



San Francisco
Water Power Sewer
Services of the San Francisco Public Utilities Commission

City of San Francisco 2018 Annual **WATER QUALITY REPORT**



OUR DRINKING WATER SOURCES AND TREATMENT

Our major water source originates from spring snowmelt flowing down the Tuolumne River to storage in Hetch Hetchy Reservoir. Our well protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board's Division of Drinking Water (SWRCB-DDW). Water from Hetch Hetchy Reservoir receives the following treatment to meet the appropriate drinking water standards for consumption: ultraviolet light and chlorine disinfection, pH adjustment for optimum corrosion control, fluoridation for dental health protection, and chloramination for maintaining disinfectant residual and minimizing the formation of regulated disinfection byproducts.

Hetch Hetchy water is supplemented with surface water from local watersheds, upcountry non-Hetch Hetchy sources (UNHHS), and groundwater. Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties are collected in Calaveras Reservoir and San Antonio Reservoir, and delivered to the Sunol Valley Water Treatment Plant (SVWTP). Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County are stored in Crystal Springs Reservoir, San Andreas Reservoir and Pilarcitos Reservoir, and are delivered to the Harry Tracy Water Treatment Plant. In 2018, the UNHHS was not used. Water at the two treatment plants is subject to filtration, disinfection, fluoridation, optimum corrosion control, and taste and odor removal.

A small amount of groundwater from four local wells was intermittently added to our surface water supplies in 2018. The use of local groundwater helps diversify our water sources and makes our drinking water supply in San Francisco even more reliable.

Protecting Our Watersheds

We conduct watershed sanitary surveys for the Hetch Hetchy source annually and local water sources as well as UNHHS every five years. The latest local sanitary survey was completed in 2016 for the period of 2011-2015. The last watershed sanitary survey for UNHHS was conducted in 2015 as part of our drought response plan efforts. All these surveys were completed with support from partner agencies including National Park Service and US Forest Service. These surveys evaluate the sanitary conditions, water quality, results of watershed management activities, and identify potential contamination sources that may affect the watersheds. Wildlife, stock, and human activities continue to be the potential contamination sources. To review the reports, contact the San Francisco District office of SWRCB-DDW at **(510) 620-3474**.



Water Quality

We regularly collect and test water samples from reservoirs and designated sampling points throughout the system to ensure the water delivered to you meets or exceeds federal and state drinking water standards. In 2018, we conducted more than 106,620 drinking water tests in the source, transmission, and distribution system. This is in addition to the extensive treatment process control monitoring performed by our certified operators and online instruments.

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 USEPA and SWRCB-DDW 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.

Fluoridation and Dental Fluorosis

Mandated by State law, water fluoridation is a widely accepted practice proven to be safe and effective for preventing and controlling tooth decay. Our fluoride target level in the water is 0.7 milligram per liter (mg/L, or part per million, ppm), consistent with the May 2015 State regulatory guidance on optimal fluoride level. Infants fed formula mixed with water containing fluoride at this level may still have a chance of developing tiny white lines or streaks in their teeth. These marks are referred to as mild to very mild fluorosis, and are often only visible under a microscope. Even in cases where the marks are visible, they do not pose any health risk. The Centers of Disease Control (CDC) considers it safe to use optimally fluoridated water for preparing infant formula. To lessen this chance of dental fluorosis, you may choose to use low-fluoride bottled water to prepare infant formula. Nevertheless, children may still develop dental fluorosis due to fluoride intake from other sources such as food, toothpaste and dental products.

Contact your healthcare provider or SWRCB-DDW if you have concerns about dental fluorosis. For additional information about fluoridation or oral health, visit the SWRCB-DDW website waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml, the CDC website cdc.gov/fluoridation, or our website sfwater.org/fluoride.





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 healthcare providers. US EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the US EPA's Safe Drinking Water Hotline (800) 426-4791 or at epa.gov/safewater.

Unregulated Contaminant Monitoring Rule

In 2018, we conducted four-quarter monitoring of 30 contaminants that currently have neither federal nor California health based drinking water standards. The monitoring, as required by the USEPA's fourth Unregulated Contaminant Monitoring Rule (UCMR4), targets 10 cyanotoxins, 2 metals, 9 pesticides, 3 alcohols, 3 synthetic organic contaminants, and 3 groups of haloacetic acids in the distribution system. A summary of monitoring results is available on the sfwater.org website. Visit the epa.gov/dwucmr website for information about UCMR4.

Drinking Water and Lead

Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Lead is not found in our surface waters, and we have removed all known lead service lines from our system. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. It is possible that lead levels at your home may be higher than at others because of plumbing materials used in your property.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Infants and young children are typically more vulnerable to lead in drinking water than the general population. You can minimize the potential for lead exposure, when your water has been sitting for several hours, by flushing your tap for 30 seconds to 2 minutes (or until the water temperature has changed) before using water for drinking or cooking. If you are concerned about lead levels in your water, you may wish to have your water tested. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the USEPA's Safe Drinking Water Hotline (800) 426-4791, or at epa.gov/lead.

In addition to our water source protection, we continue the following efforts to minimize customer exposure to lead in water:

- Annual monitoring for lead at transmission's system entry points in 2018 continues to return results of non-detect.
- Completed initial 4-quarter monitoring of groundwater sources (no detection of lead).
- Lead and Copper Rule (LCR) - Sampling for lead at a required number of customer taps every three years in compliance with the USEPA LCR. The State Water Resources Control Board-Division of Drinking Water uses the results to determine if additional studies or treatment is necessary.
- Offering in partnership with the San Francisco Department of Public Health free lead test vouchers for clients enrolled in the Women, Infants and Children (WIC) program. Offering low-cost water tests for lead for \$25 per tap. To request a test, call **311** or visit our website sfwater.org/leadtest for an application form.
- Replacement of brass meters with lead-free automated water meters (more than 98% complete).



In 2018, we completed an inventory of lead user service lines (LUSL) in our distribution system, as directed by SWRCB-DDW under Senate Bill 427. LUSL is defined as any water service line made of lead or any water service line that includes a lead component. Based on the report to the SWRCB-DDW, there were no lead pipelines identified. However, we estimated that the distribution system may have a total of 10,912 service lines made of unknown material and 4,988 galvanized steel service lines, of which 4,524 may contain short (2 to 3 feet) sections of lead connectors between the customer service line and the water meter. Our ongoing policy is to remove and replace any LUSL promptly if it is discovered during pipeline repair and/or maintenance. By July 1, 2020, we will submit to SWRCB-DDW a timeline for replacement of the service lines of which the material content cannot be determined.

Lead Testing of Drinking Water in Schools

In 2017, SWRCB-DDW directed all permitted water systems in California to provide lead monitoring assistance to schools that request it in writing. As of today, we assisted 198 public and private K-12 schools in monitoring of lead in their tap water. School monitoring data can be found at sfwater.org/lead. Although this mandatory requirement on helping schools in lead monitoring will expire in November 2019, we are working on a voluntary, recurring program to provide continued support to local schools in addressing lead in their tap water.

Contaminants and Regulations

Generally, 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, and may be present in source water as:

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

More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (800) 426-4791, or at epa.gov/safewater.

Taste and Odor Treatment at SVWTP

In response to an increase in the magnitude and frequency of algal blooms in Calaveras Reservoir and San Antonio Reservoir, a taste and odor (T&O) control program was initiated for the Sunol Valley Water Treatment Plant (SVWTP). The program is intended to address seasonal taste and odor resulting from algal blooms in the reservoirs. The first component of the program is a Powdered Activated Carbon (PAC) treatment facility for the SVWTP. PAC will be used to mitigate the occurrence of taste and odor compounds. The secondary benefits of using carbon include a reduction in disinfection by-products and color. The second component of the program is an ozonation facility, currently in design.



San Francisco Water System-Water Quality Data for 2018

The table below lists all 2018 detected drinking water contaminants and the information about their typical sources. Contaminants below detection limits for reporting are not shown, in accord with regulatory guidance. We hold a SWRCB-DDW monitoring waiver for some contaminants in our surface water supply and therefore their monitoring frequencies are less than annual. For definitions of the key water quality terms used in this table, please see the end of this report. Visit sfwater.org/qualitymatters for a list of all water quality parameters we monitored in raw water and treated water in 2018.

DETECTED CONTAMINANTS	UNIT	MCL	PHG OR (MCLG)	RANGE OR LEVEL FOUND	AVERAGE OR [MAX]	MAJOR SOURCES IN DRINKING WATER
TURBIDITY						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.3 - 0.8 ⁽¹⁾	[1.8]	Soil runoff
	NTU	1 ⁽²⁾	N/A	-	[1]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	-	Min 95% of samples ≤0.3 NTU ⁽²⁾	N/A	99.96% - 100%	-	Soil runoff
	NTU	1 ⁽²⁾	N/A	-	[0.07]	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	-	Min 95% of samples ≤0.3 NTU ⁽²⁾	N/A	100%	-	Soil runoff
DISINFECTION BY-PRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	21 - 71	[49] ⁽³⁾	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	14 - 52	[42] ⁽³⁾	By-product of drinking water disinfection
Total Organic Carbon ⁽⁴⁾	ppm	TT	N/A	1.2 - 2.9	2.2	Various natural and man-made sources
MICROBIOLOGICAL						
Total Coliform	-	NoP ≤5.0% of monthly samples	(0)	-	[0.60%]	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	(0)	0 - 0.24	0.03	Naturally present in the environment
INORGANICS						
Fluoride (source water) ⁽⁵⁾	ppm	2.0	1	ND - 0.7	0.3 ⁽⁶⁾	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.2 - 3.4	[2.4] ⁽⁷⁾	Drinking water disinfectant added for treatment
CONSTITUENTS WITH SECONDARY STANDARDS						
Chloride	ppm	500	N/A	<3 - 17	8.9	Runoff / leaching from natural deposits
Color	unit	15	N/A	<5 - 7	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	29 - 221	154	Substances that form ions when in water
Sulfate	ppm	500	N/A	0.9 - 29	16	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 144	82	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	ND - 0.3	0.1	Soil runoff
LEAD AND COPPER ⁽⁸⁾						
Copper	ppb	1300	300	7.7 - 103	64	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	<1 - 90	6	Internal corrosion of household water plumbing systems
OTHER WATER QUALITY PARAMETERS						
Alkalinity (as CaCO ₃)	ppm	N/A	<3 - 132	51	< / ≤ = less than / less than or equal to	
Boron	ppb	1000 (NL)	ND - 104	ND	AL = Action Level	
Bromide	ppb	N/A	<5 - 27	7	Max = Maximum	
Calcium (as Ca)	ppm	N/A	2.9 - 18	11	Min = Minimum	
Chlorate ⁽⁹⁾	ppb	800 (NL)	42 - 230	124	N/A = Not Available	
Chromium (VI) ⁽¹⁰⁾	ppb	NA	0.031 - 0.1	0.068	ND = Non-Detect	
Hardness (as CaCO ₃)	ppm	N/A	15 - 68	47	NL = Notification Level	
Magnesium	ppm	N/A	<0.2 - 6.2	4.0	NoP = Number of Coliform-Positive Sample	
pH	-	N/A	7.8 - 9.9	9.4	NTU = Nephelometric Turbidity Unit	
Potassium	ppm	N/A	0.2 - 1.0	0.6	ORL = Other Regulatory Level	
Silica	ppm	N/A	2.8 - 7.1	5.0	ppb = part per billion	
Sodium	ppm	N/A	2.3 - 20	14	ppm = part per million	
Strontium	ppb	N/A	12 - 199	99	µS/cm = microSiemens per centimeter	
					pCi/L = picocuries per liter	

FOOTNOTES ON SAN FRANCISCO WATER SYSTEM WATER QUALITY DATA:

(1) These are monthly average turbidity values measured every 4 hours daily. (2) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems. (3) This is the highest locational running annual average value. (4) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only. (5) In May 2015, the SWRCB-DDW recommended an optimal fluoride level of 0.7 ppm be maintained in the treated water. In 2018, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and 0.7 ppm, respectively. (6) The natural fluoride level in the Hetch Hetchy source was ND. Elevated fluoride levels in the raw water at SVWTP and HTWTP are attributed to the transfer of fluoridated Hetch Hetchy water into the local reservoirs. (7) This is the highest running annual average value. (8) The most recent Lead and Copper Rule monitoring at consumer taps was in August 2018. Two of the 90 site samples collected at consumer taps had lead concentrations above the AL. (9) The detected chlorate in the treated water is a degradation product of sodium hypochlorite, which we use for water disinfection. (10) Chromium (VI) has a PHG of 0.02 ppb but no MCL. The previous MCL of 10 ppb was withdrawn by the SWRCB-DDW on September 11, 2017. Currently, the SWRCB-DDW regulates all chromium through a MCL of 50 ppb for Total Chromium, which was not detected in our water in 2018.

Note: The different water sources blended at different ratios throughout the year have resulted in varying water quality. Additional water quality data may be obtained by calling our Water Quality Division toll-free number at (877) 737-8297.

San Francisco Local Groundwater-Water Quality Data for Year 2018

Treated Water (Sunset Reservoir)	DETECTED CONTAMINANTS	UNIT	MCL	PHG	RANGE FOUND	AVERAGE	MAJOR SOURCES IN DRINKING WATER	
	INORGANICS							
	Chromium (VI)	ppb	N/A ⁽¹⁾	0.02	0.035 - 0.92	0.23	Leaching from natural deposits; commercial and industrial waste discharges, e.g., electroplating.	
	Nitrate (as nitrogen)	ppm	10	10	ND - 0.44	0.12	Landscape fertilizers and leaked wastewater.	
Raw Water ⁽²⁾ (San Francisco Local Groundwater Wells)	DETECTED CONTAMINANTS	UNIT	MCL	PHG	RANGE FOUND	AVERAGE	MAJOR SOURCES IN DRINKING WATER	
	INORGANICS							
		Chromium (VI)	ppb	N/A ⁽¹⁾	0.02	6.1 - 25.1	17.4	Leaching from natural deposits; commercial and industrial waste discharges, e.g., electroplating.
		Fluoride	ppm	2	1	ND - 0.1	ND	Leaching from natural deposits.
		Nitrate (as nitrogen)	ppm	10	10	4.6 - 11.5	8.0	Landscape fertilizers and leaked wastewater.
	VOLATILE ORGANICS							
		Carbon tetrachloride ⁽³⁾	ppb	0.5	0.1	ND - 0.83	ND ⁽³⁾	Commercial and industrial solvent used in dry cleaning prior to 1960.
		Tetrachloroethylene ⁽⁴⁾	ppb	5	0.06	ND - 1.6	1.4 ⁽⁴⁾	Commercial and industrial solvent used in dry cleaning prior to 2010, and as a metal degreaser in auto shops and metalworking industries.
	OTHER WATER QUALITY PARAMETERS ⁽⁵⁾	UNIT	ORL		RANGE FOUND	AVERAGE		
	Bromide	ppb	N/A		188 - 220	202		
	Radon	pCi/L	N/A		150- 310	208		

FOOTNOTES:

(1) Four quarters of initial monitoring in 2018 confirmed that the results of total chromium for these wells were ND. (2) The concentration ranges and averages of these contaminants are indicative of the raw groundwater quality prior to treatment. They are not representative of water in the reservoirs and distribution system. (3) This contaminant was detected slightly above the MCL at South Sunset Well only. The average is based on the monitoring results from South Sunset Well. (4) This contaminant was detected only at Golden Gate Park Central Well. The average is based on the monitoring results from Golden Gate Park Central Well. (5) These are non-regulated constituents that we voluntarily monitored as part of our ongoing evaluation of local groundwater quality. Due to the small volumetric contribution of groundwater to Sunset Reservoir, the levels of these constituents are negligible in the treated water from the reservoir.

Carbon Tetrachloride and Tetrachloroethylene Detections in Groundwater Sources

In 2018, we detected carbon tetrachloride at levels above the California MCL in groundwater at South Sunset Well (SSW) and tetrachloroethylene at levels below the MCL in groundwater at Golden Gate Park Central Well (GGP Central Well). However, water from SSW was blended with treated water in Sunset Reservoir and the contaminant was not detected in the blend water that was served to the system. Upon confirmed detection, the use of SSW was discontinued. Groundwater from GGP Central Well was used solely for irrigation of grass fields inside the park.

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

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

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.

این اطلاعیه شامل اطلاعات مهمی راجع به آب آشامیدنی است. اگر نمی‌توانید این اطلاعات را به زبان انگلیسی بخوانید لطفاً کسی که می‌تواند برای شما ترجمه کند یا با او صحبت کنید.

Cé rapport contient des informations importantes concernant votre eau potable. Veuillez traduire, ou parlez avec quelqu'un qui peut le comprendre.

”هذا التقرير يحتوي على معلومات مهمة تتعلق بمياه الشفة (أو الشرب).
ترجم التقرير، أو تكلم مع شخص يستطيع أن يفهم التقرير.“

Этот отчет содержит важную информацию о вашей питьевой воды. Переведите его или поговорите с тем, кто это понимает.

הדו"ח הזה מכיל מידע חשוב לגבי מי השתייה שלך.
תרגם את הדו"ח או דבר עם מישהו שמבין אותו

此份水質報告，內有重要資訊。請找他人為你翻譯和解說清楚。

Chi tiết này thật quan trọng. Xin nhờ người dịch cho quý vị.

Dieser Bericht enthält wichtige Information über Ihr Trinkwasser. Bitte übersetzen Sie ihn oder sprechen Sie mit jemandem, der ihn versteht.

Questo rapporto contiene informazioni importanti che riguardano la vostra acqua potabile. Traducetelo, o parlate con una persona qualificata in grado di spiegarvelo.

この報告書には上水道に関する重要な情報が記されております。翻訳を御依頼なされるか、内容をご理解なさっておられる方にお尋ね下さい。

यह सूचना महत्वपूर्ण है । कृपा करके किसी से :सका अनुवाद करायें ।

이 안내는 매우 중요합니다. 본인을 위해 번역인을 사용하십시오.

Η κατορθέν αναφορά παρουσιαζή σπουδαίες πληροφορίες για το ποσιμο νερο σας. Πρακακλω να το μεταφρασετε η να το σξολιασετε με καποιον που το καταλαβαινη απολητως.



Services of the San Francisco
Public Utilities Commission

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For more information about this report, contact Suzanne Gautier at (415) 554-3204 or email sgautier@sfgwater.org. Water quality policies are decided at Commission hearings, held the second and fourth Tuesdays of each month at 1:30 pm in San Francisco City Hall, Room 400.

San Francisco Public Utilities Commission

Every day we deliver high-quality drinking water from the Hetch Hetchy Regional Water System to 2.7 million people in San Francisco, Alameda, Santa Clara and San Mateo counties. We generate clean, reliable hydroelectricity that powers 100% of San Francisco's vital services, including police and fire stations, street lights, Muni, SF General Hospital and more.

Ann Moller Caen, PRESIDENT
Francesca Vietor, VICE PRESIDENT
Anson Moran, COMMISSIONER
Sophie Maxwell, COMMISSIONER
Tim Paulson, COMMISSIONER

KEY WATER QUALITY TERMS

The following are definitions of key terms referring to standards and goals of water quality noted on the data table.

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 measures cloudiness of the water, and is also used to indicate the effectiveness of the filtration system. High turbidity can hinder the effectiveness of disinfectants.

Cryptosporidium is a parasitic microbe found in most surface water. We regularly test for this waterborne pathogen, and found it at very low levels in source water and treated water in 2018. 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.