

2009 Water Conservation Poster Contest Winner



## Your 2009 Water Quality Report

## **Drinking Water Quality**

**S** annual Water Quality Report to their customers. This year's report covers calendar year 2008 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



Carla Renteria, 1st place winner of the 2009 poster contest from Mrs. Garrick's 3rd grade class, Dr. C.C. Violette Elementary School.

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.

For information about this report, or your Questions water quality in general, please contact Zachary about Barrett, Water Quality Supervisor, or Cel Pasillas your or Millie Castellanos-Rodriguez, Water Quality water? Technicians, at (714) 741-5395. Public City Council meetings are held on the second Contact and fourth Tuesdays of each month at 6:45 p.m. in us for the Council Chambers at the Community Meeting answers. 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**

**V**our drinking water is a blend of mostly groundwater from 12 I 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 northwestern 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



David Entsminger, Water Services Manager

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 winter

snow pack

and spring

have only

temporarily

eased the

intensity of

the state's

Reduced water

allocations combined

with judicially imposed

environmental pumping

restrictions from the State

Water Project in northern

California continue to affect

southern California's water supply.

Water conservation, both indoors

and outdoors. has never been more

important. Many cities and water districts

may implement mandatory conservation measures beginning this summer.

drought.

rains

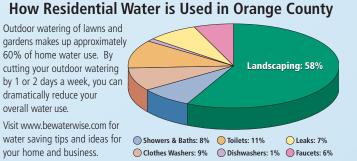
The sources of drinking water (both tap water and bottled water) L include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of land or through the layers of the ground it dissolves naturally occurring minerals and, in some cases, radioactive material, and 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.

> eservoir Levels: Lake Powell: 52% Lake Mead: 46% tate Water Projec

# Colorado River



- 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**

Luoride has been added to U.S. drinking water supplies since 1945. **1** 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.

## Nitrate Advisory

At times, nitrate in your tap water may have exceeded one-half the MCL, but it was never greater than the MCL. The following advisory is issued because in 2008 we recorded nitrate measurements in the drinking water supply which exceeded one-half the nitrate MCL.

"Nitrate in drinking water at levels above 45 milligrams per liter is a health risk for infants of less than six months of

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 level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
- 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 disinfectant added for water treatment below which there is no known or expected risk to health. MRDLGs are set by USEPA.

• 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.

age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 parts-per-million may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies.

"If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider."

## 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).

### Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested; you could also flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the USEPA Safe Drinking Water Hotline (800) 426-4791.

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\*Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color). umho/cm = micromho per centimeter

## 2008 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	8.2	ND – 53	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	3.0	ND – 21	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	0.8	0.1 - 2.6	No	Disinfectant Added for Treatment
Aesthetic Quality					
Turbidity (ntu)	5*	0.2	0.1 - 0.5	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).

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	2	ND<5	0/50	No	Corrosion of Household Plumbing		
Copper (ppm)	1.3	0.17	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

## **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 the State radon program or call USEPA's Radon Hotline (800) SOS-RADON.

### 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

#### 2008 Metropolitan Water District of Southern California Treated Surface Water

Loop meaopoi			. 01 5040			
Chemical	MCL	PHG, or (MCLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Radiologicals – Tested in 2008						
Alpha Radiation (pCi/L)	15	(0)	5.6	3.8 - 9.3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	4.3	ND-6.4	No	Decay of Man-made or Natural Deposits
Uranium (pCi/l)	20	0.42	3.3	2.9 - 3.7	No	Erosion of Natural Deposits
Inorganic Chemicals – Tested i	n 2008					
Aluminum (ppm)	1	0.6	0.16	0.08 - 0.28	No	Treatment Process Residue, Natural Deposit
Arsenic (ppb)	10	0.004	2.4	ND - 2.9	No	Erosion of Natural Deposits
Barium (ppm)	1	2	0.12	0.11 - 0.12	No	Erosion of Natural Deposits
luoride (ppm) treatment-related	Control Range 0 Optimal Leve		0.8	0.6 - 0.9	No	Water Additive for Dental Health
Nitrate as NO₃ (ppm)	45	45	2.2	ND - 2.6	No	Agriculture Runoff and Sewage
Secondary Standards* – Teste	d in 2008					
Aluminum (ppb)	200*	600	164	78 – 280	No	Treatment Process Residue, Natural Deposi
Chloride (ppm)	500*	n/a	96	92 - 103	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	2	1 – 2	No	Runoff or Leaching from Natural Deposits
Odor (threshold odor number)	3*	n/a	2	2	No	Naturally-occurring Organic Materials
Specific Conductance (µmho/cm)	1,600*	n/a	947	837 - 1,080	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	212	170 – 272	No	Runoff or Leaching from Natural Deposits
otal Dissolved Solids (ppm)	1,000*	n/a	569	505 - 668	No	Runoff or Leaching from Natural Deposits
urbidity (ntu)	5*	n/a	0.05	0.04 - 0.05	No	Runoff or Leaching from Natural Deposits
Unregulated Chemicals – Teste	ed in 2008					
Alkalinity, total as CaCO <sub>3</sub> (ppm)	Not Regulated	n/a	110	100 - 121	n/a	Runoff or Leaching from Natural Deposits
Boron (ppb)	Not Regulated	n/a	140	130 – 150	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	61	55 – 72	n/a	Runoff or Leaching from Natural Deposits
lardness, total as CaCO <sub>3</sub> (ppm)	Not Regulated	n/a	257	226 - 300	n/a	Runoff or Leaching from Natural Deposits
lardness, total (grains/gal)	Not Regulated	n/a	15	13 – 18	n/a	Runoff or Leaching from Natural Deposits
/lagnesium (ppm)	Not Regulated	n/a	25	22 – 29	n/a	Runoff or Leaching from Natural Deposits
N-Nitrosodimethlyamine NDMA (ppt)	Not Regulated	n/a	16	16	n/a	Byproduct of Drinking Water Disinfection
H (pH units)	Not Regulated	n/a	8.1	8.0 - 8.2	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	4.5	4.1 - 4.9	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	94	85 - 106	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	Not Regulated	TT	2.3	1.9 – 2.5	n/a	Various Natural and Man-made Sources
/anadium (ppb)	Not Regulated	n/a	3.8	3.5 - 4.0	n/a	Runoff or Leaching from Natural Deposits

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; n/a = not applicable; TT = treatment technique \*Contaminant is regulated by a secondary standard.

Turbidity – combined filter effluent	Treatment Technique	Turbidity Measurements	TT Violation?	Typical Source of Contaminant	
1) Highest single turbidity measurement	0.3 NTU	0.05	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.





## 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.

5 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.

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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 정보 가 들어 있습니다. 이것을 변역 하거나 충분히 이해하시는 친구 와 상의하십시오. Korean

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

Vietnamese



#### City of Garden Grove

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