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SWEETWATER AUTHORITY'S

Annual Drinking Water Quality Report for 2019

Last year, the water delivered to you by Sweetwater Authority met all state and federal drinking water health standards

EL REPORTE CONTIENE VALIOSA INFORMACIÓN SOBRE LA CALIDAD DE SU AGUA POTABLE Esta disponible en nuestro sitio de web www.sweetwater.org/wqreportsp

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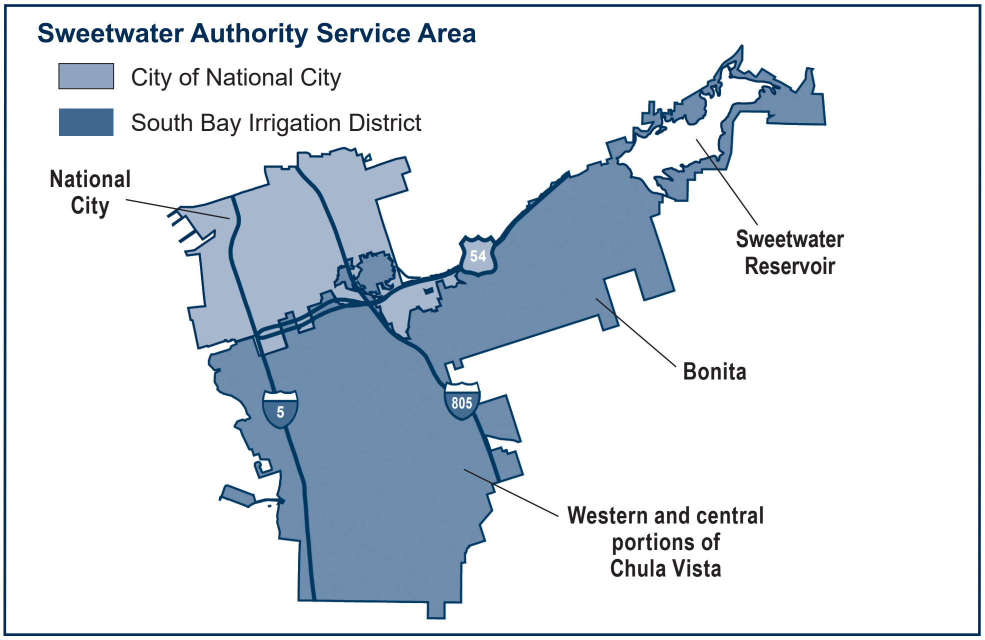
1 ABOUT YOUR DRINKING WATER AND THIS REPORT



WHAT IS SAFE DRINKING WATER?

The U. S. Environmental Protection Agency (USEPA) and the California State Water Resources Control Board (State Water Board) regulate California's tap water. These agencies establish standards that define our current understanding of safe drinking water. Last year, the water delivered by Sweetwater Authority (Authority) met all USEPA and State Water Board drinking water health standards.

This report provides information about the ways that the Authority vigilantly safeguards and treats your drinking water supplies. In accordance with state and federal laws, it also provides a detailed listing of constituents found in your drinking water, and compares those levels to the maximum levels considered safe for the general public by the USEPA and the State Water Board. If you have questions about Authority operations or the contents of this report, please visit www.sweetwater.org or call the Water Treatment Superintendent at 619-409-6812.

This report also includes information about the Authority's water sources and how those sources are protected, as well as people to contact for more details, and ways you can become more involved in protecting your water.

ABOUT SWEETWATER AUTHORITY

The Authority is a publicly-owned, joint powers water agency, with policies and procedures established by a seven-member Governing Board. Five directors are elected by the citizens of the South Bay Irrigation District. Two directors are appointed by the Mayor of National City, subject to City Council confirmation.

The Authority provides safe, reliable water service to approximately 190,000 people in National City, Bonita, and western and central portions of Chula Vista. Its customers include residential, business, government, and industrial water users in an area covering more than 36 square miles in the South Bay region of San Diego County.

ABOUT YOUR DRINKING WATER

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA Safe Drinking Water Hotline at 1-800-426-4791, or visiting the USEPA website at www.epa.gov/ground-water-and-drinking-water.

Note to special populations: 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. To obtain USEPA/Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants, please call the USEPA Safe Drinking Water Hotline at 1-800-426-4791.

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.

Before water is treated, raw water may contain contaminants including:

Microbial contaminants, such as viruses and bacteria, which 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 the result of oil and gas production, and mining activities.

To learn more about contaminants and health effects, call the USEPA Safe Drinking Water Hotline at 1-800-426-4791. Further information is available at www.sweetwater.org or www.mwdh2o.com.

In order to ensure that tap water is safe to drink, the USEPA and the State Water Board prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health.

Water Sources: Authority customers receive water from four sources: the Sweetwater River (drawn at Sweetwater Reservoir in Spring Valley), deep freshwater wells in National City, brackish water wells in Chula Vista, and the region's imported supply, which is drawn from the Colorado River and/or the State Water Project in northern California. Source water assessments are available for each of these sources.

Public Participation

Public participation is welcome at all Sweetwater Authority Board meetings. Meetings are held at 505 Garrett Avenue, Chula Vista, the second and fourth Wednesday of each month at 6:00 p.m. Agendas are posted at 505 Garrett Avenue, Chula Vista. Meeting agendas and minutes are published on the Authority's website at www.sweetwater.org.

How is your water protected from contamination?
The local water used by the Authority can be affected by activities within its watershed, a 230-square-mile area leading into the streams that feed the Sweetwater River. The Authority uses a multiple-barrier approach to ensure water quality. Education, stakeholder involvement, and comments to local planners are part of Authority efforts, in addition to the "hardware" solutions described here:

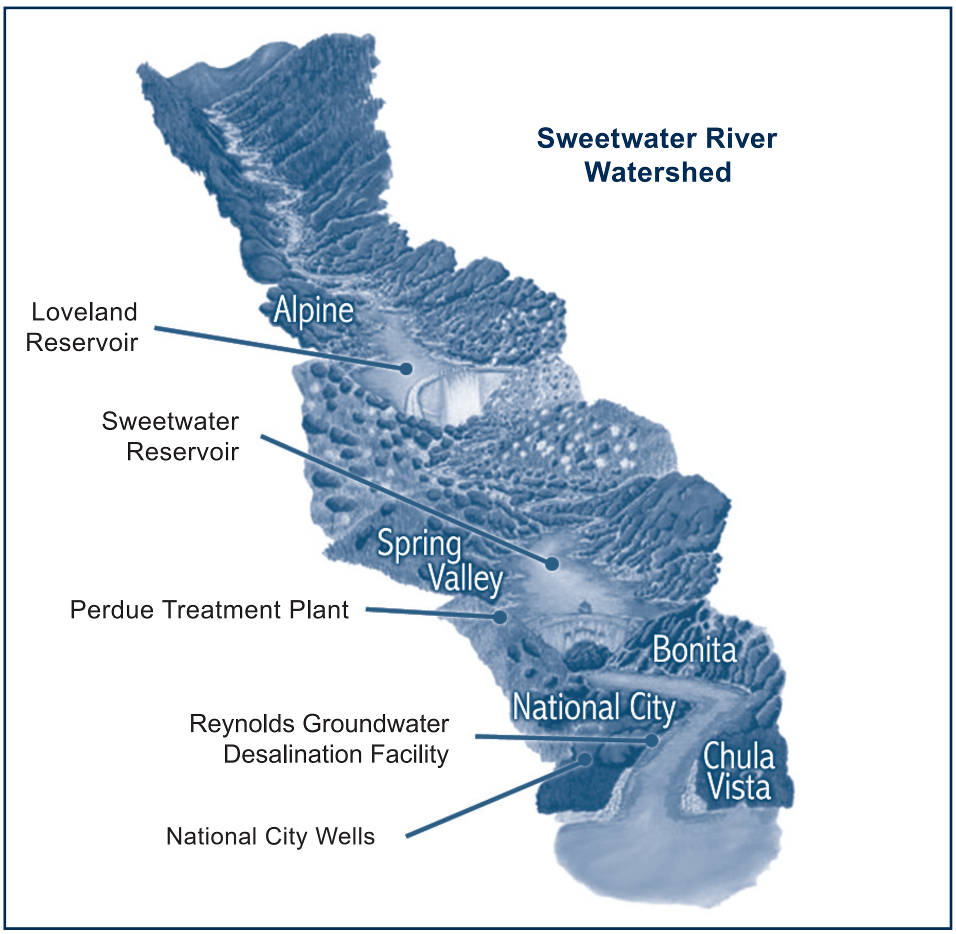
1) An innovative diversion system captures urban runoff before it enters Sweetwater Reservoir and transports the runoff below Sweetwater Dam, reducing the buildup of mineral salts in the reservoir. The diversion system can also capture and hold runoff from a chemical spill or sewage system failure, allowing the contaminants to be removed and trucked away for proper disposal.

2) Well sites are closely monitored to assure that contaminants have not entered the well fields.

3) Surface water is treated and disinfected at the Robert A. Perdue Water Treatment Plant.

4) Potable groundwater is disinfected.

5) Brackish groundwater is treated with reverse osmosis and disinfected. (To learn more, visit www.sweetwater.org/water.)



Consumer questions and answers about water quality, taste, color and odor, can be found at www.sweetwater.org/wq.

The Source Water Assessment identifies activities to which water sources are considered "most vulnerable." In 2002, source water assessments were completed for the Authority's water supplies. There were NO contaminants from the "possible contaminating activities" found in the Authority's water supplies. To request a summary of the assessments, contact the Water Quality Services Technician at 619-409-6805, or cpino@sweetwater.org.

How to Reach Us

Customer Service	619-420-1413
After Hours Emergency	619-420-1413
Water Quality Info	619-409-6780
Water Efficiency Helpline	619-409-6779
Fluoride Info Line	619-409-6780
Construction Information	619-409-6850
School Programs	619-409-6781
Community Presentations	619-409-6723
Board Secretary	619-409-6703

PRIMARY STANDARDS For the 2019 calendar year				National City Wells (Disinfected with chloramine)		Treated at Reynolds Groundwater Desal Facility	Treated at Robert A. Perdue Water Treatment Plant		Treated[1] Sweetwater Authority Drinking Water	If you do not see a contaminant listed here, it was not detected in 2019. Typical Source of Contaminant:
				— BEFORE TREATMENT —						
Inorganic Contaminants	MCL [MRDL]	PHG (MCLG) [MRDLG]	Range and Average	National City Well 3	National City Well 4	SD Formation Wells 1 - 11	Lake Skinner Outlet (Aqueduct)	Sweetwater Reservoir		
Fluoride (ppm)	2.0	1	Range	0.4 - 0.4	0.4 - 0.4	0.1 - 0.5	0.1 - 0.2	0.2 - 0.3	0.5 - 0.9[10]	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes oral health
			Average	0.4	0.4	0.2	0.2	0.2	0.7	
Aluminum (ppb)	1000	600	Range	ND	ND	ND	ND	ND - 420[2]	ND	Erosion of natural deposits; residue from surface water treatment processes
			Average	ND	ND	ND	ND	217	ND	
Arsenic (ppb)	10	0.004	Range	ND	ND	ND - 3.9[2]	ND	ND - 2.0[2]	ND	Erosion of natural deposits; glass and electronics production wastes
			Average	ND	ND	1.8	ND	1.7	ND	
Barium (ppm)	1	2	Range	ND	0.1 - 0.1	ND - 0.2[2]	ND	ND	ND - 0.1	Erosion of natural deposits; discharges of oil drilling wastes and from metal refineries
			Average	ND	0.1	0.1	ND	ND	ND	
Selenium (ppb)	50	30	Range	ND	ND	ND - 18[2]	ND	ND	ND	Refineries, mines, and chemical waste discharges; erosion of natural deposits; runoff
			Average	ND	ND	5	ND	ND	ND	
Radionuclides (a)										
Gross Alpha (pCi/L)	15	(0)	Range	ND	ND	ND - 11[2,3]	ND - 3.7[2,3]	ND	NA	Erosion of natural deposits
			Average	ND	ND	3.9	ND	ND	NA	
Gross Beta (pCi/L)	50	(0)	Range	NA	NA	ND - 17[3]	ND	ND - 13[3]	NA	Decay of natural and man-made deposits
			Average	NA	NA	8.1	ND	5.5	NA	
Radium - 226 (pCi/L)	5	0.05	Range	ND	ND	ND - 1.2[2,3]	ND	ND	NA	Erosion of natural deposits
			Average	ND	ND	ND	ND	ND	NA	
Uranium (pCi/L)	20	0.43	Range	ND	ND	ND - 8.3[2,3]	ND - 1.3[2,3]	2.1[2,3,4]	NA	Erosion of natural deposits
			Average	ND	ND	2.4	ND	2.1	NA	
Turbidity (b)										
Combined Filter Effluent Turbidity (NTU)	TT = 1 NTU	NA	Highest Single Measurement						0.28	Soil runoff
	TT = 95% of samples ≤0.3 NTU		Lowest Monthly Percent of Samples Meeting MCL						100.0%	
Unregulated Contaminants[5]										
Boron (ppm)	NA	NL = 1.0	Range	0.23 - 0.24	0.17 - 0.18	0.23 - 0.46	0.13[4]	0.11 - 0.13	0.13 - 0.23	Runoff/leaching from natural deposits; industrial wastes
			Average	0.24	0.18	0.33	0.13	0.12	0.18	
Vanadium (ppb)	NA	NL = 50	Range	ND	13 - 14	ND	ND	5.3 - 5.5[2]	ND	Naturally occurring; industrial waste discharge
			Average	ND	14	ND	ND	5.4	ND	
Perfluorooctanesulfonic acid (PFOS) (ppt)	NA	NL = 6.5	Range	NA	NA	ND - 7.1[2]	ND	NA	ND	Products manufactured with perfluoroalkyl substances (PFAS) include non-stick cookware, fast-food packaging, stain- and water-repellent fabrics, including clothing and carpets. PFAS chemicals are also found in fire-fighting foam, wastewater effluent, and in landfills.
			Average	NA	NA	2.1	ND	NA	ND	
Perfluorooctanoic acid (PFOA) (ppt)	NA	NL = 5.1	Range	NA	NA	ND - 6.8[2]	ND	NA	ND	
			Average	NA	NA	1.6	ND	NA	ND	
Perfluorobutanesulfonic acid (PFBS) (ppt)	NA	NA	Range	NA	NA	ND - 2.2[2]	ND	NA	ND	
			Average	NA	NA	ND	ND	NA	ND	
Perfluorohexanesulfonic acid (PFHxS) (ppt)	NA	NA	Range	NA	NA	ND - 8.3[2]	ND	NA	ND	
			Average	NA	NA	2.4	ND	NA	ND	
Perfluorohexanoic acid (PFHxA) (ppt)	NA	NA	Range	NA	NA	ND	2.2 - 2.6	NA	ND[2a]	
			Average	NA	NA	ND	2.4	NA	ND	

PRIMARY STANDARDS CONTINUED

Inorganic Contaminants	MCL [MRDL]	PHG (MCLG) [MRDLG]	Range and Average	National City Wells (Disinfected with chloramine) — BEFORE TREATMENT — National City Well 3	National City Wells (Disinfected with chloramine) — BEFORE TREATMENT — National City Well 4	Treated at Reynolds Groundwater Desal Facility — BEFORE TREATMENT — SD Formation Wells 1 - 11	Treated at Robert A. Perdue Water Treatment Plant — BEFORE TREATMENT — Lake Skinner Outlet (Aqueduct)	Treated at Robert A. Perdue Water Treatment Plant — BEFORE TREATMENT — Sweetwater Reservoir	Treated[1] Sweetwater Authority Drinking Water	If you do not see a contaminant listed here, it was not detected in 2019. Typical Source of Contaminant:
Unregulated Contaminant Monitoring Rule 3 (UCMR3) (c)										
Chlorate (ppb)	NA	NL = 800	Combined Distribution System Range						43 - 700	By-product of drinking water disinfection when using chlorine dioxide; hypochlorite degradation
			Combined Distribution System Average						275	
Molybdenum (ppb)	NA	NA	Combined Distribution System Range						1.0 - 8.2	Naturally occuring; manufacturing process waste
			Combined Distribution System Average						4.4	
Strontium (ppb)	NA	NA	Combined Distribution System Range						320 - 1100	Erosion of natural deposits; atmospheric deposition; wastewater discharges
			Combined Distribution System Average						684	
Vanadium (ppb)	NA	NL = 50	Combined Distribution System Range						ND - 7.2	Naturally occuring; industrial waste discharge
			Combined Distribution System Average						2.2	
Unregulated Contaminant Monitoring Rule 4 (UCMR4) (c)										
Total Organic Carbon (ppm)	TT	NA	Range	Perdue Water Treatment Plant - Raw Water Influent (Before Treatment)			2.9 - 12		NA	Various natural and man-made sources
			Average				8.6		NA	
Bromide (ppb)	NA	NA	Range	Perdue Water Treatment Plant - Raw Water Influent (Before Treatment)			81 - 420		NA	Runoff/leaching from natural deposits; seawater influence
			Average				315		NA	
Manganese (ppb)	50	NL = 500	Combined Distribution System Range						ND - 10	Leaching from natural deposits
			Combined Distribution System Average						3.3	
HAA5 (ppb)	60	NA	Combined Distribution System Range						ND - 38.2	Byproduct of drinking water chlorination
			Combined Distribution System Average						17.3	
HAA6Br (ppb)	NA	NA	Combined Distribution System Range						ND - 39.6	Byproduct of drinking water chlorination
			Combined Distribution System Average						17.0	
HAA9 (ppb)	NA	NA	Combined Distribution System Range						ND - 66.4	Byproduct of drinking water chlorination
			Combined Distribution System Average						30.0	
Disinfection and By-product Contaminants										
Total Trihalomethanes (TTHMs) (ppb)	80	NA	Highest Locational Running Annual Average (LRAA)						48.5	By-product of drinking water chlorination
			Range of All Distribution Sample Points						2.5 - 63.5[6]	
Haloacetic Acids (HAAs) (ppb)	60	NA	Highest Locational Running Annual Average (LRAA)						27.2	By-product of drinking water chlorination
			Range of All Distribution Sample Points						ND - 40.3[6]	
Chloramines (ppm)	[4.0]	[4]	Highest Running Annual Average (RAA)						2.8	Drinking water disinfectant added for treatment
			Combined Distribution System Range						0.5 - 4.6[6]	
Chlorine Dioxide (ppb)	[800]	[800]	Perdue Plant Clearwell Effluent Range						ND - 240[6]	Drinking water disinfectant added for treatment
			Perdue Plant Clearwell Effluent Average						ND	
Chlorite (ppm)	1.0	0.05	Combined Distribution System Range						ND - 0.43[6]	By-product of drinking water disinfection when using chlorine dioxide
			Combined Distribution System Average						0.21	
Chlorate (ppb)	NA	NL = 800	Combined Distribution System Range						70 - 490[6]	By-product of drinking water disinfection when using chlorine dioxide; hypochlorite degradation
			Combined Distribution System Average						310	
Lead and Copper Rule			Number of sites found above AL						90 percent of samples below	
Lead (ppb)	AL = 15	0.2	1 site above AL out of 62 sites sampled						ND[3]	Corrosion of onsite plumbing systems
Copper (ppm)	AL = 1.3	0.3	0 sites above AL out of 62 sites sampled						0.13[3]	

PRIMARY STANDARDS CONTINUED				National City Wells (Disinfected with chloramine)		Treated at Reynolds Groundwater Desal Facility	Treated at Robert A. Perdue Water Treatment Plant		Treated[1] Sweetwater Authority Drinking Water	If you do not see a contaminant listed here, it was not detected in 2019. Typical Source of Contaminant:
				— BEFORE TREATMENT —						
Inorganic Contaminants	MCL [MRDL]	PHG (MCLG) [MRDLG]	Range and Average	National City Well 3	National City Well 4	SD Formation Wells 1 - 11	Lake Skinner Outlet (Aqueduct)	Sweetwater Reservoir		
School Lead Testing[11]										
In 2019, the Authority completed lead sampling at 2 schools within its service area in compliance with State Water Board regulations.										
Microbiological (d)									Highest monthly percentage	
Total Coliform Bacteria	5.0% (TT)	(0)	Number of positive samples taken this year = 1						1.1%	Naturally present in the environment
E.coli Coliform Bacteria	(d)	(0)	Number of positive samples taken this year = 0						0%	Human and animal fecal waste
Cryptosporidium (Oocysts/10L)	TT	(0)	Range				NA	ND[7]	NA	Naturally present in the environment
			Average				NA	ND	NA	
SECONDARY STANDARDS										
Aluminum[8] (ppb)	200	NA	Range	ND	ND	ND	ND	ND - 420[2]	ND	Erosion of natural deposits; residue from some surface water treatment processes
			Average	ND	ND	ND	ND	217	ND	
Copper (ppb)	1000	NA	Range	ND	ND	ND	ND	ND - 86[2]	ND	Erosion of natural deposits; leaching from wood preservatives; Internal corrosion of household plumbing systems
			Average	ND	ND	ND	ND	61	ND	
Iron (ppb)	300	NA	Range	ND	ND	ND - 420[2]	ND	ND - 440[2]	ND	Leaching from natural deposits; industrial wastes
			Average	ND	ND	ND	ND	235	ND	
Manganese (ppb)	50	NL = 500	Range	ND	ND	27 - 3000[2]	ND	35 - 69[2]	ND - 21	Leaching from natural deposits
			Average	ND	ND	602	ND	52	ND	
Specific Conductance (microseimens/centi-meter)	1600	NA	Range	1100 - 1100	870 - 900	1800 - 9400[2]	543 - 686	860 - 1000	620 - 1100	Substances that form ions when in water; seawater influence
			Average	1100	885	3459	614	930	840	
Total Dissolved Solids (ppm)	1000	NA	Range	590 - 620	490 - 500	1000 - 6100[2]	312 - 394	510 - 650	340 - 670	Runoff/leaching from natural deposits; seawater influence
			Average	605	495	2232	353	580	503	
Chloride (ppm)	500	NA	Range	200 - 210	150 - 160	370 - 3100[2]	64 - 82	140 - 170	160 - 180	Runoff/leaching from natural deposits; seawater influence
			Average	205	155	980	73	155	168	
Sulfate (ppm)	500	NA	Range	58 - 59	38 - 39	116 - 488[2]	76 - 113	84 - 107	24 - 127	Runoff/leaching from natural deposits; industrial wastes
			Average	58	38	192	94	96	71	
Color (units)	15	NA	Range	1 - 3	1 - 3	1 - 3	5 - 10	20 - 70	1 - 3	Naturally occurring organic materials; iron and manganese
			Average	2	2	2	8	45	2	
Odor-Threshold (units)	3	NA	Range	ND	ND - 1	ND - 1	7[2,4]	3 - 8[2]	ND - 1	Naturally occurring organic materials
			Average	ND	1	ND	7	6	1	
Turbidity[8] (NTU)	5	NA	Range	0.12- 0.13	0.07 - 0.07	0.04 - 0.41	0.8 - 1.2	1.3 - 11.3	0.04 - 0.42	Soil runoff
			Average	0.13	0.07	0.14	1.0	6.3	0.16	
Foaming Agents (MBAS) (ppb)	500	NA	Range	ND	ND	ND	ND	ND	ND	Municipal and industrial waste discharges
			Average	ND	ND	ND	ND	ND	ND	

				National City Wells (Disinfected with chloramine)		Treated at Reynolds Groundwater Desal Facility	Treated at Robert A. Perdue Water Treatment Plant		Treated[1] Sweetwater Authority Drinking Water	If you do not see a contaminant listed here, it was not detected in 2019. Typical Source of Contaminant:
				— BEFORE TREATMENT —						
Inorganic Contaminants	MCL [MRDL]	PHG (MCLG) [MRDLG]	Range and Average	National City Well 3	National City Well 4	SD Formation Wells 1 - 11	Lake Skinner Outlet (Aqueduct)	Sweetwater Reservoir		
OTHER PARAMETERS										
Sodium (ppm)	NA	NA	Range	150 - 160	130 - 130	260 - 1300[2]	55 - 69	90 - 110	80 - 120	Runoff/leaching from natural deposits; seawater influence
			Average	155	130	484	62	100	100	
Hardness (Total Hardness as $CaCO_3$) (ppm)	NA	NA	Range	190 - 190	160 - 170	320 - 1800[2]	137 - 170	260 - 310	91 - 300	Leaching from natural deposits
			Average	190	165	658	154	285	194	
Radon (pCi/L)[9]	NA	NA	Range	270[4]	374[4]	190 - 300[2]	ND	NA	NA	Decay of natural deposits
			Average	270	374	240	ND	NA	NA	
pH (Standard Units)	NA	NA	Range	7.8 - 8.1	7.9 - 8.2	7.2 - 8.2	8.0 - 8.4	8.1 - 8.7	8.1 - 9.1	Soil geology, water hardness, and alkalinity
			Average	8.0	8.1	7.9	8.2	8.4	8.6	
Total Organic Carbon (ppm)	TT	NA	Range	NA	NA	NA	3.2 - 3.7	9.7 - 12.7	2.2 - 9.2	Various natural and man-made sources
			Average	NA	NA	NA	3.4	11.1	7.4	

Informational Statements

The Authority vigilantly safeguards its water supplies and has met all state and federal health standards. The following information describes potential health effects of drinking water that contain contaminants above federal maximum levels.

Radon: Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water through showering, washing dishes, and other household activities. In most cases, the amount of radon entering a home from tap water will be much less than the amount of radon entering the home through soil. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. You should pursue radon removal for your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. For additional information, call the State Radon Program (1-800-745-7236), the USEPA Safe Drinking Water Hotline (1-800-426-4791), or the National Radon Hotline (1-800-767-7236).

Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. Lead in drinking water is primarily from materials and components associated with service lines and household plumbing. The Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in household 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 two 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 USEPA Safe Drinking Water Hotline (1-800-426-4791) or at www.epa.gov/lead.

Fluoride is a naturally occurring mineral found in both surface water and groundwater. Fluoridation is the addition of fluoride to a drinking water supply so that it contains the level recommended for optimal protection against tooth decay. California law mandates fluoridation. Public water systems with at least 10,000 service connections are required, once funded, to fluoridate their drinking water. The Authority began fluoridation of the water supply delivered to customers in January 2017. This action is in compliance with the State Water Board Regulations Related to Drinking Water (Section 64433). State regulations require the fluoride levels in the treated water be maintained within a concentration range of 0.6 mg/L to 1.2 mg/L with the optimal target dose set at 0.7 mg/L, which is considered to provide optimal oral health benefits. Additional information about fluoridation is available from the State Water Board Division of Drinking Water at www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

2 TABLE DEFINITIONS

AL = Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow (AL now applies only to lead and copper).

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 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.

NA = Not Applicable (No standard specified or no monitoring required)

ND = Not Detected

NL = Regulatory Notification Level: (previously known as Action Level). The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

pCi/l = picoCuries per liter (a measure of radiation).

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

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 (CalEPA).

ppb = Parts per billion or micrograms per liter.

ppm = Parts per million or milligrams per liter.

ppt = Parts per trillion or nanograms per liter.

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

3 FOOTNOTES

1. Sweetwater Authority drinking water data is representative of water which has been processed through the Robert A. Perdue Water Treatment Plant (conventional treatment) or the Richard A. Reynolds Groundwater Desalination Facility (reverse osmosis treatment).

2. The contaminants listed are in the untreated waters. The water is processed through either a reverse osmosis filtration plant (Reynolds Groundwater Desalination Facility) or through a conventional water treatment plant (Perdue Water Treatment Plant). These water treatment applications typically remove these contaminants to concentrations below detectable levels.

2a. This contaminant was not detected in the Reynolds Desalination Facility finished water; contaminant not determined in the Robert A. Perdue Water Treatment Plant finished water.

3. The State Water Board allows the Authority to monitor for some contaminants less than once per year because the concentrations of the contaminants do not change frequently. Radiological data on untreated source waters was collected in 2006-2007, 2017-2019. Lead and Copper data was collected in July 2017. Compliance with the lead and copper action levels is determined at the 90th percentile.

4. Reported value represents a single measurement; therefore, the range and average are the same.

5. Unregulated contaminant monitoring helps USEPA and the State Water Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

On March 15, 2019 the State Water Board, Division of Drinking Water issued an Order requiring the Authority to conduct quarterly monitoring for one year for per- and poly-flourinated alkyl substances (PFAS) at three San Diego Formation Wells (SDF 1, 2, and 6), which are used as a source of supply to the Reynolds Desalination Facility. These wells were selected because they are located in proximity to an abandoned landfill in National City. Of the PFAS chemicals, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) have been the most extensively studied and DDW has assigned health-based notification levels of 5.1 and 6.5 parts per trillion (ppt) respectively to these chemicals. In addition, the State Water Board is currently in the process of developing public health goals (PHGs) and maximum contaminant levels (MCLs) for PFOS and PFOA. In 2019, both PFOA and PFOS were detected in SDF2 above their respective notification levels, however the reverse osmosis technology used at the Reynolds Desalination Facility effectively removes these chemicals to below detectable levels, therefore there was no impact to our customers and no notification was required. This was confirmed with the State Water Board by sampling the Reynolds Desalination Facility finished water, which showed that none of the 18 PFAS chemicals tested by EPA Method 537.1 were detected. For more information on PFAS, visit www.sweetwater.org/wq.

6. MRDL compliance for chloramines is determined on a system-wide basis by calculating a running annual average of all distribution sampling point averages. MCL compliance for trihalomethanes (TTHMs) and haloacetic acids (HAAs) is determined by calculating a quarterly locational running annual average at each Stage 2 DBP Rule monitoring location. MCL compliance for chlorine dioxide is based on daily samples at the entrance to the distribution system and follow-up distribution system monitoring following an MRDL exceedance. MCL compliance for chlorite is based on daily samples at the entrance to the distribution system, monthly distribution system monitoring, and follow-up/confirmation sampling following an MCL exceedance.

7. Cryptosporidium (Crypto) monitoring. In 2019, Crypto was not detected in Sweetwater Reservoir. The last detection for Crypto in Sweetwater Reservoir occurred in August of 2005 (1.0 oocyst in 10 liters).

8. Aluminum and Turbidity have both a primary and a secondary MCL.

9. Radon was sampled in 2000 for San Diego Formation Wells 1-5, in 2001 for the National City Wells 2 and 3, and in 2008 for San Diego Formation Well 6 and National City Well 4.

10. Fluoride - The Authority treats your water by adding fluoride to the naturally occurring level to help prevent tooth decay in consumers. State regulations require the fluoride levels in the treated water be maintained within a concentration range of 0.6 mg/L to 1.2 mg/L with an optimal target dose set at 0.7 mg/L, which is considered to provide optimal oral health benefits. In 2019, the Authority's monitoring showed fluoride levels in the (fluoridated) treated water ranged from 0.5 mg/L to 0.9 mg/L, with an average of 0.7 mg/L. Information about fluoridation, oral health and current issues is available at www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml.

11. School Lead Testing - In January 2017, the State Water Board issued an amended permit to all public water systems in California, requiring them to sample for lead at all K-12 schools within their service area. Under this mandate, school officials can request in writing that their local water agency sample their school for lead. The written request must be submitted by November 1, 2019. In 2017, the Authority received requests from 46 schools (out of a total of 67 eligible schools) for lead sampling. The Authority worked with those schools to develop sampling plans and conduct testing. In 2018, no schools submitted written requests for lead testing. In 2019 two schools were tested as required by California Assembly Bill 746 (AB746). The Authority has now completed the school lead sampling requirements as specified by the Authority's Water Supply Permit Amendment and AB746. Please contact the Water Treatment Superintendent at 619-409-6812 to obtain a summary of the lead testing results.

(a) Compliance with the radiological MCLs is typically based upon samples collected every three to nine years (depending on previous monitoring results), unless waived by the State Water Board. Compliance with the gross alpha MCL is determined by excluding the values for radon and uranium. The State Water Board considers 50 pCi/L to be the level of concern for beta particles. The MCL for radium is for the combination of the "226" and "228" isotopes.

(b) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU (Nephelometric Turbidity Units) in 95 percent of the measurements taken each month and shall not exceed 1.0 NTU for more than eight consecutive hours or 1 NTU for more than one continuous hour and none of the 4-hour interval readings shall exceed 1 NTU.

Turbidity is a measure of the cloudiness of the water. The Authority monitors turbidity because it is a good indicator of the effectiveness of our filtration system.

(c) Quarterly UCMR3 monitoring was conducted in 2014-2015. UCMR3 monitoring consisted of 28 List 1 and List 2 chemicals. Of these, only chlorate, vanadium, molybdenum, and strontium were detected. In addition to UCMR3, the Authority routinely monitors for vanadium as an unregulated contaminant and for chlorate as part of the Disinfection By-products Rule.

Quarterly UCMR4 monitoring was conducted in 2018 - 2019 for the 17 List 1 chemicals and the 11 List 2 chemicals. Of these, only TOC, bromide, manganese, and haloacetic acids were detected. For UCMR4, the haloacetic acids are reported in three groups (HAA5, HAA6Br, and HAA9), as follows:

HAA5 equals the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid.

HAA6Br equals the sum of monobromoacetic acid, dibromoacetic acid, bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, and tribromoacetic acid.

HAA9 equals the sum of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, dibromoacetic acid, bromochloroacetic acid, bromodichloroacetic acid, chlorodibromoacetic acid, and tribromoacetic acid.

In addition to UCMR4, the Authority routinely monitors for HAA5 and TOC as part of the Disinfection By-products Rule.

(d) Please note, starting in 2016, the State Water Board required California public water systems to be in simultaneous compliance with both the CA TCR and the Federal RTCR criteria listed below.

State of California Total Coliform Rule (CA TCR) - Total coliform MCL: No more than 5.0% of the monthly samples may be total coliform positive. Acute coliform (*E.coli*) MCL: A routine sample and a repeat sample are total coliform positive, and one of these is also *E.coli* positive. The Authority did not violate either MCL in 2019. Results are based on the distribution system's highest monthly percent positives. Compliance is based on the combined distribution system sampling from all treatment plants. In 2019, 1,914 samples were analyzed.

Federal Revised Total Coliform Rule (RTCR) - Total Coliform TT trigger, Level 1 assessments, and total coliform TT violations: More than 5.0% total coliform positive samples in a month trigger a Level 1 assessment. Failure to conduct

FOOTNOTES CONT.

an assessment and take corrective action within 30 days is a total coliform violation. In 2019, no triggers, Level 1 assessments, or violations occurred.

E.coli MCL and Level 2 TT triggers for assessments: Routine and repeat samples are total coliform positive and either sample is *E.coli* positive or the system fails to collect all repeat samples following an *E.coli* positive sample, or fails to test for *E.coli* when the repeat sample is total coliform positive. In 2019, no samples were *E.coli* positive and no MCL violations or assessments occurred.

4 WATER AGENCIES DELIVER MAJOR PUBLIC HEALTH BENEFIT

A clean water supply is the norm thanks to modern water treatment

Modern treatment techniques have improved water supplies to the point where people often take the safety of tap water for granted.

However, ensuring water quality is a big commitment. Local and regional water agencies work around-the-clock to make sure customers have safe, reliable drinking water.

A century ago, however, many people did not have access to safe, reliable water. That was why filtration and chlorination systems were first installed in municipal water systems.

That seemingly basic service made a profound difference; U.S. life expectancy increased and child mortality decreased. Once-common diseases such as cholera and typhoid have been essentially wiped out.

Continuous advances in technology have allowed water agencies to adopt increasingly sophisticated ways of preventing harmful levels of bacteria and chemicals from fouling water supplies.

Federal and state agencies oversee the testing process, periodically setting more stringent safeguards. Over the past 30 years, the number of regulated contaminants in potable water has nearly quadrupled; and contaminant levels that once were measured in parts per million are now traced to parts per billion – giving consumers an even greater margin of safety.

The entire process has delivered a major public health benefit, a real value that customers help pay for a little at a time.

Public water providers just charge what it costs to deliver safe supplies

Every few months when corporations publicly announce their revenues, shareholders expect a big return. Some multi-national energy companies routinely post annual profits in the billions.

Not so for the public agencies which deliver another crucial resource – water – right to your home or business every day. They make $0 profit annually. In fact, agencies such as the Authority are legally required to charge only what it costs to treat and deliver drinking water.

All the money collected is invested into the pumps, pipes, and other elements of the water system. The system is complex, and includes securing supplies; pumping, moving, treating, and testing water; maintaining and financing infrastructure; and establishing financial reserves for emergencies and paying for environmental enhancements or mitigation.

Related costs have grown over time due to a variety of factors, such as increases in the price of energy and treatment chemicals. Local water suppliers are also strategically increasing the use of local sources, such as recycled water and groundwater, to buffer our region from shortages.

In all those efforts, customers of public water agencies can be confident that they are paying the actual costs of providing safe and reliable water service – a real value day in and day out.

The Authority is committed to maintaining a safe and reliable supply of drinking water for current and future customers.

5 UNDERSTANDING WATER

Water quality standards are measured in “parts per million” or “parts per billion.” But those terms can be difficult to relate to, and it’s hard to know what they mean. This chart can help you visualize the proportions in terms of some ordinary items.

ITEM		PARTS PER MILLION	PARTS PER BILLION
Linear Measure		1 inch in 15.78 miles	1 inch in 15,780 miles
Time		1 minute in 1.9 years	1 minute in 1,902 years
Money		1 cent in $10,000	1 cent in $10 million
1 drop of water		1 drop in a half-full bathtub	1 drop in an Olympic-size swimming pool

Source: USEPA;
Alaska Department of Environmental Conservation;
Sweetwater Authority

MISSION

The mission of Sweetwater Authority is to provide our current and future customers with a safe and reliable water supply through the use of the best available technology, sound management practices, public participation and a balanced approach to human and environmental needs.

VISION

Sweetwater Authority is a premier water agency. We partner with public and private sectors to maximize value for our rate payers. Our water system infrastructure is innovative, yet functional, practical and cost-effective. We provide a reliable and sustainable source of water. We consistently deliver industry-leading service to our customers.

Sweetwater Authority
505 Garrett Avenue
Chula Vista, CA 91910
619-420-1413

twitter @sweetwaterauth
facebook.com/swawater
linkedin.com/company/sweetwater-authority
youtube.com/user/SweetwaterAuthority