

2013 Water Quality Report

City of
SEAL BEACH
Water Department

The Colorado River

Your 2013 Water Quality Report

Drinking Water Quality

Since 1990, California public water utilities have been providing an annual Water Quality Report to their customers. This year's report covers calendar year 2012 drinking water quality testing and reporting. Your City of Seal Beach Water Department vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the quality standards required by federal and state regulatory agencies. The U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) are the agencies responsible for establishing and enforcing drinking water quality standards.

In some cases, the City goes beyond what is required by testing for unregulated chemicals that may have known health risks but do not have drinking water standards. For example, the Orange County Water District (OCWD), which manages the groundwater basin, and the Metropolitan Water District of Southern California (MWDSC), which supplies treated imported surface water to the City, test for unregulated chemicals in our water supply. Unregulated chemical monitoring helps USEPA and CDPH determine where certain chemicals occur and whether new standards need to be established for those chemicals.

Through drinking water quality testing programs carried out by OCWD for groundwater, MWDSC for treated surface water and the Seal Beach Water Department for the distribution system, your drinking water is constantly monitored from source to tap for regulated and unregulated constituents.

The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.



We Go to Great Lengths to Ensure the Continued Quality of Your Water

Sources of Supply

Your water supply is at times a blend of groundwater pumped from four local wells by the City of Seal Beach Water Department and water imported from Northern California and the Colorado River by the Municipal Water District of Orange County (MWDOC) via the MWDS. Groundwater comes from a natural underground aquifer that is replenished with water from the Santa Ana River, local rainfall and imported water. The groundwater basin is 350 square miles and lies beneath north and central Orange County from Irvine to the Los Angeles County border and from Yorba Linda to the Pacific Ocean. More than 20 cities and retail water districts draw from the basin to provide water to homes and businesses.

Orange County's Water Future

For years, Orange County has enjoyed an abundant, seemingly endless supply of high-quality water. However, as water demand continues to increase statewide, we must be even more conscientious about our water supply and maximize the efficient use of this precious natural resource.

OCWD and MWDOC work cooperatively to evaluate new and innovative water management and supply development programs, including water reuse and recycling, wetlands expansion, recharge facility construction, ocean and brackish water desalination, surface storage and water use efficiency programs. These efforts are helping to enhance long-term countywide water reliability and water quality.

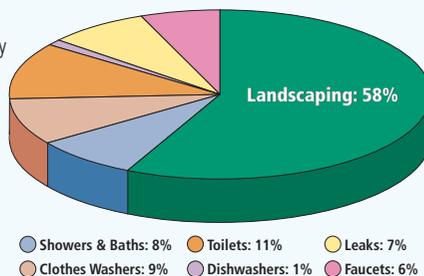
A healthy water future for Orange County rests on finding and developing new water supplies, as well as protecting and



How Residential Water is Used in Orange County

Outdoor watering of lawns and gardens makes up approximately 60% of home water use. By cutting your outdoor watering by 1 or 2 days a week, you can dramatically reduce your overall water use.

Visit www.bewaterwise.com for water saving tips and ideas for your home and business.



improving the quality of the water that we have today. Your local and regional water agencies are committed to making the necessary investments today in new water management projects to ensure an abundant and high-quality water supply for our future.

Basic Information About Drinking Water Contaminants

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 land or through the layers of the ground it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal and human activity.

Contaminants that may be present in source water include:

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

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

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

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

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

In order to ensure that tap water is safe to drink, USEPA and the CDPH prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline at (800) 426-4791.



Immuno-Compromised People

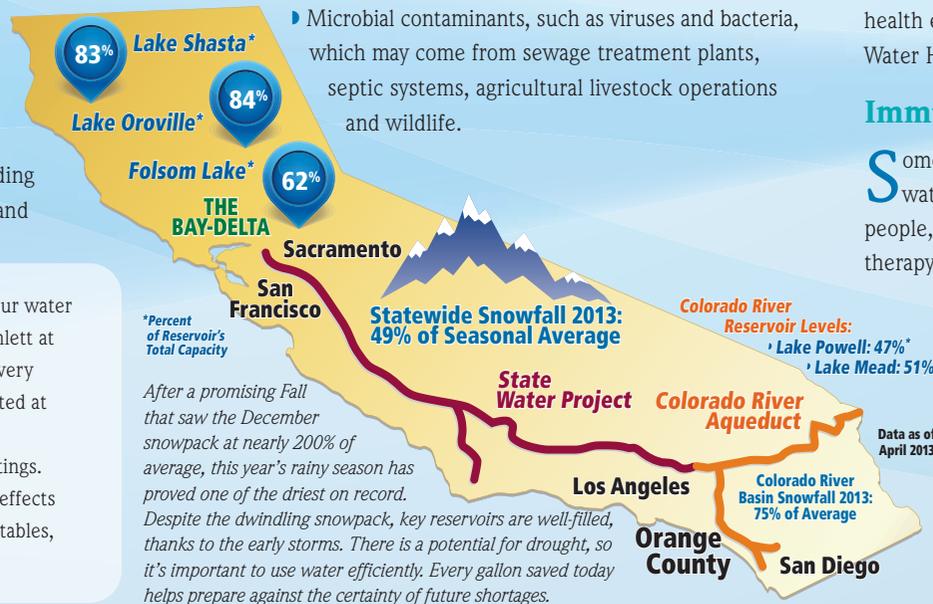
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer who are undergoing chemotherapy, persons who have had organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

The USEPA and the federal Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from USEPA's Safe Drinking Water Hotline at (800) 426-4791 between 10 a.m. and 4 p.m. Eastern Time (7 a.m. to 1 p.m. in California).

Questions about your water? Contact us for answers.

For information about this report, or your water quality in general, please contact Alan Bramlett at (562) 596-9990. The City Council meets every other Monday evening at the City Hall located at 211 Eighth Street in the city of Seal Beach. Please feel free to participate in these meetings.

For more information about the health effects of the listed contaminants in the following tables, call the USEPA hotline at (800) 426-4791.



Information You Should Know About the Quality of Your Drinking Water

Disinfectants and Disinfection Byproducts

Disinfection of drinking water was one of the major public health advances in the 20th century. Disinfection was a major factor in reducing waterborne disease epidemics caused by pathogenic bacteria and viruses, and it remains an essential part of drinking water treatment today.

Chlorine disinfection has almost completely eliminated from our lives the risks of microbial waterborne diseases. Chlorine is added to your drinking water at the source of supply (groundwater well or surface water treatment plant). Enough chlorine is added so that it does not completely dissipate through the distribution system pipes. This “residual” chlorine helps to prevent the growth of bacteria in the pipes that carry drinking water from the source into your home.

However, chlorine can react with naturally-occurring materials in the water to form unintended chemical byproducts, called disinfection byproducts (DBPs), which may pose health risks. A major challenge is how to balance the risks from microbial pathogens and DBPs. It is important to provide protection from these microbial pathogens while simultaneously ensuring decreasing health risks from disinfection byproducts. The Safe Drinking Water Act requires the

USEPA to develop rules to achieve these goals.

Trihalomethanes (THMs) and Haloacetic Acids (HAAs) are the most common and most studied DBPs found in drinking water treated with chlorine. In 1979, the USEPA set the maximum amount of total THMs allowed in drinking water at 100 parts per billion as an annual running average. Effective in January 2002, the Stage 1 Disinfectants / Disinfection Byproducts Rule lowered the total THM maximum annual average level to 80 parts per billion and added HAAs to the list of regulated chemicals in drinking water. Your drinking water complies with the Stage 1 Disinfectants / Disinfection Byproducts Rule.

Stage 2 of the regulation was finalized by USEPA in 2006, which further controls allowable levels of DBPs



in drinking water without compromising disinfection itself. A required distribution system evaluation was completed in 2008 and a Stage 2 monitoring plan has been approved by CDPH. Full Stage 2 compliance began in 2012.

About Lead in Tap Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Seal Beach Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead

What are Water Quality Standards?

Drinking water standards established by USEPA and CDPH set limits for substances that may affect consumer health or aesthetic qualities of drinking water. The chart in this report shows the following types of water quality standards:

- **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 and technologically feasible.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- **Secondary MCLs** are set to protect the odor, taste, and appearance of drinking water.
- **Primary Drinking Water Standard:** MCLs for contaminants that affect health along with their monitoring and reporting requirements and water treatment requirements.
- **Regulatory Action Level (AL):** The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

How are Contaminants Measured?

Water is sampled and tested throughout the year.

Contaminants are measured in:

- parts per million (ppm) or milligrams per liter (mg/L)
- parts per billion (ppb) or micrograms per liter (µg/L)
- parts per trillion (ppt) or nanograms per liter (ng/L)

What is a Water Quality Goal?

In addition to mandatory water quality standards, USEPA and CDPH have set voluntary water quality goals for some contaminants. Water quality goals are often set at such low levels that they are not achievable in practice and are not directly measurable. Nevertheless, these goals provide useful guideposts and direction for water management practices. The chart in this report includes three types of water quality goals:

- **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 USEPA.
- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- **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.

2012 City of Seal Beach Groundwater Quality

Chemical	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source of Contaminant
Radiologicals							
Uranium (pCi/L)	20	0.43	<1	ND – 2.7	No	2012	Erosion of Natural Deposits
Inorganic Chemicals							
Fluoride (ppm)	2	1	0.46	0.4 – 0.57	No	2012	Erosion of Natural Deposits
Secondary Standards*							
Chloride (ppm)	500*	n/a	18	13 – 24	No	2012	Erosion of Natural Deposits
Color (color units)	15*	n/a	4.9	ND – 10	No	2012	Erosion of Natural Deposits
Odor (threshold odor number)	3*	n/a	1.2	ND – 8	No	2012	Naturally Occurring Organics
Specific Conductance (µmhos/cm)	1,600*	n/a	390	350 – 410	No	2012	Erosion of Natural Deposits
Sulfate (ppm)	500*	n/a	41	38 – 44	No	2012	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	220	210 – 240	No	2012	Erosion of Natural Deposits
Unregulated Contaminants Requiring Monitoring							
Alkalinity, total (ppm as CaCO ₃)	Not Regulated	n/a	130	120 – 150	n/a	2012	Erosion of Natural Deposits
Bicarbonate (ppm as HCO ₃)	Not Regulated	n/a	160	150 – 180	n/a	2012	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	24	19 – 33	n/a	2012	Erosion of Natural Deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	n/a	75	53 – 110	n/a	2012	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	3.3	1.4 – 5.7	n/a	2012	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	8.3	8.2 – 8.4	n/a	2012	Acidity, hydrogen ions
Potassium (ppm)	Not Regulated	n/a	1.6	1.3 – 1.8	n/a	2012	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	57	49 – 63	n/a	2012	Erosion of Natural Deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = pico curies per liter; NTU = nephelometric turbidity units; ND = not detected; NR = not required to be tested; µmhos/cm = micromhos per centimeter; n/a = not applicable; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; TT = treatment technique; NL = Notification Level; < = average is less than the reporting limit *Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

2012 City of Seal Beach Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	28	6.1 – 44	No	Byproducts of chlorine disinfection
Haloacetic Acids (ppb)	60	13	ND – 28	No	Byproducts of chlorine disinfection
Chlorine Residual (ppm)	(4 / 4)	1.2	ND – 2.2	No	Disinfectant added for treatment
Aesthetic Quality					
Color (color units)	15*	ND	ND – 1	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	ND	ND – 1	No	Erosion of Natural Deposits
Turbidity (NTU)	5*	0.16	ND – 0.37	No	Erosion of natural deposits

Four locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; Eighteen locations are tested monthly for color, odor and turbidity. MRDL = Maximum Residual Disinfectant Level; MRDLG = Maximum Residual Disinfectant Level Goal; NTU = nephelometric turbidity units; ND = not detected

*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

Bacterial Quality	MCL	MCLG	Highest Monthly Positive Samples	MCL Violation?	Typical Source of Contaminant
Total Coliform Bacteria	5%	0	2.5%	No	Naturally present in the environment

No more than 5% of the monthly samples may be positive for total coliform bacteria.

The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/*E. coli*, constitutes an acute MCL violation.

Lead and Copper Action Levels at Residential Taps

	Action Level (AL)	Public Health Goal	90 th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	0.2	2.4	0 / 31	No	Corrosion of household plumbing
Copper (ppm)	1.3	0.3	0.13	0 / 31	No	Corrosion of household plumbing

Every three years, at least 31 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2012.

Copper was found in 31 homes; none exceeded the regulatory action level. Lead was found in eight homes; none exceeded the action level.

The regulatory action level is the concentration of lead or copper which, if exceeded in more than ten percent of the homes tested, triggers treatment or other requirements that a water system must follow.

in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at: <http://water.epa.gov/drink/info/lead/index.cfm>.

Radon Advisory

Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Breathing air containing radon can lead to lung cancer. Drinking water containing radon could increase the risk of stomach cancer. Compared to radon

entering the home through soil, radon entering the home through your tap water is a small source of radon in indoor air. The USEPA Action Level for radon in indoor air is 4.0 picocuries per liter. The maximum amount of Radon detected in your water during 2012 was 334 picocuries per liter which is equivalent to 0.03 picocurie per liter of Radon in indoor air of a typical family residence. If you are concerned about radon in your home, test the air in your home. Fix your home if the level of radon is 4 picocuries per liter of air or higher. There are simple ways to fix a radon problem that aren't too costly.

For additional information, call your State Radon Program (1-800-745-7236), the USEPA Safe Drinking Water Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-SOS-RADON).

Drinking Water Fluoridation

Fluoride has been added to U.S. drinking water supplies since 1945. Of the 50 largest cities in the U.S., 43 fluoridate their drinking water. In December 2007, MWDSC joined a majority of the nation's public water suppliers in adding fluoride to drinking water in order to prevent tooth decay. In line with recommendations from the CDPH, as well as the U.S. Centers for Disease Control and Prevention, MWDSC adjusted the natural fluoride level in imported treated water from the Colorado River and State Project water to the optimal range for dental health of 0.7 to 1.3 parts per million. Our four local groundwater wells are not supplemented with fluoride; they have naturally occurring fluoride levels of 0.50 parts per million or

less. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

There are many places to go for additional information about the fluoridation of drinking water:

U.S. Centers

for Disease Control and Prevention

1-800-232-4636 • www.cdc.gov/fluoridation/

California Department of Public Health

www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx

American Water Works Association: www.awwa.org

For more information about MWDSC's fluoridation program, please contact Edgar G. Dymally at (213) 217-5709 or by email at edymally@mwdh2o.com.



Want Additional Information?

There's a wealth of information on the internet about Drinking Water Quality and water issues in general. A good place to begin your own research is the **City of Seal Beach** website:

www.sealbeachca.gov

In addition to extensive information about your local water and the support and services we offer, you'll find links for many other local, statewide, and national resources.

2012 Metropolitan Water District of Southern California Treated Surface Water

Chemical	MCL	PHG, or (MCLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals – Tested in 2011						
Alpha Radiation (pCi/L)	15	(0)	3	ND – 3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	ND	ND – 4	No	Decay of Man-made or Natural Deposits
Uranium (pCi/L)	20	0.43	2	2	No	Erosion of Natural Deposits
Inorganic Chemicals – Tested in 2012						
Aluminum (ppm)	1	0.6	0.15	ND – 0.34	No	Treatment Process Residue, Natural Deposits
Fluoride (ppm) treatment-related	Control Range 0.7 – 1.3 ppm Optimal Level 0.8 ppm		0.8	0.7 – 0.8	No	Water Additive for Dental Health
Secondary Standards* – Tested in 2012						
Aluminum (ppb)	200*	600	150	ND – 340	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	90	87 – 93	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	1	1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	n/a	2	2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	780	340 – 930	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	160	160	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	500	490 – 500	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals – Tested in 2012						
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	n/a	98	53 – 120	n/a	Runoff or Leaching from Natural Deposits
Boron (ppb)	NL = 1,000	n/a	130	130	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	51	49 – 53	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO ₃ (ppm)	Not Regulated	n/a	210	84 – 270	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	12	4.9 – 16	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	21	21	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	8.1	7.9 – 8.4	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	4	4	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	80	80 – 81	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.4	2.0 – 2.7	n/a	Various Natural and Man-made Sources

ppb = parts-per-billion; ppm = parts-per-million; ppt = parts-per-trillion; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units; µmho/cm = micromhos per centimeter; ND = not detected; < = average is less than the detection limit for reporting purposes; MCL = Maximum Contaminant Level; (MCLG) = federal MCL Goal; PHG = California Public Health Goal; NL = Notification Level; n/a = not applicable; TT = treatment technique * Contaminant is regulated by a secondary standard.

Turbidity – combined filter effluent Metropolitan Water District Diemer Filtration Plant	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant
1) Highest single turbidity measurement	0.3 NTU	0.04	No	Soil Runoff
2) Percentage of samples less than 0.3 NTU	95%	100%	No	Soil Runoff

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. NTU = nephelometric turbidity units. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Source Water Assessments

Imported (MWDSC) Water Assessment

Every five years, MWDSC is required by CDPH to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters.

In 2012, MWDSC submitted to CDPH its updated Watershed Sanitary Surveys for the Colorado River and State Water Project, which include suggestions for how to better protect these source waters. Both source waters are exposed to stormwater runoff, recreational activities, wastewater discharges, wildlife, fires, and other watershed-related factors that could affect water quality.

Water from the Colorado River is considered to be most vulnerable to contamination from recreation, urban/stormwater runoff, increasing urbanization in the watershed, and wastewater. Water supplies from Northern California's State Water Project are most vulnerable to contamination from urban/stormwater runoff, wildlife, agriculture, recreation, and wastewater.

USEPA also requires MWDSC to complete one Source Water Assessment (SWA) that utilizes information collected in the watershed sanitary surveys. MWDSC completed its SWA in December 2002. The SWA is used to evaluate the vulnerability of water sources to contamination and helps determine whether more protective measures are needed.

A copy of the most recent summary of either Watershed Sanitary Survey or the SWA can be obtained by calling MWDSC at (213) 217-6850.

Groundwater Assessment

An assessment of the drinking water sources for the City of Seal Beach Water Department was completed in December 2002. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: sewer collection systems and military installations.

A copy of the complete assessment is available at Department of Public Health Office of Drinking Water, Santa Ana District, 28 Civic Center Plaza, Room 325, Santa Ana, California 92701. You may request a summary of the assessment by contacting the City of Seal Beach Water Department at (562) 596-9990.

This report contains important information
about your drinking water.

Translate it,
or speak with someone
who understands it.



Este informe contiene información
muy importante sobre su agua potable.

Tradúzcalo o hable con alguien
que lo entienda bien.



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