

# WATER REPORT

## City of Escondido Consumer Confidence Report • Annual Report on Water Quality for 1999

### What Is This Report About?

This Consumer Confidence Report is a snapshot of drinking water quality in 1999. Included are details about where Escondido's water originates, what it contains, and how it compares to standards set by regulatory agencies. If you have any questions about this report, please contact Mr. Timothy Kwak, Supervising Chemist, at (760) 839-6244.

### Is My Water Safe?

Yes. Last year, as in years past, your tap water not only met, but exceeded, all U.S. Environmental Protection Agency (USEPA) and state drinking water health standards. The City of Escondido vigilantly safeguards its water supplies and is committed to providing high quality drinking water to its customers. In 1999 the City's Water Quality Laboratory analyzed over 12,000 water samples.

### What Might Be In My Drinking Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Therefore, drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. However, the presence of contaminants does not necessarily indicate that water poses a health risk.

Contaminants that may be present in source water before it is treated include:

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

**Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban

storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming; **Pesticides and herbicides**, that 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, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

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

In order to ensure that tap water is safe to drink, USEPA and the California Department of Health Services prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Additional information about contaminants and potential health affects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

### Do I Need To Take Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be at risk from infections. These people should seek advice from their health care providers about drinking water. Guidelines developed by the USEPA and the Centers for Disease Control and Prevention (CDC) on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

## Where Does My Water Come From?

The City of Escondido uses three sources for its drinking water. The first is local water, which originates from the watershed and well fields near Lake Henshaw. This water is transferred to Lake Wohlford via an open canal. The second source of drinking water is imported water from the Colorado River via the Colorado Aqueduct. The third source is imported water from northern California via the State Water Project. Escondido purchases the imported water from the San Diego County Water Authority (CWA), which obtains it from Metropolitan Water District of Southern California. All water, regardless of the source, is treated at the Escondido-Vista Water Treatment Plant adjacent to Lake Dixon Dam.

The treatment of water includes filtration and

disinfection to ensure destruction of harmful organisms. After chemical treatment and removal of organic components and suspended materials, the water is filtered through beds of coal and sand supported by graded rock. Crystal clear water results.

After treatment, water is distributed from the Escondido - Vista Water Treatment Plant to the Vista Irrigation District and throughout Escondido through a system of pipelines and reservoirs.

A copy of the Watershed Sanitary Survey, which is similar to a Source Water Assessment Program, is available for review at City Hall (760-839-4651) and at the Escondido-Vista Water Treatment Plant (760-839-5460).

## 1999 Water Quality Data Table

The tables shown below list all of the regulated drinking water contaminants that were detected during the calendar year of this report. The presence of "contaminants" in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The USEPA or the State requires that monitoring for certain contaminants be less than once per year because the concentrations of these contaminants do not change frequently.

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>Inorganic Contaminants - Primary Standards</b>							
Fluoride (F <sup>-</sup> )	mg/L	2	1	Range Average	0.27 - 0.32 0.29	0.1	Erosion of natural deposits; discharge from fertilizer and aluminum factories.
<b>Inorganic Contaminants - Secondary Standards</b>							
Color	Units	15	NS	Range Average	1 - 2 <1.4	-	Decaying vegetation or other naturally occurring organic materials
Chloride (Cl <sup>-</sup> )	mg/L	500	NS	Range Average	64 - 75 69	-	Runoff leaching from natural deposits; seawater influence
Sulfate (SO <sub>4</sub> ) <sup>2-</sup>	mg/L	500	NS	Range Average	130 - 170 152	0.5	Runoff leaching from natural deposits; industrial wastes
Total Dissolved Solids	mg/L	500	NS	Range Average	380 - 440 415	-	Runoff leaching from natural deposits; industrial wastes
Specific conductance	umho/cm	1600	NS	Range Average	684 - 730 697	-	Substances that form ions when in water; seawater influences
pH	Units	6.5 - 8.5	NS	Range Average	7.19 - 7.56 7.36	-	
Zinc (Zn)	mg/L	5.0	NS	Range Average	ND - .45 0.44	0.05	Corrosion control additives
<b>Additional Analyzed</b>							
Total Alkalinity	mg/L	NS	NS	Range Average	97 - 111 104	-	Erosion of natural deposits; Leaching
Carbonate (CO <sub>3</sub> ) <sup>2-</sup>	mg/L	NS	NS	Range Average	0.16 - 0.31 0.2	-	Erosion of natural deposits; Leaching
Bicarbonate (HCO <sub>3</sub> ) <sup>-</sup>	mg/L	NS	NS	Range Average	118 - 135 127	-	Erosion of natural deposits; Leaching
Hardness as CaCO <sub>3</sub>	mg/L	NS	NS	Range Average	206 - 221 214	-	Erosion of natural deposits; Leaching
Calcium (Ca)	mg/L	NS	NS	Range Average	52 - 56 53	-	Erosion of natural deposits; Leaching
Magnesium (Mg)	mg/L	NS	NS	Range Average	18 - 22 20	-	Erosion of natural deposits; Leaching
Sodium (Na)	mg/L	NS	NS	Range Average	56 - 66 62	-	Erosion of natural deposits; Leaching
Potassium (K)	mg/L	NS	NS	Range Average	3.5 - 3.9 3.7	-	Erosion of natural deposits; Leaching

*Water Quality Data Table continued on next page.*

Water Quality Data Table continued

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>Radionuclides Analyzed every four years, for four consecutive quarters (sampled in 1996)</b>							
Gross Alpha Activity	pCi/L	15	(0)	Range Average	ND - 5.7 3.2	1	Erosion of natural deposits
Gross Beta Activity	pCi/L	50	(0)	Range Average	ND - 4.3 3.3	4	Decay of natural and man-made deposits
Combined Radium	pCi/L	5	(0)	Range Average	ND - 1.2 0.7	0.5	Erosion of natural deposits
Uranium	pCi/L	20	(0)	Range Average	ND - 3.5 2.1	2	Erosion of natural deposits

The City of Escondido Water Distribution System consists of approximately 350 miles of pipelines. Tests are performed each week at various points along the system for compliance with bacteriological and physical parameters. Of concern to all customers is the bacteriological quality of the drinking water. The table below shows that drinking water leaving the water treatment plant registered zero coliform bacteria. The distribution system table indicates the amount of positive samples found in the system.

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>MICROBIOLOGICAL</b>							
WTP Effluent Total Coliform Bacteria		5.0%	0	Range Average	0 0	-	Naturally present in the environment
WTP Effluent Fecal Coliform Bacteria		NS	0	Range Average	0 0	-	Human and animal fecal waste

**Microbiological Contaminants**

Total Coliform (Monthly positives) Distribution system		5%	(0)	Range = 0 - 1.26% Distribution System Wide Monthly Highest = 1.26%			Naturally present in the environment
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Tests are performed on drinking water turbidity (clarity) at the water treatment plant and in the distribution system. The turbidity tests are done continuously at the water treatment plant. In addition, samples are taken each week at various points in the distribution system. The tables below reflect the clarity or turbidity produced at the water treatment plant and in the distribution system.

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>CLARITY (Turbidity)</b>							
Combined Filter Effluent Turbidity	NTU	TT %<0.5	n/a	Range %<0.5	0.07 - 0.14 100%	-	Soil runoff
Turbidity in Distribution System	NTU	5	(0)	% < 0.5	100%	-	Sediment in Distribution System

**Have There Been Any Monitoring  
Or  
Reporting Violations?**

**NONE!**

**Issues in the News**

Cryptosporidium, Radon, and MTBE have all seen higher visibility in the news recently. Cryptosporidium is a microorganism which can cause abdominal infection. Radon is a radioactive gas which comes from the ground and can be released from tap water. MTBE or Methyl Tertiary Butyl Ether is a liquid hydrocarbon used to increase oxygen levels in gasoline. NONE of these compounds have been detected in Escondido's source water or drinking water.

In 1997 and 1998 the City of Escondido participated in a national program known as the Information Collection Rule (ICR). It was authorized and run by the USEPA. The purpose was to gather water quality information from around the nation in preparation for determining updated water quality goals and limits. The table below shows the level of disinfection by-products measured during the ICR program.

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>ICR Disinfection By-Products (7/97 - 12/98)</b>							
Chloral Hydrate	ug/L	NS	NS	Range Average	1.7 - 7.3 4.7	0.5	Disinfection by-products
Chloropicrin	ug/L	NS	NS	Range Average	ND - 1.1 0.6	0.5	Disinfection by-products
Cynogen Chloride	ug/L	NS	NS	Range Average	1.6 - 8.0 4.7	1	Disinfection by-products
Haloacetic Acids (HAA5)	ug/L	NS	NS	Range Average	13.6 - 60.4 38.2	1	Disinfection by-products
Haloacetonitriles (HANs)	ug/L	NS	NS	Range Average	4.6 - 13.0 9.3	0.5	Disinfection by-products
Haloketones (HKs)	ug/L	NS	NS	Range Average	1.4 - 5.4 3.8	0.5	Disinfection by-products
Total Trihalomethanes (TTHMs)	ug/L	100	0	Range Average	28.2 - 83.3 57.7	0.5	Disinfection by-products
Total Organic Carbon (TOC)	mg/L	NS	NS	Range Average	2.5 - 4.2 3.4	0.7	Naturally occurring organic material
Total Organic Halides (TOX)	ug/L	NS	NS	Range Average	108 - 328 216	50	Naturally occurring organic material
Disinfectant Residual	mg/L	4	NS	Range Average	1.8 - 2.9 2.4	-	Addition of Chlorine and Ammonia as a combined disinfectant, chloramine

The table below shows the levels of copper and lead found in the homes of selected customers. The Copper Lead Rule requires the City to collect special samples from designated residents every three years. The amounts of lead and copper found in the samples is an indication of the degree of leaching within the customer-owned copper plumbing and brass faucets.

Parameter	Units	AL	MCLG	90th Percentile of 52 Samples	Sites > AL	DLR	Typical Source / Comments
<b>Inorganic Contaminants - Copper / Lead in Residential Taps</b>							
Copper (Cu)	mg/L	1.3	1.3	0.3	0	0.05	Corrosion of household plumbing systems; Sampled at residential taps in 1997
Lead (Pb)	ug/L	15	0	6	0	5	Corrosion of household plumbing systems; Erosion of natural deposits; Sampled at residential taps in 1997

#### Key To Abbreviations:

<b>TT</b>	= <u>Treatment Technique</u> : A required process intended to reduce the level of a contaminant in drinking water.	<b>PDWS</b>	= <u>Primary Drinking Water Standard</u> : MCLs for contaminants that affect health along with their monitoring and reporting requirement, and water treatment requirements.
<b>DLR</b>	= <u>Detection Limit for Reporting</u> : A detected contaminant is any contaminant detected at or above its detection level for purposes of reporting.	<b>ND</b>	= Not Detected
<b>PHG</b>	= <u>Public Health Goal</u> : 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.	<b>mg/L</b>	= Milligrams per liter
<b>MCLG</b>	= <u>Maximum Contaminant Level Goal</u> : The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.	<b>&lt;</b>	= Less than
<b>MCL</b>	= <u>Maximum Contaminant Level</u> : 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. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.	<b>&gt;</b>	= More than
		<b>NS</b>	= No Standard
		<b>AL</b>	= <u>Action Level</u> : The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
		<b>mg/L</b>	= milligram per liter or parts per million (ppm)
		<b>ug/L</b>	= microgram per liter, or parts per billion (ppb)
		<b>pCi/L</b>	= picocuries per liter
		<b>NTU</b>	= <u>Nephelometric Turbidity Units</u> . Turbidity is a measure of the cloudiness of the water. It is a good indicator of the effectiveness of the water treatment process and Distribution System

## Incidents Involving Water Quality in 1999

### Cloudy, Colored Water

Between June 25 and June 27, 1999 a water main break stirred sediment in the Distribution System, temporarily causing some residents in the western portion of the City to experience yellow, cloudy water. City field crews responded quickly to find and isolate the problem area. Water lines in the affected areas were flushed to remove the suspended sediments. In addition, samples were collected and analyzed to determine the bacteriological quality of the water. Despite its appearance, the water tested safe to drink.

### Taste and Odor

In August and October 1999, an unusual number of customers reported a change in the taste and odor in the water. Lakes which store water occasionally develop an algae growth when conditions such as sunlight and temperature are ideal. The resulting odors, usually moldy and musty, are annoying but not harmful. When these conditions occur, the Water Treatment Plant staff responds by altering the treatment process. An effort is made to reduce the offensive odors. Sometimes, however, the life cycle of the offending algae must run its course. Fortunately, this is normally 4 to 6 weeks.

## What Are Disinfection By-Products?

Since untreated water from Lake Wohlford and Lake Dixon contains organisms and organic compounds that might make consumers ill, a disinfectant is used at the Water Treatment Plant. Chlorine is used as the primary disinfectant at the Water Treatment Plant and a combination of chlorine and ammonia is used to

maintain a level of disinfection in the pipes that bring water to homes and businesses. When organic compounds react with the disinfectants, they produce disinfection by-products. Some of them are Trihalomethanes (THMs) and Haloacetic Acids (HAAs).

PARAMETER	Units	State MCL	PHG (MCLG)	Range Average	WTP Effluent	DLR	Typical Source / Comments
<b>Organic Contaminants - Primary Standards</b>							
WTP Effluent				Range	41 - 73		
Total Trihalomethanes	ug/L	100	n/a	Average	51	0.5	By-product of drinking water chlorination
<b>Organic Contaminants - Disinfection By-Product in the Distribution System</b>							
Total Trihalomethanes (TTHMs)	ug/L	100	0	Range Average	40 - 73 49	0.5	By-product of drinking water chlorination; Sampled quarterly in distribution system.
TTHM's Annual Running Average	ug/L	100	0	Range Average	49 - 60 52	0.5	By-product of drinking water chlorination; Sampled quarterly in distribution system; The highest annual running averages of quarterly samples in the year is 59.8 ug/L
Haloacetic Acids (HAA5)	ug/L	60	0	Range Average	20 - 36 28	-	By-product of drinking water chlorination; Sampled quarterly in distribution system; The annual averages of quarterly samples is 28 ug/L

### Getting Involved

The City Council of the City of Escondido meets the first four Wednesdays per month at 4 p.m. and 7:30 p.m. in the Council Chambers at City Hall. The address is 201 North Broadway, Escondido, 92025-2798.

### Español (Spanish)

Este informe contiene información muy importante sobre la calidad de su agua de beber. Si tiene preguntas favor de llamar al numero: (760) 839-4651.

### Tours

The Water Treatment Plant was constructed in 1974 and expanded in 1985 to a capacity of 90 million gallons per day. Public tours of the plant are offered to interested groups, individuals, and schools. To arrange a tour, please call the plant (760-839-4882), Monday through Friday, 8:00 a.m. to 3:00 p.m.