health Goals are set by the California Environmental Protection Agency

Primary Drinking Water Standard — Primary maximum contaminant levels and maximum residual disinfectant levels for contaminants that affect health, along with monitoring and reporting requirements

Secondary Drinking Water Standard — Based on aesthetics, these secondary maximum contaminant levels have monitoring and reporting requirements specified in regulations

ug/L—Micrograms per liter (parts per billion)

umhos/cm — Micromhos per centimeter

CVWD 2005 domestic water quality summary

CVWD analyzes more than 20,000 water samples annually to ensure that your drinking water meets state and federal standards. Every year, the district is required to analyze a select number of these samples for more than 100 regulated and unregulated substances. This chart lists those substances that were detected in the district's six service areas. Of these substances, 21 are state and federally regulated and six are not. The data on the chart summarizes results of the most recent monitoring completed between 1997 and 2005 and shows that CVWD continues to deliver high quality water that meets all water quality standards.

To read this chart: First, determine in which of the six service areas you live (columns 4-9). Then move down the column, comparing the detection level of each chemical or other contaminant with the Public Health Goal, Maximum Contaminant Level Goal and Maximum Contaminant Level (columns 2-3). For example, if you live in La Quinta and want to know the level of fluoride detected in your service area, you would look down the Cove Communities column and stop at the fluoride row. The average fluoride level in that service area is 0.6 mg/L with the range of results varying between 0.2 and 1.0 mg/L. Compare these values to the MCL in Column 3. The 2 [mg/L] represents the highest level of fluoride allowed in drinking water. Since the values given for the service area are equal to or below 2 mg/L, the drinking water meets state and federal standards for fluoride.

1 Detected parameter, units	2 PHG or (MCLG)	3 Primary or (secondary) MCL	4 Cove Communities [1] *Range (Average)*	5 Indio Hills, Sky Valley & areas around Desert Hot Springs *Range (Average)*	6 Mecca, Bombay Beach, North Shore & Hot Mineral Spa *Range (Average)*	7 Desert Shores, Salton Sea Beach & Salton City *Range (Average)*	8 Valerie Jean *Range (Average)*	9 Thermal *Range (Average)*	10 Major Source(s)
Arsenic, ug/L	0.004	50	ND-5.0 (ND)	ND	9.6-27 (17)	ND-2.1 (ND)	8.1-16 (12)	2.5-3.5 (3.0)	Erosion of natural deposits
Boron, mg/L [2]	None	NL = 1.0	ND	ND	ND	0.4	ND	ND	Erosion of natural deposits
Chloride, mg/L	None	(500)	6.6-47 (14)	13-21 (16)	7.6-11 (8.9)	200-250 (230)	7.6-11 (9.4)	7.5-17 (12)	Leaching from natural deposits
Chlorine (as Cl_2), mg/L [4]	MRDLG 4.0	MRDL 4.0	ND-1.0 (0.3)	0.07-0.5 (0.4)	ND-0.8 (0.2)	ND-2.2 (0.4)	ND-0.9 (0.4)	ND-1.1 (0.4)	Result of drinking water chlorination
Chromium, ug/L	(100)	50	ND-19 (ND)	13-18 (16)	ND	ND	11-15 (13)	19-22 (20)	Erosion of natural deposits
Chromium VI, ug/L [2]	None	None	1.5-18 (8.1)	9.1-19 (15)	ND-6.7 (2.2)	ND	8.1-18 (13)	21-22 (22)	Erosion of natural deposits
Combined radium, pCi/L	(Zero)	5	ND-2 (ND)	ND	NA	NA	ND	NA	Erosion of natural deposits
Copper, mg/L [3] [homes tested/ sites exceeding AL]	0.17	AL=1.3	0.14 [50/ 0]	0.11 [20/ 0]	ND [20/ 0]	0.19 [13/ 0]	ND [10/ 0]	ND [12/ 0]	Internal corrosion of household plumbing
Copper, mg/L	None	(1.0)	ND-0.08 (ND)	ND	ND	ND	ND	ND	Leaching from natural deposits
Corrosivity, AI	None	(Non-corrosive)	11-13 (12)	12	12	12	12	12	Natural balance of hydrogen, carbon and oxygen
Electrical conductance, umhos/cm	None	(1,600)	230-730 (360)	580-750 (650)	220-250 (240)	1,400-1,500 (1,500)	230-240 (230)	260-300 (280)	Substances that form ions when in water
Fluoride, mg/L	1	2.0	0.2-1.0 (0.6)	0.5-0.8 (0.6)	0.8	0.2-1.4 (1.0)	0.7-0.8 (0.7)	0.6-1.1 (0.9)	Erosion of natural deposits
Gross alpha particle activity, pCi/L	(Zero)	15	ND-15 (ND)	ND-14 (7.8)	ND-3.8 (ND)	ND-7.8 (ND)	ND-4.2 (ND)	ND-9.6 (ND)	Erosion of natural deposits
Haloacetic acids, ug/L [4]	None	60	ND	ND	ND	2.3	ND	ND	By-product of drinking water chlorination
Hardness (as $CaCO_3$), mg/L	None	None	22-310 (120)	120-200 (170)	22-29 (27)	190-240 (220)	15-22 (20)	25-57 (41)	Erosion of natural deposits
Iron, ug/L	None	(300)	ND-110 (ND)	ND	ND-220 (ND)	ND-120 (ND)	ND-190 (ND)	ND	Leaching from natural deposits
Nitrate (as NO_3), mg/L	45	45	ND-32 (7.0)	ND-6.2 (3.8)	ND	5.4-6.2 (5.8)	ND-2.0 (ND)	ND-3.2 (ND)	Leaching of fertilizer, animal wastes or natural deposits
Odor threshold, units	None	(3)	ND-1.0 (ND)	ND	ND	ND-1.0 (ND)	ND	ND	Naturally occurring organic materials
pH, units	None	None	7.2-8.3 (8.0)	7.7-8.0 (7.9)	7.4-8.1 (7.7)	7.7-8.2 (8.0)	7.2-8.7 (7.9)	7.7-8.0 (7.9)	Physical characteristic
Sodium, mg/L	None	None	6.1-56 (27)	58-81 (69)	35-42 (39)	200-230 (220)	40-42 (41)	37-50 (44)	Erosion of natural deposits
Sulfate, mg/L	None	(500)	13-160 (37)	150-210 (170)	28-34 (31)	200-300 (250)	20-24 (22)	28-32 (30)	Leaching from natural deposits
Tetrachloroethylene (PCE), ug/L	0.06	5	ND-1.3 (ND)	ND	ND	ND	ND	ND	Discharge from dry cleaners and auto shops
Total dissolved solids, mg/L	None	(1,000)	140-480 (220)	370-480 (420)	130-140 (130)	800-930 (880)	120-140 (130)	150-170 (160)	Leaching from natural deposits
Total trihalomethanes, ug/L [4]	None	80	0.7-2.8 (1.8)	4.2	3.8	4.9	3	0.5	By-product of drinking water chlorination
Turbidity, NTU	None	(5)	ND-0.7 (ND)	ND	ND-0.5 (ND)	ND	ND-3.5 (1.2)	ND	Leaching from natural deposits
Uranium, pCi/L	0.43	20	ND-12 (3.7)	ND-11 (5.2)	ND-2.6 (ND)	ND-5.2 (2.5)	ND-5.0 (2.5)	3.0-3.1 (3.1)	Erosion of natural deposits
Vanadium, ug/L [2]	None	NL=50	ND-39 (12)	5.8-24 (12)	ND-17(7.2)	15-18 (17)	26-42 (34)	22-25 (24)	Erosion of natural deposits

Footnotes

[1] Includes the communities of Rancho Mirage, Thousand Palms, Palm Desert, Indian Wells, La Quinta and portions of Bermuda Dunes, Cathedral City and Riverside County.

[2] Unregulated contaminants are those for which EPA and the California Department of Health Services have not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist both regulatory agencies in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

[3] Reported values are 90th percentile levels for samples collected from faucets in water user homes. No sample exceeded the regulatory action level.

[4] The reported average represents the highest running annual average based on distribution system monitoring.

Wastewater Collection & Reclamation

Growth dictates expansion & improvement projects

With the valley's constantly growing population many people wonder about water supply and distribution abilities while few remember that CVWD also is a wastewater collection and reclamation agency.

The district's sewer system takes wastewater from more than 91,000 homes and businesses to one of six wastewater reclamation plants. The water is treated and, at three facilities, recycled and sent to golf courses and other irrigation water users.

In Palm Desert, a $12 million sewer improvement project will result in improved sewer capacity to accommodate rapid growth in Palm Desert, Rancho Mirage and part of Cathedral City.

Installation of a 33-inch pipeline began at the district's wastewater reclamation plant on Cook Street and will proceed along 3.5 miles of city streets, starting north on Cook to 42nd Avenue, west to Corporate Way, north to Hovley Lane East, west to Portola Ave., north to Hovley Lane West, west to Monterey Avenue and north on Monterey to Country Club Drive.

To maintain gravity flow of sewage to the wastewater reclamation plant requires excavation of 24 feet in some areas. To keep disruption localized, work is being done in short segments so road cuts can be rapidly refilled. In business areas, work is mostly being done at night. As the work progresses, public meetings and flyers are being used to notify residents and businesses before it enters their areas.

A separate project, completed by the City of Indian Wells during the 2005 calendar year, places the area west of the Tennis Garden, north of Miles Avenue and south of Fred Waring Drive on the district's sewer system.

The Wastewater Reclamation Plant in Thermal is being expanded from its current 5.5 million gallons per day (mgd) capacity to 7 mgd to accommodate anticipated additional flows from new development near the plant.

Currently, most of the recycled water generated in the summer is reused for golf course and green belt irrigation. Unfortunately, during cooler months, when more people are in the valley generating sewage and grass is less thirsty, that reuse figure drops significantly.

As 2006 began, 11 golf courses, four homeowners' associations and a high school were using recycled water for irrigation. Another golf course began taking recycled water and another was awaiting permits from the state Department of Health Services, a process that usually takes about three months.

Negotiations concerning construction of a pipeline to supply recycled water to NorthStar, a new Bob Hope Classic course, were underway and discussions were starting with other golf course managers for possible use of recycled water for irrigation.

The district has created a new management position to help facilitate the district's increased recycled water efforts. The Recycled Water Manager is now the key liaison between the district and recycled water customers.

The wastewater reclamation plant in Thermal is being expanded to keep up with growth in the surrounding area. The plant soon will be able to accept 7 million gallons of wastewater daily.

Wastewater jargon

Recycled water — Water that once was municipal wastewater, put through a tertiary treatment process and is now virtually colorless and odorless. State health officials define this water of high enough quality for human contact, groundwater replenishment and irrigation purposes, but not human consumption.

Tertiary treatment — An advanced, multi-step treatment process that filters out solids, organic materials, chemicals and germs to make the water of high enough quality for human contact and irrigation purposes, but not human consumption.

Wastewater Reclamation Plant — The facility where wastewater is taken and treated. CVWD operates six such facilities.

Del Webb Sun City Palm Desert is one of nearly a dozen golf courses that utilizes recycled wastewater from three of the district's wastewater reclamation plants. The Mid-Valley Pipeline will enable four times as many courses to stop using groundwater for irrigation and to supply water features, such as this lake.

Pipeline will reduce demand on aquifer

The district's most recent project to reduce demand on the groundwater supply is the $70 million Mid-Valley Pipeline project, which will ultimately carry imported water from the Coachella Canal to as many as 50 golf courses in Palm Desert, Rancho Mirage and Indian Wells.

This project is an important part of the district's Water Management Plan and a key component of the overall goal to reverse the overdraft of the aquifer.

The plan is to blend Colorado River water from the Coachella Canal with recycled water at CVWD's wastewater reclamation plant in Palm Desert. The plant already serves recycled water to eight golf courses, but without the Mid-Valley Pipeline project lacks the supply and infrastructure to add more.

All the drinking water in the valley comes from the aquifer, a huge supply of high quality, good tasting water that requires very little treatment to meet all the state and federal drinking standards. Currently, more water is used than the district can put back through natural and artificial recharge, which is a condition referred to as "overdraft."

The district is attempting to eliminate overdraft of the aquifer through conserving water and finding alternate sources of water for non drinking purposes, such as irrigation. This project will do just that by providing up to 50 golf courses currently using groundwater with an alternative source of water.

The project is divided into three construction phases. Design of the first phase is currently underway with construction anticipated to begin in 2007. Phase I consists of constructing a booster station, pipeline and receiving reservoir with the capacity to deliver at least 35,000 acre-feet of water to the wastewater reclamation plant in Palm Desert to serve 12 golf courses, including the existing eight customers. The pipeline will be located adjacent to the Whitewater River and Coachella Valley Stormwater Channels, thereby minimizing any disruption on public streets.

Phase II consists of expanding the pipeline distribution system within the recycled water service area to serve approximately 12 additional golf courses. Phase III consists of constructing an additional booster station and distribution piping to expand the system beyond the recycled water service area. Phase II and Phase III are scheduled for completion at the end of 2008 and 2009, respectively.

The district has solicited input from golf course professionals since the preliminary stages of the project, including forming a task force to make recommendations regarding implementation and funding. Overall, many are supportive of the project, though there are concerns about funding and the quality of the water effecting the aesthetic beauty of the golf courses. District staff is working to minimize these concerns.

While the district is moving forward with the $70 million pipeline project, funding sources are still being evaluated. Staff is researching the possibility of grants, bonds, fees, assessments or a combination of those options before making any recommendations to the board of directors.

Efforts continue to preserve valley's aquifer

The goal is simple: Break even — with as much water going into the aquifer beneath the Coachella Valley each year as is taken out. This ensures future generations of residents, business owners and other consumers will continue to have a reliable supply of water.

Reaching this goal is not simple, especially in an area with continual growth. In 2005, overall consumption of groundwater — almost 385,000 acre-feet — exceeded what was returned to the aquifer.

Coachella Valley Water District — through its *Water Management Plan* — is using a multifaceted approach for reversing groundwater overdraft and creating a balance between the amount of water pumped from the aquifer and the amount returned through natural and artificial means.

Four significant elements of the plan are groundwater replenishment, source substitution, conservation and finding additional supplies of water.

Groundwater replenishment

CVWD has been putting water back into the Upper Whitewater River subbasin of the aquifer since 1973, returning nearly two million acre-feet to groundwater tables.

Water from the Metropolitan Water District of Southern California's pipeline is released into 19 recharge ponds at Windy Point. CVWD and Desert Water Agency (DWA) accept the delivered water from Metropolitan in an equal exchange for their entitlement of State Water Project water, since no facilities exist to transport the northern California water into the valley.

The water seeps through the ponds into the aquifer here through a natural percolation process. Groundwater consumption in this area, called the Upper Whitewater River subbasin, dropped 9.6 percent in 2005, from 211,877 acre-feet to 203,912 acre-feet.

Another area of the aquifer, the Mission Creek Subbasin in the Desert Hot Springs area, has been recharged since 2002. In 2005, more water went into the ground (24,723 acre-feet) than was pumped out (about 16,000 acre-feet).

The third major area of the aquifer served by CVWD is the Lower Whitewater River subbasin, roughly from Washington Street to the Salton Sea. Here, recharge efforts continue at two facilities. Both facilities are in the pilot program stage. In 2005, nearly 4,750 acre-feet of water was recharged at the sites.

Source Substitution

Wherever possible, nonpotable sources of water are being substituted for groundwater. These include recycled and imported water being used for irrigation and groundwater replenishment. In the future, treated agricultural drainage also will be reused for irrigation purposes.

Completion of the Mid-Valley Pipeline project will make a significant contribution toward balancing aquifer out-flows and in-flows by reducing the demand for groundwater by existing golf

Groundwater Replenishment

2005 Calendar year

Natural recharge	
Area of the aquifer	Amount in Acre-feet
Upper basin	28,300
Lower basin	5,200
Total natural recharge	33,500
Imported water recharge	
Facility	Amount in Acre-feet
Whitewater	165,554
Dike 4	3,968
Mission Creek	24,723
Martinez Canyon	775
Total from imported water	195,020
Total recharge	228,520

About the aquifer

Some people imagine an aquifer as a giant lake, but it's really more similar to a giant, saturated sponge. The valley's aquifer is bounded on the east by the San Bernardino and Little San Bernardino Mountains and on the west by the Santa Rosa and San Jacinto Mountains. The trace of the Banning fault on the north side of San Gorgonio Pass forms the upper boundary and the northwest shoreline of the Salton Sea forms the lower boundary. The aquifer is divided into four subbasins based on geographic borders: Mission Creek, Desert Hot Springs, Garnet Hill and Whitewater River (which is the largest and often times divided into a upper and lower portion).

Water jargon

Acre-foot — The amount of water needed to cover one acre of land one foot deep, roughly equal to 326,000 gallons.

Aquifer — An underground layer of rock, sediment or soil that is saturated with water.

Overdraft — The condition that occurs in a groundwater basin when pumping exceeds the amount of replenishment over a long period of time.

Recharge or replenishment — An increase in groundwater storage from precipitation, infiltration from streams or human activity, such as putting surface water into spreading basins.

At the Whitewater Recharge Ponds near Windy Point, imported water is percolated into the aquifer to help replace the groundwater that is taken out, thereby prolonging the life of the aquifer.

courses by as much as 50,000 acre-feet. For more information about the Mid-Valley Pipeline project, see story on page 15.

Conservation

With the population expected to nearly double by 2035 from where it was six years ago, increases in overall water consumption are unavoidable. Reducing demand by homeowners (10 percent by 2010), existing golf courses (5 percent by 2010) and agriculture (7 percent by 2015) can, however, help limit overall new demand to about half the rate of population growth.

CVWD has a long, distinguished history of advocating and participating in conservation. Previously, most efforts have focused on professionals, such as farmers and golf course irrigators. In 2005-06, there was increased focus on reaching individual homeowners and other consumers of domestic water through expanded public education efforts.

Increased Supplies of Imported Water

The Coachella Valley relies on two sources of imported water — the Colorado River and the State Water Project. CVWD's entitlement to Colorado River water is firmly established at 330,000 acre-feet.

Deliveries of this water are extremely reliable. Only once since the Coachella Canal was completed (in 1949) has the federal Bureau of Reclamation been unable to fill CVWD's water order. Recent agreements between the seven states that use Colorado River water seem to offer additional assurances this source will not be jeopardized by situations such as droughts.

Less predictable is the availability of State Water Project water. CVWD and Desert Water Agency (DWA) combined hold the third largest entitlement in California to State Water Project supplies: Currently 171,100 acre-feet (121,100 acre-feet for CVWD and 50,000 acre-feet for DWA) with the purchase of an additional 16,000 acre-feet (12,000 CVWD/4,000 DWA) still being finalized in early 2006. The new State Water Project entitlement is coming from a small water district near Bakersfield.

Deliveries, however, are not guaranteed. In mid-January this year, the state was committed to delivering only 70 percent of State Water Project water (84,770 acre-feet to CVWD and 35,000 acre-feet to DWA). Eventually, though, the state delivered 100 percent of the water.

The condition of levees in the Bay Delta region of Northern California and other factors add to on-going uncertainty about this valuable water source. Regardless of the sometimes uncertainty, CVWD and DWA water officials continue to pursue purchasing additional State Water Project water, as it becomes available.

Increases in these entitlements also have sparked renewed interest in finding a way to bring the water directly into the valley. The district is pursuing a feasibility study into the creation of an aqueduct linking the valley to the State Water Project. The idea of forming a partnership with other water agencies that would benefit from an aqueduct is also being evaluated. Such a project would be an expensive undertaking, but would ensure a reliable and diversified source of water for valley residents. The feasibility study is expected to be completed in 2007.

Financial Statements

Rate Summary

As of July 1, 2006 [1]

Area of service	Monthly charge per 100 cubic feet
Domestic	
Majority of the district, except areas noted below	$0.72
Service Area 26 (includes Sky Valley & Indio Hills)	$0.90
Service Area 23 (includes east Salton Sea areas of North Shore and Bombay Beach)	$1.13
Improvement District 11 (includes Salton City, Desert Beach and Desert shores)	$0.95
Areas outside boundaries of the district or an improvement district, but served by the improvement district	$1.27
Residential Sanitation	
Area of service	Monthly charge per dwelling unit
Service Area 41 (bounded generally by Jackson, Calhoun and Avenues 52 and 56)	$24.30
Improvement District 80 (includes ID 53, 54, 57, Palm Desert Country Club and city of Indian Wells)	$20.00
Improvement District 81 (includes area along I-10 from Thousand Palms to Indio)	$23.00
North Shore Beach	$27.50
Bombay Beach	$27.00
La Quinta and Mecca	$24.30
Irrigation[2]	
Water rate per acre-foot	$18.25
Gate charge per day	$10.50

[1] This table represents water rates proposed for the 2006-07 fiscal year. The water district's board of directors was scheduled to consider the rate structure as part of the 2006-07 budget at a date after printing this document. Call CVWD offices for confirmation of the most up-to-date rates.

[2] These figures represent irrigation rates as of Jan. 1, 2006. Adjustments for 2006-07 had not been proposed as of the printing of this document.

Coachella Valley Water District strives to keep water consumer rates low through fiscal responsibility and sensible financial management policies. In June 2005, the board of directors approved a $129.5 million operating budget for the 2005-06 fiscal year. This represented an 8 percent increase over the previous year's budget

Lupe Young, a 20-year employee, helps a water user pay his bill at the district's Palm Desert office.

Comparative condensed balance sheet

Assets	June 30, 2004	June 30, 2005
Current assets:		
Cash in bank	$4,360,615	$11,699,079
Accounts receivable, inventory & prepaid expenses	12,102,030	18,367,896
	16,462,645	**30,066,975**
Deposits & other assets	**7,879,792**	**9,984,295**
Property, plant & equipment:		
All-American Canal & distribution system (participating equity)	34,874,502	34,874,502
State Water Project (participating equity)	95,460,156	110,206,659
Land, facilities & equipment	745,934,144	804,252,014
	876,268,802	949,333,175
Less accumulated amortization & depreciation	(262,916,696)	(283,657,757)
	613,352,106	665,675,418
Construction work in progress	70,422,055	108,617,603
	683,774,161	**774, 293,021**
Investments & other long-term assets		
Assets restricted for development & other purposes	304,201,983	312,124,830
Notes & contracts receivable unrestricted	500	38,700
	304,202,483	**312,163,530**
Total Assets	**$1,012,319,081**	**1,126,507,821**
Liabilities & equities		
Current liabilities:		
Accounts payable	($1,826,725)	(603,886)
Customers' advances & deposits	18,832,225	17,979,710
Accrued salaries, interest, other expenses & deferrals	9,392,945	9,770,405
	26,398,445	**27,146,229**
Long-term liabilities:		
Notes payable	0	0
Water & sanitation systems acquired	1,482,444	1,370,099
Refunding agreements (construction costs advanced)	80,191	74,668
State Water Project	9,834,982	11,665,680
	11,397,617	13,110,447
Bonds payable & certificates of participation	28,570,000	24,550,000
	39,967,617	**37,660,447**
Total liabilities	66,366,062	64,806,676
[1] Taxpayer' equity in assets	**945,953,019**	**1,061,701,145**
Total liabilities & equities	**1,012,319,081**	**1,126,507,821**

[1] Includes the taxpayers' equity in canal and irrigation distribution facilities, wells and reservoirs, treatment plants and stormwater facilities. This value includes facilities paid for by others and donated to the district. The value has been reduced by any outstanding debt (liabilities).

[2] Majority is groundwater replenishment assessment fees — well owners' proportionate shares of the cost of importing water to replenish the groundwater basin.

[3] Utilization of resources.

Condensed statement of revenues & expenditures

Fiscal year ended June 30, 2005

	Irrigation	Domestic	Sanitation	Stormwater	General	Total
Revenues						
Water sales	$3,874,623	$44,486,323	$0	$0	$0	$48,360,946
Service charges	933,804	2,531,495	21,137,971	0	0	24,603,270
Availability charges	1,053,630	545,804	112,342	0	0	1,711,776
Taxes	482,060	61,156	4,249,285	5,993,833	13,818,591	24,604,925
Interest	99,036	1,537,796	2,026,709	711,804	1,446,095	5,821,440
Other revenues	290,240	157,703	678,075	2,457,435	[2] 15,640,787	19,224,240
Total	**$6,733,393**	**$49,320,277**	**$28,204,382**	**$9,163,072**	**$30,905,473**	**$124,326,597**
Expenditures						
Operation & maintenance	$3,458,616	$23,633,820	$10,771,240	$746,209	$0	$38,609,885
Engineering, admin. & general	6,179,604	26,078,021	8,296,518	3,282,153	19,146,017	62,982,313
Contract & bond payments	3,187	111,740	3,841,538	1,437,103	9,091,893	14,485,461
New construction	716,577	8,436,951	6,622,891	(12,490)	2,667,563	18,431,492
Reserves	(3,624,591)	(8,940,255)	(1,327,805)	3,710,097	0	[3] (10,182,554)
Total	**$6,733,393**	**$49,320,277**	**$28,204,382**	**$9,163,072**	**$30,905,473**	**$124,326,597**

District receives grant to study conservation

The Bureau of Reclamation in 2005 presented the Coachella Valley Water District with a $300,000 grant after commending the district for its cutting-edge approach to agricultural water conservation, including a water management plan with specific goals for saving water.

The "Water 2025: Preventing Crisis In The West" grant funds about one-third of a district program designed to conserve water while researching and documenting with indisputable data the amount of water saved through specific agricultural practices.

To some extent, Coachella Valley's farmland has always served as a sort of agricultural laboratory, with determined growers conducting experiment after experiment in search of lower costs and higher crop yields. The very idea that crops could be grown in this region began as an experiment, more than a century ago, by a handful of risk-taking farmers.

One of the most effective forms of agricultural water conservation — drip irrigation — has been put to the test time and time again in this region, and today there isn't a crop grown that cannot be watered using a drip irrigation system. However, while growers who use drip systems almost unanimously agree that doing so instead of relying upon traditional furrow (flood) irrigation reduces water consumption while increasing crop yields, these farmers cannot cite any specific, documented references to support what they know.

Eleven growers submitted proposals for on-farm irrigation improvements or soil moisture monitoring that will assist in developing such information. Projects include converting 60 acres

Top: Approximately 319 acres of strawberries were grown in the Coachella Valley in 2005, for an estimated value of $5.86 million. Statewide, more than 32,000 acres of strawberries were grown, mostly in the Watsonville, Salinas and Oxnard areas.

Left: Another of the valley's lesser known crops is celery, being grown on approximately 365 acres for an estimated value of $3.37 million.

Approximately 4,325 acres of lettuce were grown in the valley in 2005. Of all the fruits and vegetables grown in the valley, more acreage is only devoted to table grapes, dates, lemon/limes and bell peppers, respectively.

from flood to drip irrigation; converting 600 acres from flood irrigation to sprinklers, expected to save 500 acre-feet a year; building a reservoir to enable irrigation of an area with a drip system previously limited to flood watering because of terrain; converting 55 to 200 acres from ground water to canal water; and converting a nursery from hand to overhead boom watering.

While $300,000 for the project comes from the federal grant, local growers and irrigators have committed to contributing $200,000 in goods and services and district costs are expected to slightly exceed $400,000.

The Bureau of Reclamation competitively awarded 43 grants to agencies in 13 states that have programs promoting the use of new technology for water conservation and efficiency. The water district has an ongoing agriculture conservation program, coordinated by consultant JMLord, Inc., which has helped farmers save nearly 43,000 acre-feet of water from its beginning in June 2003 through June 2005. The district delivered a total of 221,982 acre-feet of canal water in 2005.

The agriculture conservation program provides farmers with classroom instruction and in-field assistance to learn and apply scientifically proven methods for improving irrigation techniques and addressing salinity issues. Where possible, the consultant also helps farmers convert fields still using flood irrigation to more efficient drip and other forms of micro-irrigation.

New technology improves customer service

In 2005, the district replaced the 14 zanjeros' hand-held electronic readers and paperwork with truck-mounted lap top computers. The computers utilize software — designed specially by district computer programmers — that provides immediate access to customer information and the ability to input daily meter readings from the field.

This speedier communication is helping to eliminate delays in requests for water deliveries, processing work orders and responding to emergencies. The technology upgrade is part of a larger attempt by the district to make field employees more efficient and better able to respond to customer needs.

Zanjero Scott McCue, a 12-year employee, processes a work order from the field, rather than waiting until he returns to the office.

2005 Crop Report

Calendar year figures for Coachella Valley land irrigated with Colorado River water

Value of year's production: $576,214,397

Total acreage irrigated (includes double cropping): 48,512

Average gross value per acre: $11,899

Crop	Acreage	Yield in tons	Value per acre	Total value
Fruit	28,991	238,238	$8,327	$241,405,862
Dates	7,306	33,827	9,343	68,262,442
Figs	116	1,253	7,992	927,034
Grapes (table)	10,773	69,594	9,819	105,782,242
Grapefruit	1,257	21,271	9,632	12,107,427
Honeydew melons	77	629	2,521	194,106
Lemons and limes	4,462	48,946	5,717	25,510,608
Mangos	129	70	7,992	1,030,926
Olives	91	983	7,992	727,243
Oranges & tangerines	3,198	30,279	4,853	15,520,843
Peaches	53	156	3,291	174,404
Tomatoes	133	2,435	10,141	1,348.786
Strawberries	319	2,947	18,360	5,856,985
Watermelons	1,077	25,848	4,608	4,962,816
Vegetables	22,838	287,290	$8,601	$196,427,303
Artichokes	639	4,113	8,534	5,453,338
Asparagus	10	183	10,141	101,412
Bell peppers	4,354	72,109	16,634	72,426,050
Bok choy	180	3,295	10,141	1,825,424
Broccoli	1,851	13,063	5,361	9,922,983
Cabbage	42	729	3,449	144,866
Carrots	1,986	42,728	6,893	13,689,986
Cauliflower	870	7,720	5,674	4,936,133
Celery	365	11,628	9,245	3,374,336
Corn (sweet)	1,906	14,166	2,491	4,748,559
Cucumbers	30	549	10,141	304,237
Eggplant	350	3,850	9,350	3,272,500
Green beans	649	3,436	7,764	5,038,953
Lettuce	4,325	47,147	7,975	34,492,617
Okra	282	1,120	5,558	1,567,356
Onions (dry)	267	4,888	10,141	2,707,712
Oriental vegetables	806	2,823	3,419	2,755,656
Potatoes	771	7,440	2,513	1,937,415
Radishes	348	4,298	3,703	1,288,480
Spices	1,287	8,284	10,141	13,051,785
Spinach	1,299	18,550	9,139	11,871,405
Squash	132	924	4,116	543,312
Sugar beets	89	81	10,143	902,788
Forage	1,434	9,881	$707	$1,014,499
Alfalfa hay	966	7,931	788	761,363
Barley	59	122	221	13,016
Sudan hay	389	1,828	611	237,679
Pasture (irrigated)	947	10,701 animal units/ month	122	115,534
Nuts	24	259	$8,001	$192,025
Pecans	24	259	8,001	192,025
Nursery	1,333	—	$28,117	$37,479,961
Fish Farms	990	2,386	$11,616	$11,500,038
Golf Courses	5,624	—	$11,581	$65,132,669
Polo Fields	421	—	$11,520	$4,849,920
Turf Grass	1,581	152,582	$11,520	$18,212,120

All financial figures rounded off to the nearest dollar.

Massive construction project continues

Tour buses are relatively common in portions of the Coachella Valley. Several times during 2005 and 2006, scores of people used this mode of transportation to journey into semi-remote desert areas — far south of the usual tourist attractions — to witness history in the making.

The lining of a waterway such as the Coachella Canal is rare and unlike any other type of construction project. The equipment used is massive in size, some custom-built for this project, or at the very least designed solely to line canals.

Although described as a lining project, what actually is taking place is the construction of a new, 35-mile concrete waterway. It will replace the existing, still-earthen sections of the 122-mile, 57-year-old Coachella Canal.

The purpose of the project is to eliminate seepage of Colorado River water into the ground. After a few thousand acre-feet of conserved water are set aside for environmental and other purposes, a net of about 26,000 acre-feet of water will be available to meet the growing urban needs of Southern California.

The lining of the Coachella Canal — as well as portions of the All-American canal near the border with Mexico — is part of comprehensive efforts to ensure that California lives within its legal entitlement of 4.4 million acre-feet of Colorado River water.

Coachella Valley Water District on average diverts about 330,000 acre-feet of water annually into the canal, which technically belongs to the federal Bureau of Reclamation.

Once the lining project is completed diversions into the Coachella Valley will be reduced and the conserved water delivered for use in San Diego County. Construction is ahead of schedule and now expected to be completed by the end 2006.

The project is budgeted at $85 million and paid by the state of California. Expenses exceeding the budget are primarily the responsibility of the San Diego County Water Authority.

The Authority obtained the rights to water conserved by both lining projects during the negotiations that led to approval of the historic Quantification Settlement Agreement. The agreement has as its foundation the transfer of Colorado River water from agricultural to urban uses. When these transfers reach full implementation, 200,000 acre-feet goes from Imperial Irrigation District to San Diego and more than 100,000 acre-feet sent to Coachella Valley.

The water transferred from Imperial Valley is conserved water, made available through on-farm irrigation system improvements and other efforts. As a result, the total amount of Colorado River water allocated to agricultural irrigation is being reduced from 3.85 million acre-feet to 3.65 million acre-feet in 2006.

While the project lowers the amount of Colorado River water coming into Coachella Valley, overall efficiency is enhanced.

Continued on next page

R&L Brosamer, Inc., is building a new, 35-mile section of concrete lined waterway parallel to the existing Coachella Canal. When complete, the new section will replace the last remaining unlined section of the 122-mile canal.

Continued from previous page

The current work is the third lining project since the canal was built in the late 1940s. The northernmost 37 miles of the canal were lined with concrete when it was built so that the concrete pipes — part of a 500-mile, underground delivery system — could be attached.

In 1980, the federal government funded a lining project similar to current work, with a parallel concrete waterway built on the northernmost 49 miles of the canal. This saved more than 130,000 acre-feet of water annually, which is used by the federal government to ensure water delivered to Mexico as part of a 1944 treaty meets salinity requirements. Those requirements state that water delivered to Mexico cannot be much saltier than water at Imperial Dam, where water is diverted from the river into the All-American canal.

In the 1990s, a process to line part of the canal without removing all of its water was invented and used on 1.5 miles of the canal. It later was determined that the experimental construction method is too expensive and impractical for use in the current project.

The Coachella Canal is a branch of the All-American Canal. That canal will soon be lined in a separate project of Imperial Irrigation District that is also being funded by the state of California. Potential water savings are estimated at nearly 70,000 acre-feet annually.

Right: Workers calibrate the paving machine to ensure it meets its specified tolerances. The paving machine pours the concrete lining onto the dirt canal.

Above: A boom truck changes the longitudinal joint spools on the red paving machine. The green joint jumbo machine follows the paver to smooth the concrete and install expansion joints.

By the Numbers

As of Dec. 31, 2005

General Information

Coachella Valley Water District is a local government agency formed in 1918 by the registered voters within the district. With its formation, it took over an existing stormwater unit formed in 1915.

Governing board: Five directors, elected at-large to four-year terms and representing five divisions

Service area: 639,857 acres; stormwater unit 377,776 acres

Employees: 503

Fields of service: Domestic water supply, treatment and distribution; wastewater collection and treatment; recycled water distribution; regional stormwater/flood protection; irrigation water importation and distribution; irrigation drainage collection; groundwater management and promotion of water conservation.

Property valuation: Property within CVWD boundaries had a total combined assessed value in 2005 of $40,703,747,303 as fixed by Riverside and Imperial County assessors and state officials. This figure is used to determine property tax funding for the district.

Domestic Water

Service information	
Population served	264,869
Active meters	100,028
Average daily demand	108.4 mgd
Total water delivered	125,539 af
System information	
Active wells	107
Total well capacity	247.3 mill. gal.
Distribution reservoirs	72
Storage capacity	127.3 mgd
Distribution piping system	1,966 miles

Irrigation Water

Service information	
Total irrigable acres	78,530
Active accounts	1,110
Total water delivered	221,982 af
Average daily demand	608 af
Maximum daily demand	1,207 af
System information	
Reservoirs	2
Storage capacity	1,301 af
Distribution system:	485 miles
Pumping plants	19
Length of canal	122 miles

Agriculture Drainage

Total on-farm drains	2,298 miles
Acreage with farm drains	37,425
District open drains	21 miles
District pipe drains	166 miles

Stormwater Protection

System information	
Number of stormwater channels	16
Length of Whitewater River/ Coachella Stormwater Channel	49 miles
Length of all regional flood protection facilities	134 miles

Wastewater Collection

Service information	
Population served	242,064
Active accounts	91,345
Average daily flow	18.1 mgd
System information	
Wastewater reclamation plants	6
Total daily capacity	30.6 mgd
Collection piping system	1,076 miles

Recycled Water

Service information	
Active accounts	16
Average daily flow	7.5 mgd
System information	
Wastewater reclamation plants producing recycled water	3
Total daily capacity	17.9 mgd
Distribution piping system	15 miles

Groundwater Management

Recharge facilities	3
Recharge from imported water	195,020 af
Imported supply since 1973	2,020,593 af

mgd = million gallons per day.

af = acre-foot. An acre-foot of water is equal to 325,851 gallons, or enough water to cover one acre of land one foot deep.

Coachella Valley Water District
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