

Water Quality Report for 1998

"... WINSTON-SALEM/FORSYTH COUNTY UTILITY COMMISSION DRINKING WATER EXCEEDS ALL WATER QUALITY STANDARDS ..."

The WS/FC Utility Commission operates two water treatment facilities drawing water from both the Yadkin River and Salem Lake. For 1998, as in previous years, these treatment facilities have met or exceeded all state and federal (EPA) standards for drinking water quality. This accomplishment reflects the quality and dedication of the employees who work year round to provide adequate supplies of safe drinking water.

This City Page includes details about where our drinking water comes from, what it contains, and exactly how it compares to state and federal standards. The Utility Commission is providing this information to you because it is committed to delivering a quality product for its customers. This report will be mailed out annually and will be updated on a regular basis.

Forsyth County's Water Source

Winston-Salem/Forsyth County's water system serves more than 225,000 people with an average daily demand of 43 million gallons. Generally, water sources include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the land's surface or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can be polluted by animals or human activity.

Contaminants that may be expected in untreated water include: biological contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; pesticides and herbicides from a variety of sources such as agriculture, urban storm water runoff and residential uses; organic chemicals, which are byproducts of industrial processes and petroleum production and distribution; and radioactive contaminants, which can be naturally-occurring or man-made.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which 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.

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 Winston-Salem/Forsyth County water system is operated under the guidance of the Utility Commission. This board meets the second Monday of each month at 2 p.m. in City Hall, Room 215, 101 N. Main Street, Winston-Salem, NC 27102. For questions about the quality of our drinking water or this report, call Utilities Administration at 727-8418.

Special Concerns

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 health care providers. Environmental Protection Agency and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline (800-426-4791).

Physical & Mineral Characteristics For Calendar Year 1998

Constituent	Annual Average
Alkalinity, ppm	.22
Aluminum, ppm	0.14
Calcium, ppm	9.4
Chloride, ppm	8.6
Conductivity, micromhos/cm	117.4
Hardness, ppm	33
Phosphorus, ppm	0.28
Sodium, ppm	8.59
Sulfate, ppm	14
Temperature, degrees C	18.1
Zinc, ppm	0.28
pH, standard units	7.4

← These constituents detected in our water are the physical and mineral make-up of the water delivered to your tap.

Cryptosporidium

Cryptosporidium is a microscopic organism that, when ingested, can result in diarrhea, fever and other gastrointestinal symptoms. The organism occurs naturally in surface waters (lakes and rivers) and comes from animal wastes. Crypto is eliminated by an effective treatment combination of filtration, sedimentation and disinfection. Winston-Salem has tested for Crypto monthly since 1994 in both of our sources and the treated drinking water. *Cryptosporidium* has never been detected in our treated drinking water. (See Treated Water Quality tables)

Treated Water Quality					
The following substances were detected in the Winston-Salem/Forsyth County public water supply during the 1998 calendar year.					
Regulated at the Treatment Plant					
Substance	Highest Level Allowed (EPA's MCL*)	Highest Level Detected	Percent of Highest Level Allowed	Ideal Goals (EPA's MCLG*)	Source
Barium, ppm*	2	0.07	3.50%	2	Natural geology, drilling operations, metal refinery wastes.
Fluoride, ppm	4	1.22	30.50%	4	Natural geology, water treatment additive.
Nitrate, ppm	10	0.73	7.30%	10	Runoff from fertilizer use; leachate from septic systems.
Turbidity	Treatment Technique	0.68	n/a	n/a	Soil runoff, erosion.
Regulated in the Distribution System					
Total Trihalomethanes, ppb*	100 average*	54 average	54.00%	0	Byproducts of drinking water disinfection.
Total Coliform	Less than 5% positive	0	N/A	0	Naturally present in the environment.
Alpha Emitters, pCi/L*	15	1	5.67%	0	Natural geology.
Beta Emitters, pCi/L	50	3	6.60%	0	Natural geology and man-made sources.
Regulated at the Consumers' Tap					
Lead, ppb	15 (action level*)	5	33.33%	0	Corrosion of household plumbing; erosion of natural deposits.
Copper, ppb	1300 (action level*)	70	5.38%	1300	Corrosion of household plumbing; erosion of natural deposits.
Unregulated Substances					
Bromodichloromethane, ppb	Not Regulated	10	Not Regulated	Not Regulated	Component of the trihalomethanes.
Chlorine, ppm	4 proposed	2	50.00%	4	Water treatment disinfectant.
Chlorobromomethane, ppb	Not Regulated	1	Not Regulated	Not Regulated	Component of the trihalomethanes.
Chloroform, ppb	Not Regulated	1	Not Regulated	Not Regulated	Component of the trihalomethanes.
Total Haloacetic Acids, ppb	60	48	80	0	Byproducts of drinking water disinfection.
Chloral Hydrate, ppb	Not Regulated	9	Not Regulated	Not Regulated	Byproducts of drinking water disinfection.
Total Organic Halides, ppb	Not Regulated	167	Not Regulated	Not Regulated	Byproducts of drinking water disinfection.

The above contaminants were detected in Winston-Salem's drinking water during 1998. All are below allowed levels. In addition, as required by the EPA, there are other contaminants for which we tested but were not detected.

Definitions:

Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water.

Maximum Contaminant Level Goal (MCLG) - The level of a contaminant in drinking water below which there is no known or expected risk to health.

ppm - One part per million.

ppb - One part per billion.

Treatment Technique - A required process intended to reduce the level of a contaminant in drinking water.

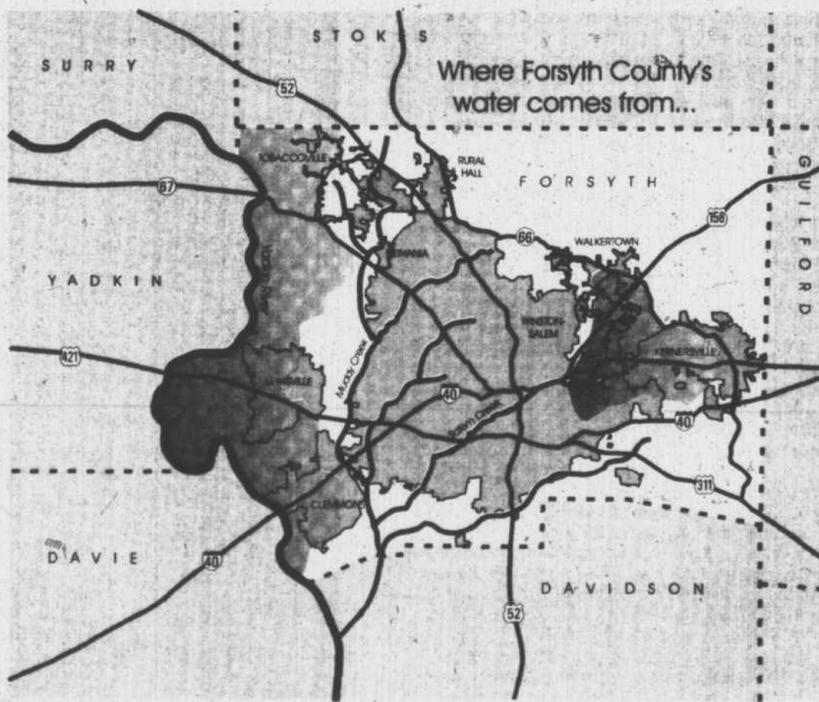
Action Level - The concentration of a contaminant that triggers treatment or other requirement that a water system must follow. Action levels are reported at the 90th percentile for homes at greatest risk.

PCi/L - Picocuries per liter is a measure of the radioactivity in water. A picocurie is 10⁻¹² curies and is the quantity of radioactive material producing 2.22 nuclear transformations per minute.

Average - the last four quarterly samples collected at the extremities of the system.

Copies of these results can be viewed at the City/County Utilities Administration Office, 102 W. Third Street, Suite 460, Winston-Salem, NC 27102.

This document can also be viewed via internet at <http://www.ci.winston-salem.nc.us/utilities/index.htm>



Where Forsyth County's water comes from...

The Top 5 Frequently Asked Questions

1. **Is our water hard?** No. The water supplied by the Utilities Division in 1998 averaged 33 parts per million (ppm) or 1.9 grains per gallon (gpg) of calcium carbonate. Water hardness is a measure of its mineral content, specifically calcium and magnesium. Water is considered hard if it contains more than 125 ppm or 7.5 gpg.

2. **Is fluoride added to our water?** Yes. Fluoride is added to our water to help prevent dental problems. The Utilities Division has been fluoridating the water since the 1950's at a level of 1 ppm, which is equivalent to one drop in ten gallons of water. The fluoride level in your drinking water is monitored by the Forsyth County Health Department and the NC Department of Environment and Natural Resources.

3. **Why do we see pink or black residue form in places where water stands?** This slimy residue is caused by mold spores which are present in the air. When the spores land in places containing water they start to grow. So when you notice the color you are actually seeing mold. Applying a bleach solution to these areas should prevent the mold from reappearing for an extended period of time.

4. **Is the chlorine in our water harmful?** No. Chlorine is added to water to kill microorganisms that have the potential of causing disease and illness. The addition of chlorine does produce byproducts when it reacts with naturally occurring matter in water. These by-products, like trihalomethanes, are considered potential cancer-causing compounds and are regulated. Quarterly monitoring for these compounds is conducted and levels detected are below the limit.

5. **Is there lead in our water?** Lead has not been detected in the water supplied by the Utilities Division. However, lead has been detected in the water drawn from a few homes. The source of lead is leaching from household plumbing and fixtures. This only occurs after the water stands in the plumbing for long periods of time. A remedy for this would be to allow the water to run for 30-60 seconds before you draw your water. This practice will significantly reduce any potential exposure to lead or any other metal that would leach from plumbing.

Question or concern about city-government services?
Call Citizens Service 727-8000

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EN ESPAÑOL

Si desea recibir una copia de este reporte en Español o si tiene preguntas con respecto a la calidad del agua que consume, por favor comuníquese con el departamento de servicios públicos durante las horas de trabajo, el teléfono es 727-8418.