



Kingsport Water Department

# 2009 Water Quality Report

Nature's Most  
Precious Resource

**water** wa·ter

the liquid that descends from the clouds as rain, forms streams, lakes, and seas, and is a major constituent of all living matter

# Annual Water Quality Report

## Kingsport Water Department



Dear Customer,

The Kingsport City Water Department continually strives to provide its customers the safest drinking water possible. This brochure is a summary of the quality of water provided by the Water Department to its customers last year. It is a report reflecting the department's hard work and dedication to bringing you water that is absolutely safe to drink.

Included in this summary is information about where your water comes from, what it contains, and how it compares to standards set forth by the State of Tennessee and the United States Environmental Protection Agency (USEPA).

The Water Department is committed to providing you, our customers, the safest, cleanest drinking water possible. We believe customers who are well informed are our best allies in supporting improvements necessary to maintain high water quality standards.

~ Kingsport Water Department



## Origin

Your water, which is surface water, comes from the South Fork Holston River. Our goal is to protect our water from contaminants and we have worked with the State to determine the vulnerability of our water source to potential contamination. The Tennessee Department of Environment and Conservation (TDEC) has prepared a Source Water Assessment Program (SWAP) Report for the untreated water sources serving this water system. The SWAP Report assesses the susceptibility of untreated water sources to potential contamination. To ensure safe drinking water, all public water systems treat and routinely test their water. Water sources have been rated as

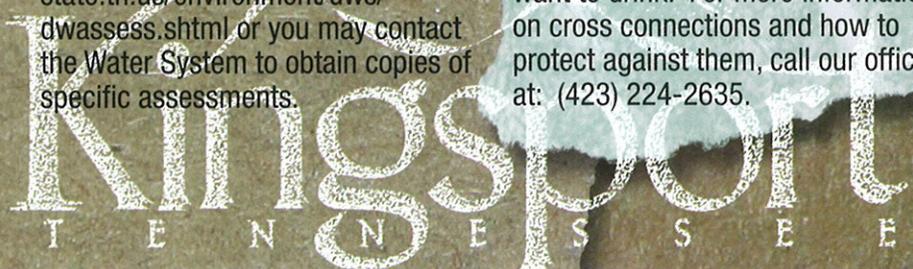
reasonably susceptible, moderately susceptible or slightly susceptible based on geologic factors and human activities in the vicinity of the water source. The Kingsport Water System sources rated as reasonably susceptible to potential contamination.

An explanation of Tennessee's Source Water Assessment Program, the Source Water Assessment summaries, susceptibility scorings and the overall TDEC report to the EPA can be viewed online at [www.state.tn.us/environment/dws/dwassess.shtml](http://www.state.tn.us/environment/dws/dwassess.shtml) or you may contact the Water System to obtain copies of specific assessments.

## Cross Contamination Control

Over the next few months, the warm weather will bring people outdoors to work in their yards and gardens and begin getting swimming pools ready. The Kingsport Water System would like to ensure that our 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 attached to certain devices used to spray pesticides or herbicides. This forms a cross connection. A cross connection is a situation where a possible source of contamination is directly linked to our public water system. If the end of your hose is connected to a chemical container, swimming pool or other contaminant during a water main break or fire, the substance can be siphoned back into the water 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 always be careful how you use your water hose.

Please help us provide a safe supply of water to all of our customers. Remember: never place your water hose in anything you would not want to drink. For more information on cross connections and how to protect against them, call our office at: (423) 224-2635.



As water travels over the surface of the land it dissolves naturally occurring minerals and, in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or humans. Although these substances could be present in "raw" water, our water meets all of the EPA's health standards. We have tested for over 80 substances that may be present in our drinking water.

Substances that may be present in "raw" water include:

1. Microbial organisms, such as viruses and bacteria, which may be from sewage plants, septic systems, agricultural livestock operations and wildlife.
2. Inorganic compounds, such as salts and metals, which can be naturally occurring or result from storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
3. Pesticides and herbicides, which may come from a variety of sources, such as agriculture, storm water runoff and residential uses.
4. Organic chemicals including synthetic and volatile organic chemicals, which are the by-products of industrial processes and petroleum production, and can also come from gas stations, storm water runoff and septic systems.
5. Radioactive material, which can be naturally occurring, or be the result of oil and/or gas production and mining activities.

We found all of these substances to be at safe levels.

## Who Do I Call? Questions about this report

Contact Mike Tolbert or Ron Haynes  
at 229-9452.

Questions or concerns about a  
potential cross connection?  
Contact Ron Ison at 224-2635.

Questions concerning your bill,  
arranging for water service or  
reestablishing service?  
Call Customer Service at  
229-9416 or 229-9417.

To report water quality problems,  
low pressure, a broken water main,  
water leak in the streets or at the  
meter:  
Call Customer Service at  
229-9416 or 229-9417.

After hours emergency  
Number - 246-9111

To report suspicious activity to any  
water facility, including treatment  
plants; water storage tank, fire  
hydrants, etc.  
Call 911 or 229-9452.

For more information about the  
Storm Water Program or to report  
illegal discharges into the storm  
drain system,  
Call (423) 224-2727.

## What is a Watershed?

A watershed is all the land area that drains into a given body of water. Small watersheds combine to become big watersheds, sometimes called basins. When water from a few acres drains into a little stream, those few acres are its watershed. When that stream flows into a larger stream, and that larger stream flows into a bigger river, then the initial small watershed is now part of that river's watershed. Watersheds are a logical way to think about the connection between the land and the quality of water we enjoy. How we manage and treat the land has a direct impact on the ability of water to support a number of important public uses like swimming, fishing, aquatic species habitat and drinking water supply. We all live downstream from someone, and what happens in a watershed does not just stay in that watershed.



# A Treatment System

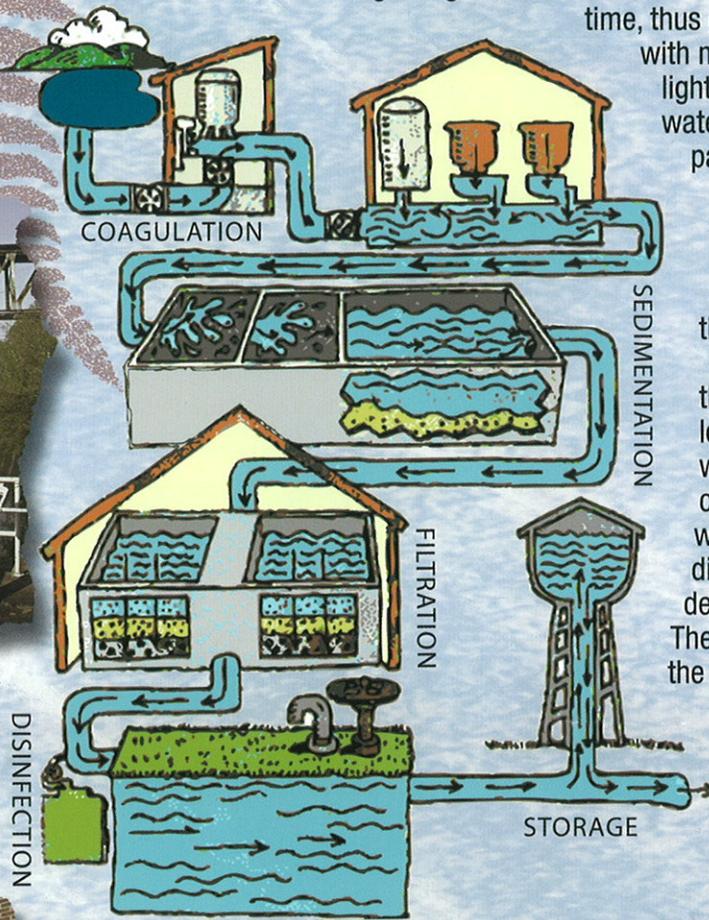
At the treatment plant, shortly after the "raw" (untreated) water is pumped to the treatment plant it enters the flash mix where it is treated with both chlorine and a coagulant.

Beginning chlorinization here allows the chlorine a longer contact-time, thus giving the chlorine more time to react with microorganisms. Coagulants cause light, fine materials suspended in the water to clump together into larger heavier particles.

Next, the slow flow thru the sedimentation basin allows the heavier particles to settle out. Sedimentation removes the majority of the sediment from the water.

Filtration, the next step, removes the remaining suspended material, lowering the turbidity level to well below the state's maximum containment level (mcl). The filtered water is then treated with chlorine for disinfection and fluoride to reduce tooth decay.

The "finished" water is then pumped into the distribution system for public use.



## Tennessee Watershed Signs

In March 2008, Tennessee launched a program to increase public awareness of the state's 55 watersheds and their importance to water quality, recreation and the environment. Working with the Department of Environment and Conservation, the Tennessee Department of Transportation erected 187 watershed-awareness signs at key entry points along Tennessee's highways. With their simple green-and-white logo identifying the approaching watershed and a call to "Help Keep It Clean," these signs are encouraging countless citizens to be aware of their local watershed and do their part to protect it.

"A Guide to Traveling Tennessee's Watersheds" is intended as a companion to these signs. You'll learn what watersheds are, why they are important, what threats they face and what Tennessee is doing to safeguard them. You'll also find maps and brief descriptions of Tennessee's distinctive watershed basins. Whether you're driving along a highway looking for the next watershed sign, or explaining to your friends which watershed they live in, we hope this guide will be a useful tool in ensuring clean, healthy waters for Tennessee and the region.

A Guide To Traveling  
Tennessee's Watersheds



# 2009 Water Quality Results

Your drinking water is regulated by the Tennessee Department of Environment and Conservation (TDEC) and the Environmental Protection Agency (EPA). The Kingsport Water Department regularly monitors for over 80 regulated contaminants to make sure your drinking water is safe. The results of our 2009 water quality monitoring are shown in the following tables. The substances listed in the tables below are the only substances that were detected above TDEC and EPA reporting levels. Reporting levels are the lowest level a contaminant can be detected with present laboratory methods, which are also known as minimum detection limits. We are proud to report that the City of Kingsport's water meets or exceeds all drinking water standards!

Contaminant	Violation? Yes/No	Level Found	Range Detected	Date of Sample	Unit of Measurement	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	NO	0	NA	2009 Daily	NA	0	Presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
Turbidity	NO	0.24	0 – 0.24	2009 Daily	NTU	NA	TT	Soil runoff
Copper	NO	90th% = 0.68	0.1 – 0.85	8 / 5 / 08	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride	NO	0.70	0.33 – 1.18	2009 Monthly	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	NO	90th% = 2.4	0.0005 – 86	8 / 5 / 08	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Sodium	NO	6.3	NA	2009 Annually	ppm	NA	NA	Erosion of natural deposits; used in water treatment
TTHM (Total trihalomethanes)	NO	41.2 Annual avg.	28 – 85.8	2009 Quarterly	ppb	NA	80	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	NO	27 Annual avg.	15.5 – 63.7	2009 Quarterly	ppb	NA	60	By-product of drinking water disinfection
Total Organic Carbon	NO	1.0 Annual avg.	BLD – 1.6	2009 Monthly	ppm	TT	TT	Naturally present in the environment
Contaminant	Violation Yes/No	Level Detected	Range Detected	Date of Sample	Unit of Measurement	MRDLG	MRDL	Likely Source of Contamination
Chlorine	NO	1.24 Annual avg.	0.4 – 2.2	2009 Daily	ppm	4	4	Water additive used to control microbes

Cryptosporidium is a microbial parasite which is found in surface water throughout the US. Although Cryptosporidium can be removed by filtration, the most commonly used filtration methods cannot guarantee 100% removal. Monitoring of our source water indicated the presence of Cryptosporidium in 3 out of 10 samples. No cryptosporidium were detected in finished water samples. For more information on cryptosporidium contact the Safe Drinking Water Hotline (800-426-4791).



## Special Information Should I be Concerned?

Some individuals 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, persons with AIDS/HIV or other immune system disorders, some elderly, and infants can be particularly at risk of infection. These people should seek advice about drinking water from their health providers. EPA guidelines on appropriate means to lessen the risk of infection by microbiological organisms are available from the Safe Drinking Water Hotline (1-800-426-4791).

## Safety Standards Is My water safe to drink?

The presence of contaminants does not necessarily indicate that the water poses a health risk. Most drinking water, including bottled water, contains small amounts of some contaminants. In order to ensure your tap water is safe, the Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain substances in water provided by public water systems. Bottled water companies must provide the same protection for public health; however, they are not required to submit a water quality report to the public.

We are proud to report that Kingsport's water meets or surpasses all EPA and State health regulations. As demonstrated by the test results, the Kingsport Water Department conducts regular tests for numerous contaminants, and has found few. The existing contaminants are all well below the maximum safe levels.

**Kingsport**  
T E N N E S S E E

### Definitions & Abbreviations

#### AL - ACTION LEVEL

The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

#### 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.

#### 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.

#### 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 the control of microbial contaminants.

#### MRDLG - MAXIMUM RESIDUAL DISINFECTANT LEVEL GOAL

The level of drinking water disinfectant below which there is no known expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

#### NTU - NEPHELOMETRIC TURBIDITY UNITS

#### PCI/L - PICOCURIES PER LITER - (A MEASURE OF RADIOACTIVITY)

#### PPM - PARTS PER MILLION

#### MG/L - MILLIGRAMS PER LITER

#### PPB - PARTS PER BILLION

#### MCG/L - MICROGRAMS PER LITER

#### TT - TREATMENT TECHNIQUE

A required process intended to reduce the level of a contaminant in drinking water. Example: Kingsport adds a zinc-orthophosphate corrosion inhibitor to the drinking water to create a type of barrier in the underground lines and lines in the individual homes. This barrier comes between the flowing water and the pipe it is flowing through in order to keep contaminants that may come from the pipes from entering the water.

#### TURBIDITY LEVEL

A measure of the cloudiness of water; it is a good indicator that our filtration system is functioning properly.

