



HETCH HETCHY RESERVOIR

NCCWD Consumer Confidence Report 2011

North Coast County
Water District
June 2012

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Where Our Water Comes From

All of the drinking water delivered by North Coast County Water District (NCCWD) during 2011 was purchased from the San Francisco Public Utilities Commission (SFPUC). Nearly all of the supply for NCCWD comes from Crystal Springs and San Andreas Reservoirs. All the water stored in the local reservoirs is filtered and disinfected at the Harry Tracy Water Treatment Plant, located in Millbrae, prior to delivery to NCCWD. There, the water is tested and monitored to ensure that it meets the standards for clarity set by the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH).

The major source of water for the SFPUC originates from spring snowmelt flowing down the Tuolumne River to Hetch Hetchy Reservoir, where it is stored. This pristine Sierra water source meets all federal and state criteria for watershed protection. The SFPUC maintains stringent disinfection treatment practices, extensive bacteriological-quality monitoring, and high operational standards. As a result, CDPH and USEPA have granted

the Hetch Hetchy water source a filtration exemption. In other words, the source is so clean and protected that filtration of water from Hetch Hetchy Reservoir is not required.

Hetch Hetchy water system is supplemented with surface water from two local watersheds. Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in Crystal Springs, San Andreas, and Pilarcitos reservoirs and treated at the Harry Tracy Water Treatment Plant.

In 2011, the Hetch Hetchy Watershed provided the majority of the total water supply, with the remainder contributed by the two local watersheds.

For more information about the contents of this report, contact Cari Lemke, General Manager at (650)355-3462, or visit us online at www.nccwd.com.

Board of Directors meetings are held the third Wednesday of every month at 7:00 p.m. at the District office.



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DEFINITIONS OF TERMS USED

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.

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 the USEPA.

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. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

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.

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.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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

Turbidity: A water clarity indicator that is also used to indicate the effectiveness of the filtration plants. High turbidity can hinder the effectiveness of disinfectants.

Water Quality: Contaminants and Regulations

The SFPUC Water Quality Division regularly collects and tests water samples from reservoirs and designated sampling points throughout the system to ensure that the water delivered to you meets or exceeds federal and state drinking water standards. In 2011, Water Quality staff conducted more than 69,000 drinking water tests in the transmission and distribution systems. This monitoring effort is in addition to the extensive treatment process control monitoring performed by their certified and knowledgeable treatment plant staff and online instruments.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, oceans, 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. Such substances are called contaminants. 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.

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) and California Department of Public Health (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 provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the USEPA'S Safe Drinking Water Hotline 800-426-4791.

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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.

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

SFPUC's New UV Disinfection Facility – Largest in California

In the summer of 2011, the SFPUC began using ultraviolet (UV) light as an additional disinfection step for the Hetch Hetchy water supply. The new Tesla Treatment Facility uses state-of-the-art UV treatment equipment to provide advanced disinfection for the Hetch Hetchy supply in the Regional Water System which serves 2.5 million customers. The facility was built to comply with the USEPA regulation that requires an additional disinfectant by April 2012 to protect the water supply from the *Cryptosporidium* parasite. The facility can treat up to 315 million gallons of water per day – making it the largest UV drinking water treatment plant in California and the third largest in the U.S.

How to Read the Water Quality Chart

The table on Page 3 lists all drinking water contaminants detected in 2011. Contaminants below detection limits such as arsenic, perchlorate, MTBE and others are not listed. The table contains the name of each contaminant, the applicable drinking water standards or action levels, the ideal goals for public health, the amount detected in water, the typical contaminant source and footnotes explaining the findings. We believe you have a right to know what is in your drinking water. The column to the left provides definitions for the terms in the chart.

North Coast County Water District - Water Quality Data for Year 2011 ⁽¹⁾

DETECTED CONTAMINANTS	Unit	MCL	PHG or (MCLG)	Range or Level Found	Average or [Max]	Major Sources in Drinking Water
TURBIDITY						
For Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.7 ⁽²⁾	[2.1] ⁽³⁾	Soil runoff
For Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU	1 ⁽⁴⁾	N/A	-	[0.36]	Soil runoff
	-	min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	N/A	99.9% - 100%	-	Soil runoff
For Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1 ⁽⁴⁾	N/A	-	[0.18]	Soil runoff
	-	min 95% of samples ≤ 0.3 NTU ⁽⁴⁾	N/A	100%	-	Soil runoff
DISINFECTION BYPRODUCTS AND PRECURSOR (SFPUC Regional System)						
Total Trihalomethanes	ppb	80	N/A	10 - 84	[45] ⁽⁵⁾	Byproduct of drinking water chlorination
Haloacetic Acids	ppb	60	N/A	4 - 59	[33] ⁽⁵⁾	Byproduct of drinking water chlorination
Total Organic Carbon ⁽⁶⁾	ppm	TT	N/A	2.6 - 2.9	2.7	Various natural and man-made sources
DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	11.1-49.1	[20.72] ⁽⁵⁾	Byproduct of drinking water chlorination
Haloacetic Acids	ppb	60	N/A	5.0-37	[12.65] ⁽⁵⁾	Byproduct of drinking water chlorination
Total Organic Carbon ⁽⁶⁾	ppm	N/A	N/A	1.8-2.5	2.08	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform ⁽⁷⁾	-	≤ 5.0% of monthly samples	(0)	-	[0]	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	ND - 0.07	[0.07]	Naturally present in the environment
INORGANIC CHEMICALS						
Fluoride (source water) ⁽⁸⁾	ppm	2.0	1	ND - 0.8	0.3 ⁽⁹⁾	Erosion of natural deposits
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	1.31-1.89	[1.62] ⁽⁵⁾	Drinking water disinfectant added for treatment
RADIONUCLIDES						
Radium-226	pCi/L	N/A	0.05	ND - 1.2	<1	Erosion of natural deposits

CONSTITUENTS WITH SECONDARY STANDARDS	Unit	SMCL	PHG	Range	Average	Typical Sources of Contaminant
Aluminum ⁽¹⁰⁾	ppb	200	600	ND - 53	<50	Erosion of natural deposits
Chloride	ppm	500	N/A	3 - 20	11	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 9	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	39 - 289	181	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.3 - 36	18	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	83 - 194	132	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.06 - 0.35	0.16	Soil runoff

LEAD AND COPPER	Unit	AL	PHG	Range	90th Percentile	Typical Sources in Drinking Water
Copper	ppb	1300	300	17.1-264.5 ⁽¹¹⁾	199.3	Corrosion of household plumbing systems
Lead	ppb	15	0.2	<1-7.2 ⁽¹²⁾	4.4	Corrosion of household plumbing systems

OTHER WATER QUALITY PARAMETERS	Unit	ORL	Range	Average
Alkalinity (as CaCO ₃)	ppm	N/A	10 - 84	49
Calcium (as Ca)	ppm	N/A	3 - 24	13
Chlorate ⁽¹³⁾	ppb	(800) NL	36 - 488	89
Hardness (as CaCO ₃)	ppm	N/A	10 - 98	57
Magnesium	ppm	N/A	<0.04 - 8.2	4.9
pH	-	N/A	6.7 - 9.7	8.6
Sodium	ppm	N/A	3 - 20	13.5

KEY:
</≤ = less than / less than or equal to
AL = Action Level
Max = Maximum
Min = Minimum
N/A = Not Available
ND = Non-detect
NL = Notification Level
NTU = Nephelometric Turbidity Unit
ORL = Other Regulatory Level
ppb = part per billion
ppm = part per million
µS/cm = microSiemens / centimeter

Notes:

(1) All results met state and federal drinking water health standards.

(2) Turbidity is measured every four hours. These are monthly average turbidity values.

(3) This is the highest turbidity of the unfiltered water served to customers in 2011. This turbidity spike was the result of flow rate change, and it was not observed downstream at Alameda East.

(4) There is no turbidity MCL for filtered water. The limits are based on the TT requirements in the State drinking water regulations.

(5) This is the highest quarterly running annual average value.

(6) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only. These are compliance data for SVWTP raw water.

(8) The SFPUC adds fluoride to the naturally occurring level to help prevent dental cavities in consumers. The CDPH requires our fluoride levels in the treated water to be maintained within a range of 0.8 ppm - 1.5 ppm. In 2011, the range and average of our fluoride levels were 0.6 ppm - 1.3 ppm and 1.0 ppm, respectively.

(9) The naturally occurring fluoride levels in the Hetch Hetchy and SVWTP raw water were ND and 0.12 ppm, respectively. The HTWTP raw water had elevated fluoride levels of 0.6 ppm - 0.8 ppm due to the continued supply of the fluoridated Hetch Hetchy & SVWTP treated water into the Lower Crystal Springs Reservoir, which supplies water via the San Andreas Reservoir to the HTWTP for treatment.

(10) Aluminum also has an MCL of 1000 ppb.

(11) The most recent Lead and Copper Rule monitoring was in 2010. 0 of 35 water samples collected at consumer taps had copper concentrations above the Action Level.

(12) The most recent Lead and Copper Rule monitoring was in 2010. 0 of 35 water samples collected at consumer taps had lead concentrations above the Action Level.

(13) The detected chlorate in treated water is a degradation byproduct of sodium hypochlorite, the primary disinfectant used by SFPUC for water disinfection.

Note: Additional water quality data may be obtained by calling the NCCWD at 650.355.3462



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Special Health Needs

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

Cryptosporidium is a parasitic microbe found in most surface water. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2011. However, current test methods approved by the USEPA do not distinguish between dead organisms and those capable of causing disease. Ingestion of *Cryptosporidium* may produce symptoms of nausea, abdominal cramps, diarrhea, and associated headaches. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Reducing Lead from Plumbing Fixtures

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 North Coast County Water District is responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. There are no known lead service lines in the transmission and distribution system. 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 800-426-4791, or at www.epa.gov/safewater/lead.

This state mandated annual report contains important information on the quality of your drinking water. Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.