

A scenic view of a river flowing through a forested valley with mountains in the background. The river is turbulent, with white water rapids, and is surrounded by dense green trees and rocky banks. The sky is clear and blue.

City of  
**Tustin**  
Water Services

2013  
Water Quality  
Report

# 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. The City of Tustin Water Services Division (City) 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 imported treated 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 City 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.



Water bound for Southern California meanders through the Delta on its way to the State Water Project.



# The Quality of Your Water is Our Primary Concern

## 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 local water is not supplemented with fluoride. Fluoride levels in drinking water are limited under

## 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 ( $\mu\text{g/L}$ )
- 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.

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/](http://www.cdc.gov/fluoridation/)

**American Water Works Association**

[www.awwa.org](http://www.awwa.org)

**California Department of Public Health**

[www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx](http://www.cdph.ca.gov/certlic/drinkingwater/Pages/Fluoridation.aspx)

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

## 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 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



## 2012 City of Tustin 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
<b>Radiologicals – Tested in 2009 and 2011</b>							
Alpha Radiation (pCi/L)	15	(0)	ND	3	ND – 3	No	Erosion of Natural Deposits
Beta Radiation (pCi/L)	50	(0)	NR	ND	ND – 4	No	Decay of Man-made or Natural Deposits
Uranium (pCi/L)	20	0.43	2	2	ND – 4.4	No	Erosion of Natural Deposits
<b>Inorganic Chemicals – Tested in 2012</b>							
Aluminum (ppm)	1	0.6	ND	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		NR	0.8	0.7 – 0.8	No	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.16	NR	ND – 0.23	No	Erosion of Natural Deposits
Nitrate (ppm as NO <sub>3</sub> )	45	45	20	ND	ND – 25	No	Fertilizers, Septic Tanks
Nitrate+Nitrite (ppm as N)	10	10	4.5	ND	ND – 5.6	No	Fertilizers, Septic Tanks
Selenium (ppb)	50	30	<5	ND	ND – 8.6	No	Erosion of Natural Deposits
<b>Secondary Standards* – Tested in 2012</b>							
Aluminum (ppb)	200*	600	ND	150	ND – 340	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	120	90	63 – 320	No	Erosion of Natural Deposits
Color (color units)	15*	n/a	ND	1	ND – 1	No	Erosion of Natural Deposits
Odor (threshold odor number)	3*	n/a	ND	2	ND – 2	No	Naturally-occurring Organic Materials
Specific Conductance ( $\mu\text{mho/cm}$ )	1,600*	n/a	1,100	780	340 – 2,100	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	150	160	86 – 280	No	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	650	500	400 – 1,300	No	Erosion of Natural Deposits
Turbidity (NTU)	5*	n/a	0.12	ND	ND – 0.4	No	Erosion of Natural Deposits
<b>Unregulated Contaminants Requiring Monitoring – Tested in 2012</b>							
Alkalinity, total (ppm as CaCO <sub>3</sub> )	Not Regulated	n/a	190	98	53 – 250	n/a	Erosion of Natural Deposits
Boron (ppb)	Not Regulated	n/a	<100	130	ND – 210	n/a	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	100	51	49 – 220	n/a	Erosion of Natural Deposits
Hardness, total (ppm as CaCO <sub>3</sub> )	Not Regulated	n/a	370	210	84 – 810	n/a	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	26	21	8.3 – 65	n/a	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	7.8	8.1	7.3 – 8.4	n/a	Acidity, Hydrogen Ions
Potassium (ppm)	Not Regulated	n/a	2.4	4	1.8 – 4	n/a	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	85	80	54 – 160	n/a	Erosion of Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	0.3	2.4	ND – 2.7	n/a	Runoff or Leaching from Natural Deposits
Vanadium (ppb)	Not Regulated	n/a	5.1	ND	ND – 6.6	n/a	Erosion of Natural Deposits

ppb = parts-per-billion; ppm = parts-per-million; pCi/L = picoCuries per liter; NTU = nephelometric turbidity units;  $\mu\text{mho/cm}$  = micromhos per centimeter; NR = not required to be tested; ND = not detected; NL = Notification Level; < = 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	0.04	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.

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 (800) 426-4791, or on the web at <http://water.epa.gov/drink/info/lead/index.cfm>.

## Nitrate Advisory

At times, nitrate in your tap water may have exceeded one-half the MCL, but it was never greater than the MCL of 45 milligrams per liter (mg/L). Nitrate in your drinking water in 2012 ranged from non-detect to 25 mg/L. The following advisory is issued because in 2012 we recorded nitrate measurements in the drinking water supply which exceeded one-half the nitrate MCL.

Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of 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 mg/L 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.

## Entrained Air

If your tap water has a slightly "milky" appearance, you're probably experiencing an interesting but harmless phenomenon known as "entrained air." The milky color in the water caused by tiny air bubbles is harmless and is related to the operation of City wells. The air is dissolved under pressure in the groundwater, much like carbon dioxide in a bottle of soda. If your tap water is milky-colored and you want to confirm you are experiencing entrained air, rinse out a clear glass twice and then fill it with cold tap water. After a few moments, the water should begin to clear from the bottom of the glass to the top as the bubbles rise to the surface. If the water does not clear, please contact us.

## 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.

**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 Tustin:** [www.tustinca.org](http://www.tustinca.org) • **Municipal Water District of Orange County:** [www.mwdoc.com](http://www.mwdoc.com)

**Orange County Water District:** [www.ocwd.com](http://www.ocwd.com) • **Water Education Foundation:** [www.watereducation.org](http://www.watereducation.org)

**Metropolitan Water District of Southern California:** [www.mwdh2o.com](http://www.mwdh2o.com)

**California Department of Public Health, Division of Drinking Water and Environmental Management:** [www.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx](http://www.cdph.ca.gov/certlic/drinkingwater/Pages/default.aspx)

**U.S. Environmental Protection Agency:** [www.epa.gov/safewater](http://www.epa.gov/safewater)

**California Department of Water Resources:** [www.water.ca.gov](http://www.water.ca.gov)

**Water Conservation Tips:** [www.bewaterwise.com](http://www.bewaterwise.com) • [www.wateruseitwisely.com](http://www.wateruseitwisely.com)

## Groundwater Assessment

An assessment of the drinking water sources for the City was completed in December 2002. The groundwater sources are considered most vulnerable to the following activities not associated with detected contaminants: confirmed leaking underground storage tanks, dry cleaners, and gas stations. 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 sewer collection systems.

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 Tustin Water Services at (714) 573-3382.

### 2012 City of Tustin Distribution System Water Quality

Disinfection Byproducts	MCL (MRDL/MRDLG)	Average Amount	Range of Detections	MCL Violation?	Typical Source of Contaminant
Total Trihalomethanes (ppb)	80	49	ND – 60	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb)	60	20	ND – 23	No	Byproducts of Chlorine Disinfection
Chlorine Residual (ppm)	(4 / 4)	1.1	0.55 – 2	No	Disinfectant Added for Treatment
Aesthetic Quality					
Turbidity (NTU)	5*	0.09	0.03 – 0.11	No	Erosion of Natural Deposits

Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids; twenty locations are tested monthly for color, odor and turbidity. Color and odor were not detected in 2012. **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%	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 <sup>th</sup> Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source of Contaminant
Lead (ppb)	15	0.2	7	1 / 38	No	Corrosion of Household Plumbing
Copper (ppm)	1.3	0.3	0.38	0 / 38	No	Corrosion of Household Plumbing

Every three years, 38 residences are tested for lead and copper at-the-tap. The most recent set of samples were collected in 2012. Lead was detected in nine homes; one exceeded the regulatory action level. Copper was detected in 30 homes; none exceeded the regulatory action level. A regulatory action level is the concentration of a contaminant which 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.**

يحتوي هذا التقرير على معلومات هامة عن نوعية ماء الشرب في منطقتك. يرجى ترجمته، أو ابحث التقرير مع صديق لك يفهم هذه المعلومات جيداً.

*Arabic*

Der Bericht enthält wichtige Informationen über die Wasserqualität in Ihrer Umgebung. Der Bericht sollte entweder offiziell übersetzt werden, oder sprechen Sie mit Freunden oder Bekannten, die gute Englischkenntnisse besitzen

*German*

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

*Korean*

这份报告中有些重要的信息，讲到关于您所在社区的水的品质。请您找人翻译一下，或者请能看得懂这份报告的朋友给您解释一下。

*Chinese*

Questo rapporto contiene informazioni importanti che riguardano la vostra acqua potabile. Traducetelo, o parlate con una persona qualificata in grado di spiegarvelo.

*Italian*

Este informe contiene información muy importante sobre su agua potable. Para más información ó traducción, favor de contactar a Customer Service Representative. Telefono: (714) 573-3382.

*Spanish*

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

*French*

この資料には、あなたの飲料水についての大切な情報が書かれています。内容をよく理解するために、日本語に翻訳して読むか説明を受けてください。

*Japanese*

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 Tustin  
Water Services**

300 Centennial Way  
Tustin, California 92780



PRESORT STD  
U.S. Postage  
**PAID**  
Santa Ana, CA  
Permit No. 1