

*Annual Review 2000*  
*Coachella Valley Water District*

- Managing Coachella Valley's waters*
- Water quality issues*
- Reserves, planning for the future*
- Colorado River update*



**LEGEND**

- SOUTHERN PACIFIC RAILROAD
- CITY BOUNDARY
- COUNTY BOUNDARIES
- STATE HIGHWAY
- INTERSTATE
- RESERVOIR

# District service....by the numbers

(as of Dec. 31, 2000)

## General information

**Local government agency formed** — 1918, stormwater unit, 1915.

**Governing board** — 5 directors elected to 4-year terms.

**Fields of service** — Importation and distribution of domestic water; wastewater collection, reclamation and redistribution; regional flood protection; importation and distribution of irrigation water; irrigation drainage collection, groundwater management and water conservation.

**Service area** — 637,634 acres, 375,658 acres in stormwater unit, lying mainly in Riverside County with territory in Imperial County and a small portion of San Diego County.

**Property valuation** — Properties within CVWD had a total combined full value in 1999 of \$22,083,350,400 as fixed by Riverside and Imperial County assessors and state officials in charge of utility properties.

## Irrigation water service

### Colorado River water use in acre feet

Total irrigable area, acres	78,553
Active accounts	1,361
Total sales	280,968
Average daily consumption	769
Maximum daily demand	1,331
Avg. use/crop-acre (multiple crops)	3.78

### System

Reservoirs	2
Storage capacity, acre feet	1,301
Distribution system, miles	485
Pumping plants	20
Canal, miles	122

## Domestic water service

### Water use in gallons

Population served	202,873
Active meter services	81,149
Average <i>home</i> use, per person/day	247
Summer, per person/day	313
Sales, billion gallons	36
Sales, acre feet	110,888

### System

Active wells	85
Reservoirs	63

Storage, million gallons	105
Distribution lines, miles	1,670
Fire hydrants	11,550

## Urban conservation in acre feet

Reclaimed from sewage	13,663
Imported supply since 1973	1,777,610

## Water reclamation (sanitation)

Wastewater reclamation plants	6
Daily capacity, million gallons	28.58
Collector system, miles	945
Active services	69,835
Average population served	174,588
Average daily flow, million gallons	15.8
Annual flow, billion gallons	5.49
Annual flow, acre feet	16,597

## Regional stormwater protection, miles

Whitewater River Channel	24
Coachella Valley Channel	24.5
Eastside Dike	25.5
Detention Channel 1	3.25
Detention Channel 2	2.25
Detention Channel 3	1.75
Westside Dike	4.5
Ave. 64 Evacuation Channel	6.75
La Quinta Evacuation Channel	4.5
Bear Creek Channel	3.5
La Quinta Channel	1.75
Deep Canyon facilities	6
Dead Indian Canyon facilities	2.75
Palm Valley Channel	6
E. Magnesia Canyon Channel	1.75
W. Magnesia Canyon Channel	1.25
Thunderbird Channel	1
Villas Stormwater Channel	.75
Peterson Stormwater Channel	.5
Sky Mountain Channels	1.75
Rancho Mirage Drain system	3
Portola Avenue Drain system	5
North Portola Avenue Storm Drain	1.3

## Agricultural drainage

On-farm lines added, miles	2
Total on-farm drains, miles	2,295
District open drains, miles	21
District pipe drains, miles	166
Acreage with farm drains	37,545

This *Annual Review* of Coachella Valley Water District activities is brought to you, the water users and voters, annually to keep you informed about issues that may affect your water supply.

Quality and quantity remains ample to meet near term requirements but your CVWD personnel con-

can call Steve Robbins, CVWD assistant to the general manager, at (760) 398-2651. The district also has a new video describing the past, present and future of water in the Coachella Valley. Call Dennis Mahr, CVWD communications and legislative director at the same number to arrange a showing.

## Management, quality, funding issues face CV water users

tinue to work to assure that this holds true in the future.

In this issue we bring you up-to-date concerning the multi-year negotiations to protect Coachella Valley's Colorado River supply.

Our long-range plan for managing the valley's water to assure it remains available to meet the needs of future users is also discussed. The water management plan is particularly important. How it is implemented will impact every water user. Because of these impacts, we have established a speaker's bureau to present the plan to groups throughout the valley. Anyone interested in arranging such a presentation

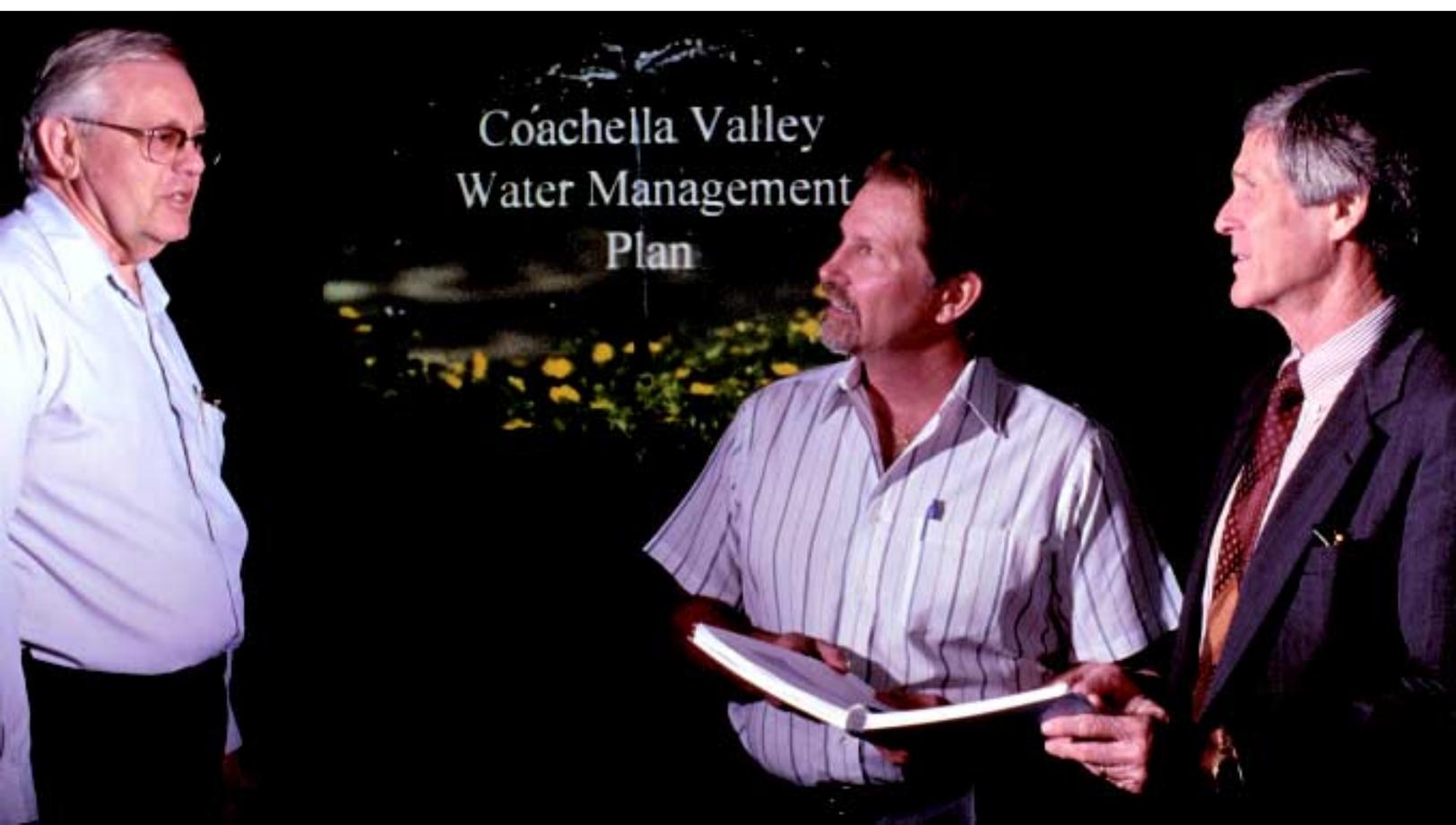
**Presenting the Plan**—From left, Dennis Mahr, communications and legislative director; Steve Robbins, assistant to the general manager; and Gerald Shoaf, CVWD counsel, prepare for a com-

The annual water quality report tells you, as close as technology allows us the measure, exactly what is in the water you are drinking. In addition to the information federal law requires, we discuss some of the chemical constituents in water that have been making headlines during the last year and how they might impact you.

The state Little Hoover Commission was critical last year of public agencies with large financial reserves, Coachella Valley Water District included. Later, commission staff admitted the report was based on errors in their understanding of what reserves are. To clear up some of that confusion, we describe a few of the projects that we're saving your money for.

The nation's crumbling infrastructure is in the news more and more frequently as public agencies, especially cities, struggle to pay for replacement of streets, pipelines and other facilities. We, also, have some

munity presentation concerning the Coachella Valley Water Management Plan which involves the entire valley in working to assure future water availability.



**Inspecting new equipment**—From left, Cliff Larson, trades and support superintendent; Scott Coulson, service department director; and Willie Harris, auto shop supervisor; review the specifications of a new dump truck.

isolated service areas with few users that we are seeking state and federal funding to help improve their systems. For the most part, however, we have been able to set money aside to meet those upgrading needs. What some may call excessive reserves, we see as the fiscal responsibility of holding on to enough of the service users' money to pay for needed facilities replacement.

Some of those reserves were put to good use last August when domestic and stormwater crews worked 40 hours around the clock in 16-hour shifts to restore water service to the west side of the Salton Sea after flash flooding washed out large sections of pipeline.

Finally, since we don't discuss it elsewhere, let me spend a few moments reviewing California's energy crisis and how it affects water. I won't begin to attempt to explain the crisis which is far more complex than can be reported in daily news stories. All indications are that it will be with us at least two years and that its effects are primarily limited to California and to investor-owned utilities within the state. Local government agencies in the power business, such as Imperial Irrigation District in the eastern Coachella Valley, have, for the most part, continued to meet the needs of their users but with price increases.



Most of CVWD's urban water service area, however, is within Southern California Edison service area where rolling blackouts have occurred and are expected to become far more common this summer.

Here, power costs have also soared and, at the rate we are going, may cost \$5 million more for electricity this fiscal year than we budgeted. Those reserves we mentioned earlier can't stand up to that for long. We may have to join many other water utili-

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**Cover photos:** Front and back, Coachella Valley Water District recharge pond west of Palm Springs. Nineteen such ponds trap imported water to allow it to percolate into groundwater supplies. Tops of the dikes are leased by windmill companies for electricity generation. The inside back cover shows the valley's largest crop—table grapes.



**Connecting new well**—From right, Tom Levy, general manager-chief engineer listens to crew chief Lloyd Segroves explain the actions of construction and maintenance workers Chad Austin and Ernie Lagpacan as they connect a new well to the district's system.

ties in the state by increasing rates or placing a power surcharge on the water used.

As contractors for State Water Project water, the people we serve may get hit with a double whammy. Most of the funding for the California Department of Water Resources comes from State Water Project water users. Operation of the State Water Project has been the bulk of the department's responsibilities. This took a back seat to energy when the governor placed the department in charge of bailing the state out of the energy crisis. Unfortunately, the first money it used in this effort was the State Water Project funds. Money also earmarked for special projects such as the lining of the remainder of the Coachella Canal also disappeared early. Several pieces of legislation have been introduced to get that money back from state coffers but there is also talk of a supplemental billing of contractors to recover the money needed for water facility operation and maintenance.

Now that you've been warned that the energy crisis may increase your water and sewer bills, let me leave you with a few positives.

While we have attempted to get water agencies exempted from planned rolling blackouts, the Public Utilities Commission has so far rejected that effort. It has agreed that fire departments are exempt because of the emergency nature of their business but we have argued unsuccessfully that firemen need water in their fire hydrants more than they need electricity.

Perhaps one reason we've failed in this effort is because we have a reputation for planning for emergencies.

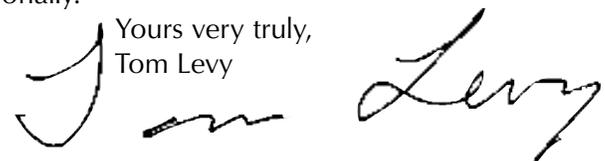
In most cases, your domestic water is pumped from wells on the valley floor to storage reservoirs hidden in the surrounding hills. These elevated storage tanks allow us to deliver water by gravity flow during short power outages.

Also, the Y2K concerns that fizzled on New Year's Day 2000 prompted us to buy additional backup generators in case of power outages. These trailer mounted units supplement permanent standby generators located at crucial sites. While standby generators aren't as dependable as a blackout exemption would be, they do offer some security that water will continue to be available during most of the time commercial electricity is not.

Remember, you, the water user, taxpayer and voter, have the opportunity to influence decisions concerning your water supply at the polls and at Coachella Valley Water District board of directors meetings. These meetings are normally held at 9 a.m. on the second and fourth Tuesdays of each month at district headquarters, Highway 111 and Avenue 52, Coachella.

To keep up-to-date on these water issues, may we suggest that you check our web site ([www.cvwd.org](http://www.cvwd.org)) occasionally.

Yours very truly,  
Tom Levy



General Manager-Chief Engineer

For much of the last decade Colorado River contractors within California have been negotiating to extend their supplies while reducing the state's overall demand on the river. Key negotiators have been Coachella Valley Water District, Imperial Irrigation District, Metropolitan Water District of Southern California, California Department of Water Resources and

## Colorado River water use negotiations continue

the U.S. Department of the Interior. San Diego County Water Authority has also participated to the extent that success of the negotiations is vital to its agreement with Imperial for the transfer of some IID conserved water to San Diego.

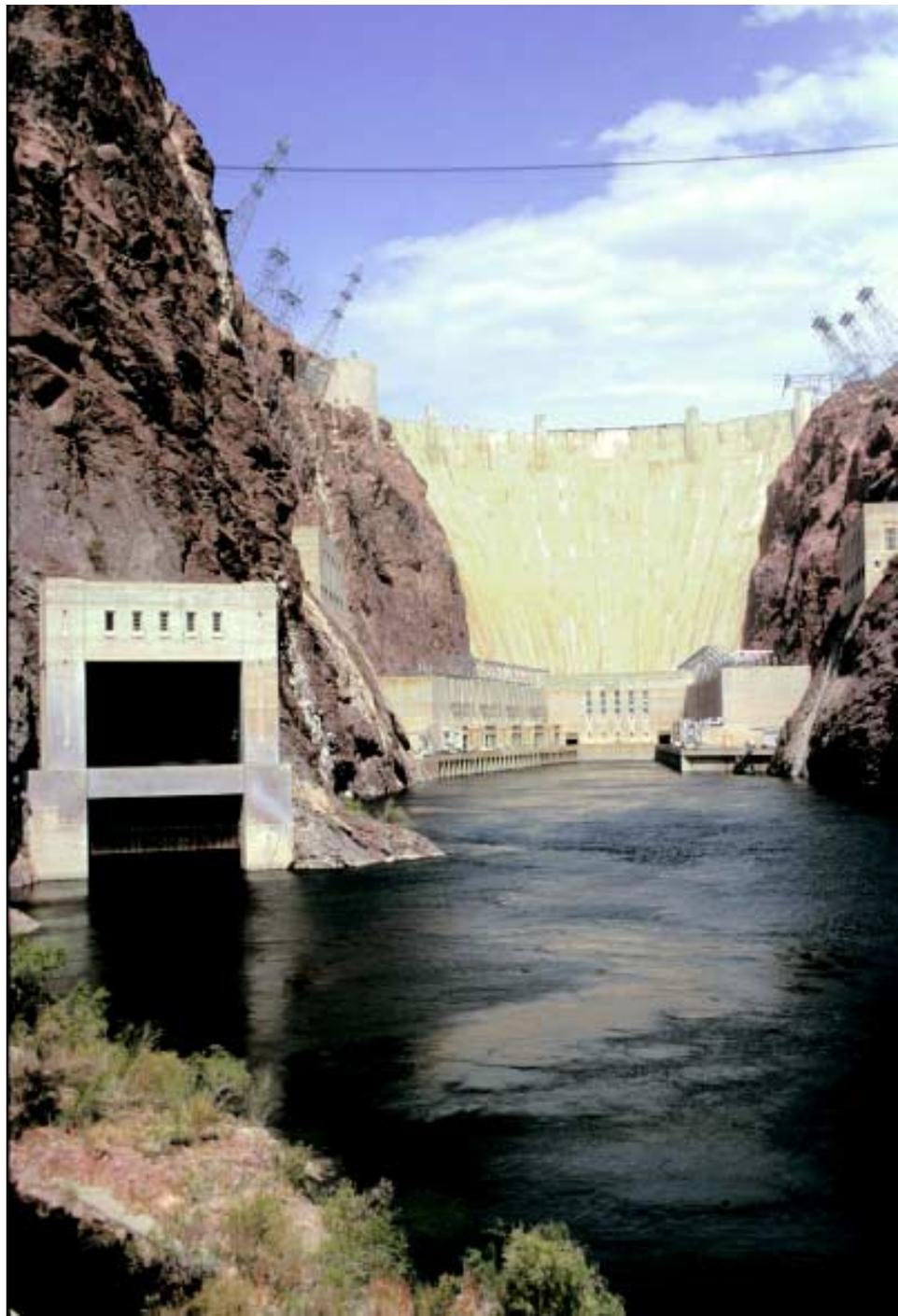
Last year it was reported here that California's internal Colorado River battle had been settled. Key terms of a quantification settlement agreement had been approved in December 1999 and only adoption of legal language and environmental documentation remained. By December 2000 the quantification settlement agreement had been posted on the web sites of the key agencies along with three agreements for acquisition of conserved water between Imperial, Coachella and Metropolitan and an implementation agreement with the United States.

Still, negotiations continue. These are the first of a cascading set of 38 separate agreements, some involving all parties and some involving just two. Each deals with issues aimed at protecting the interests of water users served by the negotiating agencies.

Four of the agreements must be signed by the Secretary of the Interior but that can't occur until an ongoing environmental impact process is complete—targeted for next December.

Meanwhile, frequent negotiations continue in a process which CVWD negotiators describe as about 75 percent complete. As blocks of these 38 agreements are ironed out they will be made public and posted on the agencies' web sites—[www.cvwd.org](http://www.cvwd.org) for Coachella.

As a result of the success of the negotiations so far, former Secretary of the Interior Bruce Babbitt, just before leaving office in January, approved granting California additional Colorado River water to meet urban needs until 2015 when California is expected to cut its use from an historic average of about 5.3 million acre-feet annually down to its basic entitlement of 4.4 million acre-feet.



**Storing the flow**—Hoover Dam holds back Lake Mead, major storage facility on the Colorado River.

The condensed statement of revenues and expenditures following this article shows about \$28.9 million going into reserves at the end of the 1999-2000 fiscal year.

It's always nice to have a little cushion for emergencies but, as of the end of December, Coachella

## CVWD reserves funds for hundreds of projects

Valley Water District had set aside \$217 million. This doesn't constitute hoarding. Instead, it represents the fiscal responsibility and planning necessary to meet future needs.

Approximately \$40 million of that is in that cushion for emergencies and unpredictable expenses—\$5 million for emergency repairs, \$21 million for purchase of additional imported water supplies as they become available, \$6 million to repair flood damage, \$1 million to fight floods, \$5 million to cover self insurance costs and \$1 million for miscellaneous emergency-type issues.

**Budget review**—Bernardine Sutton, district secretary, and Rick Dickhaut, finance director, check budget figures. In addition to an operation and maintenance budget, each year the CVWD Board

The remainder, \$178 million, is earmarked for specific identified projects in the cost centers where it was generated.

For funding purposes, the district is, in fact, several districts. Money collected for water service in Thousand Palms is spent in that service area. It can't be used for water service in Salton City, sewer service in La Quinta, irrigation in Mecca or flood control in Indio.

Often, the district has to save reserves generated in a specific cost center for several years before enough is available to complete major improvements.

Each year the CVWD Board of Directors reviews staff recommendations for capital projects and adopts a five-year plan identifying and prioritizing needed work as funds become available.

With the exception of a few isolated service areas where the costs are too great and the users too few to generate reserves, this advance planning and saving goes a long way toward eliminating the problem of deteriorating infrastructure plaguing much of the country today.

An example of the district's capital improvement program at work shows \$11.5 million in the irrigation

of Directors adopts a five-year capital improvement program where money is earmarked for major projects as saved funds become available to pay for them.





*Using reserves—This crew works through the night using reserve funds to make emergency repairs to restore domestic water to the Salton Sea area.*

*Another aspect of reserve funds is in place as the district saves until enough money is available to make needed improvements in the area.*

**Discuss installation—** From left, Ken Boyd, operations superintendent; and Al Guitron, domestic superintendent—both recently retired—review a job with David Woods, construction and maintenance worker; Javier Miranda, domestic construction superintendent; Mike Seems, current domestic superintendent; and Fernando Martinez, construction and maintenance worker.



cost center at the beginning of the 1999-2000 fiscal year, \$1.2 million revenue added during 1999-2000, \$2.3 million spent on capital improvement projects and a half million added during the 2000-01 fiscal year, leaving \$11 million to start the 2001-02 year. The total five-year plan for irrigation shows projects totaling \$12 million more than currently available.

Domestic water is divided into four cost centers, each physically and financially isolated from the other. The capital improvement plan for the cost center serving the west side of the Salton Sea shows \$4.7 million still needed to complete the \$5.8 million worth of projects in the five-year plan. Not included in this plan is the need to move the well field serving the area. That kind of money just isn't available so a grant is being sought. For the cost center serving the east side of the Salton Sea, \$1.5 million worth of projects are in the five-year plan and nearly \$1 million still must be generated to pay for them. The cost center serving the Indio Hills area along Dillon Road currently has projects totaling \$4.3 million in the five-year plan and only \$1 million reserved so far for their construction. The major cost center for domestic water service to the rest of the district currently has \$30.3 million earmarked toward \$85.1 million worth of projects in the five-year plan.

In the district's stormwater unit a \$15 million land sale in 2000 helped boost reserves toward the \$28.5 million in projects in the five-year plan.

In the general district cost center programs primarily associated with the water management program total \$74.5 million during the next five years and all reserves have been used to obtain additional water supplies.

Sanitation is divided into three cost centers. The one serving the cove communities includes \$69.9 million in the five-year plan, \$46 million more than currently available. The cost center for the Thousand Palms-Sun City area has \$10.5 million earmarked for projects in the five-year plan, \$6.9 million more than currently available. Sanitation service for La Quinta, Thermal, Mecca and the east side of the Salton Sea shows \$23.1 million worth of improvements in the next five years, \$13.1 million more than currently available.

Continuing to provide domestic, irrigation, sanitation and flood control services to some 300,000 people over a 1,000-square-mile area requires constant savings for anticipated needs.

# Comparative condensed balance sheet

Assets	June 30, 1999	June 30, 2000
<b>Current assets</b>		
Cash in bank .....	\$ 1,943,995 .....	\$2,665,689
Accounts receivable, inventory & prepaid expenses .....	15,699,657 .....	14,732,648
	<b>17,643,652</b>	<b>17,398,337</b>
<b>Deposits &amp; other assets</b> .....	<b>6,630,270</b> .....	<b>3,872,287</b>
<b>Property, plant &amp; equipment</b>		
All American Canal & distribution system (participating equity) .....	\$ 34,874,502 .....	\$ 34,874,502
State Water Plan (participating equity) .....	66,259,970 .....	74,505,793
Land, facilities and equipment .....	<u>577,634,253</u> .....	<u>602,075,579</u>
	678,768,725	711,455,874
Less accumulated amortization & depreciation .....	<u>(148,528,099.)</u> .....	<u>(160,763,907)</u>
	530,240,626	550,691,967
Construction work in progress .....	<u>32,937,121</u> .....	<u>35,676,804</u>
	<b>563,177,747</b>	<b>586,368,771</b>
<b>Investments &amp; other long-term assets</b>		
Assets restricted for development & other purposes .....	\$168,658,526 .....	\$224,937,274
Notes & contracts receivable unrestricted .....	<u>111,145</u> .....	<u>72,741</u>
	<b>168,769,671</b>	<b>225,010,015</b>
<b>Total assets</b> .....	<b>\$756,221,340</b> .....	<b>\$832,649,410</b>
<b>Liabilities &amp; equities</b>		
<b>Current liabilities</b>		
Accounts payable .....	\$ 6,783,151 .....	\$ 5,700,735
Customers' advances & deposits .....	13,588,857 .....	15,279,530
Accrued salaries, interest, other expenses, & deferrals .....	<u>14,993,453</u> .....	<u>18,044,783</u>
	35,365,461	39,025,048
<b>Long-term liabilities</b>		
Notes payable .....	\$ 0 .....	\$ 0
Water & sanitation systems acquired .....	3,496,431 .....	2,340,216
Refunding agreements (construction costs advanced) .....	121,851 .....	113,030
State Water Plan .....	<u>7,886,305</u> .....	<u>10,816,896</u>
	11,504,587	13,270,142
Bonds payable and certificates of participation .....	<u>45,250,000</u> .....	<u>42,810,000</u>
	<u>56,754,587</u>	<u>56,080,142</u>
<b>Total liabilities</b> .....	<b>92,120,048</b> .....	<b>95,105,190</b>
<b>Taxpayers' equity in assets*</b> .....	<b>664,101,292</b> .....	<b>737,544,220</b>
<b>Total liabilities and taxpayer equity</b> .....	<b>\$756,221,340</b> .....	<b>\$832,649,410</b>

\*Includes the taxpayers' equity in canal and irrigation distribution facilities, pipelines, 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).

## Condensed statement of revenues & expenditures

	Fiscal year ended June 30, 2000					
	Irrigation	Domestic	Sanitation	Stormwater	General	Total
<b>Revenues</b>						
Water sales .....	\$4,179,310 .....	\$35,200,455 .....	\$ 0 .....	\$ 0 .....	\$ 0 .....	\$39,379,765
Service charges .....	1,082,682 .....	2,024,525 .....	12,404,879 .....	0 .....	0 .....	15,512,086
Availability charges .....	975,782 .....	775,540 .....	155,079 .....	0 .....	0 .....	1,906,401
Taxes .....	468,465 .....	102,369 .....	5,214,476 .....	5,805,011 .....	9,430,994 .....	21,021,315
Interest .....	702,159 .....	3,546,754 .....	3,359,897 .....	1,200,405 .....	2,090,329 .....	10,899,544
Other revenues .....	<u>51,117</u> .....	<u>226,919</u> .....	<u>596,256</u> .....	<u>16,188,954</u> <sup>(1)</sup> .....	<u>9,049,707</u> <sup>(2)</sup> .....	<u>26,112,952</u>
<b>Total revenues</b> .....	<b>\$7,459,515</b> .....	<b>\$41,876,562</b> .....	<b>\$21,730,587</b> .....	<b>\$23,194,370</b> .....	<b>\$20,571,030</b> .....	<b>\$114,832,064</b>
<b>Expenditures</b>						
Operation & maintenance .....	\$2,432,461 .....	\$16,355,611 .....	\$ 6,943,938 .....	\$ 805,054 .....	\$ 0 .....	\$26,537,064
Engineering, administration & general .....	2,995,318 .....	10,591,313 .....	4,504,731 .....	3,118,055 .....	8,955,160 .....	30,164,577
Contract & bond payments .....	0 .....	176,773 .....	2,644,193 .....	1,112,625 .....	13,355,419 <sup>(3)</sup> .....	17,289,010
New construction .....	570,967 .....	5,932,171 .....	4,588,298 .....	77,246 .....	817,195 .....	11,985,877
Reserves .....	<u>1,460,769</u> .....	<u>8,820,694</u> .....	<u>3,049,427</u> .....	<u>18,081,390</u> <sup>(1)</sup> .....	<u>(2,556,744)</u> <sup>(3)</sup> .....	<u>28,855,535</u>
<b>Total expenditures</b> .....	<b>\$7,459,515</b> .....	<b>\$41,876,562</b> .....	<b>\$21,730,587</b> .....	<b>\$23,194,370</b> .....	<b>\$20,571,030</b> .....	<b>\$114,832,064</b>

<sup>(1)</sup>Approximately \$15 million received from a one time land sale. <sup>(2)</sup>Most is groundwater replenishment assessment fees—well owners' proportionate shares of the cost of importing water to replenish the groundwater basin. <sup>(3)</sup>Purchase of 27,380 acre feet of additional State Water Project water received in fiscal year 1999-2000 funded from reserves.



**Slope protection**—From left, Jim Kreizinger inspector, reviews a Whitewater Stormwater Channel slope protection project with Dan Parks, director

of engineering, Dan Farris, assistant director of engineering; and John Burrow, claims and purchasing supervisor.

Efforts to bring flood protection to Thousand Palms began in 1964 with a CVWD funded study by Bechtel Engineering. Protecting Thousand Palms, Bechtel engineers said, would have cost \$8.5 million and was considered too expensive. In 1977 tropical storm Doreen hit the area causing widespread

miles in length and range from 7 to 18 feet in height. They will collect runoff and sediment flowing from the Indio Hills and outlet onto the 700-acre floodway. This sediment will then be available for windblown transport to the adjacent Coachella Valley Fringe Toed Lizard Preserve. A levee also will convey flow

along the southern boundary of the preserve to existing flood control structures downstream.

While the project protects a much smaller area from that in the original

plans, CVWD had been confronted with a stark choice—reduce the protected area or face opposition from the US Fish and Wildlife Service that would kill all federal financing. Even without federal money, opposition from the agency would probably stop the project.

The approved project costs will have 65 percent (\$18.8 million) picked up by the federal government and 35 percent (\$10.1 million) funded locally. Financed at 7 percent over 20 years, the local cost would be \$340 per acre, per year.

However, there are other potential funding sources to help cover the local share. These funding sources could reduce the local share to \$3.05 million, which financed at 7 percent over 20 years, would reduce the local cost to \$103 per acre, per year. This is less than the annual cost of flood insurance.

Estimates are that the entire project will be completed in five years with a portion of the total funding made available each year.

## Stormwater protection comes closer for Thousand Palms area residents

damage. So, in the late 1970s, another Bechtel design raised the flood protection ante to \$70 million and another in 1989 which addressed the existence of the Fringe Toed Lizard Preserve and brought the projected cost to \$170 million.

Thousand Palms is subject to alluvial fan flooding from rainfall falling on and around the Indio Hills and Little San Bernardino Mountains north of the Thousand Palms area. The Federal Emergency Management Agency has mapped the project area with flood depths ranging from one to three feet.

Finally, thanks to the work of Congresswoman Mary Bono, during 2000 President Clinton signed the Water Resources Development Act of 2000 in late December, which fully authorized the Whitewater River Basin project. This \$28.9 million US Army Corps of Engineers project will protect 2,800 acres of Thousand Palms land from flooding, most of the development in the area.

The project will consist of four levees and the purchase of a 700-acre floodway. The levees total 8.1

State of the art wastewater treatment facilities at the Palm Desert Regional Water Reclamation Plant on Cook Street will undergo an upgrade in its tertiary

## Water reclamation facilities expand with growing population

treatment facility. Tertiary treatment, or three-stage treatment, puts treated sewage through a filtration process that results in clear water that nearly meets drinking water standards.

The upgrade will add filtration equipment allowing the existing equipment to shut down for maintenance without interrupting the delivery of the treated water for golf course and greenbelt irrigation. Disinfection in a chlorine contact chamber is the final step in the treatment process and a chlorine tank, able to handle 10 million gallons a day (mgd). This doubles the chlorine treatment ability of the plant. The project also puts into service a 5-million gallon recycled water reservoir, a pump station and two pump systems.

In order to accommodate the cove communities, steady demand on sewer service, the district has completed plans to increase the Palm Desert regional wastewater reclamation plant's capacity to handle the treatment of biosolids.

A facility, which separates solids from water and sends them to other equipment that completely dewater

them, neared the engineering phase as 2000 drew to a close. The Palm Desert plant's existing solids equipment regularly experiences its maximum capacity flows generated during the area's tourist season. This two-part project will increase the Palm Desert's plant sludge handling capacity from the existing 14 million gallons per day (mgd) to 18 mgd.

The first component was completed in January 2001. It consists of a force main linking the Palm Desert plant with CVWD's mid-valley plant in Thermal. The mid-valley plant would handle sludge from Palm Desert if existing facilities there could not handle the load.

Thermal residents disbanded their tiny sanitation district three years ago. Under an agreement with the City of Coachella, Thermal sewage was sent to that city's facility for three years before it would come to CVWD. To handle the new load, the district has built a force main, which began in November carrying Thermal flows to the mid-valley plant for reclamation.

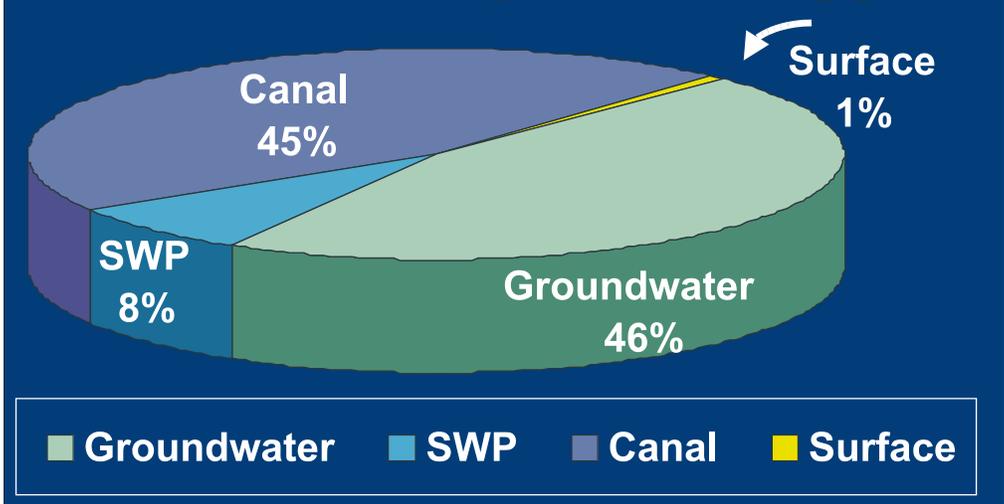
CVWD's other tertiary reclamation plant, an upgraded facility near Sun City, went into service in 1997. The plant can handle 2.5 mgd and consists of secondary, tertiary filtration and biosolids handling facilities. Flows are steadily increasing because of Del Webb and other developments and, as the year ended, plans were being finalized to double the plant's total reclamation capacity by adding a new 2.5-mgd aeration secondary treatment basin.

**Reviewing plant operations**—from left, Leon Holiday, sanitation superintendent; Duane Godier, wastewater reclamation supervisor; and Heidi

Keeran, human resources director, discuss operations of a CVWD facility reclaiming water for golf course irrigation.



# Coachella Valley Water Supplies



They watched groundwater levels drop as the valley developed into a winter residential and recreational area for the world and they saw those declines greatly reduced as imported water began supplementing natural flows in the White-water River and percolated into the ground.

Implementation of microirrigation techniques and computerized water management programs by farmers and urban irrigators together with aggressive reclamation and reuse of wastewater, computerized management of distribution systems and use of other cutting edge conservation techniques have attracted engineers from throughout the world to study Coachella Valley facilities.

For a century Coachella Valley residents have understood the need to manage limited water supplies

## Managing water for our future —it's time to tweak the system

wisely to protect their lands for future generations.

Professional water users — primarily farmers at first but later golf course managers and urban developers — recognized the need to monitor, protect and supplement groundwater supplies.

They watched wells drop as Coachella crops began to feed the world and recover after they worked 30 years to bring Colorado River water to the area.

More important — these actions have allowed the valley's water supplies to meet growth resulting from city and county planning decisions.

To assure that we continue to meet those demands without causing significant environmental damage we must periodically adjust water management actions. The proposed Coachella Valley Water Management Plan consists of many small to modest tweaks to improve conservation and increase importation to get us through the next 35 years while we plan for changes that may be necessary then.

Are we running out of water?

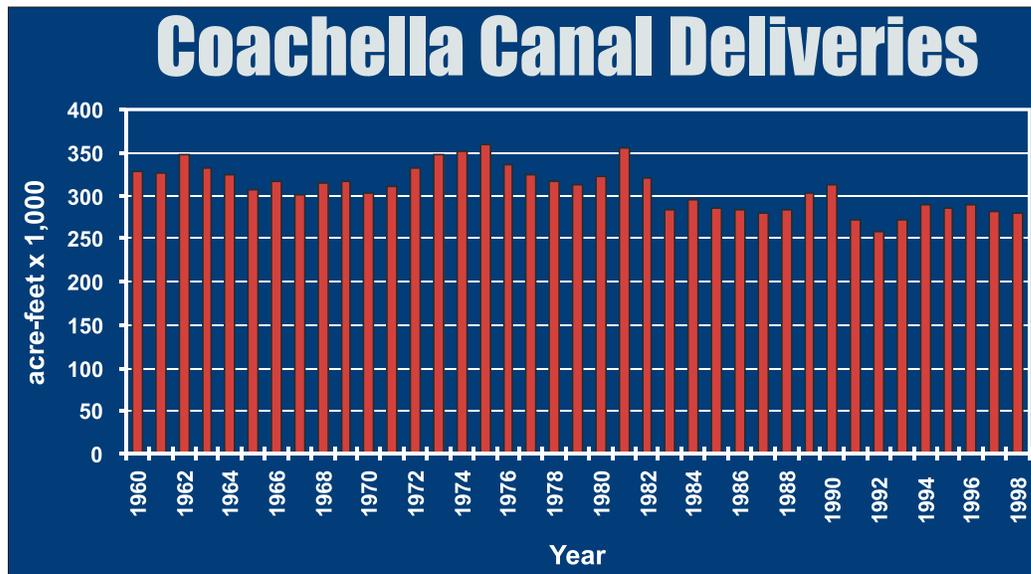
### Defining water jargon

**Overdraft:** Groundwater extraction in excess of inflow to the groundwater basin over a period of time.

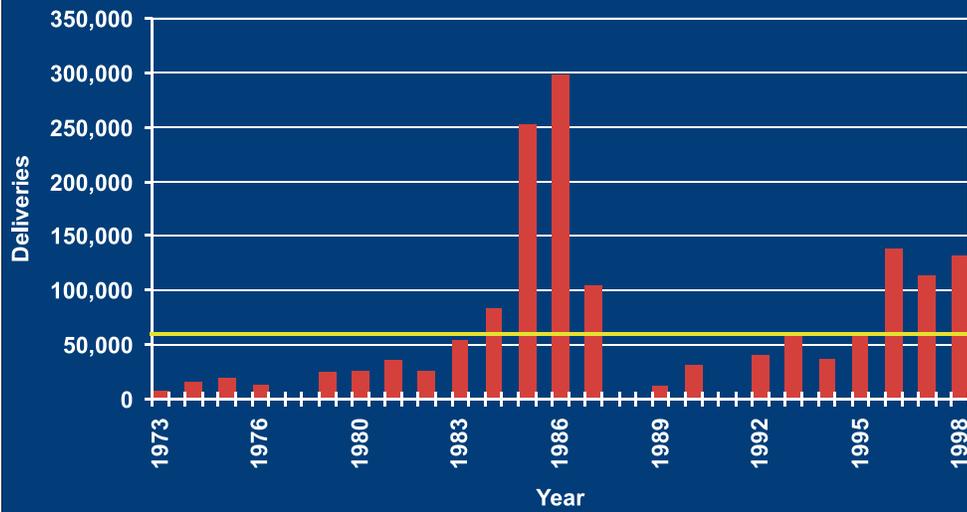
**Acre-foot:** Volume of water if one acre of land was covered with one foot of water — 325,000 gallons.

**Upper valley:** Area westerly of Washington Street.

**Lower valley:** Area easterly of Washington Street.



# State Water Project Deliveries



entire valley for the next 35 years. At that point, future water leaders can be expected to again tweak the system to account for new technology, development trends and supply availability then.

This plan will reverse today's declining groundwater levels. The current reduction in groundwater storage brings with it the threats of decreasing water quality, land subsidence and increased costs.

Coachella Valley Water District began development of this plan in 1993 by contracting with a team at the Uni-

versity of California at Davis for development of a computerized groundwater model that would develop detailed information of future water needs based on the history of water use and availability. This model was completed in 1998.

Actual formulation of the plan and environmental review process began in 1994. Nearly complete in 1999, the plan and environmental impact report were revised to conform with projected water availability after broad points of negotiations concerning Colorado River use were completed.

Charts show current water sources. Note that the Coachella Canal delivers an average of nearly 300,000 acre-feet annually to the lower valley while the valley's State Water Project entitlement (yellow line) is a little more than 60,000 acre-feet. Major changes in State

Without a management plan, we will but the time frame is measured in centuries. There is no question, however, that environmental damage will occur long before we go thirsty.

Are major California cities running out of water?

Not if they keep their imported water pipelines flowing. If their pipelines fail, their water supply is limited to days—not centuries. They have no on-site storage to match Coachella Valley's aquifer.

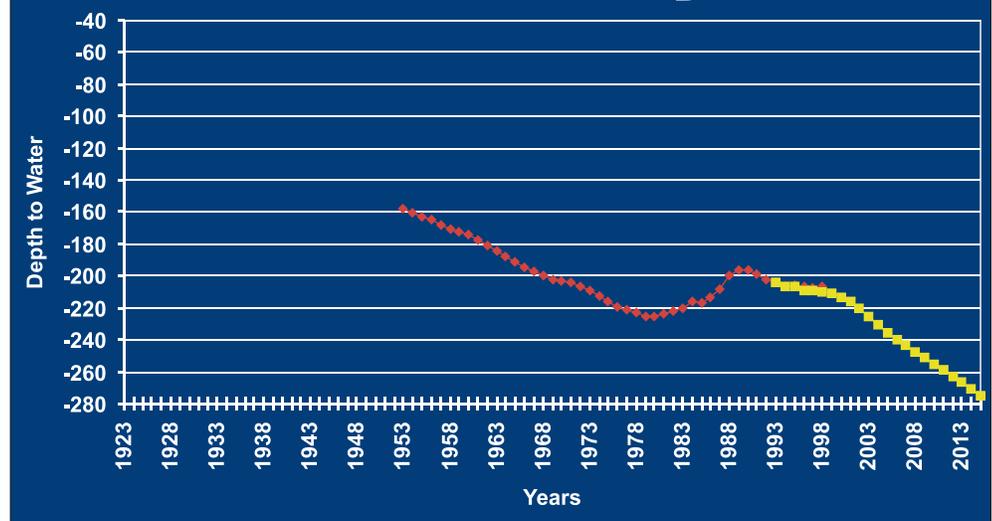
We have always had to aggressively manage the valley's limited water supplies but the storage capacity of our aquifer has granted us the luxury of time to plan and develop new and improved sources, the basics of which are conservation, reuse and importation.

## What does the plan do?

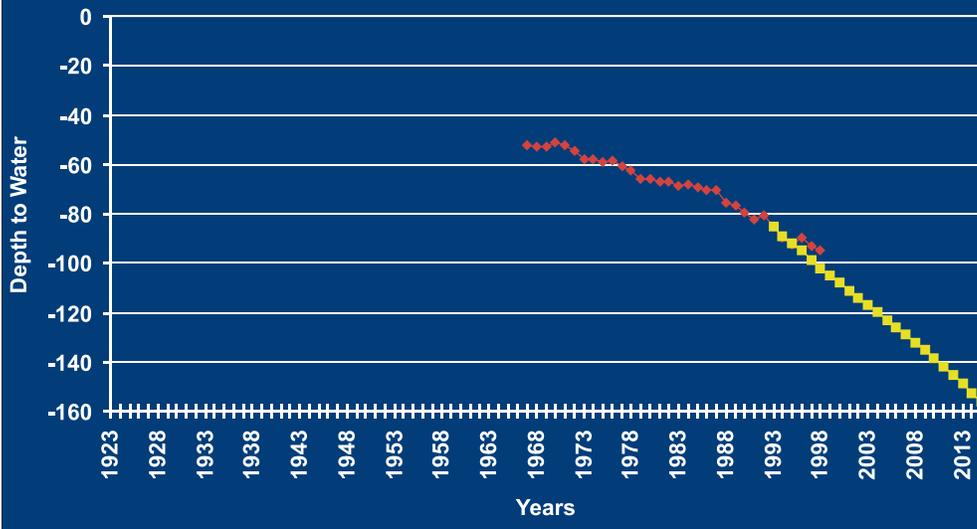
In 1999, Coachella Valley suffered an overdraft of 136,000 acre-feet of water—32,000 from the upper valley and 104,000 from the lower valley. Generally speaking, an acre of developed desert land—in houses, agriculture, golf courses or lakes—requires about 6 acre-feet of water per year. It was this overdraft trend that led, several years earlier, to work on a new water management plan.

The proposed Coachella Valley Water Management Plan provides a comprehensive framework that assures adequate quantities of safe, high quality water for the

# Cathedral City



# Bermuda Dunes



tive of the environmental review process.

The **pumping restrictions** alternative would require court-ordered restrictions on groundwater extraction—reducing water extraction to balance water replenishment. To accomplish this it is estimated well owners in the upper valley would have to reduce their use by about 35 percent while well users in the lower valley would be cut back by 70 percent.

The **demand management** alternative would keep imported supplies near current levels and require extensive expansion of conservation and reuse.

The **combination** alternative includes three basic water management elements: conservation, source substitution (replacing use of groundwater with use of canal water, for instance) and groundwater recharge.

The groundwater model was developed to provide a scientific basis for understanding impacts of the management plan alternatives on the groundwater basin.

## What alternative is preferred?

The combination alternative does the best job of meeting current and future water needs with the least impact to environment and the water user’s quality of life and pocketbook.

Water Project deliveries from year to year reflect an exchange agreement with Metropolitan Water District. It allows delivery to the Coachella Valley groundwater basin of excess flows during wet years and little or no water during dry years when all surface water is needed on the coastal plain. Then Coachella Valley relies on the “banked” groundwater delivered in wet years.

Accompanying charts show groundwater decline in selected wells throughout the valley. Red shows actual decline. Projected continuation of that decline—if the water management plan is not implemented—is in yellow.

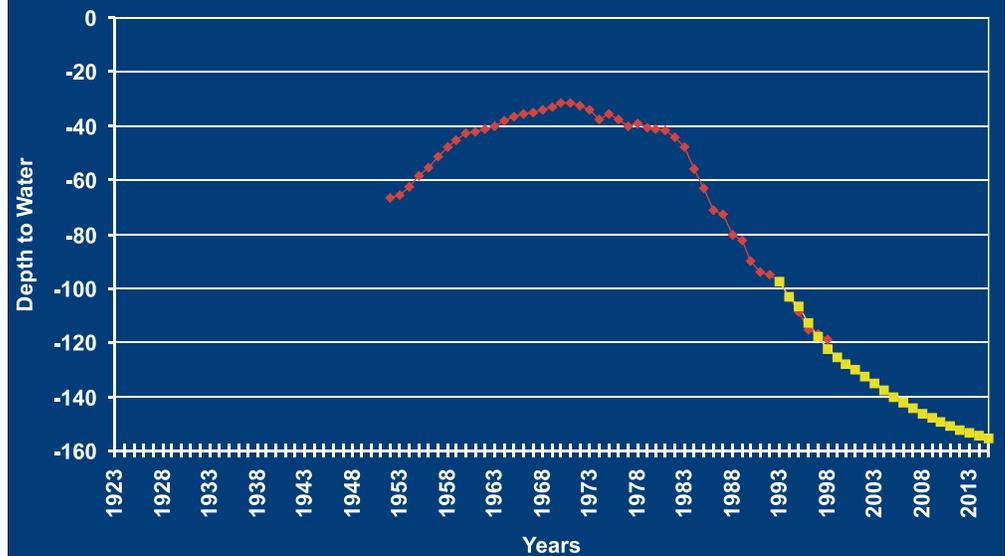
Water levels will continue to decline if the overdraft problem isn’t addressed. There will be a permanent loss of storage capacity as the land compresses on the declining aquifer. This also creates the potential for surface subsidence. The potential for water quality degradation increases.

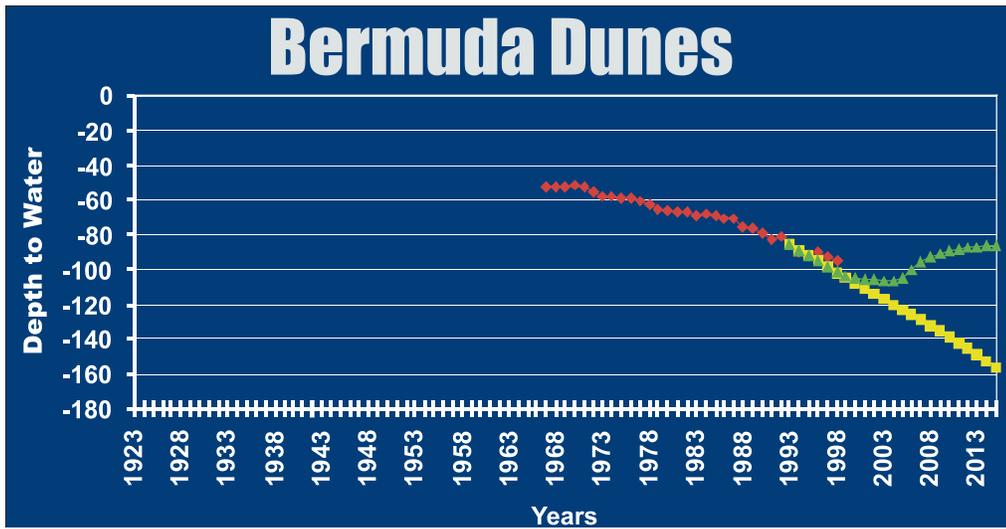
## What is the process?

Many alternatives were considered in drafting the plan. These were combined and reduced to four proposals—no project, pumping restrictions, demand management and a combination plan.

The **no project** alternative is just that—do nothing and suffer the consequences—a required alterna-

# Oasis





agencies have it available and the desalting of agricultural drain water.

### What will result?

The chart on this page shows the projected result of implementing the preferred alternative of the Water Management Plan based on CVWD’s computerized groundwater model. Taking the Bermuda Dunes well chart as an example, the red line shows historic conditions, the yellow line shows projected conditions

with no plan and the green line shows the groundwater table recovering with the preferred plan.

### Where do we go?

The Water Management Plan’s draft environmental impact report is expected to be issued before the end of 2001. It will be open for public comment for 45 days.

Until that process is complete, CVWD will be holding a series of public forums and workshops on the plan in various parts of the district’s service area.

### How can I see the full plan?

The complete plan can be found on the district’s web site: [www.cvwd.org](http://www.cvwd.org). It can be downloaded from there or, if you have ftp software, from [ftp.cvwd.org](ftp://ftp.cvwd.org) by navigating to the public folder and then to the public documents folder, signing on as an “anonymous” user and using your e-mail address as a password. It is also available for viewing at CVWD headquarters, Highway 111 and Avenue 52, Coachella.

When the draft environmental impact report is finished it will also be available in the same locations.

Groups within Coachella Valley Water District can arrange for a speaker to discuss the water management plan by calling Steve Robbins, assistant to the general manager, at CVWD, 398-2651. Showing of a new 28-minute video about water management in Coachella Valley can be arranged by calling Dennis Mahr, communications and legislative director, at the same telephone number.

The water conservation measures would reduce urban water demand by 10 percent, agricultural demands by 7 percent and existing golf course demand by 5 percent. Demand for new golf courses would be reduced more substantially.

Demand on current groundwater supplies would be reduced through source substitution: delivering canal water to current agricultural golf course pumps, increasing the use of recycled water, desalting agricultural drain water for reuse, treating canal water for domestic use and providing State Water Project water for direct golf course use.

The least expensive of these with the most potential for alleviating the problem would be implemented first with the more costly being phased in toward the end of the 35-year period.

The plan would continue the current level of recharge in the upper valley—about 100,000 acre-feet per year—and implement a lower valley recharge program of about 80,000 acre-feet per year.

### Where will we get more water?

For several years, CVWD has been negotiating with other Colorado River water contractors in California to quantify entitlements. As the plan now stands, we would gain an additional 155,000 acre-feet of water annually. We are also nearing completion of negotiations with Metropolitan Water District of California for a State Water Project entitlement transfer to us of 100,000 acre-feet in most years. Other new water would come from increased recycled water use, additional purchases of surplus water when other



**Working to restore service**—Domestic, stormwater and irrigation crews were all called into action to work around the clock restoring domestic water to

the west shore of the Salton Sea last August after a flash flood carried off more than 1,200 feet of pipeline serving more than 1,300 users.

On an August afternoon a storm began to pour water on the mountains west of Salton City and Oasis. Coachella Valley Water District doesn't have stormwater protective facilities in the Salton City area but serves domestic water to both sides of the Salton Sea.

Domestic water is piped to Salton City from a well field 15 miles away near Travertine Point, crossing

Mud was a big problem, it was burying valves that needed to be shut down so repairs could be made.

The system had to be shut down and the pipe replaced. From midnight until dawn supervisors set priorities and planned work.

At 6:30 a.m. three domestic construction crews, with key help from the stormwater maintenance and irrigation crews, set to work to get water back to 1,341 homes and businesses.

District trucks being dispatched to work in the area carried bottled water to residents.

Construction crews set about work with priority areas where mainline pipe had been carried away in the washes and where banks needed rebuilding to support the pipe.

Crews took what pipe was available in the district yard and purchasing technicians put in emergency calls to vendors who put aside other orders to rush 4-, 6- and 8-inch iron ductile pipe to the work site. The first deliveries were being unloaded by 10:30 a.m.

It was tough getting the equipment in to dig a trench where men could work, in one case terrain made it impossible to valve off the water. That meant replacing a line with water running through it.

## Storm hones disaster skills of domestic & stormwater crews

many washes along the way.

A district employee travelling down Highway 86 noted the washes were flowing full. He soon called the district control operator to alert him the water main was being washed away everywhere and he needed help to assess the damage. Out-of-water complaints began to pour in.

For the next 40 plus hours, crews from the district struggled around the clock to replace and repair domestic water system flood damage along the western shore of the Salton Sea. More than 1,200 feet of pipe had been lost.

Up to their knees in water and mud, men worked 16-hour shifts, eating when they could, saving rest until the job was done.

In more routine matters:

Ten wells serving residential developments in La Quinta, Palm Desert, Rancho Mirage and Thousand Palms were put into service during the last year. Four reservoirs were constructed in 2000 and a pressure reducer/booster station was installed. Aside from what

the developers spent, the district laid out more than \$15 million in domestic water infrastructure.

Work continued on the third phase of a project to replace domestic water lines of the former Palm Desert Water and Service District, acquired by CVWD in 1995. This \$1.3 million project last year saw 13,000 feet of domestic water main line pipe replaced in an area that stretches south from Fred Waring Drive halfway to Highway 111 from Deep Canyon Drive to Monterey Avenue.

Coachella Valley Water District personnel are committed to providing safe water to district users. How-

found primarily in two forms—chromium 3 and chromium 6. State and federal health requirements set maximum allowable amounts of total chromium which far exceed the findings in Coachella Valley wells. Total chromium standards are protective for both chromium 3 and 6.

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## Local impacts reviewed for national water quality issues

ever, the district board and staff believe that all standards should be based on sound science and that rate payer's money should not be wasted on treatment that is not justified by sound science. Standards based on sound science will be implemented as rapidly as possible to protect public health.

The annual water quality report appears later in this publication. It shows what chemical constituents are found in water supplies in each of the district's service areas. A few of these constituents have been making headlines throughout the country during the last year. This article attempts to explain how these chemicals affect Coachella Valley water users and their current status in the regulatory arena.

### Chromium 6

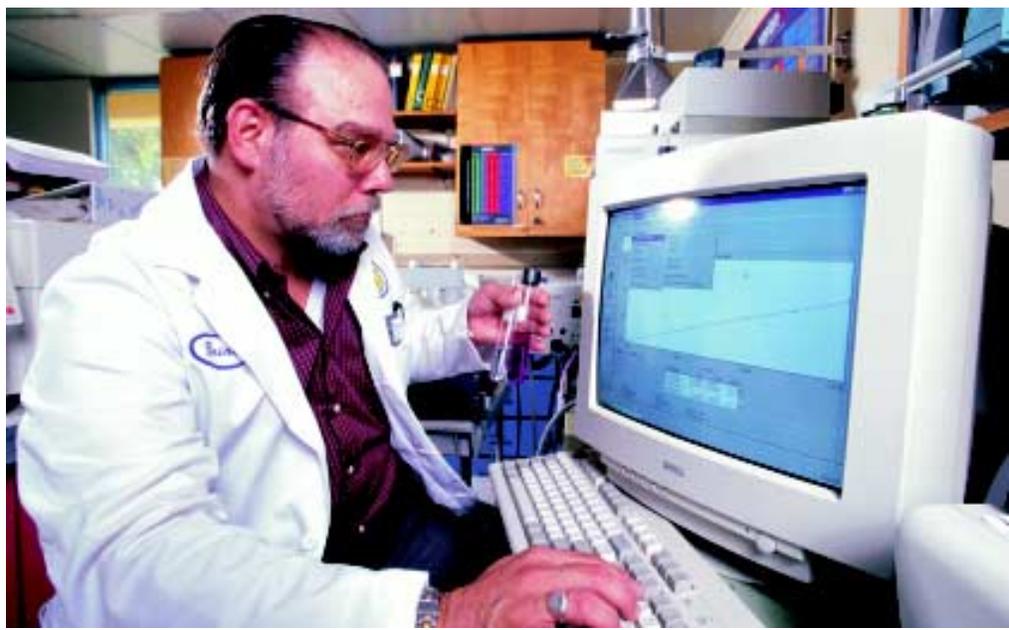
Recent tests have shown that most of Coachella Valley Water District's 85 domestic water wells and the wells of Myoma Dunes, Indio and Coachella contain traces of chromium 6. These tests and similar testing performed throughout California show chromium 6 occurs naturally in many groundwater supplies.

The eleventh most abundant element on earth, chromium is

The federal maximum contaminant level is 100 parts per billion and the state maximum contaminant level is 50 parts per billion. Recently completed tests specific to chromium 6 show CVWD wells ranging from none detected—with a detection level of 1 part per billion—to 23 parts per billion with 75 percent of the wells producing less than 10 parts per billion.

Coachella Valley Water District has long monitored for total chromium as required by state and federal law. District officials decided to voluntarily test specifically for chromium 6 late last year after California's Office of Environmental Health Hazard Assessment determined a public health goal of 2.5 parts per billion for total chromium. This determination doesn't have the support of the federal Environmental Protection Agency and is questioned by the California Department of Health Services, both of which establish maximum contaminant levels.

**Quality vigilance**—CVWD chief chemist Brian Compton keeps a close eye on domestic water from 85 wells to make sure users receive a healthful product.





**Preparing samples—CVWD**  
water quality analyst Mike Stenzel  
prepares well water samples for  
testing.

The public health goal is based on the potential threat to a person drinking two liters of water daily for 70 years.

The Office of Environmental Health Hazard Assessment bases its goal on a 1968 German study involving three generations of mice given water laced with chromium 22,000 times that of the highest well in Coachella Valley. Two of the 66 mice developed stomach cancer. EPA and the World Health Organization discount the study as statistically insignificant.

Chromium 3 is a vital element in the human body. The human body rapidly converts chromium 6 to chromium 3 when it is ingested or absorbed through the skin. When extremely high levels are inhaled, however, it is a known carcinogen and it was recently the subject of a popular Hollywood movie based on a lawsuit concerning residents of the California town of Hinkley. This case was settled without determining a correlation between chromium 6 contaminated groundwater and health problems found in Hinkley residents.

There is no proven technology for removing chromium from drinking water below 10 parts per billion but implementing a process which is expected to work would raise the average water user's bill from \$24 per month to \$87 to meet a standard equal to the 2.5 parts per billion public health goal.

The Coachella Valley Water District is working with the Association of California Water Agencies to seek definitive scientific information to determine potential health effects of ingested chromium 6. Until such studies indicate a health reason to increase the cost of water, CVWD will rely on the judgement of the EPA and the state health department that local chromium levels are perfectly safe.

In recent months, many pieces of legislation have been introduced in both Sacramento and Washington seeking everything from a scientific study to determine harm from ingested chromium 6 to setting a standard of 2.5 parts per billion without scientific input.

In California, both the Department of Health Services and the Office of Environmental Health Hazard Assessment have agreed to a scientific review before setting a public health goal specific to chromium 6.

### **Arsenic**

For many years the maximum contaminant level for arsenic, as set by both state and federal regulators, has been 50 parts per billion (ppb). The highest value found in CVWD domestic water wells is only half of that and it isn't even detectable in most wells. It is a common constituent of groundwater supplies in many desert areas. Fallon, Nev., water exceeds 100 ppb and Albuquerque, N.M., serves water from some wells as high as 40 ppb.

Arsenic is known as a deadly poison in large amounts but there haven't been any good scientific studies to determine whether long-term ingestion of small amounts can cause health problems. Still, regulators felt it was likely that a maximum contaminant level of 50 ppb was too high and, in 1996, federal Safe Drinking Water Act amendments required the Environmental Protection Agency to adopt a new standard by Jan. 1, 2000.

Since existing good science upon which to set a standard did not exist, CVWD, through the Association of California Water Agencies and the American Water Works Association Research Foundation, contributed funding to help EPA conduct research. That research is still not completed and EPA missed its deadline.

Under threat of lawsuit from environmental organizations, EPA reduced the maximum contaminant level to 10 ppb just before the change in administration in Washington and implementation of that regulation, along with many others, has been placed on hold by President Bush until his administration has a chance to review it. He has assured that there will be a reduced level in place by 2006, the year the 10 ppb was to be enforced.

Currently CVWD has seven wells with detectable (greater than 2 ppb) arsenic—all in the Mecca, Thermal, Valerie Jean area. To comply with the 10 ppb rule, five of these would require treatment or replacement at an annualized cost of about \$2 million. Based on

the number of users served by these small systems, this would increase the monthly water rate per household by \$32 to \$158.

CVWD continues to help fund scientific studies to assure that the ultimate costs to the water user are based on good science instead of political maneuvering.

### **Radon**

Radon is a naturally occurring gas that has been identified as a carcinogen when inhaled but is not a threat through ingestion. Still, the Safe Drinking Water Act 1996 amendments required EPA to adopt a standard for radon by August 2000. As in the case of arsenic, that deadline was not met.

Almost all significant radon exposure comes from gas seeping through floors and basements into the indoor air supply of buildings located where high concentrations of radon gas occur naturally. There are no such significant pockets in Coachella Valley. Where radon exists, the gas can hitchhike on well water to be released into the air by faucets. This is a minor contribution to radon levels in the air, but it is the only one over which EPA has control—hence setting a standard on water instead of requiring better sealants and ventilation in buildings subject to radon-contaminated air.

Even the National Academy of Sciences found radon in domestic water is not a significant source of radon in indoor air. Still, the rule, now undergoing review by the new administration, would set a maximum contaminant level of 300 picoCuries per liter or, if the water purveyor provides indoor radon mitigation money, 4,000 picoCuries per liter—equivalent to the ambient outdoor air radon level.

Radon range in CVWD wells is 80 to 400 with an average of 201. About one third of the district's wells could exceed 300 on any given day. Bringing those wells in compliance would double the water bills of the people served by them. EPA would offer purveyors an option of paying mitigation costs instead. No one knows what mitigation costs would be for wells registering between 300 and 4,000, but money collected in Coachella Valley for mitigation would likely be used in a radon hot spot in

some other part of the country to retrofit homes to reduce indoor air radon levels.

Water purveyors are working toward an ultimate maximum contaminant level of 4,000—the same as outdoor air. All Coachella Valley wells would be in compliance with this.

### **MTBE**

MTBE, methyl tertiary butyl ether, is a synthetic chemical added to gasoline to improve air quality. Unfortunately, it has become a significant water contaminant throughout California due to leaking fuel storage facilities. Fortunately, it has not yet been found in CVWD wells.

While the health effects of drinking MTBE contaminated waters are still uncertain, it can be detected by taste at only a few parts per billion. California Department of Health Services has set a secondary standard, based on taste and odor, of 5 ppb and a health-based primary standard of 13 ppb. The US EPA has issued a health advisory on MTBE on 20-40 ppb.

MTBE will continue to contaminate water supplies as long as it is used. Still, federal law requires some form of oxygenate to be used in gasoline. Governor Davis asked President Clinton to lift that requirement in California. This wasn't done and grain producing states are lobbying for the replacement of MTBE by ethanol as a gasoline additive.

### **Perchlorate**

Perchlorate, a constituent of rocket fuel, found its way into the headlines when it found its way into Lake Mead, primary Colorado River storage reservoir, from a Nevada industrial site. A visible plume of perchlorate was entering Southern California's primary water supply.

CVWD tests of Colorado River water entering the valley for groundwater recharge have discovered extremely tiny amounts of perchlorate (6 ppb) as Colorado River water is released into the Whitewater River but have detected none at the district's recharge facilities or anywhere in the valley's groundwater.

EPA doesn't regulate perchlorate and has not issued a health advisory for it. The California Department of Health Services has established an action level for it of 18 ppb. Below that, it is not seen as a health risk.



This annual water quality report provides evidence that extremely high quality and healthful water is served to the people in Coachella Valley Water District's service area. Data summarized here come from CVWD's most recent monitoring done during the period 1997-2000. The state allows the district to

## Coachella Valley residents tap high quality, healthful water

monitor for some contaminants less than once per year because their concentrations do not change frequently.

All domestic water served by the Coachella Valley Water District comes through wells from the Coachella Valley groundwater basin.

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

Most water quality testing is done in the district's state-certified laboratory. A few highly specialized tests must be sent to other labs which have the extremely expensive equipment necessary to find tiny amounts of some constituents.

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

Total coliform bacteria occur naturally in the environment and are not generally considered harmful. They are used as an indicator because of the ease in monitoring and testing. Chlorine is added to ensure drinking water complies with standards for this indicator bacteria. Small amounts of chlorate and trihalo-methanes detected in drinking water are by-products of this disinfection process.

Radon is a naturally occurring, radioactive gas that originates underground and is found in the air. Radon moves from the ground into homes primarily through cracks and holes in foundations. While most radon enters the home through soil, radon from tap water is typically less than 2 percent of the radon in indoor air. EPA has determined breathing radon gas increases an individual's chances of developing lung cancer and has proposed a maximum contaminant level of 300 pCi/L for radon in drinking water. This proposed stan-

**Este informe contiene información muy importante. Tradúscalo ó hable con alguien que lo entienda bien.**

dard is far below the 4,000 pCi/L in water that is equivalent to the radon level in outdoor air. CVWD tests show the radon level in district wells ranges from below detection to 360 pCi/L which is far less radon than that found in outdoor air.

Nitrate can leach into groundwater from fertilizer, animal wastes and natural deposits.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. High nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of skin. If you are caring for an infant you can be assured that CVWD water is safe. 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 climb, the district increases its monitoring frequency and, if necessary, wells are taken out of service before they become unsafe.

Sources of copper in drinking water include corrosion of household plumbing and erosion of natural deposits. Erosion of natural deposits is the source of the remaining constituents detected in CVWD's water supply.

As noted, all drinking water served by CVWD comes from wells. The California Department of Health Services requires water agencies to state, however, "*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.

# Coachella Valley Water District annual water quality report for 2001

Detected parameter	MCLG or (PHG)	Water quality standards primary or (secondary) MCL	Cove Communities <sup>(1)</sup>	District 8 <sup>(2)</sup>	District 10 <sup>(3)</sup>	District 11 <sup>(4)</sup>	Valerie Jean	Thermal	La Quinta Polo Estates	Typical Sources
Aluminum, mg/L	none	1.0, (0.2)	ND-0.1, (ND)	ND	ND	ND	ND	ND	ND	(7)
Arsenic, ug/L	none	50	ND	ND	7.6-24, (15)	ND	9	ND-3.2, (ND)	ND	(7)
Chlorate, ug/L	none	none	ND-44, (ND)	NM	NM	NM	NM	NM	NM	(8)
Chloride, mg/L	none	(500)	5.0-110, (14)	13-21, (16)	6.0-8.4, (7.6)	140-231, (184)	9	7.9-11, (9.5)	1.2	(7)
Chlorine (free), mg/L	none	none	ND-0.9, (0.3)	ND-0.4, (0.2)	ND-0.5, (0.2)	ND-0.6, (0.5)	ND-0.7, (0.3)	0.1-0.6, (0.2)	ND-0.4, (0.2)	(8)
Chromium, ug/L	(2.5)	50	ND-20, (ND)	12-15, (14)	ND	ND-10, (ND)	20	17-22, (20)	ND	(7)
Color, units	none	(15)	ND-5, (ND)	ND	ND	ND-3, (1)	ND	ND-1, (ND)	ND	(7)
Copper, mg/L <sup>(5)</sup>	(0.17)	AL=1.3	0.13	0.13	ND	0.23	ND	ND	0.11	(9)
homes tested			54	14	20	19	5	10	5	
Fluoride, mg/L	(1)	2	0.2-0.9, (0.5)	0.5-0.7, (0.6)	0.8-1.0, (0.9)	0.4-1.7, (1.1)	0.6	0.6-0.8, (0.7)	0.4	(7)
Gross alpha, pCi/L	0	15	1.2-12, (4.2)	4.0-10, (6.4)	ND-3.4, (1.1)	2.2-6.3, (3.9)	1.6	2.9-3.2, (3.1)	1.9	(7)
Hardness (CaCO <sub>3</sub> ), mg/L	none	none	29-290, (119)	117-188, (163)	13-21, (17)	120-206, (171)	10	41-43, (42)	77	(7)
Iron, ug/L	none	(300)	ND-300, (ND)	ND	ND	ND-130, (ND)	ND	ND-205, (103)	ND	(7)
Nitrate (as nitrogen), mg/L	(10)	10	ND-9.7, (1.6)	0.5-2.0, (0.9)	ND	1.2-1.7, (1.5)	0.5	0.5-0.6, (0.5)	0.5	(10)
Odor threshold, units	none	(3)	ND-1, (ND)	ND	ND	ND-1, (ND)	ND	ND-1, (ND)	ND	(7)
Selenium, ug/L	50	50	ND-6, (ND)	ND	ND	ND-5.9, (ND)	ND	ND	ND	(7)
Sodium, mg/L	none	none	17-100, (26)	58-79, (68)	37-46, (43)	170-208, (195)	43	38-39, (39)	31	(7)
Sulfate, mg/L	none	(500)	1.2-270, (36)	144-200, (165)	25-36, (31)	170-265, (210)	22	23-25, (24)	34	(7)
Total Coliform bacteria, % positive <sup>(6)</sup>	0	5% tests positive	ND-0.8%, (ND)	ND	ND	ND	ND	ND	ND	(11)
Total dissolved solids, mg/L	none	(1,000)	140-730, (224)	366-463, (399)	120-153, (142)	650-863, (770)	140	152-162, (157)	184	(7)
Total trihalomethanes, ug/L	none	100	ND-6.5, (1.5)	NM	NM	NM	NM	NM	NM	(8)
Turbidity, NTUs	none	(5)	ND-2.2, (0.3)	0.1	0.1-0.5, (0.3)	0.1-0.6, (0.3)	0.1	0.1-0.2, (0.2)	ND	(7)
Uranium, pCi/L	0	20	ND-15, (3.3)	ND-8.8, (5.1)	ND-2.6, (ND)	ND-7.0, (4.7)	ND	3.0-3.1, (3.1)	2.0	(7)

This table provides the range and average level for detected parameters in CVWD's water systems. A comma separates the range and average in each field. The highest detected level at any sampling point is in **bold** and the average level is listed in (parentheses).

- <sup>(1)</sup>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.
- <sup>(2)</sup>Serves the communities of Indio Hills, Sky Valley and portions of Desert Hot Springs and Riverside County adjacent to Desert Hot Springs.
- <sup>(3)</sup>Serves the communities of Mecca, Bombay Beach, North Shore and Hot Mineral Spa.
- <sup>(4)</sup>Serves the communities of Desert Shores, Salton Sea Beach and Salton City.
- <sup>(5)</sup>Reported values are 90th percentile levels for samples collected from faucets in water user homes. No sample exceeded the action level.
- <sup>(6)</sup>Systems that collect 40 or more samples each month (determined by the number of users on the system) are out of compliance when more than 5 percent of monthly samples are positive. Systems that collect less than 40 samples each month are out of compliance when more than one monthly sample is positive.
- <sup>(7)</sup>Erosion of natural deposits.
- <sup>(8)</sup>Byproduct of drinking water chlorination.
- <sup>(9)</sup>Corrosion of household plumbing; erosion of natural deposits.
- <sup>(10)</sup>Leaching of fertilizer, animal wastes and natural deposits.
- <sup>(11)</sup>Naturally present in the environment.

—“Pesticides and herbicides, that 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, agricultural application and septic systems.

—“Radioactive contaminants, that 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 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).”

For additional information about CVWD’s water, additional water quality data or clarification, the reader can call CVWD’s water resources associate Steve Bigley at (760) 398-2651, ext. 286.

#### Definitions & abbreviations

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

**MCL—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—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 U.S. Environmental Protection Agency.

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

**ND** — None detected.

**NM**—Monitoring not required

**NTU** — Nephelometric turbidity units (measurement of suspended material).

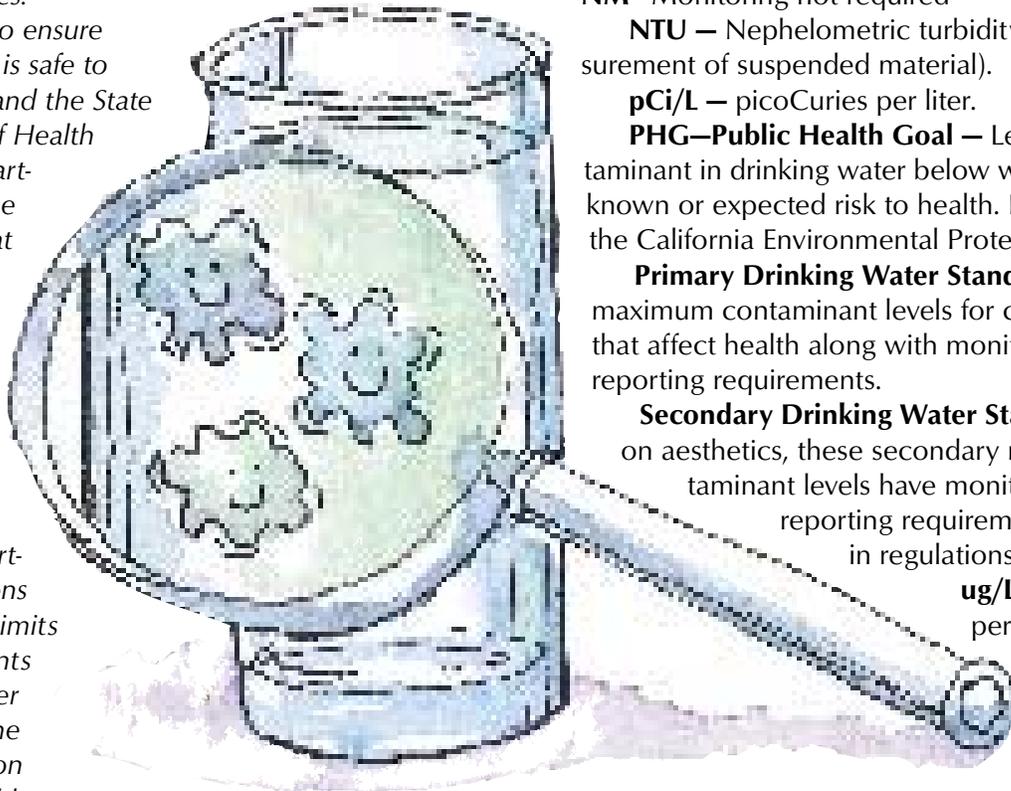
**pCi/L** — picoCuries per liter.

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

**Primary Drinking Water Standard** — Primary maximum contaminant 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).



**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 (800) 426-4791.**

The district replaced more than 19 lateral irrigation lines costing more than \$1.3 million in the last year as age started to take its toll on a system installed more than 50 years ago

## Irrigation system rejuvenation, fencing projects underway

Among those were three projects serving Peter Rabbit Farms, a total 6,600-feet of 18 to 24-inch PVC line in Coachella on Tyler Street and Avenue 49. The project design began in August and was complete by May 1, 2001.

A 1,300-foot lateral line designed in May, 2000, was completed in February 2001. This 18-inch pipe was laid along Avenue 42 starting at Jackson Street.

**Reading the meter**—Like his domestic water counterpart, *zanjero* Jay Callin reads a farmer's meter. Unlike the domestic meter reader, the *zanjero*

The design for a 30-inch lateral line starting along Pierce Street stretching 6,200-feet from Avenue 60 to Avenue 62.

In other irrigation division action the district continued its project of working with the Bureau of Reclamation to fence the Coachella Canal in residential areas.

During the last year, nearly a mile of chain link fencing was installed in two areas, Lake Cahuilla and northern Indio between Avenue 42 and Madison Street.

The fencing will continue as development occurs along the canal. The district's ongoing education program in valley schools and adult supervision are the best methods of keeping youngsters out of the canal but the fence helps to remind them of the danger.

*turns the farmer's water on and off as it is delivered to the high point of every 40 acres in 24-hour increments.*



# 2000 farm production totals

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

Value of year's production . . . . \$ 552,817,313

Total acreage irrigated (includes double cropping) . . . . 74,236

Average gross value per acre . . . . \$7,447

Crop	Acreage	Yield	Value per acre <sup>1</sup>	Total
<b>Fruit</b>	<b>34,697</b>	<b>280,950.3 tons</b>	<b>\$8,111</b>	<b>\$281,440,050</b>
Dates	6,837	30,287.9 tons	10,278	70,267,951
Figs	77	120.1 tons	2,263	174,268
Grapes, table	13,312	89,589.8 tons	9,900	131,786,537
Grapefruit	2,238	25,462.8 tons	4,856	10,867,542
Lemons and limes	4,162	43,201.6 tons	7,895	32,859,107
Mangos	54	84.2 tons	2,263	122,214
Melons, Cantaloupe	1,153	12,452.4 tons	3,758	4,333,435
Melons, Honeydew	91	774.1 tons	2,460	223,880
Olives	93	145.1 tons	2,263	210,479
Oranges and tangerines	4,254	25,185.8 tons	4,289	18,244,599
Peaches	35	33.6 tons	654	22,873
Tomatoes	507	4,628.9 tons	5,880	2,981,018
Watermelons	1,884	48,984.0 tons	4,961	9,346,147
<b>Vegetables</b>	<b>25,557</b>	<b>329,347.2 tons</b>	<b>\$6,436</b>	<b>\$164,475,958</b>
Artichokes	849	8,812.2 tons	8,850	7,513,278
Basil	289	1,946.8 tons	3,689	1,066,094
Beans, green	922	9,620.1 tons	11,175	10,303,179
Bok choy	146	983.5 tons	3,689	538,580
Broccoli	2,017	14,652.5 tons	3,817	7,698,422
Cabbage	152	1,953.2 tons	2,154	327,356
Carrots	2,831	69,822.4 tons	7,892	22,343,158
Cauliflower	928	10,677.1 tons	8,008	7,431,264
Celery	308	8,594.4 tons	4,660	1,435,270
Corn, sweet	3,674	30,036.8 tons	2,163	7,947,734
Cucumbers	28	98.0 tons	912	25,550
Eggplant	367	4,315.9 tons	11,760	4,315,920
Kale	15	101.0 tons	3,689	55,334
Lettuce	4,946	46,959.8 tons	4,311	21,319,748
Okra	344	2,752.0 tons	6,400	2,201,600
Onions, dry	409	9,263.9 tons	4,974	2,034,341
Peas	41	276.2 tons	3,689	151,245
Peppers, bell	3,130	57,196.1 tons	13,998	43,812,178
Peppers, chili	303	5,536.9 tons	13,998	4,241,243
Potatoes	670	12,060.0 tons	4,334	2,904,048
Radishes	315	2,122.0 tons	3,689	1,162,006
Spices	832	5,604.8 tons	3,689	3,069,171
Spinach	1,542	20,258.8 tons	6,264	9,659,394
Squash	499	5,702.8 tons	5,851	2,919,845
<b>Forage</b>	<b>4,733</b>	<b>37,486.2 tons</b>	<b>\$407</b>	<b>\$1,928,153</b>
Alfalfa hay	1,912	16,615.3 tons	658	1,257,444
Irrigated pasture	1,188	13,424.4 animal units/month	156	185,794
Sudan hay	1,633	7,446.5 tons	297	484,915
<b>Cereals</b>	<b>501</b>	<b>418.1 tons</b>	<b>\$1,932</b>	<b>\$967,876</b>
Barley	481	408.9 tons	85	40,718
Wheat	20	9.2 tons	46,358	927,158
<b>Nursery</b>	<b>1,015</b>	<b>—</b>	<b>\$20,009</b>	<b>\$20,309,044</b>
<b>Duck Ponds</b>	<b>151</b>	<b>466.6 tons</b>	<b>\$14,461</b>	<b>\$2,183,641</b>
<b>Fish Farms</b>	<b>1,276</b>	<b>3,942.8 tons</b>	<b>\$14,461</b>	<b>\$18,452,491</b>
<b>Golf Courses</b>	<b>4,027</b>	<b>—</b>	<b>\$10,000</b>	<b>\$40,270,064</b>
<b>Polo Fields</b>	<b>341</b>	<b>—</b>	<b>\$10,000</b>	<b>\$3,410,005</b>
<b>Turf</b>	<b>1,938</b>	<b>132,016.6 tons</b>	<b>\$10,000</b>	<b>\$19,380,031</b>

<sup>1</sup>Rounded off to nearest dollar.