

2010 Water Quality Report



GARDEN GROVE
WATER SERVICES DIVISION

FIRST PLACE 2010 WATER CONSERVATION POSTER CONTEST

Your 2010 Water Quality Report

Drinking Water Quality

Since 1990, California water utilities have been providing an annual Water Quality Report to their customers. This year's report covers calendar year 2009 water quality testing, and has been prepared in compliance with regulations called for in the 1996 reauthorization of the Safe Drinking Water Act. The reauthorization charged the United States Environmental Protection Agency (USEPA) with updating and strengthening the tap water regulatory program.

USEPA and the California Department of Public Health (CDPH) are the agencies responsible for establishing drinking water quality standards. The federal Food and Drug Administration (FDA) also sets regulations for bottled water.

The City of Garden Grove vigilantly safeguards its water supply and, as in years past, the water delivered to your home meets the standards required by the state and federal regulatory agencies.

In some cases, the City goes beyond what is required by testing for unregulated contaminants that may have known health risks.

Unregulated contaminant monitoring helps USEPA determine where certain contaminants occur and whether it needs to establish regulations for those contaminants.



Bao MinhNhu Tran, 1st place winner of the 2010 poster contest from Mrs. Crawford's 3rd grade class, Crosby Elementary School.

Questions about your water?

For information about this report, or your water quality in general, please contact Zachary Barrett, Water Quality Supervisor, or Cel Pasillas or Millie Castellanos-Rodriguez, Water Quality Technicians, at (714) 741-5395.

Contact us for answers.

Public City Council meetings are held on the second and fourth Tuesdays of each month at 6:45 p.m. in the Council Chambers at the Community Meeting Center, 11300 Stanford Avenue, Garden Grove, California. You may also contact our City Clerk's Office, Garden Grove City Hall, 11222 Acacia Parkway, Garden Grove, CA 92840 or call (714) 741-5040 for information about Garden Grove City Council meetings. 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 U.S. Environmental Protection Agency hotline at (800) 426-4791.

What You Need to Know About Your Water, and How it May Affect You

Sources of Supply

Your drinking water is a blend of mostly groundwater from 12 wells in the Orange County groundwater basin and also surface water imported by Metropolitan Water District of Southern California. Metropolitan's imported water sources are a blend of State Water project water from northern California and water from the Colorado River Aqueduct. Your groundwater comes from a natural underground reservoir managed by the Orange County Water District that stretches from the Prado Dam and fans across the north-western portion of Orange County, excluding the communities of Brea and La Habra, and stretching as far south as the El Toro 'Y'.

Last year, as in years past, your tap water met all USEPA and State drinking water health standards. The City of Garden Grove vigilantly safeguards its water supplies and once again we are proud to report that our system has never violated a maximum contaminant level or any other water quality standard. This brochure is a snapshot of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to Federal and State standards.



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.

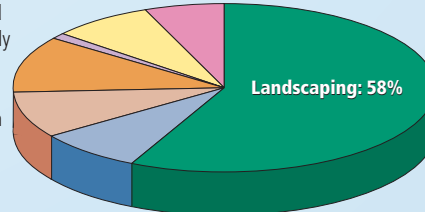
Contaminants that may be present in source water include:

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



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.

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



- 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 storm water 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.



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, the Metropolitan Water District of Southern California 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,



Metropolitan 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 local water is not supplemented with fluoride. Fluoride levels in drinking water are limited under California state regulations at a maximum dosage of 2 parts per million.

For Your Information...

Disinfection: Water provided by the City of Garden Grove contains chlorine used for disinfection and chloramines used by Metropolitan Water District, also for disinfection purposes. Customers on kidney dialysis should consult their physicians.

Fish or Amphibians: If you have fish or amphibians, make sure to remove any chloramines and chlorine before changing or adding water to the tanks. Remember, allowing drinking water to stand will not remove chloramines. Consult your local aquarium store for products that will remove the disinfectants.

Hot Water Heaters: Many odor complaints may be traced to the home's hot water heater.

Remember to follow manufacturer's instructions and flush hot water heaters regularly. This will flush out any sediments that may have accumulated, provide good water turnover to maximize water quality, and help keep your unit in good working order.



Point of Use or

Home Water Filtration Units: Be vigilant in changing or cleaning any filters or media on your home units. Always follow the manufacturers instructions. Remember, the water is only as clean as the filter allows. Improperly maintained filters can deliver very poor quality water.

The Quality of Your Water is Our Primary Concern

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.

Cryptosporidium

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 9 a.m. and 5 p.m. Eastern Time (6 a.m. to 2 p.m. in California).

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.

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. Radon from your tap water contributes no more than 0.1 picocurie per liter in your indoor air. 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 EPA Safe Drinking Water Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-SOS-RADON).



2009 City of Garden Grove Drinking Water Quality Local Groundwater and Metropolitan Water District Treated Surface Water

Chemical	MCL	PHG (MCLG)	Avg. Groundwater Amount	Avg. Imported MWD Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals – Tested in 2009							
Alpha Radiation (pCi/L)	15	(0)	9.6	5.6	3.8 – 12	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	NR	4.3	ND – 6.4	No	Decay of Man-made or Natural Deposits
Uranium (pCi/L)	20	0.43	8.9	3.3	2.9 – 12	No	Erosion of Natural Deposits
Inorganic Chemicals – Tested in 2009							
Aluminum (ppm)	1	0.6	ND	0.17	ND – 0.23	No	Treatment Process Residue, Natural Deposits
Arsenic (ppb)	10	0.004	<2	2.3	ND – 2.8	No	Erosion of natural deposits
Barium (ppm)	1	2	<0.1	0.13	ND – 0.14	No	Erosion of natural deposits
Fluoride (ppm) treatment-related*	Control Range 0.7 – 1.3 ppm Optimal Level 0.8 ppm		NR	0.8	0.7 – 0.9	No	Erosion of natural deposits
Fluoride (ppm) naturally-occurring	2	1	0.43	NR	0.39 – 0.51	No	Water Additive for Dental Health
Nitrate (ppm as NO ₃)	45	45	15	1.7	ND – 22	No	Agriculture runoff and sewage
Nitrate+Nitrite (ppm as N)	10	10	3.3	0.4	ND – 5.0	No	Agriculture runoff and sewage
Secondary Standards* – Tested in 2009							
Aluminum (ppb)	200*	600	ND	170	100 – 230	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	67	97	22 – 99	No	Runoff or leaching from natural deposits
Color (color units)	15*	n/a	ND	2	ND – 2	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	n/a	ND	2	ND – 2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	799	1,000	503 – 1,100	No	Runoff or leaching from natural deposits
Sulfate (ppm)	500*	n/a	71	117	48 – 250	No	Runoff or leaching from natural deposits
Total Dissolved Solids (ppm)	1,000*	n/a	493	610	308 – 640	No	Runoff or leaching from natural deposits
Turbidity (ntu)	5*	n/a	0.20	0.04	0.04 – 0.40	No	Runoff or leaching from natural deposits
Unregulated Contaminants Requiring Monitoring – Tested in 2009							
Alkalinity, total (ppm as CaCO ₃)	Not Regulated	n/a	180	120	98 – 196	n/a	Runoff or leaching from natural deposits
Boron (ppb)	Not Regulated	n/a	<100	130	ND – 170	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	93	68	55 – 113	n/a	Runoff or leaching from natural deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	n/a	300	280	180 – 367	n/a	Runoff or leaching of natural deposits
Hexavalent Chromium (ppb)	Not Regulated	n/a	<1	ND	ND – 2.0	n/a	Runoff or leaching of natural deposits
Magnesium (ppm)	Not Regulated	n/a	17	27	10 – 29	n/a	Runoff or leaching from natural deposits
pH (pH units)	Not Regulated	n/a	8	7.9	7.8 – 8.3	n/a	Hydrogen ion concentration
Potassium (ppm)	Not Regulated	n/a	3.3	4.8	1.7 – 5.1	n/a	Runoff or leaching from natural deposits
Sodium (ppm)	Not Regulated	n/a	47	98	32 – 100	n/a	Runoff or leaching from natural deposits
Total Organic Carbon (ppm)	Not Regulated	TT	0.1	2.3	ND – 2.6	n/a	Runoff or leaching from natural deposits
Vanadium (ppb)	Not Regulated	n/a	<3	3.1	ND – 4.7	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; NR = Not Required to be analyzed; 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; 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	0.06	No	Soil run-off
2) Percentage of samples less than 0.3 NTU	95%	100%	No	Soil run-off

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. 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.

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 Garden Grove Water Services Division 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 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: www.epa.gov/safewater/lead.

For Your Safety

The City of Garden Grove is always concerned for the safety of its residents. Please be aware that there may be times when people posing as City Water Services employees will try to gain access to the inside of your homes. If at any time, any person comes to your door and states they work for the City Water Services Division, please ask them to show you their City Identification Card. Note the name on the ID card and ask the nature of their business. Then, have them wait outside while you verify that they work for the City.

An employee who works for the City will wait while you verify that they are there on legitimate business.

Please note that unless you have made arrangements for an inspection of your property, there is no reason why a City of Garden Grove employee would have to enter your residence.

To verify the legitimacy of the request to enter your property, call the City Water Services Division at (714) 741-5395 or the Garden Grove Police Department at (714) 741-5704. They will confirm whether or not this person is a City employee on legitimate business.



Want Additional Information?

There's a wealth of information on the internet about Drinking Water Quality and water issues in general. Some good sites — both local and national — to begin your own research are:

City of Garden Grove: www.ci.garden-grove.ca.us

Municipal Water District of Orange County: www.mwdoc.com

Orange County Water District: www.ocwd.com • Water Education Foundation: www.watereducation.org

Metropolitan Water District of Southern California: www.mwdh2o.com

California Department of Public Health, Division of Drinking Water and Environmental Management
www.cdph.ca.gov/certlic/drinkingwater

U.S. Environmental Protection Agency: www.epa.gov/safewater/

California Department of Water Resources: www.water.ca.gov

Water Conservation Tips: www.bewaterwise.com • www.wateruseitwisely.com

Source Water Assessments

Imported (Metropolitan) Water Assessment

In December 2002, Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies. Colorado River supplies are considered to be most vulnerable to recreation, urban/storm water runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to urban/storm water runoff, wildlife, agriculture, recreation and wastewater. A copy of the assessment can be obtained by contacting Metropolitan by phone at (213) 217-6850.

Groundwater Assessment

An assessment of the drinking water sources for City of Garden Grove Water Services Division was completed in December 2002. The groundwater sources are considered most vulnerable to the following activities associated with contaminants detected in the water supply: Known contaminant plumes, historic agricultural activities and application of fertilizers, and parks. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: Confirmed leaking underground storage tanks, dry cleaners, gas stations, and photo processing/printing.

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, CA 92701. You may request a summary of the assessment by contacting the City of Garden Grove Water Services Division at (714) 741-5395.

2009 City of Garden Grove Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	9.1	ND – 58	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	3.8	ND – 27	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	0.8	0.2 – 2.6	No	Disinfectant Added for Treatment
Aesthetic Quality					
Turbidity (ntu)	5*	0.2	0.1 – 0.3	No	Erosion of Natural Deposits

Sixteen locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; thirty-three locations are tested each month for color, odor and turbidity. Color and odor were not detected. **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	0.8%	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)	Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	0.2	ND<5	0/50	No	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.25	0/50	No	Corrosion of Household Plumbing

Every three years, 50 residences are tested for lead and copper at-the-tap. The most recent set of samples was collected in 2007. Lead was detected in five homes. These positive samples did not exceed the lead action level. Copper was detected in fifty (50) samples, none of which exceeded the regulatory action level. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.



**This report
contains important
information
about your
drinking water.
Translate it,
or speak
with someone who
understands it.**

**For more
information call
Water Services at
(714) 741-5395.**



Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.

Spanish

이 보고서에는 귀하가 거주하는 지역의 수질에 관한 중요한 정보가 들어 있습니다. 이것을 번역하거나 충분히 이해하시는 친구와 상의하십시오.

Korean

Bản báo cáo có ghi những chi tiết quan trọng về phẩm chất nước trong cộng đồng quý vị. Hãy nhờ người thông dịch, hoặc hỏi một người bạn biết rõ về vấn đề này.

Vietnamese



City of Garden Grove

Public Works Department
Water Service Division
13802 Newhope Street
Garden Grove, California 92843

PRESORT STD

U.S. Postage

PAID

Garden Grove, CA

Permit No. 3

CRRT SORT

POSTAL CUSTOMER