

Town of Waynesville
Annual Water Quality Report

2013



WATER
We Can't Live Without It

Do you know where your water comes from?

Do you know how clean it is?

Do you know what is being done to protect it?

**If not,
now you do!**

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources.

The Town of Waynesville is proud to report that our drinking water met all federal and state standards for drinking water during 2013. This report to consumers covers the calendar year from January to December, 2013. Annual reports such as this one will be provided by the Town of Waynesville each year in the future.

Where does Waynesville's water come from?

Waynesville's watershed is located southwest of Waynesville and covers an area of 8400 acres on the headwaters of Allens Creek. Tributary streams within the watershed flow into the Waynesville Reservoir, a 50-acre man-made lake created by a dam on Allens Creek. The reservoir and surrounding watershed are classified by the State of North Carolina as WS-1. This classification is the state's most stringent and forbids development within the watershed boundary.

Source Water Assessment Program

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, and Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for The Town of Waynesville was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Source Name	Susceptibility Rating	SWAP Report Date
Allens Creek Reservoir	Moderate	February 19, 2010

The complete SWAP Assessment report for the Town of Waynesville may be viewed on the Web at: <http://www.deh.enr.state.nc.us/pws/swap>. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or email request to swap@ncmail.net. Please indicate your system name and PWSID (Town of Waynesville, 01-44-010), your name, mailing address and phone number. If you have any questions about the SWAP report, contact the Source Water Assessment staff by phone at (919) 715-2633.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

How is Waynesville's water treated?

Raw water from the reservoir is treated at the Waynesville Water Treatment Plant. The treatment process has five main steps: rapid mixing, flocculation, sedimentation, filtration and post chemical treatment. The objective of rapid mixing and flocculation is to cause small suspended particles to clump together for removal by sedimentation and filtration. The filters are anthracite and sand. Final chemical treatment uses chlorine for disinfection, fluoride for prevention of dental caries and an ortho phosphate to control corrosion in the distribution system.

For More Information

The Town of Waynesville encourages public participation in decisions that may affect water quality. The Board of Aldermen meet every second and fourth Tuesday of each month. The meetings are held at 7:00 p.m. in the Town Hall board room.

Or contact: Waynesville Water Treatment Plant
Superintendent, Kyle H. Cook
(828) 456-8497

About Our Water

The Town of Waynesville routinely monitors for contaminants in your drinking water according to Federal and State laws. This table shows the results of our monitoring for the period of January 1st to December 31st, 2013, and the last test results of contaminants that were not due to be tested. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. It's important to remember that the presence of these contaminants does not necessarily pose a health risk.

Our system monitored for *Cryptosporidium* and found levels of 0.00 (00)cysts/L in our source water.

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. 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 (800-426-4791).

Understanding the Water Quality Table

In the following tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms, we've provided the following definitions.

Parts per million (ppm) – One part per million corresponds to one minute in two years or a single penny in \$10,000.

Nephelometric Turbidity Unit (NTU) – Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5NTU is just noticeable to the average person.

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

Parts per billion (ppb) or Micrograms per liter – One part per billion corresponds to one minute in 2,000 years, or to a single penny in \$10,000,000.

Maximum Contaminant Level – The "Maximum Allowed" (MCL) is 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.

Maximum Contaminant Level Goal – The "Goal"(MCLG) is 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.

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

Non-Detects (ND) – Laboratory analysis indicates that the constituent is not present.

TOWN OF WAYNESVILLE WATER QUALITY TEST RESULTS

Contaminant	Violation Y/N	Level Detected	Unit of Measurement	MCLG	MCL	Likely Source of Contamination
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Microbiological Contaminants - 2013

Tested (ND) Total coliform bacteria, Fecal coliform and e-coli.

Turbidity 2013

Turbidity	N	.09*/100**	NTU	n/a	TT	Soil runoff
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*Highest yearly value. **Percentages of samples meeting turbidity limits.

NOTE: All Sample Dates Reflect the Last Analysis Required by Regulations

Radioactive Contaminants (ND) 4/17/13

Alpha emitters, Beta/photon emitters, Combined radium, Uranium

Nitrate/Nitrite Contaminants 5/28/13

Contaminant (Units)	MCL Violation Y / N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Nitrate (as Nitrogen) (ppm)	N	.089	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	N	ND	N/A	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Disinfectants & Disinfection By-Products 2013

Contaminant (Units)	MCL Violation Y / N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (Total Trihalomethanes)	N	23-43 AVG=33	ppb	N/A	80	By-product of drinking water chlorination
HAA5 (Haloacetic acids)	N	13-24 AVG=18	ppb	N/A	60	By-product of drinking water chlorination
Chlorine (ppm)	N	.5 - 1.4 AVG .9	ppm	MRDLG=4	MRDL=4	Water additive used to control microbes

*Range from high to low Avg=Average of test

Disinfection By-Products Precursor Contaminants 2013

Contaminant (units)	TT Violation Y / N	Your Water (RAA Removal Ratio)	Range Monthly Removal Ratio Low - High	MCLG	MCL	Likely Source of Contamination	Compliance Method (Step 1 or ACC# ___)
Total Organic Carbon (removal ratio) (TOC) - TREATED	N	2.9	2.9 - 2.9	N/A	TT	Naturally present in the environment	ACC 2

Note: Depending on the TOC in our source water, the system MUST have a certain % removal of TOC or must achieve alternative compliance criteria. If we do not achieve that % removal there is an alternative % removal. If we fail to meet alternative % removal, we are in violation of a Treatment Technique.

Inorganic Contaminants 10/17/13

Contaminant (Units)	Sample Date	MCL Violation Y / N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	2/23/11	N	.73	N/A	4	4	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories.

Tested (ND) Antimony, Arsenic, Beryllium, Chromium, Cyanide, Mercury (inorganic), Selenium, Thallium, Barium, Iron, Manganese, Nickel.

Inorganic Contaminants 9/19/12

Contaminant (Units)	Sample Date	MCL Violation Y / N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Lead		N	*ND/**0	ppb	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.
Copper		N	*ND/**0	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.

*90th percentile. **Percentage of homes exceeding action level.

Unregulated Contaminants (UCMR3) - 12/19/13

Contaminant (units)	Violation Y / N	Your Water (RAA Removal Ratio)	Range Low - High	MCLG	MCL
Chromium (total) (ppb)	N	.24	.22-.26	N/A	N/A
Strontium (ppb)	N	11.0	8.9-13.2	N/A	N/A
Chromium-6 (ppb)	N	.036	.036	N/A	N/A



Volatile Organic Contaminants - 7/16/13

Tested (ND) Benzene, Carbon tetrachloride, Chlorobenzene, O-Dichlorobenzene, p-Dichlorobenzene, 1,2-Dichloroethene, 1,1-Dichloroethylene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, 1,2-Dichloropropane, Ethylbenzene, Styrene, Tetrachloroethylene, 1,2,4-Trichlorobenzene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Toluene, Vinyl Chloride, Xylenes.

Synthetic Organic Contaminants including Pesticides and Herbicides - 5/23/11

Tested (ND) 2,4-d, 2,4,5-TP (Silvex, Acrylamide, Alachlor, Atrazine, Benzo(a)pyrene(PAH), Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane, Dinoseb, Diquat, Dioxin(2,3,7,8-TCDD), Entothall, Endrin, Epichlorohydrin, Ethylene, Dibromide, Glyphosate, Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), PCBs (Polychlorinatedbiphenyls), Pentachlorophenol, Picloram, Simazine, Toxaphene.

Asbestos Contaminants - Tested (ND) 7/16/13

Water Characteristics

Waynesville also monitors drinking water for a variety of substances that affect taste, odor and color of drinking water. These aesthetic substances have no health affects and do not affect the safety of our water. These characteristics are shown below:

Contituent	Annual Average
Alkalinity	14.0 mg/l
Hardness - EDTA	7.0 mg/l
pH, standard units	8.0 mg/l
Iron	0.01 mg/l
Chlorine	1.2 mg/l
Sodium	9.4 mg/l
Sulfate	10.8 mg/l