

ANNUAL WATER QUALITY REPORT

Water testing performed in 2007



FIRST TAXING DISTRICT WATER DEPARTMENT

Commissioners

Kenneth J. Slapin, *Chairman*
Robert A. Corbo
Ernestine K. Santaniello

District Treasurer

Richard W. Steeg

General Manager

Lynn K. Sadosky, P.E.

District Engineer

George P. Fulton, P.E.



PWS ID#: 1030011

Meeting the Challenge

The First Taxing District Water Department (FDWD) is proud to present our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2007. We are pleased to report that all tests performed have met or exceeded the federal and state requirements for drinking water. The FDWD continually strives to adopt new and better methods for delivering the best quality drinking water to you.

In the past year the FDWD has continued with capital improvement projects systemwide including water main replacement in the distribution system and computer SCADA (Supervisory Control and Data Acquisition) upgrades at the filter plant. As new challenges to drinking water safety emerge, we focus our efforts on source water protection, security, water quality improvements and conservation while continuing to serve the needs of all FDWD water customers.

Source Water Assessment

A source water assessment was performed by the State of Connecticut Department of Public Health, Drinking Water Section.

The assessment found that the surface water source has a moderate susceptibility and the groundwater source a high susceptibility to potential sources of contamination. This does not imply poor water quality but does indicate the need for source water protection.

The completed assessment report can be found on the Department of Public Health Web site at <http://www.dir.ct.gov/dph/Water/SWAP/Community/CT1030011.pdf>

Additional source water assessment information can be found at the Environmental Protection Agency Web site at <http://cfpub.epa.gov/safewater/sourcewater/sourcewater.cfm?action=Assessment>



The distinctive FDWD filtration plant complements the New Canaan countryside.

Community Participation

All First Taxing District Water Department customers are invited to comment or learn more about the water department at any of the monthly meetings. The Board of Commissioners (Kenneth J. Slapin, Robert A. Corbo, Ernestine K. Santaniello) meets each month in our main office, 12 New Canaan Avenue, Norwalk. Please call the office at (203) 847-7387 for the time and date of the next meeting. You may also contact the General Manager, Lynn K. Sadosky, P.E., or the Board of Commissioners at the above address.

Water Conservation

You can play a role in conserving water and saving yourself money in the process by becoming conscious of your water use and looking for ways to use less.

Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity;
- Turn off the tap when brushing your teeth and shaving;
- Check every faucet in your home for leaks. A faucet dripping at a rate of 1 drop per second can waste almost 3,000 gallons per year;
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Repair it and you save more than 30,000 gallons a year;
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then read the meter before and after a 2 hour period when no water is used. If it doesn't read the same, you have a leak;
- Water the lawn during the coolest part of the day preferably early morning. Arrange plants by water needs and use mulch; you'll have healthier plants and lower water bills.



Important Health Information

Sources of lead in drinking water includes corrosion of household plumbing system and erosion of natural deposits. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

Sources of copper in drinking water includes corrosion of household plumbing system, erosion of natural deposits and leaching from wood preservatives. Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.



Charles Staack, water treatment plant operator, demonstrates the upgraded SCADA software.

How Is My Water Treated and Purified?

The surface water treatment process consists of a series of steps. First, raw water is drawn from FDWD reservoirs and sent to a mixing tank where polyaluminum chloride (a coagulant) is added. The addition of this chemical causes small particles to adhere to one another and makes them heavy enough to settle onto large plates where the sediment is removed. The water is then filtered through layers of anthracite media and sand. Clear water emerges as the smaller, suspended particles are removed by the filters. Chlorine is added to disinfect any bacteria that may still be present. The FDWD carefully monitors the amount of chlorine, adding the lowest quantity necessary to ensure the safety of your water without compromising the taste. Finally, sodium hydroxide (to adjust the pH), fluoride (to prevent tooth decay) and a phosphate, (to provide a protective coating to the water pipes) are added. The water is then pumped to water mains and storage tanks and into your home or business. At the well field, the sand and gravel of the aquifer filters the groundwater. The water is further improved with treatment that is similar to that of the surface water and includes aeration of the water supply.

Where Does My Water Come From?

Your water comes primarily from the watershed that supplies surface water reservoirs located in Lewisboro, New York and New Canaan, Connecticut. The FDWD water treatment plant is located in New Canaan and can draw water from four reservoirs. These reservoirs hold approximately 1 billion gallons of water when full. An additional water source is the Kellogg-Deering Well Field in Norwalk. This groundwater source blends with and supplements the surface water when needed. The well field is used mostly in the warmer, high water usage months. This past year when drought conditions existed in parts of our state, the FDWD reservoir levels remained at a comfortable level because we were able to utilize the well field source for additional water supply.



Questions?

For more information about this report, or for any questions regarding the quality of your drinking water, please contact Tracey Pierson, Water Quality/Lab Coordinator or Robert S. Mercurio, Production Supervisor, at (203) 966-1473.

Substances That Might be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which 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 may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead and Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The First District Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in 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 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/safewater/lead.

Source Water Protection

The principal goal of the water department is to ensure an adequate long-term supply of potable water for its customers. Protecting the water supply at its source is the primary method of achieving this goal. The source of the FDWD water is the watershed land that covers over 10 square miles in New Canaan, Ridgefield, and Wilton, Connecticut, and Lewisboro, New York. The rainfall and snowmelt from this land is channeled into soils, groundwater, creeks and streams which makes its way to larger lakes (our drinking water reservoirs). Thus, activities on the watershed land are extremely important to the water department.



Measures to protect the watershed land and reservoirs include daily patrolling of the area by FDWD personnel. The FDWD maintains open communications with both the local police and fire departments in our watershed towns. The FDWD also works closely with local government where attention is focused on new land development in our watershed. When necessary the FDWD actively opposes unsuitable development. Each year as part of our sanitary survey requirement, the FDWD water treatment operators visit each property on the watershed. While at the property, the operators pay particular attention to septic system maintenance and any other potentially harmful activity that could affect water quality.

The updating of the FDWD watershed maps was continued last year. A new map is being provided to each watershed town which enables the officials there to accurately identify new land developments of concern to the FDWD and the State DPH.

Additional measures to protect the FDWD groundwater sources in the Kellogg-Deering Well field are underway through the Aquifer Protection Area Regulations. The Norwalk Zoning Commission now has the authority to register and regulate businesses involved in potentially risky activity.

What You Can Do to Help

- Use chemicals such as fertilizers, pesticides and herbicides sparingly and according to directions;
- Dispose of oil, paint and chemicals properly;
- Take advantage of hazardous waste recycling days - free to Norwalk residents;
- Report chemical spills or other polluting activities to the authorities.

Sampling Results

Your water is monitored daily as it leaves the water treatment plant and weekly throughout the distribution system. During the past year the FDWD has taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those regulated substances that were detected in the water. All of the substances listed here are under the Maximum Contaminant Level (MCL). State and federal regulations allow the FDWD to monitor certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases the most recent sample data are included along with the year that the sample was taken.

REGULATED SUBSTANCES				Well Water		Surface Water		VIOLATION	TYPICAL SOURCE
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH		
Chlorine (ppm)	2007	[4]	[4]	0.99	0.57–0.99	1.34	0.65–1.34	No	Water additive used to control microbes
Fluoride ¹ (ppm)	2007	4	4	0.97	0.83–0.97	0.96	0.83–0.96	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2007	10	10	2.98	NA	0.43	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (% removal)	2007	TT	NA	NA	NA	100	NA	No	Naturally present in the environment
Turbidity ² (NTU)	2007	TT	NA	NA	NA	0.12	0.05–0.12	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2007	TT	NA	NA	NA	100	NA	No	Soil runoff

Distribution System

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	HIGHEST FOUR QUARTER RUNNING ANNUAL AVERAGE	RANGE OF INDIVIDUAL SITES LOW-HIGH	VIOLATION	TYPICAL SOURCE
HAA's [Haloacetic Acids] (ppb)	2007	60	NA	19.8	2.7–24.0	No	By-product of drinking water disinfection
TTHM's [Total Trihalomethanes] (ppb)	2007	80	NA	33.7	7.9–46.2	No	By-product of drinking water disinfection

Tap water samples were collected from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper ³ (ppm)	2005	1.3	1.3	0.26	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives

UNREGULATED SUBSTANCES - WELL WATER SAMPLING RESULTS

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	HIGHEST AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Sodium ⁴ (ppm)	2007	33.7	27.4–33.7	Erosion of natural deposits; Road salt; Residual of the drinking water treatment process

¹Highest amount detected and range are monthly averages.

²Turbidity is a measure of the clarity of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

³Tap water samples were collected for lead and copper analyses from 33 homes throughout the service area. Although lead was not detected at the 90th percentile, there was one home with lead results over the Action Level. Upon further testing it was found that the likely cause of lead was a new faucet in the customer's home.

⁴There is no federal MCL for sodium but Connecticut has established a notification level of 28 mg/L so that customers on a sodium-restricted diet will be aware of the contribution from drinking water. To put this in perspective, the FDA allows foods and beverages that contain up to 35 mg per serving of sodium to carry a "very low sodium" label.

Definitions

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

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

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 allow for a margin of safety.

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

NTU (Nephelometric Turbidity Units):

Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

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