

SHELBYVILLE FLAT CREEK WATER SYSTEM

2025 WATER QUALITY REPORT

UTILITY INFORMATION

The Shelbyville Flat Creek Water System distributes drinking water supplied by the Duck River Utility Commission through the Tullahoma Utilities Board. The DRUC is a regional water authority that provides ultra-pure and plentiful water to nearly 70,000 people in several Middle Tennessee counties. The DRUC is a government agency formed in 1976 and operates a state-of-the-art water filtration plant and other water supply facilities. The DRUC system is operated twenty-four hours a day by State certified personnel producing up to twelve million gallons of pure water each day. Certified employees of the SFCWS operate and maintain the distribution system.

WATER SOURCE

The DRUC water treatment plant withdraws surface water from Normandy Reservoir, constructed by TVA in 1976, which is filled by flow from the Duck River. The DRUC, TVA and Tennessee Department of Environment and Conservation (TDEC) are actively working to protect the reservoir from sources of pollution and assess vulnerability to potential contamination. The DRUC has prepared a Source Water Assessment Program (SWAP) report that assesses the susceptibility of Normandy Reservoir to *potential* contamination and it has been rated as reasonably susceptible (moderate) based on geological factors and human activities in the vicinity of the reservoir. An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scoring and the overall TDEC report to the USEPA can be viewed online or you may contact DRUC or TDEC at 1-888-891-TDEC to obtain copies of specific assessments. In addition, the DRUC has implemented a number of security measures, including 24-hour surveillance and alarms at our facilities to protect against vandalism and other forms of attack.

THE TREATMENT PROCESS

The DRUC water treatment plant utilizes advanced water treatment technology to remove both particulate matter and dissolved compounds from the water before it is disinfected and pumped to the SFCWS distribution system. The reservoir water entering the facility is first oxidized and disinfected by the injection of chlorine dioxide. Traditional pretreatment with gaseous chlorine was discontinued in 1988 in favor of chlorine dioxide that does NOT create certain regulated byproducts. After oxidation and disinfection, particulate matter is coagulated using polyaluminum chloride. The coagulant causes the particles in the water to stick to each other, increasing the overall size and weight of the particles. The water then moves into settling basins where these new larger particles sink to the bottom and are removed. The clarified water then travels into the filtration building where the water is vacuumed through hollow fiber ultrafiltration membranes and then flows through eight huge granular activated carbon contactors. These new filters are designed to remove any remaining particulate matter, even particles smaller than bacteria or viruses. The GAC contactors adsorb any remaining organic compounds that could cause objectionable tastes and odors. After charcoal filtration, the water is pH neutralized and a disinfectant residual is added before the water is pumped to the community. Fluoride is also added to prevent tooth decay at the CDC/ADA recommended level of 0.7 parts per million. A corrosion inhibitor is also applied to the water to prevent any corrosion of distribution lines and customer piping.

CUSTOMER COMMITMENT

The SFCWS, TUA and DRUC are committed to producing safe and reliable water for all of our customers' water needs. The SFCWS, TUA and DRUC are proud to report that the water produced by the DRUC filtration plant met all federal and state standards for drinking water during 2024. In fact, the DRUC has never exceeded any USEPA or State standard or regulation since it was formed in 1976.

The Commission is also very proud of the 99.6% average score achieved on inspections by the Tennessee Division of Water Resources over the last 25 years. The SFCWS and DRUC both employ a full-time staff to manage, operate and monitor both source and product water quality including environmental engineers, biologists/chemists and certified water treatment plant and distribution system operators. Thousands of tests are conducted each month on water samples at the treatment plant and throughout the distribution systems to ensure that the water remains safe and pure at all times. Over the last thirty years, the DRUC has invested over \$17,000,000 in state-of-the-art technology and upgrades to the treatment facilities, improving both water quality and reliability. The DRUC also operates a USEPA and State certified laboratory at the water treatment plant, analyzing water samples for the utilities as well as the general public.

REQUIRED INFORMATION FROM THE US EPA

All 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. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791). The sources of drinking water (both bottled water and tap water) include rivers, lakes, streams, reservoirs, ponds, 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.

Contaminants that may be present in source water: 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, which 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, 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 byproducts of industrial processes and petroleum production, and also come from gas stations, urban stormwater runoff and septic systems. Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA and the Tennessee Department of Environment and Conservation prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

VULNERABLE 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 food preparation, sanitation and handling of infants or pets as well as drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline toll free at (800-426-4791) or on the Internet at www.epa.gov.

INFORMATION AND INVOLVEMENT

For more information about this report or other water quality questions, contact the Shelbyville Water System at (931)684-7171 or DRUC at (931) 455-6458 or on the Internet at www.druc.org or by email at manager@druc.org. The Shelbyville Water Board meets the 4th Tuesday each month at 308 South Main Street, Shelbyville at 5:00 PM. The public is always welcome to participate.

ATENCIÓN

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

SHELBYVILLE FLAT CREEK WATER SYSTEM

2024 WATER QUALITY DATA

QUALITY ASSURANCE

In order to ensure that tap water is safe, the U.S. Environmental Protection Agency prescribes regulations that require utilities to monitor regularly for numerous substances in the water it produces. An independent laboratory certified by the EPA and the State of Tennessee performs this testing. All testing is conducted in compliance with current regulations. **The water supplied to FCWC#2 through TUA from DRUC has never exceeded the limits for any regulated compound or substance as established by the State of Tennessee or U. S. EPA.**

TEST RESULTS – NONE DETECTED: Analysis is routinely performed for the following list of substances. **NONE** were detected in the water.

PRIMARY ORGANICS	VOLATILE ORGANICS	VOLATILE ORGANICS	INORGANICS	SYNTHETIC ORGANICS	SYNTHETIC ORGANICS
Alachlor	Bromobenzene	Dichloropropane	Arsenic	Carbofuran	Metolachlor
Aldicarbs	Bromochloromethane	Dichloropropene	Antimony	Chlordane	Metribuzin
Benzene	Bromodichloromethane	Ethylbenzene	Beryllium	Dalapon	Oxamyl
CarbonTetrachloride	Bromomethane	Fluorotrichloromethane	Cadmium	Dicamba	PCB 1016
Dichloroethane	Butylbenzene	Hexachloro-1,3-butadiene	Chromium	Dieldrin	PCB 1221
Dichloroethylene	Chlorobenzene	Isopropylbenzene	Cyanide	Dinoseb	PCB 1232
Endrin	Chlorodibromomethane	p-Isopropyltoluene	Mercury	Di(2-ethylhexyl)adipate	PCB 1242
Lindane	Chloroethane	Naphthalene	Nickel	Di(2-ethylhexyl)phthalate	PCB 1248
Methoxychlor	Chloromethane	n-Propylbenzene	Selenium	2,3,7,8-TCDD (Dioxin)	PCB 1254
Paradichlorobenzene	o-Chlorotoluene	Styrene	Thallium	Endothall	PCB 1260
Toxaphene	p-Chlorotoluene	Tetrachloroethane	SYNTHETIC ORGANICS	Ethylene dibromide	Pentachlorophenol
Trichloroethane	Dibromomethane	Tetrachloroethylene	Aldicarb	Glyphosate	Picloram
Trichloroethylene	m-Dichlorobenzene	Toluene	Aldicarb Sulfone	Heptachlor	Propachlor
VinylChloride	o-Dichlorobenzene	Trichlorobenzene	Aldicarb Sulfoxide	Heptachlorepoxide	Simazine
2,4-D	Dichlorodifluoromethane	Trichloroethane	Aldrin	Hexachlorobenzene	RADIONUCLIDES
2,4,5-TP (Silvex)	Dichloroethane	Trichloropropane	Butachlor	Hexachlorocyclopentadiene	Gross Alpha
ASBESTOS	Dichloroethylene	Trimethylbenzene	Benzo(a)pyrene	3-Hydroxycarbofuran	Radium 226
Asbestos Fibers	Dichloromethane	Xylene	Carbaryl	Methomyl	

TEST RESULTS – REQUIRED REPORTING OR DETECTED COMPOUNDS

The following water quality analysis and testing information is required reporting or are substances that were detected in the drinking water. All of the substances that were detected are present at levels well below the U. S. EPA limits and do not pose a health risk to the general public.

Substance (units)	EPA Limit (MCL)	FCWC#2 Maximum	FCWC#2 Range	EPA Goal (MCLG)	Possible Source of the Contaminant
Microbial -Total Coliform	TT*	None	None	N/A	Naturally present in the environment
During the past year the Shelbyville Flat Creek Water System #2 met all treatment technique and monitoring and reporting requirements. No assessments or corrective action were required.					
Fecal Coliform & E. Coli (# Positive)	0	0	0	0	Human and animal fecal waste
Total Organic Carbon (ppm)*	TT*	1.6	1.0 - 1.6	N/A	Naturally present in the environment
Turbidity (NTU)*	TT*	0.07	0.02 - 0.07	N/A	Turbidity does not present any risk to your health and is measured to assess the effectiveness of the filtration system.
* The Treatment Technique requirements for both Turbidity and Total Organic Carbon were met throughout the year.					
Inorganic Compounds					Substances of mineral origin
Chlorine (ppm)	MRDL = 4	3.6	2.0 - 3.6	MRDLG = 4	Water additive used to control microbes
Chlorine Dioxide (ppb)	800	19	10 - 19	800	Water additive used to control microbes
Chlorite (ppm)	1	0.48	0.00 - 0.48	0.80	Byproduct of drinking water chlorination
Fluoride (ppm)	4	0.90	0.61 - 0.90	4	Added to prevent tooth decay, natural erosion
Nitrate (ppm)	10	0.5	0.5	10	Agricultural runoff, natural erosion, sewage discharge
Sodium (ppm)	N/A	4.5	4.5	N/A	Natural erosion, component of water additives
Copper (ppm)	AL (Action Limit) = 1.3	0.03	0 - 0.03	1.3	Corrosion of household plumbing, - 2023 Data
Lead (ppb)	AL (Action Limit) = 15	1	0 - 1	0	Corrosion of household plumbing, - 2023 Data
The SFCW completed a service line inventory and found no lead, galvanized, or unknown materials. Contact Shelbyville Water Dept. for more information on your property or service line at (931)-684-7171.					
Organic Compounds					Natural or synthetic carbon-based compounds
Haloacetic Acids Total (ppb)	60	34	34	0	Byproduct of drinking water disinfection
Trihalomethanes Total (ppb)	80	48	48	0	Byproduct of drinking water disinfection

DEFINITIONS: **MCL:** Maximum Contaminant Level, or 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, or 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, or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants. **MRDLG:** Maximum Residual Disinfectant Level Goal, or 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 the disinfectants to control microbial contaminants. **AL:** Action Level, or the concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow. **TT:** Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water. **BDL:** Below the Detection Limit. **ppb:** Parts per billion or micrograms per liter (explained in terms of money as one penny in \$10,000,000.00. **ppm:** parts per million or milligrams per liter (explained in terms of money as one penny in \$10,000.00. **pCi/L:** picocuries per liter. **NTU:** Nephelometric Turbidity Unit; Turbidity is a measure of the clarity of the water. Turbidity in excess of 5 NTU becomes just noticeable to the average person. **LEVEL 1 ASSESSMENT:** A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

USEPA NOTICE ON HEALTH EFFECTS: COLIFORMS are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. If found, coliform bacteria indicate the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. **LEAD:** Lead can cause serious health effects in people of all ages, especially pregnant people, infants (both formula-fed and breastfed), and young children. Lead in drinking water is primarily from materials and parts used in service lines and in home plumbing. The Tullahoma Utilities Authority is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in the plumbing in your home. Because lead levels may vary over time, lead exposure is possible even when your tap sampling results do not detect lead at one point in time. You can help protect yourself and your family by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Using a filter, certified by an American National Standards Institute accredited certifier to reduce lead, is effective in reducing lead exposures. Follow the instructions provided with the filter to ensure the filter is used properly. Use only cold water for drinking, cooking, and making baby formula. Boiling water does not remove lead from water. Before using tap water for drinking, cooking, or making baby formula, flush your pipes for several minutes. You can do this by running your tap, taking a shower, doing laundry or a load of dishes. If you have a lead service line or galvanized requiring replacement service line, you may need to flush your pipes for a longer period. If you are concerned about lead in your water and wish to have your water tested, contact the TUA at (931)455-4515. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <https://www.epa.gov/safewater/lead>. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.

No lead has ever been detected in samples of the water from Normandy Reservoir or the water leaving the DRUC Water Filtration Plant.