



- Only Tap Water Delivers
- Public Health Protection • Fire Protection
- Support for the Economy • Quality of Life

## Suisun-Solano Water Authority Drinking Water Quality Report 2011



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### Your Water Source and Supply Facilities

The water source for this system is surface water from Lake Berryessa. The Putah South Canal transports this water to the Cement Hill Water Treatment Plant where it is treated to drinking water standards before distribution to our customers.

The water distribution system includes four above ground steel tanks. Collectively, these tanks can store up to 6.5 million gallons of water. The Cement Hill Water Treatment Plant is designed with emergency diesel powered back-up generators that provide electricity for the pumps in the event of a power outage.

### Water Treatment

The Cement Hill Water Treatment Plant can process up to 10 million gallons of water per day. The facility includes three clarifiers, for coagulation, flocculation, and sedimentation processes, followed by ten dual-media pressure filters that clean the water to meet strict standards of clarity. Throughout the processes, chemical additions help with coagulation, sedimentation, and filtering of the water supply. Chlorine is added to your



water to meet surface water treatment and water quality regulations.

### Water Quality Safety

We monitor for more than 100 constituents, and must meet close to



90 regulations for water safety and quality. Those water standards are among the world's most stringent. Our water supplies are tested every day. Tap water undergoes far more frequent testing than bottled water. Tap water protects us against the threat of fire, and the infrastructure needs constant attention to keep life-saving water flowing at the right pressure, 24/7, without fail. Our water bills pay to keep the water system strong, reliable and there for us-whenver we turn it on.

### A Message from the Environmental Protection Agency

The sources of all drinking water (both tap water and bottled water) may 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, can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water 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, that can be naturally-occurring or result from urban stormwater 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 stormwater runoff, and residential uses.

*Organic chemical contaminants*, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

*Radioactive contaminants*, that can be naturally occurring or be 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 Public

Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department 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.

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

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

You may request a summary of the assessment at 707-455-4021. Public involvement in water quality decisions is welcomed. The public is encouraged to attend meetings. If you wish to do so, please call City Hall at 707-421-7300, and ask them to place your name on the mailing list for Board meetings.

A Drinking Water Source Assessment for the Putah South Canal was completed in 2001. The source water is considered most vulnerable to illegal activities such as unauthorized dumping, and herbicide application. No chemicals associated with these activities have been detected. You may request a summary of the assessment at 707-455-4021.

Our water provider, the Suisun-Solano Water Authority, welcomes this yearly opportunity to communicate our commitment to delivering quality water to our customers through this Annual Water Quality Report. The water system is a partnership between the City of Suisun City and Solano Irrigation District, a special purpose public agency. There are currently over 8,305 service connections, and the system delivered over 1.34 billion gallons of water in 2011.

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If you have any questions about this report or the quality of the water delivered by Suisun-Solano Water Authority, please contact Sue Murphy, Water Quality Specialist at 707-455-4021

advice about drinking water from their health care providers.

More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline 1-800-426-4791**. You may also want to access the EPA's drinking water web site [www.epa.gov/safewater](http://www.epa.gov/safewater).

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. SSWA is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water is 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 <http://epa.gov/safewater/lead>.



**Evaluating Your Drinking Water – The tables below list all of the drinking water constituents that were detected during the most recent sampling. The presence of these constituents in the water does not necessarily indicate that the water poses a health risk. The Health Department allows systems to monitor for certain constituents less than once per year because the concentrations of these constituents do not change frequently.**

**TABLE 1 - MICROBIOLOGICAL SAMPLING RESULTS**

Microbiological Constituents	Highest No. of detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
<b>Total Coliform Bacteria</b>	(In a mo.) 1	0	More than 1 sample in a month with a detection	0	Naturally present in the environment
<b>E. coli</b>	(In the year) 0	0	A routine sample and a repeat sample detect total coliform and either sample also detects E. coli	0	Human and animal fecal waste

**TABLE 2 – CUSTOMER TAP SAMPLING RESULTS FOR LEAD AND COPPER**

Lead and Copper (reporting units)	No. of samples collected	90th percentile level detected	No. sites exceeding AL	AL	PHG	Typical Source of Constituent
<b>Lead (ppb) 9/17/2011</b>	30	1.0	0	15	2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
<b>Copper (ppm) 9/17/2011</b>	30	0.075	0	1.3	0.30	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives

**TABLE 3 - SAMPLING RESULTS FOR SODIUM AND HARDNESS**

Constituent (reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Constituent
<b>Sodium (ppm)</b>	3/9/11	23	23	none	none	Generally found in ground & surface water
<b>Hardness (ppm)</b>	3/9/11	170	170	none	none	Generally found in ground & surface water

**TABLE 4 - DETECTION OF CONSTITUENTS WITH A PRIMARY DRINKING WATER STANDARD**

Constituent (reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Constituent
<b>Barium (ppm)</b>	3/9/11	0.05	0.05	1	2	Discharge of oil drilling wastes, metal refineries; erosion of natural deposits
<b>Copper (ppm)</b>	3/9/11	0.0063	0.0063	AL=1.3	0.30	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
<b>Fluoride (ppm)</b>	3/9/11	0.12	0.12	2.0	1	Erosion of natural deposits

**Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors In Distribution System**

Constituent (reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG) [MRDLG]	Typical Source of Constituent
<b>Total Trihalomethanes (ppb)</b>	Quarterly 2011	65.38	33-94	80*	NA	Byproduct of drinking water disinfection
<b>Haloacetic Acids (ppb)</b>	Quarterly 2011	34.56	14-80	60*	NA	Byproduct of drinking water disinfection
<b>Chlorine (ppm)</b>	Weekly 2011	0.75	ND-2.0	[4.0]	[4]	Drinking water disinfectant added for treatment
<b>Control of DBP precursors (Total Organic Carbon) (ppm)</b>	Monthly 2011	2.3	2.1-3.0	TT	NA	Various natural and manmade sources

**TABLE 5 - DETECTION OF CONSTITUENTS WITH A SECONDARY DRINKING WATER STANDARD**

Constituent (reporting units)	Sample Date	Average Level Detected	Range of Detections	MCL [MRDL]	PHG (MCLG)	Typical Source of Constituent
<b>Chloride (ppm)</b>	3/9/11	17	17	500	NA	Runoff/leaching from natural deposits; seawater influence
<b>Color</b>	3/9/11	3.0	3.0	15 units	NA	Internal corrosion of household plumbing fixtures, erosion of natural deposits
<b>Copper (ppm)</b>	3/9/11	0.0063	0.0063	1.0	NA	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
<b>Manganese (ppb)</b>	3/9/11	0.0025	0.0025	50	NA	Leaching from natural deposits
<b>Sulfate (ppm)</b>	3/9/11	47	47	500	NA	Runoff/leaching from natural deposits; industrial wastes
<b>Specific Conductance (µS/cm)</b>	3/9/11	440	440	1600	NA	Substances that form ions when in water; seawater influence
<b>Total Dissolved Solids (ppm)</b>	3/9/11	230	230	1000	NA	Runoff/leaching from natural deposits
<b>Turbidity (units)</b>	3/9/11	0.82	0.82	5	NA	Soil runoff

**TABLE 6 - SAMPLING RESULTS SHOWING TREATMENT OF SURFACE WATER SOURCES**

Treatment Technique (a) (Type of approved filtration technology used)	Conventional Filtration
Turbidity Performance Standards (b) (must be met through the water treatment process)	Turbidity of the filtered water must: 1 – Be less than or equal to 0.3 NTU in 95% of measurements in a month. 2 – Not exceed 5.0 NTU at any time.
Lowest monthly percentage of samples that met Turbidity Performance Standard No. 1.	100 %
Highest single turbidity measurement during the year	0.5 NTU
Number of violations of any surface water treatment requirements	0

(1) Compliance is based on a running annual average (RAA) of distribution samples collected in 4 quarters.

(a) A required process intended to reduce the level of a contaminant in drinking water.

(b) Turbidity (measured in NTU) is a measurement of the cloudiness of water and is a good indicator of water quality and filtration performance. Turbidity results which meet performance standards are considered to be in compliance with filtration requirements.



**Terms Used in This Report**

**AL-Action Level:**

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MCL-Maximum Contaminant Level:**

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.

**MCLG-Maximum Contaminant Level Goal:**

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 (USEPA).

**MRDL-Maximum Residual Disinfectant Level:**

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.

**MRDLG-Maximum Residual Disinfectant Level Goal:**

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.

µS/cm: Microsiemens per Centimeter

NA: not applicable

ND: not detectable at testing limit

**NL-Notification Level:**

Health-based advisory level set by the Department for constituents with no MCL. This is not an enforceable standard, although requirements and recommendations may apply if detected above this level.

**NTU -Nephelometric Turbidity Units:**

The standard unit for turbidity measurements.

pCi/L: picocuries per liter (a measure of radiation)

**PHG-Public Health Goal:**

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.

ppb: parts per billion or micrograms per liter (ug/L)

ppm: parts per million or milligrams per liter (mg/L)

**TT-Treatment Technique:**

A required process intended to reduce the level of a contaminant in drinking water.