

For More Information

WE ARE PROUD to provide you with some of the nation's highest quality water that meets or exceeds all state and federal standards for drinking water.

THIS BROCHURE HIGHLIGHTS important information about your drinking water and our commitment to providing excellent water quality.

This Annual Consumer Confidence Report about your water supply is prepared according to California law.



Our Water Quality

ANNUAL REPORT 2015

WATER QUALITY

- City of Palo Alto Utilities, Water Transmission (650) 496-6967
- City of Palo Alto www.cityofpaloalto.org/water
- San Francisco Public Utilities Commission (SFPUC) www.sfwater.org
- U.S. Environmental Protection Agency (U.S. EPA) Drinking Water www.epa.gov/safewater
- U.S. EPA Safe Drinking Water Hotline (800) 426-4791

HEALTH CONCERNS & REGULATIONS

- California Department of Public Health (CDPH) www.cdph.ca.gov
- U.S. EPA www.epa.gov

EMERGENCY PREPAREDNESS

- California Department of Public Health <http://bepreparedcalifornia.ca.gov>

如需獲得有關城市供水的詳細資訊，請查閱網站：
www.cityofpaloalto.org/WaterReportMandarin

Para obtener más información sobre la calidad del agua, visite
www.cityofpaloalto.org/WaterReportSpanish

Our Drinking Water Sources and Treatment

Palo Alto's water is supplied by the San Francisco Regional Water System (SFRWS), which is owned and operated by the San Francisco Public Utilities Commission (SFPUC). Our major water source originates from spring snowmelt flowing down the Tuolumne River to storage in the Hetch Hetchy Reservoir. This pristine, well-protected Sierra water source is exempt from filtration requirements by the United States Environmental Protection Agency (USEPA) and State Water Resources Control Board (SWRCB) Division of Drinking Water. Treatment provided by the SFRWS includes disinfection by ultraviolet light and chlorine, corrosion control by adjustment of the water pH value, fluoridation for dental health protection, and chloramination to maintain disinfectant residual and minimize disinfection byproduct formation. These treatment methods are in place to meet drinking water regulatory requirements.

Hetch Hetchy water is supplemented with surface water from two local watersheds. Rainfall and runoff from the 35,000-acre Alameda Watershed in Alameda and Santa Clara counties is collected in the Calaveras and San Antonio reservoirs, and delivered to the Sunol Valley Water Treatment Plant (SWWTP). Rainfall and runoff from the 23,000-acre Peninsula Watershed in San Mateo County is stored in the Crystal Springs, San Andreas, and Pilarcitos reservoirs, and delivered to the Harry Tracy Water Treatment Plant. Beginning in 2015, the SWRCB approved the SFRWS to use surface water collected in Lake Eleanor, Lake Cherry and Early Intake Reservoir, which is conveyed via the Lower Cherry Aqueduct and associated creeks (collectively known as Upcountry Non-Hetch Hetchy Sources, or UNHHS), as an additional drinking water source. The UNHHS water will be treated at the SWWTP prior to distribution to customers. Water at the two treatment plants is subject to filtration, disinfection, fluoridation, and pH adjustment for corrosion control optimization.

As in the past, the Hetch Hetchy Watershed provided the majority of our total water supply, with the remainder contributed by the two local watersheds in 2015.

Protecting Our Watersheds

The SFPUC conducts a watershed sanitary survey for the Hetch Hetchy source every year and for local water sources every five years. The latest 5-year local sanitary survey was done in 2010. In 2015, a special local watershed sanitary survey for the upcountry water sources including Cherry Creek, Eleanor Creek, and Lower Cherry Aqueduct, was completed as part of the SFPUC's drought response plan efforts. These surveys evaluate the sanitary condition, water quality, potential contamination sources, and the results of watershed management activities, and were completed with support from partner agencies, including the National Park Service and US Forest Service.

These surveys have identified wildlife, stock, and human activities as potential contamination sources. The reports are available for review at the San Francisco District office of SWRCB (contact phone number: 510-620-3474).



Drought Update

Although precipitation returned to California in December 2015, the end of the calendar year marked one of the driest four years in California history. The State Water Resources Control Board's Emergency Conservation Regulation went into effect in June 2015, and although slightly changed in 2016, the regulation remains in place today. Palo Alto continued to enforce outdoor potable water use restrictions and achieved a potable water use reduction of 33% compared to the State-mandated 24% water use reduction for the period of June 2015 through December 2015. To encourage conservation, the City continued offering increased rebate amounts for water efficiency programs and engaged in active customer outreach about water supply conditions, water use efficiency, and the need to keep the urban forest healthy during the drought. To learn more about current water supply conditions, drought regulations, and available efficiency resources, please visit www.cityofpaloalto.org/water



WATER IS LIFE. USE IT WISELY.

It is important to use water wisely every day, regardless of rain or drought conditions. Everyone in California must make wise water use a priority to ensure an adequate supply in the future. The City of Palo Alto Utilities offers many resources to help customers easily save water with free services, educational tools and rebates for upgrading appliances and high-water using landscapes. Attend one of our workshops to learn how you can have a beautiful, sustainable, low water use landscape while maintaining the health of trees and our urban canopy.

Call or visit us online to discover how you can live a water wise life which will benefit current and future generations, as well as fish and wildlife species, urban, rural and wildland ecosystems.

WATER EFFICIENCY SERVICES AND REBATE PROGRAMS

City of Palo Alto Utilities, Utility Program Services
(650) 329-2241 www.cityofpaloalto.org/water

GET INVOLVED

We welcome your input on important water issues. Visit www.cityofpaloalto.org for details about upcoming public meetings.

CITY COUNCIL MEETINGS

Mondays, 7 PM, City Hall

UTILITIES ADVISORY COMMISSION (UAC)

1st Wednesday of each month, 7 PM, City Hall



Protecting the SFPUC Water System from Seismic Disaster

The SFPUC is investing more than \$4 billion in the Water System Improvement Program (WSIP) to ensure that the regional water system will be able to deliver water for public health, fire fighting and disaster recovery as quickly as possible following a seismic event. The majority of the 84 water infrastructure projects have been completed. The last major remaining project is construction of the new Calaveras Dam, which is scheduled for completion in 2018.

Palo Alto Infrastructure Improvements

CPAU conducts an ongoing infrastructure replacement program to find, fix and replace aging pipes. Engineers identified 75 miles of aging cast iron water mains for replacement in order to increase the reliability of the local system, improve water quality and increase fire protection capacity.

Recycled Water Pipeline

The City has used recycled water since 1980 at the municipal golf course, Greer Park, the Emily Renzel Marsh, the duck pond, and the Regional Water Quality Control Plant. The City is evaluating expanding the distribution system for recycled water to customers in Palo Alto. Currently, the City of Palo Alto is considering using recycled water for landscaping in the Stanford Research Park and other City parks along the proposed pipeline route. Funding from state and federal grant and loan programs is being pursued to reduce costs.



Prepare Yourself for Emergencies

Although the SFPUC and CPAU strive to ensure a reliable supply of water for our customers, a natural disaster such as a major earthquake could interrupt water delivery. **As a result, it is imperative that everyone be prepared for the unexpected both at home and at work.**

- Store at least three to five days worth of tap water in a dark, cool place (one gallon of water per person, per day, including pets) in clean, airtight food grade containers.
- Label each container with a date and replace the water every six months.
- At the time of usage, add 8 drops of bleach to each gallon to ensure disinfection. (Use pure household bleach only—not products with scents or other additives.) Mix and allow to stand for 30 minutes before use. If a camp stove is available, you can also disinfect the water by bringing it to a rolling boil for 5 to 10 minutes.
- If you run out of stored drinking water, strain and treat water from your water heater. To strain, pour it through a clean cloth or layers of paper towels. Treat with household bleach, as directed above. Other sources of water inside the home are ice cubes and the reservoir tank of your toilet (not the bowl).
- Remember to drain your water heater periodically to remove any sediment build up.
- If your water supply is not sufficient for hand washing, use antiseptic hand gel or wipes.

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. The SFPUC's fluoride target level in the water is 0.7 milligrams per liter, consistent with the May 2015 State regulatory guidance on the new 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. USEPA/ Centers for Disease Control (CDC) considers it safe to use optimally fluoridated water for preparing infant formula.

Contact your health provider or SWRCB if you have concerns about dental fluorosis. For additional information about fluoridation or oral health, visit the SWRCB website [www.waterboards.ca.gov/drinking_water/certic/drinkingwater/Fluoridation.shtml](http://www.waterboards.ca.gov/drinking_water/cert/certic/drinkingwater/Fluoridation.shtml) and search for fluoride, or the CDC website www.cdc.gov/fluoridation

Ensuring the Highest Water Quality

The SFPUC's Water Quality Division (WQD) regularly collects and tests 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 2015, WQD staff conducted more than 47,500 drinking water tests in the transmission and distribution systems. This is in addition to the extensive treatment process control and monitoring performed by our certified operators and through the use of 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 prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

Bay Tunnel and New Irvington Tunnel Projects

These new SFPUC facilities were brought into service in 2015 and have strengthened the seismic reliability of the SFRWS by providing crucial system redundancies. They are part of the SFPUC's Water System Improvement Program, a \$4.8 billion investment in capital projects that strengthen our ability to provide reliable, high-quality water to 2.6 million customers, even after a natural disaster.



Reducing Lead from Plumbing Fixtures

Some homes in the community may have increased levels of lead in their tap water caused by the deterioration of household plumbing materials that contain lead. CPAU provides high-quality drinking water, but cannot control the variety of materials associated with your home plumbing. Pregnant women, infants and young children are typically at the greatest health risk. If you are concerned about lead levels in your water, you may wish to have your water tested. You can also flush your tap for 30 seconds to 2 minutes before using the water whenever the tap has not been used for several hours. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available by calling the Safe Drinking Water Hotline (800) 426-4791 or online at www.epa.gov/safewater/lead

Special Health Needs

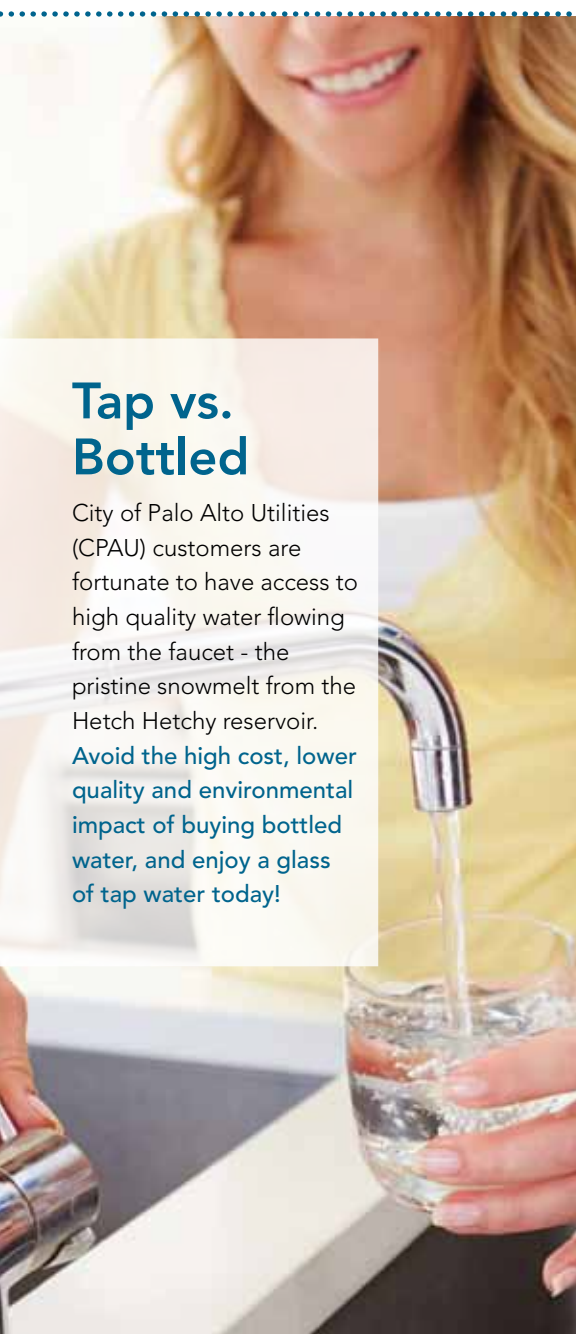
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly people, and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

For more information about the contents of this report, contact CPAU Water Quality Transmission Staff at (650) 496-6967 or visit us online at www.cityofpaloalto.org/waterquality

Individuals with disabilities who require accommodations to access City facilities, services or programs, or who would like information on the City's compliance with the Americans with Disabilities Act (ADA) of 1990, may contact the City's ADA Coordinator at (650) 329-2368 (voice) or email ada@cityofpaloalto.org

Tap vs. Bottled

City of Palo Alto Utilities (CPAU) customers are fortunate to have access to high quality water flowing from the faucet - the pristine snowmelt from the Hetch Hetchy reservoir. **Avoid the high cost, lower quality and environmental impact of buying bottled water, and enjoy a glass of tap water today!**



DETECTED CONTAMINANTS	UNIT	MCL	PHG OR [MCLG]	RANGE OR LEVEL FOUND	AVERAGE OR [MAX]	MAJOR SOURCES IN DRINKING WATER
TURBIDITY (Turbidity is a water clarity indicator; it also indicates the effectiveness of the filtration plants.)						
Unfiltered Hetch Hetchy Water	NTU	5	N/A	0.2 - 0.5 ⁽²⁾	[3.1]	Soil runoff
Filtered Water from Sunol Valley Water Treatment Plant (SVWTP)	NTU	1 ⁽³⁾	N/A	–	[0.98]	Soil runoff
	–	Min 95% of samples ≤ 0.3 NTU ⁽³⁾	N/A	97% - 100%	–	Soil runoff
Filtered Water from Harry Tracy Water Treatment Plant (HTWTP)	NTU	1 ⁽³⁾	N/A	–	[0.14]	Soil runoff
	–	Min 95% of samples ≤ 0.3 NTU ⁽³⁾	N/A	100%	–	Soil runoff

DISINFECTION BYPRODUCTS AND PRECURSOR						
Total Trihalomethanes	ppb	80	N/A	17-42	35.8 ⁽⁴⁾	Byproduct of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	17-38	32.4 ⁽⁴⁾	Byproduct of drinking water disinfection
Total Organic Carbon ⁽⁵⁾	ppm	TT	N/A	1.4-5.2	2.1	Various natural and man-made sources

MICROBIOLOGICAL						
Total Coliform	-	NoP ≤ 5.0% of monthly samples	[0]	–	1.36%	Naturally present in the environment
<i>Giardia lamblia</i>	cyst/L	TT	[0]	0 - 0.08	0.01	Naturally present in the environment

INORGANIC						
Fluoride (source water) ⁽⁶⁾	ppm	2.0	1	ND - 0.8	0.3 ⁽⁷⁾	Erosion of natural deposits; water additive to promote strong teeth
Chloramine (as chlorine)	ppm	MRDL = 4.0	MRDLG = 4	0.33 - 2.98	2.29 ⁽⁸⁾	Drinking water disinfectant added for treatment

CONSTITUENTS WITH SECONDARY STANDARDS	UNIT	SMCL	PHG	RANGE	AVERAGE	MAJOR SOURCES OF CONTAMINANT
Chloride	ppm	500	N/A	<3 - 16	8.4	Runoff / leaching from natural deposits
Color	Unit	15	N/A	<5 - 5	<5	Naturally-occurring organic materials
Specific Conductance	µS/cm	1600	N/A	34 - 213	144	Substances that form ions when in water
Sulfate	ppm	500	N/A	1.2 - 30	15	Runoff / leaching from natural deposits
Total Dissolved Solids	ppm	1000	N/A	<20 - 93	54	Runoff / leaching from natural deposits
Turbidity	NTU	5	N/A	0.1 - 0.3	0.1	Soil runoff

LEAD AND COPPER	UNIT	AL	PHG	RANGE	90TH PERCENTILE	TYPICAL SOURCES IN DRINKING WATER
Copper	ppb	1300	300	N/A ⁽⁹⁾	N/A	Internal corrosion of household water plumbing systems
Lead	ppb	15	0.2	N/A ⁽¹⁰⁾	N/A	Internal corrosion of household water plumbing systems

OTHER WATER QUALITY PARAMETERS	UNIT	ORL	RANGE	AVERAGE
Alkalinity (as CaCO ₃)	ppm	N/A	7 - 128	30
Boron	ppb	1000 (NL)	103	103
Bromide ⁽¹¹⁾	ppb	N/A	15 - 24	20
Calcium (as Ca)	ppm	N/A	3 - 18	11
Chlorate ⁽¹²⁾	ppb	800 (NL)	39 - 280	157
Hardness (as CaCO ₃)	ppm	N/A	13 - 65	42
Magnesium	ppm	N/A	0.2 - 5.6	3.7
pH	-	N/A	7.1 - 9.9	9.0
Potassium	ppm	N/A	0.2 - 0.9	0.6
Silica	ppm	N/A	3.7 - 5.4	4.7
Sodium	ppm	N/A	2.9 - 19	13

The adjacent table lists all 2015 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. The SFPUC holds a SWRCB monitoring waiver for some contaminants and therefore their monitoring frequencies are less than annual.



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

- (1) All results met State and Federal drinking water health standards.
 - (2) These are monthly average turbidity values measured every 4 hours daily.
 - (3) There is no turbidity MCL for filtered water. The limits are based on the TT requirements for filtration systems.
 - (4) This is the highest locational running annual average value.
 - (5) Total organic carbon is a precursor for disinfection byproduct formation. The TT requirement applies to the filtered water from the SVWTP only.
 - (6) In May 2015, the SWRCB recommends a fluoride level in the treated water be maintained at 0.7 ppm. In 2015, the range and average of the fluoride levels were 0.6 ppm - 1.0 ppm and 0.8 ppm, respectively.
 - (7) The natural fluoride levels in the upcountry source were ND. Elevated fluoride levels in the SVWTP and HTWTP raw water are attributed to the transfer of fluoridated Hetch Hetchy water into the reservoirs.
 - (8) This is the highest running annual average value.
 - (9) Palo Alto's previous lead and copper testing results were found to be sufficiently below Action Levels that the California State Water Resource Control Board issued a waiver of further testing until 2017.
 - (10) Palo Alto's previous lead and copper testing results were found to be sufficiently below Action Levels that the California State Water Resource Control Board issued a waiver of further testing until 2017.
 - (11) Bromide was detected in HTWTP effluent only. If you do not receive HTWTP water in 2015, you may exclude this contaminant from this table.
 - (12) The detected chlorate in the treated water is a degradation product of sodium hypochlorite used by the SFPUC for water disinfection.
- Note: Additional water quality data may be obtained by calling the City of Palo Alto Utilities Staff at (650) 496-6967.

Key Water Quality Terms

Following are definitions of key terms referring to water quality standards and goals noted on the adjacent 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.

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. The SFPUC regularly tests for this waterborne pathogen, and found it at very low levels in source water and treated water in 2015. 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.

TREATMENT TECHNIQUE (TT) VIOLATION: Failure to Meet Filtration Requirement

Due to an operational error in the SFRWS, the SFPUC failed to adequately filter water from the San Antonio Reservoir for a brief period of time on March 3, 2015. A limited amount of untreated water from the reservoir entered into the treated SFRWS. By early morning on March 4, 2015, the untreated water entered Palo Alto's water system. The untreated water was blended with water that had already been treated before reaching any customers, providing some disinfection treatment. Inadequately treated surface water may contain disease-causing organisms. These organisms can cause diarrhea, nausea, cramps and associated headaches.

Although this was not an emergency, CPAU was required under the direction of the SWRCB Division of Drinking Water and in coordination with the SFPUC, to notify customers by letter and in this annual water quality report of the incident. The SFPUC has been working with the SWRCB in developing measures to prevent a recurrence of such an incident in the future.

For more information about the incident in the Regional System, please contact the SFPUC at (866) 973-1476.

Contaminants and Regulations

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 at (800) 426-4791.

