



NORTH MARIN WATER DISTRICT

2016 ANNUAL WATER QUALITY REPORT • NOVATO EDITION • PUBLISHED JUNE 2017

In 2016, water provided by North Marin Water District met or surpassed every federal and state drinking water standard.

This brochure is a snapshot of water quality monitoring performed in 2016. Included are details about where your water comes from, what it contains, and how it compares to regulatory standards. If you have any questions regarding this Water Quality Report, contact Pablo Ramudo, Water Quality Supervisor, (415) 761-8929 or (800) 464-6693.



This report is available on our website: www.nmwd.com

North Marin Water District's Stafford Lake Water Treatment Plant produces about 20% of the water needed for Novato. This facility is designed to produce water which meets or exceeds strict state and federal standards for water quality. The water treatment process starts with chlorine dioxide and polymers prior to filtration through layers of anthracite and garnet sand. The water then passes through granular activated charcoal to remove any remaining impurities before adjusting the pH to 8.3 for corrosion control and the addition of a small amount of chlorine for disinfection.

Most of Novato's water supply is purchased as treated water from Sonoma County Water Agency (SCWA).

The SCWA water supply is collected from gravel beds 80 feet below and adjacent to the Russian River. The quality of this naturally filtered water is excellent, making additional treatment unnecessary. Water from additional SCWA wells in the Santa Rosa plain can be blended with the Russian River well water to augment water supply. Before delivering the water to Novato, SCWA adds small amounts of chlorine and sodium hydroxide to ensure purity and to adjust the pH to 8.3.

The Stafford Lake water supply blends with the SCWA water supply in the Novato water distribution system. The percentage from each source can vary by day and by season.

Este informe contiene información muy importante sobre su agua potable.

Tradúzcalo o hable con alguien que lo entienda bien. Para más información, llame al (415) 761-8929.

TABLE 1 Report on Detected Constituents with a Primary Drinking Water Standard (PDWS)					SONOMA COUNTY WATER AGENCY		STAFFORD WATER TREATMENT PLANT	
CONSTITUENT	UNITS	PHG / [MRDLG] (MCLG)	MCL / [MRDL] (PDWS)	TYPICAL SOURCE	Average	Range	Average	Range
Fluoride	mg/L	1.0	2.0	Erosion of natural deposits	0.11	0.10 - 0.17	0.13	0.12 – 0.13
Nitrate (as N)	mg/L	10	10	Soil runoff from fertilizers, leaching from septic systems and sewage	ND	ND	ND	ND
Radioactivity Gross Alpha	pCi/l	0	15	Erosion of natural deposits	ND	ND	ND (1)	ND (1)
Hexavalent chromium*	µg/L	0.02	10	Erosion of natural deposits; release of industrial chemicals	ND	ND	ND	ND
DISTRIBUTION SYSTEM WATER								
Chlorine, Free	mg/L	[4.0]	[4.0]	Drinking water disinfectant added for treatment		Average = 0.52 Range = ND – 1.60		
Total Coliform Bacteria	% of samples positive	0	>5% of monthly samples positive	Naturally present in the environment	All samples negative for coliform bacteria/ 956 samples collected in 2016			
Total Trihalomethanes (2)	µg/L	n/a	80	By-product of drinking water disinfection	Highest Location Running Annual Average = 54 Range =11 – 66			
Total Haloacetic Acids (2)	µg/L	n/a	60	By-product of drinking water disinfection	Highest Location Running Annual Average = 11 Range = ND - 15			
Copper	µg/L	170	(AL 1300)	Internal corrosion of household plumbing systems	30 samples collected, none above the action level 90th percentile = 79, Range = ND - 130 (3)			
Lead	µg/L	2	(AL 15)	Internal corrosion of household plumbing systems	30 samples collected, one above the action level 90th Percentile = ND, Range = ND - 24 (3)			
TABLE 2 Constituents With Aesthetic Concerns and/or a Secondary Drinking Water Standard					SONOMA COUNTY WATER AGENCY		STAFFORD WATER TREATMENT PLANT	
CONSTITUENT	UNITS	SMCL	TYPICAL SOURCE		Average	Range	Average	Range
Color	PCU	15	Naturally-occurring organic materials		ND	ND - 3.5	ND	ND
Odor	TON	3	Naturally-occurring organic materials		ND	ND	ND	ND
Chloride	mg/L	500	Runoff / leaching of natural deposits		5.2	23-May	62	50 – 70
Sulfate	mg/L	500	Leaching of natural deposits, treatment chemicals		13	2.2 – 14	9.1	7.8 – 11
Turbidity	NTU	5	Soil runoff		0.04	ND – 0.05	0.13	0.10 – 0.19
Total Dissolved Solids	mg/L	1000	Runoff / leaching of natural deposits		130	71 – 260	210	180 – 240
Sodium	mg/L	n/a	Naturally-occurring and treatment chemicals		8.6	ND - 9.5	31	29 – 33
Hardness (4)	mg/L	n/a	Leaching of natural deposits		100	40 – 110	100	96 – 110
Radon	pCi/l	n/a	See “Radon in Air,” back page		230	170 – 380	n/a	n/a
Specific Conductance	µmhos/cm	1600	Substances that form ions in water		240	230 – 270	360	350 – 380
Manganese	µg/L	50	Leaching from natural deposits		ND	ND –76	ND	ND
TABLE 3 Unregulated with no established maximum								
CONSTITUENT	UNITS	Primary Standard MCL/ [NL]	State PHG or Federal (MCLG)	TYPICAL SOURCES	System Range	System Average	Meets MCL or NL (YES/NO)	
Chromium	µg/L	50	(100)	Erosion of natural deposits; release of industrial chemicals	0.21 – 0.50	0.34	Yes	
Hexavalent Chromium*	µg/L	10	0.02	Erosion of natural deposits; release of industrial chemicals	0.10 – 0.40	0.25	Yes	
Chlorate	µg/L	[800]	NA	Byproduct of drinking water disinfection	130 - 240	180	Yes	
Strontium	µg/L	NA	NA	Erosion of natural deposits; release of industrial chemicals	260 – 240	200	Yes	
Vanadium	µg/L	[50]	NA	Erosion of natural deposits; release of industrial chemicals	0.31 - 1.0	.65	Yes	

*Hexavalent chromium is regulated by the State of California, the results of routine monitoring appear in table 1. Hexavalent chromium is not regulated by the federal government but is currently being assessed for future regulation with special monitoring that took place in 2014 and 2015. The results of this special monitoring are summarized in Table 3.

LEGEND

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.

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 (EPA).

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 (SMCL) are set to protect the odor, taste, and appearance of drinking water. MCLs and SMCLs are set by the California and/or U.S. EPA.

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

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

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

NTU (Nephelometric Turbidity Units): A measure of suspended material in water.

90th Percentile: Compliance based on highest value after eliminating the highest 10% of values.

MRDL (Maximum residual disinfectant level): The level of a disinfectant added for water treatment that may not be exceeded at the consumer’s tap.

MRDLG (Maximum residual disinfectant level goal): The level of a disinfectant added for water treatment below which there is no known or exposed risk to health. MRDLGs are set by the U.S. EPA.

NL (Notification Level): The notification level for some unregulated contaminants.

mg/L = milligrams per liter (parts per million) -equivalent to 4 drops of water in the average sized bathtub.

µg/L = micrograms per liter (parts per billion) -equivalent to 50 drops in an olympic size swimming pool

µmhos/cm = micromhos per centimeter

ND = Not Detected

n/a = Not Applicable

PCU = platinum cobalt units

pCi/l = picocuries per liter

- (1) 2012 Data
- (2) Compliance based on a four-quarter running average at each distribution system monitoring location
- (3) 2014 Data
- (4) Average hardness shown in mg/L equates to 5.5 - 5.8 grains per gallon.

Concerning Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. There is no lead in drinking water produced by NMWD and there are no district owned lead service lines within our system, however lead can leach into drinking water from materials and components associated with customers’ service lines and home plumbing. NMWD is responsible for providing high quality drinking water to your meter, but cannot control the variety of materials used in home plumbing components. When water in your household plumbing has been sitting for several hours, you can minimize the potential for lead exposure by running your tap water 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 www.epa.gov/safewater/lead.

A Message From the United States Environmental Protection Agency

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 materials, and 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications 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, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. DHS regulations also establish limits for contaminants in bottled water that 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 (1-800- 426-4791).

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 advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800- 426-4791).

Cryptosporidium & Giardia

Monitoring performed by NMWD on untreated water in Stafford Lake has intermittently shown the presence of cryptosporidium, a microbial pathogen found in surface waters throughout the U.S. NMWD's filtration is designed and operated to remove cryptosporidium, but 100% removal cannot be guaranteed. Should you be concerned? Healthy individuals should not be concerned. However, immuno-compromised people are at greater risk. We suggest immuno-compromised individuals consult their physician regarding appropriate precautions.

Radon In Air

Radon is a radioactive gas that can move from decomposed granite soils into a home through cracks and holes in the foundation. Radon can also get into indoor air when running tap water for showering and other household activities. In most cases, radon from tap water is a small source of radon in air. Radon is a known human carcinogen. It can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. The SCWA water was tested for Radon and showed an average of 230 and a range of 170 – 380 pCi/L (picocuries per liter). There is no federal regulation for radon levels in drinking water. Exposure over a long period of time to air transmitting radon may cause adverse health effects. If you are concerned about radon in your home, **test the air in your home!** Testing is inexpensive and easy. For additional information, call your state radon program or call EPA's Radon Hotline (800-SOS-RADON).

Notice To Kidney Dialysis Patients

Chlorine dioxide is used as a pre-oxidant in water produced from Stafford Water Treatment Plant. Customers undergoing kidney dialysis treatment are advised to use sufficient pre-treatment to ensure chlorine dioxide does not pose a threat to the dialysis process.

Drinking Water Source Assessment for SCWA Groundwater Supply

In January 2001, a Drinking Water Source Assessment for all of the SCWA's water sources was conducted to identify if any potential sources of contamination exist.

The SCWA source water is extracted from groundwater via 6 Rainey Collector Wells and 7 conventional wells located at Wohler and Mirabel, and three wells in the Santa Rosa Plain. The aquifer is recharged by subsurface flows and Russian River water filtering down through the gravel riverbed.

Most of the SCWA water supply comes from wells at Wohler and Mirabel adjacent to the Russian River. These sources are considered to be most vulnerable from wastewater treatment and gravel mining in the area. However, no contaminants associated with these activities were detected in the drinking water.

The SCWA also operates three groundwater wells on the Santa Rosa Plain near Occidental Road, Todd Road and Sebastopol Road. These sources are considered to be most vulnerable from animal feeding operations. However, no contaminants associated with this activity were detected in the drinking water.

A copy of the complete assessment may be reviewed at the California Department of Public Health, Drinking Water Field Operations Branch, 50 D Street, Suite 200, Santa Rosa, CA 95404. You may request a summary of this assessment be sent to you by contacting the Office Representative at 707-576-2145 (voice) or 707-576-2722 (fax).

Drinking Water Source Water Assessment For Stafford Lake

An assessment of watershed activities, which may affect the Stafford Lake source of supply, was performed in 2002 as required by the U.S. Environmental Protection Agency. The watershed activities identified with the highest potential for contamination of Stafford Lake are animal feeding/ waste disposal at the existing stable and dairy operations on the watershed. These activities increase the potential to introduce microbial contaminants and nutrients to Stafford Lake. NMWD actively works with the stable and dairy owners to control their operations and reduce potential contaminants. The Stafford Lake source water is routinely monitored by NMWD to insure the controls are effective.

A copy of the complete assessment is on file at the North Marin Water District office at 999 Rush Creek Place, Novato.