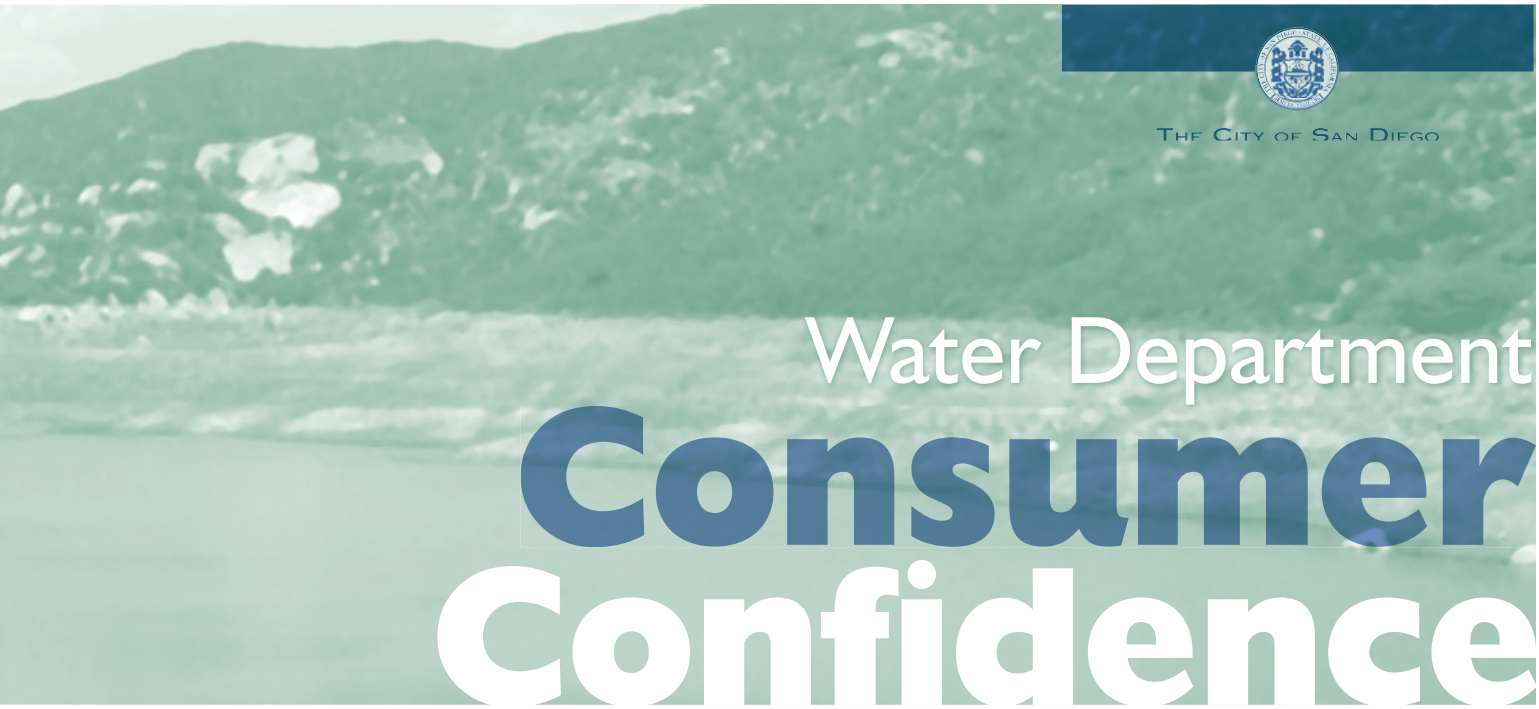


The City of San Diego

Water Department Consumer Confidence Report 2002

Table of Contents

Watershed and Source Water 3

Capital Improvements Program... 5

Storm Water 5

Water Quality Data..... 6

Drinking Water Source Assessment and Protection 10

Important Phone Numbers 11

2002 Consumer Confidence Report

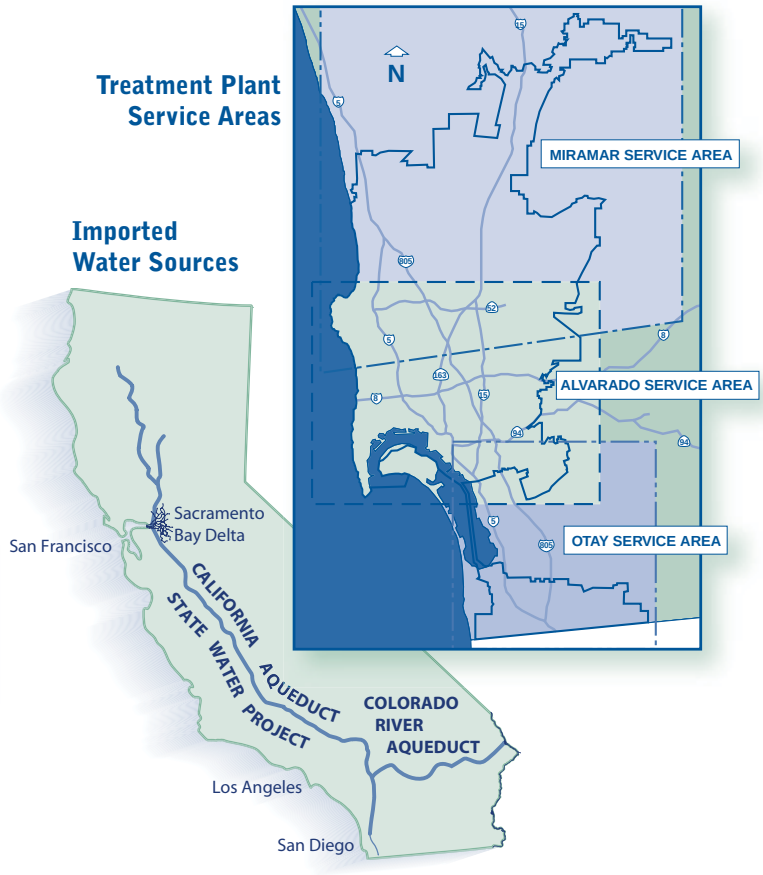
What Is This Report About?

During the calendar year 2002, the City of San Diego's Water Quality Laboratory conducted in excess of 188,000 tests for 437 drinking water contaminants. We detected 26 contaminants and none at a level higher than the State of California Department of Health Services or the United States Environmental Protection Agency (EPA) allows.

This report is a snapshot of the quality of the water that we at the City of San Diego Water Department provided to you last year. Included are details about where your water comes from, what it contains, and how it compares to State Standards. We are committed to providing you with information because informed customers are our best allies. For more information about your water, please call the Public Information office at (619) 527-3121.

Este informe contiene información importante sobre la calidad del agua en su comunidad. Copias en español de este reporte están disponibles si llama al (619) 527-3121. Tambíen encontrará este informe por medio del internet en www.sandiego.gov/water.

Your water comes from three municipal water treatment plants Alvarado, Miramar and Otay. The City maintains nine reservoirs and purchases imported water from the San Diego County Water Authority. Water from the Colorado River Aqueduct and the State Water Project constitute the source waters for these plants.



Why is There Anything in My Water?

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. Water can also pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source waters include:

- **Microbial contaminants**, such as viruses and bacteria, which 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 storm water 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 runoff, and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **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 storm water runoff and septic systems.

In order to ensure that tap water is safe to drink, the California Department of Health Services (DHS) prescribes regulations which limit the amount of certain contaminants in the water provided by public water systems. The City of San Diego's Water Department treats water according to the DHS regulations. The DHS Food and Drug Branch regulations establish limits for contaminants in bottled water which must provide the same protection for public health. For information log onto the DHS website at: www.dhs.ca.gov/fdb

Watershed and Source Water

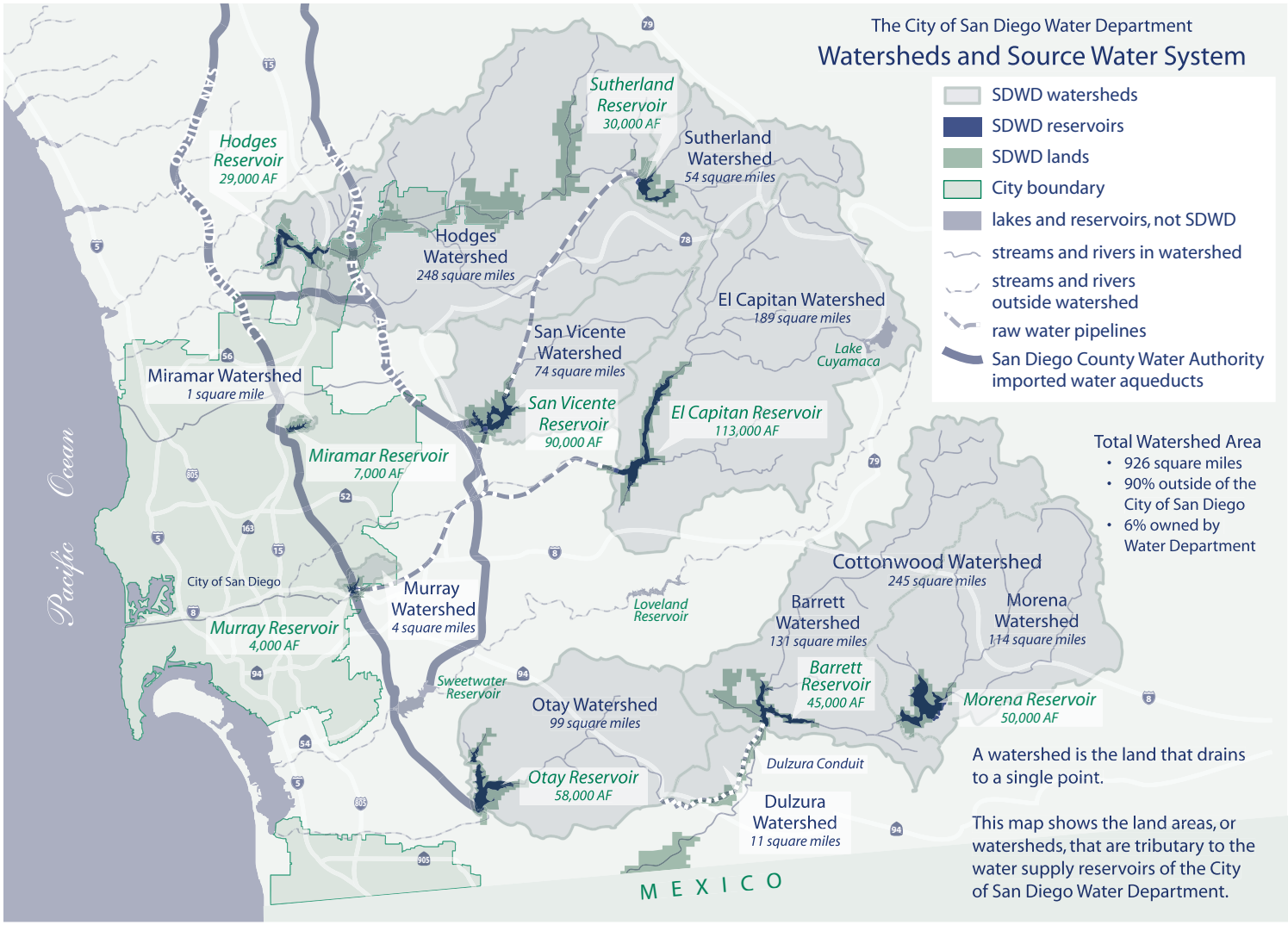
The City of San Diego has nine drinking water reservoirs: Hodges, Sutherland, San Vicente, El Capitan, Morena, Barrett, Otay, Murray, and Miramar. These reservoirs capture local rainwater and runoff to supply up to 20 percent of the City's water. The reservoirs are important components of the regional water supply system. However, the quality of water stored in these reservoirs can be negatively impacted by residential and commercial development and routine activity in the watershed land areas draining into them.

A watershed is an area of land that drains water (and everything in the water) to an outlet; typically a lake, bay or the ocean. Anyone visiting or occupying our local watershed areas should keep in mind that any chemicals, pesticides, animal waste, trash, soaps and detergents that are dumped onto the ground or into streams can affect our drinking water supply.

San Diego residents can do their part to protect watershed areas and our drinking water supply by properly disposing of pet waste, chemicals and garbage. The City of San Diego is also doing its part to protect watershed areas. We are using more energy efficient and pollutant free engines in the watercraft we use in our local reservoirs and developing voluntary source water protection guidelines for new developments in our city. For more information on watersheds and protecting our water supply log onto the following websites:
http://www.sandiego.gov/stormwater
http://www.epa.gov/owow/watershed
http://map.sdsu.edu/group2001/group3/

Watershed Sanitary Survey

In 2001, the City of San Diego updated its Watershed Sanitary Survey. This survey examines the potential sources of contaminants in the watersheds draining to the nine reservoirs maintained by the City. The Executive Summary of the document can be obtained by contacting our Public Information Office at (619) 527-3121. The complete Watershed Sanitary Survey is available on CD-ROM (free of charge) and can also be found on our website at www.sandiego.gov/water. We encourage all San Diegans to take an active role in supporting pollution prevention programs in their communities and to learn more about protecting their local sources of water.



Conventional Water Treatment Process

San Diego uses a water treatment process that is similar to other large water utilities around the nation. The process produces safe drinking water by removing potentially harmful organisms and substances both in the water and attached to particles.

Raw water from our reservoirs (or outside sources) is disinfected with chlorine to kill disease-causing organisms and to remove disagreeable tastes and odors.

Particles in the water have negative electrical charges and repel each other. To remove them, positively charged chemicals, ferric chloride and organic polymer, are mixed with the water to neutralize the negative charges and allow clumps of particles to form. The clumps then settle out or are filtered out of the water.

Ammonia is added to the water after filtration to react with chlorine to produce chloramines. Chloramines are used to continue disinfecting the water throughout the distribution pipelines so that it remains safe to drink when it reaches the consumer's tap. Sodium hydroxide or calcium oxide is added to the water to protect pipes, plumbing fixtures and appliances from corrosion (rust).

Safety and Security Issues

No public water system is completely safe, but the City of San Diego Water Department has taken tremendous precautions during the past few years to keep its systems as secure as possible, especially since the September 11th tragedy. This means safeguarding the source waters, water treatment plants and the entire water distribution system.

Many of the measures taken are visible, such as new fencing and guard posts at major facilities. The majority of the precautions, however, are hidden from the public and from those who might try and compromise the City's water treatment and distribution systems.

Please help us by being the eyes and ears of the Water Department by reporting any suspicious activity to the local law enforcement agency or by calling the City of San Diego Water Department.

Drinking Water Fluoridation

The State of California requires that water agencies serving more than 10,000 customers fluoridate their drinking water supplies. Presently, the City of San Diego does not add flouride to the water supply. The Metropolitan Water District in Los Angeles (the largest wholesaler of San Diego's imported water) has elected to begin fluoridating their drinking water supplies by the year 2005. We will provide more information on the fluoridation of San Diego's water in the future.

Water Supply and the Impact on Water Quality

The City of San Diego imports an average of 90 percent of its water. The water is provided through the San Diego County Water Authority, which purchases its water from the Metropolitan Water District of Southern California. Our imported water is a blend that consists primarily of Colorado River water and State Water Project water (see Page 2 map). Throughout the year, the blend changes. In 2003, California's allotment of Colorado River water was significantly reduced. This reduction will result in a higher percentage of State Water Project water being delivered to San Diego.

Several forces negatively impact the water from the Colorado River and State Water Project. The Colorado River winds through thousands of miles of unprotected watershed containing towns, farms and old mining sites. The Kerr-McGee Chemical Plant in Henderson, Nevada is currently undergoing extensive cleanup efforts, but continues to add perchlorate to the Colorado River. The Colorado River also flows past uranium mine tailing piles in Moab, Utah.

Water from the State Water Project is also subject to potential contaminants such as pesticides and herbicides. This water source also has a higher organic carbon and bromide level than the Colorado River water. As organic carbon and bromide levels increase, the potential for creating higher levels of disinfection by-products exists. (The disinfectants used to treat water can react with naturally occurring materials in the water to form unintended by-products which may pose health risks.) The City continually alters its treatment process to adjust for changing water supplies.

The City of San Diego continuously monitors the quality of our water to ensure all water quality standards are met.

Special Note to Users of Kidney Dialysis Machines and Fish Owners

Water provided by the City of San Diego contains chloramines. The treatment process that uses chloramines produces fewer disinfection by-products, such as trihalomethanes. Our use of chloramines has resulted in significantly fewer disinfection by-products in the drinking water supply. All customers should assume that our drinking water supply contains chloramines at all times. As such, customers who have unique water quality needs and who use specialized home treatments, such as kidney dialysis machines, should make the necessary adjustments to remove chloramines. Customers who have fish tanks in their homes should also take precautions to remove chloramines prior to adding water to the tanks. Allowing drinking water to stand will not remove chloramines from it.

Capital Improvements Program (CIP)

In 1996, the Water Department initiated a public process to evaluate and plan for needed upgrades and expansion of San Diego's water infrastructure. With input from a diverse cross section of community interests, the Water Department developed a multi-million dollar Capital Improvements Program (CIP) to address critical water infrastructure needs.

City of San Diego Water Department

Capital Improvements Program

Since the Program's inception, 45 projects have been completed, including 67 miles of cast iron pipe replacements at a cost of approximately $371 million (also referred to as Group Jobs). Completed CIP projects have increased treated water storage capacity by 11 percent and water treatment plant capacity by 30 million gallons per day. Approximately 20 miles of water transmission lines have also been constructed, which provide improved water delivery, water pressure and increased capacity. This completion ensures residents and businesses a safe and reliable water supply.

From Fiscal Years 2002 through 2007, the Water Department will expend approximately $511 million on additional capital improvements. Projects include further water treatment plant expansion, water storage facility rehabilitation and construction, additional transmission pipeline construction, expansion of existing pump stations and continued replacement of cast iron water mains citywide.

All of these improvements will provide increased water quality, safety, capacity and reliability, ensuring that our water will meet all current and future drinking water standards and provide maximum protection of public health.

Important Health Information

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. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and *Giardia* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791). During calendar year 2002, the City of San Diego analyzed all of our source waters and *Cryptosporidium* and *Giardia* were not detected.

Storm Water Protection

Storm water pollution is a problem that affects all of us. Keeping our waters clean from pollutants has become increasingly difficult. When it rains, water flows over our streets and yards and carries the pollutants it picks up into our watersheds and storm drains.

THINK BLUE
You're the solution to storm drain pollution.
Protecting our beaches, bays, and watersheds™

What Are Storm Drains?

Storm drains are not connected to the sewer system so, water that runs into storm drains gets into our beaches and bays untreated. The City of San Diego Water Department has begun implementing procedural changes and utilizing new equipment developed to help protect these storm drains and water ways during planned and unplanned water discharges.

How Can You Help?

You can stop pollutants from entering our storm drain system by adopting the following simple Best Management Practices (BMPs).

- Use dry clean-up methods for spills and outdoor cleaning. Vacuum, sweep and use rags or dry absorbants.
- Properly label, store and dispose of hazardous waste.
- Rake, sweep-up and place all debris (dust, litter, sediment, etc.) from your yard or near your property into a trash can.
- Use a mop where water is needed for cleanup.

Remember, what you leave behind can potentially be discharged into the storm drain.

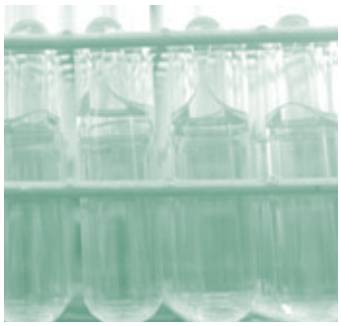
For more information about the Storm Water Pollution Prevention Program please call (619) 235-1000 or log onto www.thinkbluesd.org. For information on water conservation, log onto www.sandiego.gov/water/conservation.

2002 Water Quality Data

How do I Read the Tables?

The tables on the following pages list contaminants which: 1) have associated Primary Maximum Contaminant Levels (MCLs) that are regulated and 2) were detected by the City of San Diego's Water Quality Laboratory. Contaminants were detected at or above the California Department of Health Services (DHS) Detection Limits for Purposes of Reporting (DLRs) during the calendar year 2002. The presence of these contaminants in the drinking water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table are from testing done January 1 through December 31, 2002.

The State DHS requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, are more than one year old.



Terms & Abbreviations Used:

CCR: Consumer Confidence Report. Annual Water Quality Report produced by water agency to inform customers.

Corrosivity: The corrosivity of a sample is measured by the Langlier Stability Index. A positive index, indicating non-corrosivity, was maintained at all plant effluents.

CSD WQL MDL: City of San Diego Water Quality Laboratory Method Detection Limit. Lowest quantifiable concentration of a measured analyte detectable by the Laboratory.

Detection Limits for Purposes of Reporting (DLRs) define the analytical detection of a contaminant in terms of a level at which the Department of Health Services is confident about the quantification of the contaminant's presence in drinking water. Data are required to be submitted if detections are at or above the DLR.

Information Collection Rule (ICR): A special data-gathering program administered by the EPA to guide future regulatory and public health decisions on pathogens, disinfectants, and disinfection by-products in drinking water.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically or technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the United States Environmental Protection Agency.

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

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Public Health Goal (PHG): The 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.

Regulatory Action Level (AL): The concentration of a contaminant which, when exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

N/A: not applicable

ND: not detectable at DLR

ppt: parts per trillion or nanograms per liter (ng/L)

ppb: parts per billion or micrograms per liter (µg/L) — [1 ppb = 1,000 ppt]

ppm: parts per million or milligrams per liter (mg/L) — [1 ppm = 1,000 ppb]

pCi/L: picocuries per liter (a measure of radiation)

Sample Date: This column is to record the last time a contaminant was analyzed.

Table 1 lists all the regulated CCR Contaminants with Primary MCLs that the City of San Diego's Water Quality Laboratory detected in the drinking water at or above the California Department of Health Services (DHS) Detection Limits for Purposes of Reporting (DLRs).

Table 2 is a listing of regulated contaminants with Secondary MCLs that were detected at or above the California Department of Health Services DLR for each analyte.

Table 3 is a listing of ICR disinfection by-products that were detected at or above the California Department of Health Services DLR for each analyte.

Table 4 is a listing of detected unregulated CCR contaminants that were detected at or above the California Department of Health Services DLR for each analyte. Unregulated contaminant monitoring helps the EPA and the California Department of Health Services to determine where certain contaminants occur and whether the contaminants need to be regulated.

Table 5 is a listing of disinfection residuals and disinfection by-products that were detected.

Table 6 (not included in this report) is a listing of all the remaining CCR reportable compounds that were not detected or detected at a concentration less than the California Department of Health Services DLR. This table is available by calling our Public Information Office at (619) 527-3121 or by logging onto our website at www.sandiego.gov/water.

Detected CCR Contaminants – Important Health Effects Language

Even though there were no violations of the MCLs for either the EPA or the California Department of Health Services, the following information is provided on the contaminants that are listed in Tables 1 through 5 that were detected at or above the California DHS Detection Limit for Reporting (DLR). This information describes the potential health affects of drinking water that contains the contaminant **at levels above the federal MCL.**

BORON: Some men who drink water containing boron in excess of the action level over many years may experience reproductive effects. This information is based on animal studies. (see Table 4)

CHLORAMINES: Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort. (see Table 5)

COPPER: Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time may experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years may suffer liver or kidney damage. People with Wilson's Disease should consult with their personal doctor. (see Table 1)

FLUORIDE: Some people who drink water containing fluoride in excess of the federal MCL of 4 mg/L over many years may get bone disease, including pain and tenderness of the bones. Children who drink water containing fluoride in excess of the state MCL of 2 mg/L may get mottled teeth. Currently, all of the fluoride in our drinking water is naturally occurring. The City of San Diego does not add fluoride to its drinking water. (see Table 1)

GROSS ALPHA PARTICLE ACTIVITY: Certain materials are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer. The City of San Diego is required to analyze for radioactive contaminants every four (4) years. (see Table 1)

GROSS BETA PARTICLE ACTIVITY: Certain materials are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer. The City of San Diego is required to analyze for radioactive contaminants every four (4) years. (see Table 1)

HALOACETIC ACIDS: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer. (see Table 5)

LEAD: Infants and children who drink water containing lead in excess of the action level may experience delays in their physical or mental development. Children may show slight deficits in attention span and learning abilities. Adults who drink this water over many years may develop kidney problems or high blood pressure. The City of San Diego's service lines do not contain lead and our testing reflects that. If you reside in an older home, lead solder may have been used in the pipes which could affect the lead content in your drinking water. Visit the American Water Works Association website at www.awwa.com for information on research studies. (see Table 1)

PERCHLORATE: Some people who drink water containing perchlorate in excess of the action level may experience effects associated with hypothyroidism. Perchlorate interferes with the production of thyroid hormones, which are required for normal pre- and postnatal development in humans, as well as normal body metabolism. Tests for this chemical are performed at each treatment plant on a quarterly basis. At Miramar, one analysis detected perchlorate at 4.39 ppb, but in the other three analyses, it was not detected. (see Table 4)

RADIUM 228: Some people who drink water containing radium 228 in excess of the MCL over many years may have an increased risk of getting cancer. (see Table 1)

TOTAL COLIFORM: No more than 5.0% of the monthly samples may be total coliform positive. Fecal coliform/E. coli MCLs: The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform, constitutes an acute MCL violation. (see Table 1)

TOTAL ORGANIC CARBON: (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of cancer. (see Table 5)

TOTAL TRIHALOMETHANES (TTHMs): Compliance with the MCL regulation for TTHMs are based on the running average of samples collected over the entire year. An individual sample greater than 80 µg/L does not constitute a violation of the MCL. Some people who use water containing THMs in excess of the MCL over many years may experience liver, kidney, or central nervous system problems, and may have an increased risk of getting cancer. Recent studies indicate there may be an association between high levels of TTHMs and the risk of miscarriage. (see Table 5)

TURBIDITY: Turbidity is the cloudiness of the water. Turbidity has no health effects. However, high levels of turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches. (see Table 1)

URANIUM: Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity. The City of San Diego is required to analyze for radioactive contaminants every four (4) years. (see Table 4)

VANADIUM: The babies of some pregnant women who drink water containing vanadium in excess of the action level may have an increased risk of developmental effects. This is based on studies in laboratory animals. (see Table 1)

TABLE 1 – DETECTED REGULATED CCR CONTAMINANTS WITH ASSOCIATED MAXIMUM CONTAMINANT LEVELS

Primary Standards (Mandatory Health Related Standards) – CHEMICAL CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR MCL	CCR PHG (MCLG)	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Fluoride	ppm	2	1	0.04	0.282	0.260 - 0.298	0.28	0.260 - 0.314	0.295	0.262 - 0.342	2002	Erosion of natural deposits and discharge from fertilizer and aluminum factories

Primary Standards (Mandatory Health Related Standards) – RADIOACTIVE CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR MCL	CCR PHG (MCLG)	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Gross Beta Particle Activity	pCi/L	50	n/a	4	ND	ND - 6.25	ND	ND - 6.55	ND	ND - 4.45	2002	Decay of natural and man-made deposits
Gross Alpha Particle Activity	pCi/L	15	n/a	1	3.32	2.86 - 3.82	4.01	3.08 - 5.19	3.4	2.84 - 3.99	2002	Erosion of natural deposits
Radium 228	pCi/L	2	n/a	0.5	0.73	ND - 1.44	0.93	ND - 1.72	1.14	0.57 - 1.90	2002	Erosion of natural deposits
Uranium	pCi/L	20	0.5	2	3.4	2.55 - 4.51	3.42	3.31 - 3.71	3.58	2.49 - 4.89	2002	Erosion of natural deposits

Primary Standards (Mandatory Health Related Standards) – CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR MCL	CCR PHG (MCLG)	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Sodium	ppm	n/a	n/a	5	82.2	78.5 - 87.7	79.5	73.7 - 89.6	81.2	75.9 - 86.8	2002	Naturally present in the environment
Total Hardness	ppm	n/a	n/a	2	235	216 - 251	249	222 - 263	235	208 - 251	2002	Naturally present in the environment
Total Hardness	gr/Gal	n/a	n/a	0.117	13.8	12.6 - 14.7	14.6	13.0 - 15.4	13.7	12.2 - 14.7	2002	Naturally present in the environment
Turbidity	NTU	TT	TT	0.07	0.1	ND - 0.16	0.09	ND - 0.24	0.12	ND - 0.63	2002	Soil runoff
Total Coliform Bacteria		<5% P TT	0	A	DISTRIBUTION SYSTEM MONTHLY AVERAGE = 0.17% RANGE = 0 – 1.2%						2002	Naturally present in the environment

Primary Standards (Mandatory Health Related Standards) – AT THE TAP CONTAMINANTS – LEAD AND COPPER RULE

CONTAMINANT	CCR UNITS	CCR MCL	CCR PHG (MCLG)	CA DHS DLR	DISTRIBUTION SYSTEM CONCENTRATIONS 90th PERCENTILE CONCENTRATION	NUMBER SAMPLING SITES	NUMBER SITES EXCEEDING AL	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Copper	ppm	AL = 1.3	0.17	0.05	0.346	52	0	2002	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead	ppb	AL = 15	2	5	ND	52	0	2002	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers, erosion of natural deposits

Abbreviations

A: Absent
AL: Action Level
CCR: Consumer Confidence Report
CSD WQL MDL: City of San Diego Water Quality Laboratory Method Detection Limit
CU: Color Units
DLR: Detection Limit for Reporting
gr/Gal: Grains per Gallon
ICR: Information Collection Rule
MCL: Maximum Contaminant Level
MCLG: Maximum Contaminant Level Goal
MDL: Method Detection Limit
N/A: Not applicable
ND: Not detected
NTU: Nephelonmetric Turbidity Units
OU: Odor Units
P: Present
pCi/L: picocuries per liter (a measure of radiation)
PDWS: Primary Drinking Water Standard
PHG: Public Health Goal
ppb: parts per billion or micrograms per liter (µg/L) – [1 ppb = 1,000 ppt]
ppm: parts per million or milligrams per liter (mg/L) – [1 ppm = 1,000 ppb]
ppt: parts per trillion or nanograms per liter (ng/L) – [1 ppt = 0.001 ppb]
Sample Year: This column is to record the last time a contaminant was analyzed.
TOX: Total Organic Halides
TT: A required treatment technique process intended to reduce the level of a contaminant in drinking water.
µg/l: micrograms per liter (ppb)
µmhos/cm: measurement of conductivity
< Less than
> Greater than

TABLE 2 – DETECTED REGULATED CCR CONTAMINANTS WITH SECONDARY MAXIMUM CONTAMINANT LEVELS

Secondary Standards (Mandatory Health Related Standards) – CHEMICAL CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR CA SMCL	CCR PHG (MCLG)	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Color	CU	15	n/a	1	3	ND – 7	2	ND – 4	3	ND – 11	2002	Naturally occurring organic materials.
Corrosivity	–	non-corrosive	n/a	–	0.69	0.11 – 0.97	0.59	0.01 – 0.83	0.57	0.16 – 0.89	2002	Natural or industrially influenced balance of hydrogen, carbon and oxygen in water. A positive index indicates that the water is non-corrosive.
Odor - Threshold	OU	3	n/a	1	< 1	< 1 – 2	< 1	< 1 – 1	1.1	1 – 1.4	2002	Naturally occurring organic materials.
Turbidity	NTU	5	n/a	0.07	0.1	ND – 0.16	0.09	ND – 0.24	0.12	ND – 0.63	2002	Soil runoff
Total Dissolved Solids	ppm	1,000	n/a	10	517	483 – 571	527	507 – 577	510	477 – 570	2002	Runoff/leaching from natural deposits
Specific Conductance	umhos/cm	1,600	n/a	n/a	871	843 – 921	883	861 – 933	865	828 – 930	2002	Substances that form ions when in water; seawater influence
Chloride	ppm	500	n/a	0.5	87.4	71.0 – 118	81.5	66.5 – 104	84	66.4 – 100	2002	Runoff/leaching from natural deposits; seawater influence
Sulfate	ppm	500	n/a	0.5	175	137 – 210	188	145 – 244	171	141 – 225	2002	Runoff/leaching from natural deposits; seawater influence

TABLE 3 – INFORMATION COLLECTION RULE DISINFECTION BY-PRODUCTS

CONTAMINANT	CCR UNITS	CCR MCL	CCR PHG (MCLG)	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED
Haloketones	ppb	n/a	n/a	0.5	1.75	1.26 – 2.05	2.15	1.42 – 2.81	2.40	1.60 – 3.53	2001
Haloacetonitriles [HAN4]	ppb	n/a	n/a	0.25	6.99	4.72 – 8.69	8.33	5.67 – 11.5	10.4	7.25 – 16.0	2001
Chlorohydrate	ppb	n/a	n/a	0.25	1.38	0.56 – 2.21	2.54	2.01 – 3.44	1.27	0.74 – 2.16	2001
Chloropicrin	ppb	n/a	n/a	0.25	0.27	ND – 0.81	ND	ND – 0.72	ND	ND	2001
TOX as Chloride	ppb	n/a	n/a	10	221	184 – 318	212	171 – 258	173	55.9 – 259	2002
Cyanogen Chloride	ppb	n/a	n/a	0.5	4.88	1.68 – 7.23	2.31	1.31 – 3.06	5.72	2.18 – 10.2	1999

TABLE 4 – DETECTED UNREGULATED CONSUMER CONFIDENCE REPORT CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR ACTION LEVEL	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED
Boron	ppb	1000	5	91.3	42.7 – 141	86.6	40.3 – 150	93.7	43.6 – 135	2002
Perchlorate	ppb	4	4	ND	ND	ND	ND – 4.39	ND	ND	2002
Vanadium	ppb	50	0.2	ND	ND – 0.323	ND	ND – 0.430	ND	ND	2002

In accordance with state guidelines, the City of San Diego Water Department does not report any compounds detected below the Detection Limit for Reporting (DLR). However, we do feel it is important to mention the following five compounds that were detected in our water at levels **below** state reporting standards: arsenic, barium, chromium, selenium and MTBE.

TABLE 5 – DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS PRECURSORS

Primary Standards (Mandatory Health Related Standards) – CHEMICAL CONTAMINANTS

CONTAMINANT	CCR UNITS	CCR MCL MRDL	CCR MCLG MRDLG	CSD WQL MDL	TREATMENT PLANT EFFLUENT CONCENTRATION ALVARADO AVERAGE	ALVARADO RANGE	MIRAMAR AVERAGE	MIRAMAR RANGE	OTAY AVERAGE	OTAY RANGE	YEAR SAMPLED	TYPICAL SOURCE OF CONTAMINANT
Disinfectant Residual [Chloramines]	ppm	4	4	0.1	2.4	1.4 – 3.0	2.6	1.5 – 2.9	2.5	2.0 – 3.1	2002	Drinking water disinfectant added for treatment
Total Organic Carbon [TOC]	ppm	n/a	n/a	0.25	2.96	1.91 – 4.49	2.56	1.96 – 3.65	2.83	1.70 – 5.22	2002	Various natural and manmade sources
Total Trihalomethanes [TTHMs]	ppb	80	n/a	0.2	DISTRIBUTION SYSTEM AVERAGE = 55.3				RANGE = 33.3 – 88.2		2002	By-product of drinking water chlorination
Haloacetic acids [HAA5]	ppb	60	n/a	0.5	DISTRIBUTION SYSTEM AVERAGE = 25.0				RANGE = 17.8 – 39.4		2002	By-product of drinking water disinfection

NOTE: Total Trihalomethane and HAA5 compliance is based on a flow weighted system wide average. Reported values reflect City wide results.

Drinking Water Source Assessment and Protection Program

The Safe Drinking Water Act of 1996 requires the preparation of source water assessments for all drinking water sources. These assessments must be submitted to the Environmental Protection Agency (EPA). In California source water assessments are referred to as the Drinking Water Source Assessment and Protection (DWSAP) Program. The DWSAP fulfills the requirement for source water assessments and will also help to facilitate the development of protection programs for both groundwater and surface water sources.

The Department of Health Services (DHS) is mandated by the EPA to produce source water assessment reports. However, because of the challenges faced by DHS with regard to their resources, many large water agencies compiled their own assessments and provided the information to the DHS. The City of San Diego Water Department volunteered to assist the DHS to meet the challenge of compiling this report.

The following are summaries of the assessments for the source water reservoirs supplying our three water treatment plants. Each reservoir is susceptible to potential contamination by the activities listed. In addition, all of the reservoirs are susceptible to contamination associated with the use of watercraft for water recreation.

Alvarado Water Treatment Plant

Murray Reservoir – (assessment completed April, 2002)

- portable toilets/sewage holding tanks, surface water recreational areas, parks, storm drain discharge points, waste sewage transfer, golf course, parking lot with greater than 50 spaces, gas station, dry cleaner, sewer collection system, and historic gas station

San Vicente Reservoir – (assessment completed June, 2002)

- illegal activities/unauthorized dumping, parking lots with greater than 50 spaces, storm drain discharge points, parks, historic gas stations, gas stations, airport/fueling (for Ultralite Aircraft), portable toilets/sewage holding tanks, wastewater treatment plant, and water supply wells

El Capitan Reservoir – (assessment completed June, 2002)

- a gas station, surface water recreation areas, recent burn areas, parking lots of greater than 50 spaces, parks, portable toilets/sewage holding tanks, historic mines, wells, and historic gas stations

Alvarado Water Treatment Plant

El Capitan Reservoir

Miramar Water Treatment Plant

Miramar Reservoir – (assessment completed June, 2002)

- pump-out toilets/sewage holding tanks, sewer collection systems, activity on surface water, parking lots greater than 50 spaces, parks, fertilizer/pesticide/herbicide application, and storm drain discharge

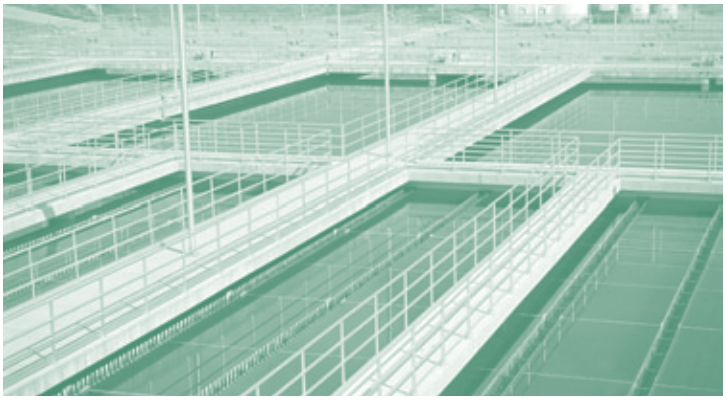
Otay Water Treatment Plant

Otay Reservoir – (assessment completed June, 2002)

- a gas station, an airport, pump-out toilets and sewage storage tanks, body shops, repair shops, grazing, low density septic systems, unauthorized dumping, surface water recreation, recent burn areas, parking lots, parks, historic mining operations, active mining operations, water supply wells, freeways, storm drain discharge points and storm water detention facilities

A copy of the complete assessment is available by calling the Public Information Office at 619-527-3121.

For a more comprehensive description of the source waters supplying our treatment plants, refer to the Watershed Sanitary Survey, which is available by calling our Public Information Office at (619) 527-3121 or by logging onto the Water Department's website.



Sedimentation Basins

How Can I Get More Information About My Water?

The Public Utilities Advisory Commission (PUAC) holds monthly meetings (the 3rd Monday of each month) to discuss water issues facing the City of San Diego Water Department. The public is welcome to attend and give input. Simply call the PUAC's support line at (619) 236-6750 for information about meeting location, dates and times.

For calendar year 2002, your tap water met all Environmental Protection Agency (EPA) and Department of Health Services (DHS) drinking water health standards. The City of San Diego's Water Department vigilantly safeguards its water supplies and is proud to report that our extensive water system did not violate a Maximum Contaminant Level.

In the City's more than 100 year history of providing water to our residents, we have consistently met all state and federal drinking water regulations.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791 or by visiting the EPA's website at www.epa.gov/safewater/hfacts.html. California action levels are available on the Department of Health Services (DHS) website www.dhs.ca.gov/ps/ddwem/index.htm.

Why Might My Water Taste Funny?

Occasionally, water suppliers experience episodes of unpleasant tastes and odors in their water, often characterized as "musty" or "earthy." These taste and odor variations are caused by naturally occurring algae growth. In San Diego, algae are occasionally found in the source water reservoirs and aqueducts that supply water to the City. Specifically, these algae will seasonally produce trace amounts of taste and odor causing chemical compounds. While they do not pose any health risks to the population, the City of San Diego closely monitors our source waters for algae growth and, when possible, will switch to a different water source if a problem arises.

Important Phone Numbers

General Information ..... (619) 515-3500
Emergency Hotline ..... (619) 515-3525
Water Quality Lab ..... (619) 668-3232
Capital Improvements Program..... (619) 533-4679
Group Job Hotline ..... (858) 573-5081
Water Conservation ..... (619) 515-3500
City Lakes Fishing Line..... (619) 465-3474
Speakers Bureau ..... (619) 533-6638
EPA's Drinking Water Hotline ..... (800) 426-4791
Storm Water Prevention ..... (619) 235-1000
Public Information Office..... (619) 527-3121

Important Web Links

City of San Diego ..... www.sandiego.gov
SD County Water Authority.....www.sdcwa.org
State (DHS)..... www.dhs.ca.gov
EPA..... www.epa.gov/safewater
Think Blue .....www.thinkbluesd.org
County of San Diego.....www.co.sandiego.ca.us

To reach the Water Department via email:
water@sandiego.gov

Speakers Bureau Program

In 1999 the Water Department launched the Speakers Bureau program to bring more information to the community. You can request a speaker for your business, civic or social group to discuss water conservation, quality and treatment, reclamation or our Capital Improvements Program by contacting the Speakers Bureau Coordinator at (619) 533-6638.

Water Hardness and Grains per Gallon

We are often asked about the hardness of San Diego's drinking water and how to convert the water hardness mg/L figures to grains per gallon. Using the table found on our website at **www.sandiego.gov/water** labeled "Additional Water Quality Testing Information," you can divide the hardness figure by a factor of 17.12 to arrive at a grains per gallon figure.

This Consumer Confidence Report meets federal and state requirements for annual customer notification regarding water quality. It was produced and mailed to residences and businesses in the City of San Diego Water Department's service area at a cost of 28 cents per copy. The direct mailing of this report allows us to provide virtually all of our customers with information they should have about drinking water standards and quality in a cost efficient manner.

Printed on recycled paper. This information is available in alternative formats upon request.

THE CITY OF SAN DIEGO

Water Department

Consumer Confidence Report 2002

Water Department Billing News

Beginning September, 2003, the Water Department will issue water/sewer/storm drain bills once a month instead of every other month. For more information, please call 619-515-3500 or log onto our website at www.sandiego.gov/water.

Lake Barrett Watershed

This report contains important information about your drinking water. If the report is not available in your native language, speak with someone who understands it and can translate for you.

Este informe contiene información importante sobre la calidad del agua en su comunidad. Copias en español de este reporte están disponibles si llama al (619) 527-3121. También encontrará este informe por medio del internet en www.sandiego.gov/water.

Ribootkani wuxuu xanbaar sanyahay warbixino muhiim ah oo ku saabsam biyaha aad cabtaan. Hadii aadan fahmeynin,Fadlan ribootka hala turjumo ama kala hadal ruux ku fahansiiya.

此份有關你的食水報告,內有重要資料和訊息,請找他人為你翻譯及解釋清楚。

"هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو الشرب). ترجم التقرير أو تكلم مع شخص يستطيع أن يفهم التقرير."

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

이 안내는 매우 중요합니다. 본인을 위해 번역인을 사용하십시요.

Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

Landscape Watering Calculator

The City of San Diego Landscape Watering Calculator is an easy-to-use, web-based tool that helps you estimate the amount of water your landscape or garden needs. The calculator uses averages that adjust for weather, plants and soils in San Diego. Additionally, the calculator will soon be available to create watering schedules for California Native Plants. Please visit our website for more information. www.sandiego.gov/water

THE CITY OF SAN DIEGO
Water Department Operations Division
Public Information Office
2797 Caminito Chollas, MS 43
San Diego, CA 92105-5097

PRSRT STD
U.S. POSTAGE
PAID
PERMIT NO. 134
SAN DIEGO, CA