

Groundwater Standards Information - Frequently Asked Questions

- The Division of Water Resources is responsible for the development and maintenance of North Carolina's groundwater standards. Regulations pertaining to the classifications and water quality standards can be located in the N.C. Administrative code at [Classifications and Standards Rules webpage](#).
- You can contact your county or local health department for a list of laboratories in your area that do water testing. More information is at www.testyourwell.nc.gov. Contact information for local health departments can be found on the [Division of Public Health web site](#).
- Additional information on water contaminants can be found on the Environmental Protection Agency (EPA) [Office of Groundwater and Drinking Water web page](#), and you may find fact sheets, information, and recommendations on water contaminants found in North Carolina on the [N.C. Department of Health and Human Services \(DHHS\) website](#).

Regulation of public water systems by the state

- It is the responsibility of the N.C. Department of Environment and Natural Resources' Public Water Supply Section to regulate public water systems within the state under the statutory authority of G.S. 130A Article 10. Public water systems are those that provide piped drinking water to at least 15 connections or 25 or more people for 60 or more days per year.
- There are more than 6,000 regulated public water systems in the state. About three-fourths of the state's population lives in areas served by community water systems, while many others and visitors to the state are served by other types of public water systems, such as workplaces, schools, parks or restaurants.
- The state does not regulate private drinking water wells.

What are federal drinking water standards maximum contaminant levels (MCLs) and how are they established?

- 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 (see below) as feasible using the best available treatment technology.
- Maximum Contaminant Level Goal (MCLG): 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.
- To see a list of all contaminants that are federally regulated, you may visit the EPA's [website on 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 Safe Drinking Water Hotline (800-426-4791).

What are groundwater quality standards and how are they established?

- Groundwater quality standards are the maximum allowable concentrations of contaminants in groundwater which may be tolerated without creating a threat to human health or which would

otherwise render the groundwater unsuitable for use as a drinking water source (or its best use, if the water is naturally unsuitable for drinking due to salinity or other issues).

- The Division of Water Resource's Classifications and Standards/Rules Review Branch is responsible for the development and maintenance of North Carolina's groundwater standards. Regulations pertaining to the classifications and water quality standards applicable to groundwaters of North Carolina are located in Title 15A of the North Carolina Administrative Code, Subchapter 2L, Sections .0100, .0200, .0300 and .0400. These regulations can be located in the N.C. Administrative code at [Classifications and Standards Rules webpage](#).

How are groundwater quality standards established?

- Groundwater quality standards are established by [15A NCAC 02L .0202](#) as the lowest of the following six criteria:
 1. A concentration protective of the non-cancer or systemic effects of a contaminant.
 2. A concentration which corresponds to an incremental lifetime cancer risk of one-in-a-million;
 3. The taste threshold limit value;
 4. The odor threshold limit value;
 5. The National Drinking Water Maximum Contaminant Level; or
 6. The National Secondary Drinking Water Standard.
- After public notice and opportunity for hearing on the matter, the Environmental Management Commission (EMC) may also establish groundwater standards less stringent than the existing maximum contaminant levels (MCL) or national secondary drinking water standards noted above. Further explanation can be found on the Division of Water Resources [webpage](#).

How often are the groundwater quality standards updated?

- Every three years the state is required to review its groundwater water quality standards and interim maximum allowable concentrations (IMACs) to determine if changes are needed and, if necessary, to make those changes. This [review process](#) is referred to as the "triennial review." Revision of standards is sometimes needed to incorporate the most recent health and toxicological information.

What analytical methods should be used to determine compliance with the Groundwater Quality Standards?

- As outline in the regulations at [15A NCAC 02L .0112](#), tests or analytical procedures used to determine compliance or noncompliance with the standards should be in accordance with:
 1. The most sensitive of the following methods or procedures for substances where the standard is at or above the method detection limit value:
 - a. The most recent version of Standard Methods for the Examination of Water and Wastewater, published jointly by American Public Health Association, American Water Works Association and Water Pollution Control Federation;

- b. Methods for Chemical Analysis of Water and Waste, 1979, U.S. Environmental Protection Agency publication number EPA-600/4-79-020, as revised March 1983;
 - c. Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods, 3rd Edition, 1986, U.S. Environmental Protection Agency publication number SW-846;
 - d. Test Procedures for the Analysis of Pollutants Under the Clean Water Act, Federal Register Vol. 49, No. 209, 40 CFR Part 136, October 26, 1984;
 - e. Methods or procedures approved by letter from the DWR director upon application by the regulated source; or
2. A method or procedure approved by the director for substances where the standard is less than the method detection limit value.

What if the groundwater standard is lower than the level at which a laboratory can reliably detect and quantify the presence of the contaminant?

- Where the standard for a substance is less than the practical quantitation limit, the detection of that substance at or above the practical quantitation limit constitutes a violation of the standard.

What happens when naturally occurring background levels are higher than the groundwater standard?

- Where naturally occurring substances exceed the established standard, the standard shall be the naturally occurring concentration as determined by the Division of Water Resources director.

Who is responsible for enforcing the groundwater standards?

- The Division of Water Resource's Aquifer Protection Section is responsible for protecting and preserving North Carolina's groundwater resources through its contaminant prevention strategies, monitoring programs, permitting activities and enforcement actions. For more information on the APS please visit their webpage.
- The Division of Waste Management, which regulates solid waste disposal, hazardous waste management, underground storage tanks and Superfund cleanups, also enforces the groundwater standards. For more information on the DWM please [visit their web site](#).

Whom do I contact to have my well water tested if I think it may be contaminated?

- You can contact your county or local health department for a list of laboratories in your area that do water testing. The cost will vary, depending on the laboratory and the test(s). More information is at www.testyourwell.nc.gov. Contact information for local health departments can be found on the [Division of Public Health web site](#).

Where can I find information about the health effects of contaminants found in groundwater?

- The following Environmental Protection Agency (EPA) [Office of Groundwater and Drinking Water web page](#) connects you to fact sheets for many contaminants.
- The federal Agency for [Toxic Substances and Disease Registry](#) provides toxicological profiles for a number of contaminants at their website.
- You may find fact sheets, information, and recommendations on water contaminants found in [North Carolina on the DHHS website](#).
- In addition, the N.C. DHHS has previously provided maps as a visual tool for understanding groundwater contamination across North Carolina and potential public health concerns in individual counties. They represent the distribution of certain contaminants found in North Carolina private well water tested by the [North Carolina State Laboratory of Public Health from 1998-2010](#). Visit the [DHHS web site](#) for more information.