

2023 ANNUAL WATER QUALITY REPORT

Erwin Utilities Authority

www.e-u.cc

244 Love Street
Erwin, TN 37650

(423) 743-4563
chepburn@e-u.cc



Delivering Safe, Reliable, and Efficient Services

ERWIN UTILITIES AUTHORITY:

- 💧 is proud of the safe drinking water it provides to its customers.
- 💧 is pleased to report that the water provided to its customers meets or exceeds the water quality standards established by the State and Federal regulatory agencies.
- 💧 will notify its customers immediately if there is any reason for concern about its water.
- 💧 encourages public interest and participation in Erwin's community's decisions affecting their drinking water.

This annual water quality report details the sources of Erwin Utilities' Authority's water, lists the analytical tests results, and includes important information about your drinking water and how it may affect your health.

DRINKING WATER STANDARDS

Drinking water standards are regulations that the United States Environmental Protection Agency (US EPA) sets to control the level of contaminants in the nation's drinking water. These standards are part of the Safe Drinking Water Act's "multiple barrier" approach to drinking water protection, which includes assessing and protecting drinking water sources, protecting wells and collection systems, making sure water is treated by qualified operators, ensuring the integrity of distribution systems, and making information available to the public on the quality of their drinking water.

With the involvement of the US EPA, states, tribes, drinking water utilities, communities, and citizens, these multiple barriers ensure that tap water in the United States and its territories is safe to drink and use. In most cases, the US EPA delegates responsibility for implementing drinking water standards to states and tribes.



WATER SOURCES

In 2023, Erwin Utilities' Authority's Water Department distributed 571,892,000 gallons of water to its customers.

Erwin Utilities' Authority's water system is located within the Nolichucky River Watershed and is supplied by groundwater pumped from four (4) separate locations, one (1) spring water source and three (3) well water sources. The wells are located in the Honaker Formation, which is composed of dolomite, limestone, and shale rock with interbedded layers of gravel.



Erwin Utilities' Authority's goal is to protect its drinking water from contaminants and is working continuously with the State to determine the vulnerability of its water sources for potential contamination.

The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the water sources serving this water system. The SWAP Report assesses the susceptibility of water sources for potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources can be rated as reasonably susceptible, moderately susceptible, or slightly susceptible based on geological factors and human activities in the vicinity of the water source. The Erwin Utilities' Authority's water system sources are rated as reasonably susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings, and the overall TDEC report to US EPA can be viewed online at <https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/source-water-assessment.html>, or Erwin Utilities Authority can be contacted to obtain copies of specific assessments.

SOURCE WATER PROTECTION AREAS



In the Source Water Protection Plan Program, Erwin Utilities Authority has designated source water protection areas to help prevent contamination of the groundwater supply.

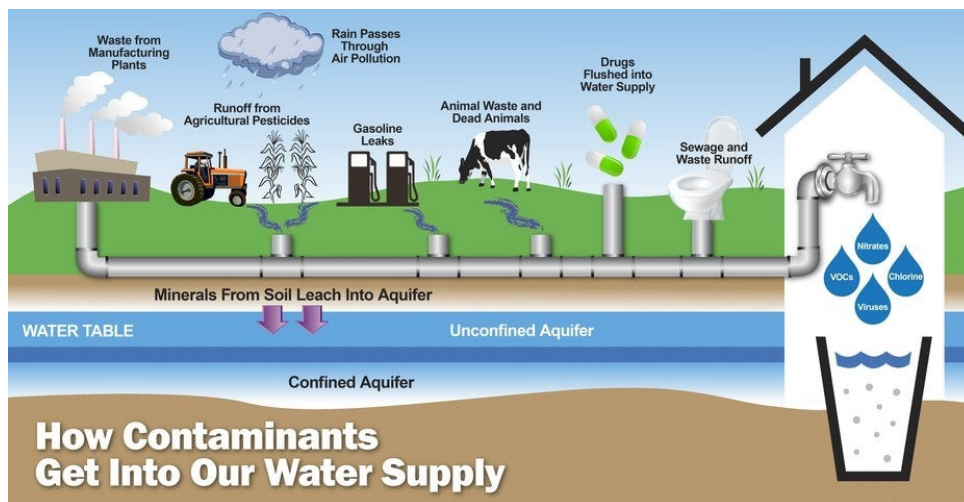
The major aim of this program is to increase awareness of the threats of groundwater contamination and to encourage voluntary protection such as conservation measures and environmentally sound waste management system.

Groundwater may be contaminated by the improper use and disposal of pesticides, used oil, solvents, and other contaminants. Erwin Utilities Authority encourages the use of approved disposal sites for the disposal of these potential contaminants. **The public is requested to report any activities that may result in groundwater contamination to Erwin Utilities Authority at (423) 743-1820.**

PRESENCE OF CONTAMINANTS

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 (EPA's) 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 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, may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- 💧 **Inorganic contaminants**, such as salts and metals, 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** 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 are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- 💧 **Radioactive contaminants** can be naturally occurring or be the result of oil and gas production and mining activities.



TAP WATER

In order to ensure that tap water is safe to drink, the EPA and the Tennessee Department of Environment and Conservation (TDEC) prescribe regulations that limit the amount of certain contaminants in the water provided by public water systems.



BOTTLED WATER

The Food and Drug Administration (FDA) regulations established limits for contaminants in bottled water which must provide the same protection for public health.

VULNERABILITY OF SOME POPULATIONS TO CONTAMINANTS

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 healthcare providers. The EPA and Centers for Disease and Control (CDC) 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.

LEAD & COPPER ACTION LEVELS IN DRINKING WATER

Erwin Utilities Authority has never violated the Lead or Copper Action Levels in its drinking water. The Action Level for Copper is 1.3 parts per million. Erwin Utilities' Authority's test results in 2023 indicated a range 0.0036 to 0.9940 parts per million, which is much lower than the established Action Level. The Action Level for Lead is 15 parts per billion, and in 2023, Erwin Utilities' Authority's sample test results indicated that Lead levels were in the range of 0.2 to 1.7 parts per billion, which is also much lower than the established Action Level. Lead & Copper testing will again be performed at the end of the third quarter in 2026.

Erwin Utilities Authority complies with all State and Federal regulations on controlling Lead and Copper in their drinking water. There have been no water quality violations at any of the Erwin Utilities' Authority's drinking water plants.

LEAD IN DRINKING WATER

There has been a national focus on Lead levels in drinking water due to the 2014 water crisis in Flint, Michigan.

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. *Erwin Utilities Authority is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components.* It is important to note that Erwin Utilities Authority does **NOT** have any known Lead service lines within its distribution system.

Most of the Lead pipes in the United States (U.S.) were installed in the late 1800's. Erwin Utilities' Authority's earliest water mains were installed around 1910, and lead service lines were never used in Erwin's water distribution system.

This lack of use is a contributing factor to the low levels of Lead found in Erwin Utilities' Authority's water distribution system. Another factor is Erwin Utilities' Authority's implementation of a successful Corrosion Control Program at its four (4) water treatment plants. This corrosion control program involves utilizing corrosion inhibitors at the water treatment plants and extensively monitoring the water system to detect any signs of corrosion.

Traditionally in the U.S., the presence of Lead in the drinking water is associated with internal household plumbing, and the customer's service water line from the meter. 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 the water for drinking or cooking. If you are concerned about Lead in your drinking 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 <http://www.epa.gov/safewater/lead>

CROSS-CONNECTION EDUCATION

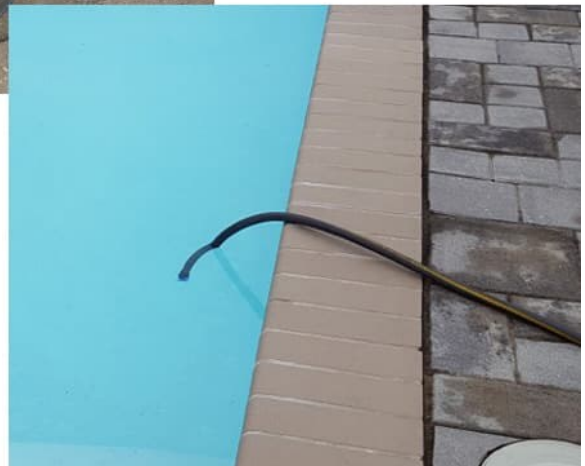
Over the next few months, the warm weather will bring people outdoors to work in their yards and gardens and to begin getting their swimming pools ready.

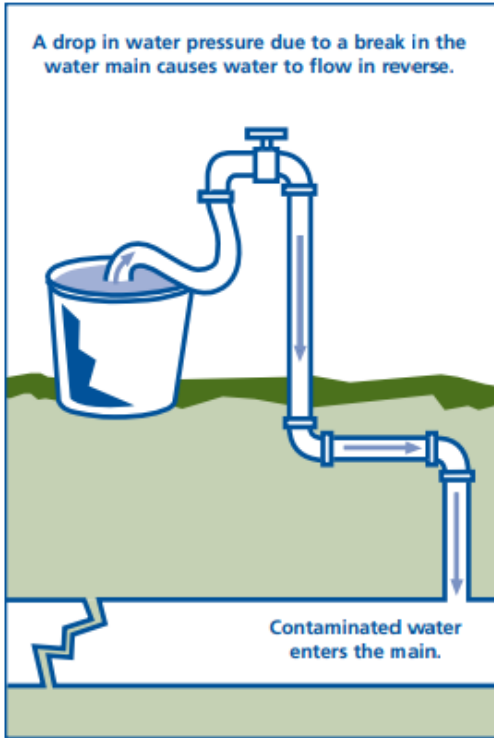
Erwin Utilities Authority would like to ensure that its customers are aware of the dangers associated with these activities.

An ordinary garden hose is a common way to contaminate a water supply when the hose is submersed in any liquid or is attached to certain devices used to spray pesticides or herbicides. Submersing a garden hose or attaching the hose to a device can create a cross-connection.



Examples of Residential Cross-Connection Hazards





A cross-connection is a situation where a possible source of contamination is physically connected to a public water system.

If the end of a garden hose is connected to a chemical container, swimming pool, or other contaminant during a water main break or fire, the chemical or substance can be siphoned back into the water distribution system. This condition, known as back-siphonage, could cause a public health hazard.

Devices are available to prevent this problem; however, the best solution is to be mindful of how a garden hose is used and stored. Erwin Utilities Authority needs its customers' help to continue to provide a safe supply of water to the receiving community. Remember; never place a garden hose in anything you would not want to drink.

For more information on cross-connections and how to protect against them, call Erwin Utilities' Authority's office at (423) 743-1844.

THINK BEFORE YOU FLUSH

Flushing unused or expired medicines can be harmful to your drinking water. Properly disposing of unused or expired medication helps protect you and the environment. Keep medications out of Tennessee's waterways by disposing them in one of our permanent pharmaceutical takeback bins. There are over 340 take back bins located across the state of Tennessee in all 95 counties. To find a convenient location, please visit:

<http://tdeconline.tn.gov/rxtakeback/>



LOCAL PLACES THAT ACCEPT UNUSED OR EXPIRED MEDICINES



Roller Pharmacy

109 North Main Avenue
(423) 743-7105

8:30 am to 5:00 pm
Monday through Friday

8:30 am to 1:00 pm
Saturday

Erwin Police Department

211 North Main Avenue
(423) 220-7662

8:00 am to 5:00 pm
Monday through Friday

Unicoi Co. Sheriff's Department

1570 Jackson Love Highway
(423) 743-1864

8:00 am to 4:30 pm
Monday through Friday

WATER SYSTEM SECURITY

Following the events of September 11, 2001, we realize that our customers are concerned about the security of their drinking water. Erwin Utilities Authority has conducted a risk and resilience assessment of their water infrastructure and have made changes to improve the safety and reliability of our drinking water to our customers.

Erwin Utilities Authority encourages the public to report any suspicious activities at any utility facilities, including treatment plants, tanks, fire hydrants, etc. to (423) 743-1820.

NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

ERWIN UTILITIES AUTHORITY was in compliance with the National Primary Drinking Water Regulations for the calendar year of 2023 and is a member of the American Water Works Association, Tennessee Association of Utility Districts, and Water Environment Federation.

EXPLANATION OF THE WATER QUALITY TABLE

The Water Quality Table within this report shows the results of Erwin Utilities' Authority's water quality analyses, and every regulated contaminant that was detected in Erwin's water is listed on the Water Quality Table.

This table contains the name of each contaminant analyzed, the highest level allowed by regulation (MCL), the ideal goals for public health (MCLG), the amount detected, the major sources of such contamination, footnotes explaining Erwin Utilities' Authority's findings, and a key to the units of measurement. The definitions outlined on the Water Quality Table are especially important for the definitions for the MCL and MCLG.

WATER QUALITY TABLE ACRONYMS

- 💧 **MCL = Maximum Contaminant Level**, or the highest level of a contaminant that is permissible in drinking water. MCLs are set as close to the Maximum Contaminant Level Goals (MCLGs) as feasible utilizing 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 health risk. MCLGs allow for a margin of safety.
- 💧 **AL = Action Level**, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a system must follow.
- 💧 **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 disinfectants to control microbial contaminants.
- 💧 **TT = Treatment Technique**, or a required process intended to reduce the level of a contaminant in drinking water.
- 💧 **MDL = Method Detection Limit**, or the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from the method blank results.

UNITS OF MEASURE

- 💧 **ppm or mg/L = parts per million or milligrams per liter**, explained in terms of money as one penny in \$10,000.
- 💧 **ppb or mcg/L = parts per billion or micrograms per liter**, explained in terms of money as one penny in \$10,000,000.
- 💧 **NTU = Nephelometric Turbidity Unit** - Turbidity is a measure of the clarity of water. Turbidity in excess of 5 NTUs is just noticeable to the average person.
- 💧 **BDL = Below Detection Limit**, a level that is below the lowest quantity of a substance that can be detected by a particular laboratory instrument.

WATER QUALITY TABLE

CONTAMINANT	DATE TESTED	UNIT	MCL	MCLG	REPORTED LEVEL	RANGE	METHOD DETECTION LIMIT	MAJOR SOURCES
Barium	12/20/2022	ppm	2	2	0.0840	0.0430 - 0.0840	2.000	Discharge of drilling wastes and metal refineries; erosion of natural deposits
Copper ³	7/31/2023	ppm	AL=1.3	1.3	0.3478 ⁴	0.0036 - 0.9940	0.0003	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Cyanide, Total	12/20/2022	ppm	0.2	0.2	0.002	BDL - 0.0020	0.002	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	1 per Quarter in 2023	ppm	4	4	0.669 ⁶	0.592 - 0.754	0.004	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer factories
Lead ³	7/15/2020	ppb	AL=15	Zero	0.60 ⁴	BDL - 1.7	0.20	Corrosion of household plumbing systems; Erosion of natural deposits
Nitrate	11/14/2023	ppm	10	10	1.598 ⁶	0.821 - 3.350	0.075	Runoff from fertilizer; Leaching from septic tanks or sewage; Erosion of natural deposits
Selenium	12/20/2022	ppm	0.05	0.05	0.0009	BDL - 0.0009	0.0005	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium	6/29/2021	ppm	N/A	N/A	4.43 ⁶	1.66 - 6.69	N/A	Derived geologically from leaching of surface and underground deposits of salt and decomposition of various minerals; Human activities contribute through de-icing and washing products
Tetrachloroethene	1 per Quarter In 2023	ppb	5	N/A	1.1 ⁶	0.5 - 1.9	0.5	Leaching from PVC pipes; Discharge from factories and dry cleaners
Turbidity ¹	See Note	NTU	TT	N/A	0.54 ⁵	0.01 - 0.54	N/A	Soil runoff
Turbidity ²	See Note	NTU	TT	N/A	0.23 ⁵	0.01 - 0.23	N/A	Soil runoff
TTHMs (Total Trihalomethanes)	8 per Year In 2023	ppb	80.0	N/A	6.8 ⁶	2.9 - 12.7	0.1	By-products of drinking water chlorination
HAA5s (Haloacetic Acids)	8 per Year In 2023	ppb	60.0	N/A	3.5 ⁶	1.0 - 8.0	0.2	By-products of drinking water chlorination
Total Coliform Bacteria ⁷	15 per Month Jan - Apr 2023 10 per Month May - Dec 2023	Sample	TT	Zero	Zero	Zero	N/A	Naturally present in the environment
CONTAMINANT	DATE TESTED	UNIT	MCL	MCLG	REPORTED LEVEL	RANGE		MAJOR SOURCES
Chlorine	15 per Month Jan - Apr 2023 10 per Month May - Dec 2023	ppm	4	4	2.33 ⁶	0.80 - 3.10	0.03	A chemical used as a disinfectant

WATER QUALITY TABLE FOOTNOTES:

¹ Shows tests' results on Erwin Utilities' Authority's finished water at Elks Club Water Plant.

² Shows tests' results on Erwin Utilities' Authority's finished water at Birchfield, O'Brien, and Howard C. Brown Water Plants.

³ During the most recent round of Lead and Copper testing, all thirty (30) samples were below the Action Level.

⁴ 90th Percentile

⁵ Maximum Detected Level

⁶ Average Detected Level

⁷ New reporting guidelines effective April 1, 2016, under the Revised Total Coliform Rule, PWS 0400-45-01-.41.

TTHMs & HAA5s reported units were revised to reflect ppb units instead of ppm. Revised: 4/9/2024

UNREGULATED CONTAMINANTS TABLE

CONTAMINANT	DATE TESTED	UNIT	MCL	MCLG	REPORTED LEVEL	RANGE	METHOD DETECTION LIMIT	MAJOR SOURCES
Aluminum	12/20/2022	ppm	N/A	N/A	0.065 ¹	0.064 - 0.066	0.031	Occurs naturally in some rocks and drainage from mines
Chloride	12/20/2022	ppm	N/A	N/A	8.63 ¹	4.12 - 17.20	0.202	Sources result from weathering of soils, salt-bearing geological formations, deposition of salt spray, salt used for road de-icing, contributions from wastewaters and in coastal areas; intrusion of salty ocean water into fresh groundwater sources
Chloroform	1 per Quarter in 2023	ppb	N/A	N/A	1.1 ¹	0.8 - 1.4	0.5	By-products of drinking water chlorination; Discharge from chemical companies and paper mills
Surfactants	12/20/2022	ppm	N/A	N/A	0.051 ¹	BDL - 0.051	0.041	Found in household detergents, consumer products, domestic sewage runoff, pesticides, drilling fluids, and industrial discharges
TDSs (Total Dissolved Solids)	12/20/2022	ppm	N/A	N/A	143 ¹	51 - 206	51	Found naturally in springs, lakes, rivers, plants, and soil
Zinc	12/20/2022	ppm	N/A	N/A	0.016 ¹	0.009 - 0.022	0.008	Found naturally in water, most frequently in areas where it is mined; Enters the environment from industrial waste, metal plating, and plumbing, and is a major component of sludge

FOOTNOTES:

ERWIN UTILITIES AUTHORITY also tested for thirty-nine (39) Unregulated Volatile Organic Contaminants (VOCs).

¹This is an average value.

Unregulated contaminants are those for which the US EPA has not yet established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the US EPA in determining the occurrence of these contaminants in drinking water and whether future regulation is warranted.

For additional information, use the Safe Drinking Water Hotline number: (800) 426-4791.

PUBLIC INVOLVEMENT

For more information about Erwin's drinking water and for opportunities to become involved, please contact Clay Hepburn, Water Treatment Supervisor, by calling (423) 735-4563 or by writing to: P. O. Box 817, Erwin, TN 37650-0817.

Regular meetings of the Board of Public Utilities are held on the fourth Thursday of each month at the Erwin Utilities' Authority's Main Office at 4:30 p.m. The public is welcome. Find out more about ERWIN UTILITIES AUTHORITY on the Internet at www.e-u.cc.

ERWIN UTILITIES AUTHORITY BOARD

Thomas D. Harris	Chairman
D. Scott Charles	Member
Kevin Horton	Member
Russell D. Brackins	Member
Gary Chandler	Member
Lee H. Brown	President & CEO

Este informe contiene información importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.