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SWEETWATER AUTHORITY'S Annual Drinking Water Quality Report for 2013

Last year, the water delivered by Sweetwater Authority met all USEPA and the CA Department of Public Health drinking water health standards

EL REPORTE CONTIENE VALIOSA INFORMACIÓN SOBRE LA CALIDAD DE SU AGUA POTABLE
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WHAT IS SAFE DRINKING WATER?

The U. S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) 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 CDPH 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 CDPH. If you have questions about Authority operations or the contents of this report, please visit www.sweetwater.org or call Laboratory Supervisor Mark Hatcher at 619-409-6813, or Chemist Laura Homsey at 619-409-6826.

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 187,000 people in National City, Bonita, and western portions of Chula Vista. Its customers include residential, business, government, industrial, and agricultural water users in an area covering more than 20,480 acres in the South Bay region of San Diego County.

Wondering about the water we drink?

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's Safe Drinking Water Hotline at 800-426-4791, or visiting USEPA's

website at www.epa.gov/safewater.

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 (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 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.

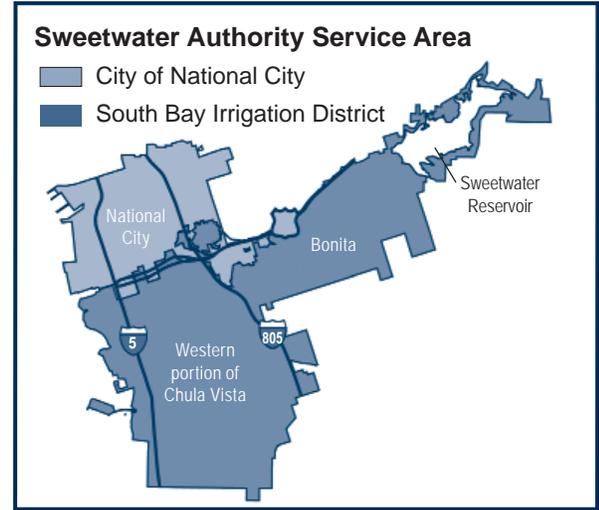
Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems.

Radioactive contaminants 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 800-426-4791. Further informa-



tion 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 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.

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 National City, and the region's imported supply, which is drawn from the Colorado River or the State Water Project in northern California. Source water assessments are available for each of these sources.

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 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.

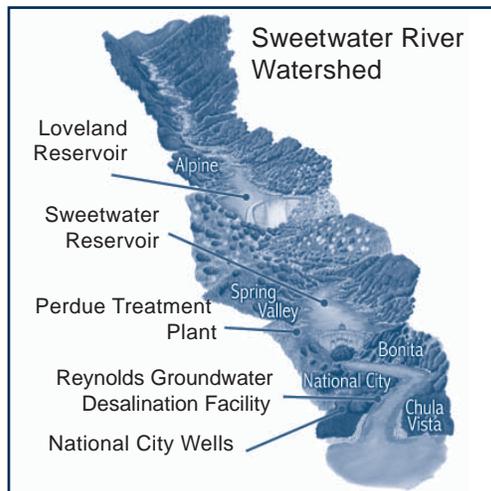
3) Surface water is treated and disinfected at the Perdue Plant.

4) Potable groundwater is disinfected.

5) Brackish groundwater is treated with reverse osmosis and disinfected. (To learn more, visit www.sweetwater.org, click on “Our Water.”)

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.

About 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. There are simple ways to fix a radon problem that are not too costly. For additional information, call the State Radon Program (1-800-745-7236), the EPA Safe Drinking Water Act Hotline (1-800-426-4791), or the National Safety Council Radon Hotline (1-800-SOS-RADON).



How to Reach Us

| | |
|---------------------------------|--|
| Customer Service | 619-420-1413 |
| After Hours Emergency | 619-420-1413 |
| Water Quality Lab | 619-409-6801 |
| Water Efficiency Helpline | 619-409-6779 |
| Employment | 619-409-6775 |
| Fluoride Info Line | 619-409-6780 |
| Recreation/Fishing..... | |
| Sweetwater Reservoir | 619-409-6777 |
| Loveland Reservoir | 619-409-6776 |
| Construction Information | 619-409-6850 |
| School Programs | 619-409-6876 |
| Community Presentations | 619-409-6723 |
| Board Secretary | 619-409-6703 |
| Website | www.sweetwater.org |

About 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 at 1-800-426-4791, or at <http://www.epa.gov/safewater/lead>.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. In the past year, our monitoring has not detected these organisms in our source water. When detected, current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people, infants, small children, and the

elderly are at greater risk of developing a life-threatening illness, and should contact their physicians regarding appropriate precautions. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

Fluoride is found naturally in water delivered to Sweetwater Authority customers in levels below the amount recommended for preventing tooth decay. Customers concerned about fluoride use are urged to contact a doctor or dentist to discuss fluoride supplements. For more information about fluoridation, oral health, and current issues, visit the CDPH website at www.cdph.ca.gov/certlic/drinkingwater/pages/fluoridation.aspx.

Trihalomethanes: High levels of trihalomethanes (THMs) may lead to an increased risk for miscarriage during the first trimester of pregnancy. THM levels vary throughout the year and are most likely to be highest during the summer.

To obtain information about current THM levels, customers may contact the Authority's Laboratory Supervisor Mark Hatcher at 619-409-6813, or Chemist Laura Homsey at 619-409-6826. Pregnant women concerned about this risk should seek advice from their health care providers.

Consumer questions and answers about water quality, taste, color and odor, can be found at www.sweetwater.org, click on “Our Water,” then “Water Quality.”

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 Senior Planner, Jane Davies at 619-409-6816, or jdavies@sweetwater.org

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. and 3:30 p.m., respectively. Agendas are posted at 505 Garrett Avenue, Chula Vista. Also, meeting agendas and minutes are published on the Authority's website at www.sweetwater.org.

| PRIMARY STANDARDS For the 2013 calendar year | | | | National City Wells (Disinfected with chloramine) | Treated at Reyn- olds 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 2013. |
|---|---------------|--------------------------|--|---|--|---|-----------------------------------|--------------------------|---|--|
| Inorganic Contaminants | MCL [MRDL] | PHG (MCLG) [MRDLG] | Range and Average | — BEFORE TREATMENT — | | | | | | Typical Source of Contaminant: |
| | | | | National City Well 3 | National City Well 4 | SD Formation Wells 1- 6 | Lake Skinner Outlet (Aqueduct) | Sweetwater Reservoir | | |
| Fluoride (ppm) | 2.0 | 1 | Range | 0.4 - 0.4 | 0.3 - 0.3 | 0.1 - 0.2 ² | 0.2 - 0.3 | 0.2 - 0.3 | ND - 0.3 | Erosion of natural deposits; discharge from fertilizer and aluminum factories |
| | | | Average | 0.4 | 0.3 | 0.1 | 0.2 | 0.3 | 0.1 | |
| Aluminum (ppb) | 1000 | 600 | Range | ND | ND | ND | ND | 71-120 ² | ND | Erosion of natural deposits; residue from surface water treatment processes |
| | | | Average | ND | ND | ND | ND | 96 | ND | |
| Arsenic (ppb) | 10 | 0.004 | Range | ND | ND | ND - 1.8 ² | 2.2 ^{2, 4} | ND - 2.3 ² | ND | Erosion of natural deposits; glass and electronics production wastes |
| | | | Average | ND | ND | ND | 2.2 | ND | ND | |
| Barium (ppm) | 1 | 2 | Range | ND | 0.1 - 0.1 | ND - 0.1 ² | ND | ND - 0.1 | ND - 0.1 | Erosion of natural deposits; discharges of oil drilling wastes and from metal refineries |
| | | | Average | ND | 0.1 | 0.1 | ND | 0.1 | ND | |
| Radionuclides (a) | | | | | | | | | | |
| Gross Alpha (pCi/L) | 15 | (0) | Range | ND | ND | ND - 7.6 ^{2,3} | ND - 3.1 ^{2,3} | 4.7 - 5.1 ^{2,3} | | Erosion of natural deposits |
| | | | Average | ND | ND | 4.5 | ND | 4.9 | | |
| Combined Radium - 226/228 (pCi/L) | 5 | (0) | Range | ND | ND | ND - 1.8 ^{2,3} | ND | ND | | Erosion of natural deposits |
| | | | Average | ND | ND | ND | ND | ND | | |
| Gross Beta (pCi/L) | 50 | (0) | Range | NA | NA | NA | ND - 5.5 ³ | ND - 6.5 ³ | | Decay of natural and man-made deposits |
| | | | Average | NA | NA | NA | ND | 4.1 | | |
| Radium - 228 (pCi/L) | NA | 0.019 | Range | ND | ND | ND - 1.8 ^{2,3} | ND | ND | | Erosion of natural deposits |
| | | | Average | ND | ND | ND | ND | ND | | |
| Uranium (pCi/L) | 20 | 0.43 | Range | 1.4 ^{3,4} | 1.2 ^{3,4} | 0.8 - 8.8 ^{2,3} | ND - 2.2 ^{2,3} | 1.3 ^{2,3,4} | | Erosion of natural deposits |
| | | | Average | 1.4 | 1.2 | 3.7 | 1.4 | 1.3 | | |
| Turbidity (b) | | | | | | | | | | |
| Combined Filter Effluent Turbidity (NTU) | TT | NA | Highest single measurement | | | | | | 0.39 | Soil runoff |
| | | | Lowest monthly percent of samples meeting MCL | | | | | | 99.9% | |
| Unregulated Contaminants ⁵ | | | | | | | | | | |
| Boron (ppm) | NA | NL = 1.0 | Range | 0.19 - 0.21 | 0.15 - 0.16 | 0.19 - 0.33 | 0.12 ⁴ | 0.10 - 0.11 | 0.10 - 0.24 | Runoff/leaching from natural deposits; industrial wastes |
| | | | Average | 0.20 | 0.16 | 0.26 | 0.12 | 0.11 | 0.16 | |
| Vanadium (ppb) | NA | NL = 50 | Range | ND | 15 - 15 | ND | ND | 5.6 - 14 | ND | Naturally occurring; industrial waste discharge |
| | | | Average | ND | 15 | ND | ND | 10 | ND | |
| Unregulated Contaminant Monitoring Rule (UCMR2) (c) | | | | | | | | | | |
| N-nitroso-dimethyl- amine (ppt) (NDMA) | NA | NL = 10 | Combined distribution system range | | | | | | ND - 5.8 | By-product of drinking water chloramination; industrial processes |
| | | | Combined distribution system average | | | | | | 1.1 | |
| Disinfection and Byproduct Contaminants | | | | | | | | | | |
| Total Trihalomethanes (TTHMs) (ppb) | 80 | NA | Highest locational running annual average (LRAA) | | | | | | 38.0 | By-product of drinking water chlorination |
| | | | Range of all distribution sample points | | | | | | 4.2 - 60.5 ⁶ | |
| Haloacetic Acids (HAAs) (ppb) | 60 | NA | Highest locational running annual average (LRAA) | | | | | | 28.5 | By-product of drinking water chlorination |
| | | | Range of all distribution sample points | | | | | | 1.5 - 37.0 ⁶ | |
| Chloramines (ppm) | [4.0] | [4] | Highest running annual average (RAA) | | | | | | 2.5 | Drinking water disinfectant added for treatment |
| | | | Combined distribution system range | | | | | | 0.5 - 3.8 ⁶ | |
| Chlorine Dioxide (ppb) | [800] | [800] | Perdue Plant Clearwell effluent range | | | | | | ND - 190 ⁶ | Drinking water disinfectant added for treatment |
| | | | Perdue Plant Clearwell effluent average | | | | | | ND | |
| Chlorite (ppm) | 1.0 | 0.05 | Combined distribution system range | | | | | | 0.31 - 0.54 ⁶ | By-product of drinking water disinfection when using chlorine dioxide |
| | | | Combined distribution system average | | | | | | 0.46 | |
| Chlorate (ppb) | NA | NL=800 | Combined distribution system range | | | | | | 200 - 320 ⁶ | By-product of drinking water disinfection when using chlorine dioxide |
| | | | Combined distribution system average | | | | | | 260 | |
| 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 55 sites sampled | | | | | | 7.5 ³ | Corrosion of household plumbing systems |
| Copper (ppm) | AL = 1.3 | 0.3 | 0 sites above AL out of 55 sites sampled | | | | | | 0.26 ³ | |
| Microbiological (d) | | | | | | | | | | |
| | | | Highest monthly percentage | | | | | | | |
| Total Coliform Bacteria | 5.0% | (0) | Number of positive samples taken this year = 0 | | | | | | 0% | Naturally present in the environment |
| Fecal 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 | NA | NA | ND | ND ⁷ | | Naturally present in the environment |
| | | | Average | NA | NA | NA | ND | ND | | |

SECONDARY STANDARDS

| Inorganic Contaminants | | | | — BEFORE TREATMENT — | | | | | Treated Sweetwater Authority Drinking Water ¹ | If you do not see a contaminant listed here, it was not detected in 2013. Typical Source of Contaminant: |
|---|------------|------------|---------------|---|----------------------|--|---|------------------------|--|---|
| | | | | National City Wells (Disinfected with chloramine) | | Treated at Reynolds Groundwater Desal Facility | Treated at Robert A. Perdue Water Treatment Plant | | | |
| | MCL [MRDL] | PHG (MCLG) | Range and Avg | National City Well 3 | National City Well 4 | SD Formation Wells 1- 6 | Lake Skinner Outlet (Aqueduct) | Sweetwater Reservoir | | |
| Aluminum ⁸ (ppb) | 200 | 600 | Range | ND | ND | ND | ND | 71-120 ² | ND | Erosion of natural deposits; residue from some surface water treatment processes |
| | | | Average | ND | ND | ND | ND | 96 | ND | |
| Iron (ppb) | 300 | NA | Range | 60 - 61 | ND | ND - 420 ² | ND | 160 - 190 ² | ND | Leaching from natural deposits; industrial wastes |
| | | | Average | 61 | ND | ND | ND | 175 | ND | |
| Manganese (ppb) | 50 | NL = 500 | Range | ND | ND | 75 - 2400 ² | ND | 120 - 200 ² | ND - 31 | Leaching from natural deposits |
| | | | Average | ND | ND | 611 | ND | 160 | ND | |
| Specific Conductance (microseimens/centimeter) | 1600 | NA | Range | 1200 - 1200 | 940 - 970 | 2100 - 6000 ² | 810 - 810 | 1000 - 1100 | 720 - 1200 | Substances that form ions when in water; seawater influence |
| | | | Average | 1200 | 955 | 3682 | 810 | 1050 | 965 | |
| Total Dissolved Solids (ppm) | 1000 | NA | Range | 630 - 660 | 520 - 560 | 1200 - 3300 ² | 480 - 500 | 600 - 650 | 380 - 680 | Runoff/leaching from natural deposits; seawater influence |
| | | | Average | 645 | 540 | 2000 | 490 | 625 | 535 | |
| Chloride (ppm) | 500 | NA | Range | 210 - 220 | 170 - 170 | 440 - 1600 ² | 76 - 77 | 160 - 200 | 170 - 230 | Runoff/leaching from natural deposits; seawater influence |
| | | | Average | 215 | 170 | 891 | 76 | 180 | 198 | |
| Sulfate (ppm) | 500 | NA | Range | 61 - 62 | 40 - 41 | 125 - 296 ² | 160 - 170 | 99 - 108 | 29 - 111 | Runoff/leaching from natural deposits; industrial wastes |
| | | | Average | 61 | 40 | 203 | 170 | 104 | 69 | |
| Color (units) | 15 | NA | Range | 1 - 1 | 1 - 1 | 1 - 1 | 4 - 4 ² | 25 - 40 ² | 1 - 3 | Naturally occurring organic materials; iron and manganese |
| | | | Average | 1 | 1 | 1 | 4 | 33 | 1 | |
| Odor-Threshold (units) | 3 | NA | Range | ND | ND | ND | 10 - 10 ² | 1 - 2 ² | ND | Naturally occurring organic materials |
| | | | Average | ND | ND | ND | 10 | 2 | ND | |
| Turbidity ⁸ (NTU) | 5 | NA | Range | 0.15 - 0.17 | 0.09 - 0.11 | 0.08 - 0.42 | 0.3 - 0.7 ² | 4.4 - 7.1 ² | 0.10 - 0.37 | Soil runoff |
| | | | Average | 0.16 | 0.10 | 0.16 | 0.5 | 5.7 | 0.25 | |
| Foaming Agents (MBAS) (ppb) | 500 | NA | Range | ND | ND | ND - 55 | ND | ND | ND - 50 | Municipal and industrial waste discharges |
| | | | Average | ND | ND | 5 | ND | ND | 13 | |
| Other Parameters | | | | | | | | | | |
| Sodium (ppm) | NA | NA | Range | 160 - 170 | 130 - 130 | 280 - 820 ² | 71 - 75 | 100 - 120 | 98 - 130 | Runoff/leaching from natural deposits; seawater influence |
| | | | Average | 165 | 130 | 489 | 73 | 110 | 112 | |
| Hardness (Total Hardness as CaCO ₃) (ppm) | NA | NA | Range | 192 - 200 | 171 - 176 | 338 - 952 ² | 220 - 230 | 279 - 296 | 98 - 284 | Leaching from natural deposits |
| | | | Average | 196 | 174 | 609 | 230 | 288 | 193 | |
| 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 | 7.9 - 8.0 | 7.9 - 8.0 | 7.5 - 8.0 | 8.0 - 8.2 | 8.4 - 8.6 | 8.3 - 8.7 | Soil geology, water hardness, and alkalinity |
| | | | Average | 8.0 | 8.0 | 7.9 | 8.1 | 8.5 | 8.5 | |
| Total Organic Carbon (ppm) | TT | NA | Range | NA | NA | NA | 2.9 - 3.1 | 7.3 - 15.4 | 2.2 - 7.6 | Various natural and man-made sources |
| | | | Average | NA | NA | NA | 3.0 | 8.7 | 5.4 | |

3 TABLE DEFINITIONS

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

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

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.

ND = Not Detected

NA = Not Applicable (No standard specified)

ppb = Parts per billion or micrograms per liter.

ppm = Parts per million or milligrams per liter.

ppt = Parts per trillion or nanograms per liter.

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

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.

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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.

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 (CA-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.

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.

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.

3. The CDPH allows us 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, 2010, 2012, and 2013. Lead and Copper data was collected in August 2011. 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 EPA and the CDPH to determine where certain contaminants occur and whether the contaminants need to be regulated.

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 TTHMs and 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 consecutive daily samples. MCL compliance for chlorite is based on an arithmetic average of each monthly distribution system three-sample set.

7. Cryptosporidium (Crypto) monitoring

was conducted bi-weekly on Sweetwater Reservoir from October 2002 through September 2008, and quarterly in 2009 through 2013. The ten-year-average was 0.003 Crypto oocysts per liter. The last detection for Crypto occurred in August 2005 (1.0 oocyst in 10 liters). Crypto was not detected in Sweetwater Reservoir in 2013.

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.

(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 CDPH. Compliance with the gross

alpha MCL is determined by excluding the values for radon and uranium. The CDPH considers 50 pCi/L to be the level of concern for beta particles.

(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 1.49 NTU for more than one hour and none of the 4-hour interval readings shall exceed 1.49 NTU.

Turbidity is a measure of the cloudiness of the water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.

(c) Quarterly UCMR2 monitoring was conducted in 2009 through 2010. UCMR2 monitoring consisted of a total of 25 List 1 and List 2 chemicals. Of these, only N-nitroso-dimethylamine was detected.

(d) Total coliform MCLs: No more than 5.0 percent of the monthly samples may be total coliform positive. Fecal coliform MCLs: A routine sample and a repeat sample are total coliform positive, and one of these is also fecal coliform or E. coli positive. The Sweetwater Authority did not violate either MCL in 2013. 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. 1,908 samples were analyzed in 2013.

5 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 don't have to worry.

A century ago, however, many people did have to worry about their 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 multinational 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 Sweetwater Authority are legally required to charge only what it costs to treat and deliver drinking water.

All the money they collect is invested into the pumps, pipes, and other elements of the water system. The system is more complex than you might think. It includes securing supplies; pumping, moving, treating, and testing water; maintaining and financing infrastructure; 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.

Sweetwater Authority is committed to maintaining a safe and reliable supply of drinking water for current customers, as well as future customers – and for it to be as affordable as possible.

6 UNDERSTANDING WATER

You will notice that 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. Below is a handy chart that may 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: US EPA; Alaska Dept. of Environmental Conservation, Sweetwater Authority

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