



NC Department of Health and Human Services

DHHS Role in Health Guidance for Private Wells

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Occupational and Environmental Epidemiology

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Overview of Presentation

- **Public Health Role**
- **Private Well and Health Program**
- **Examples**

Drinking Water: Public Health Role

- **New wells constructed after July 1, 2008 are required to be inspected and tested for certain contaminants***
  - **Bacteria and inorganic chemicals like arsenic, mercury, and lead**
- **Managed by NCDHHS On-Site Water Protection Branch and local health departments**
- **Existing wells can be tested at the owners' discretion**

***Required by 15A NCAC 18A .3800**

Drinking Water: Public Health Role

- For private drinking water wells, provide*
  - Information about the contaminant
  - Recommendations for use or treatment options
  - Recommendations for repeat sampling
- Provide input to DEQ on proposed groundwater standards
- For public water supplies, provide guidance if requested by DEQ or local authorities
  - Assistance with health risk evaluations, use recommendations

*Required by 15A NCAC 18A .3805

Private Well and Health Program

- **Goal is to reduce or prevent exposure to harmful agents found in private wells**
- **Managed by the NCDHHS Occupational and Environmental Epidemiology Branch (OEEB)**
- **OEEB Staff:**
  - Kennedy Holt, Environmental Toxicologist
  - Phoebe Shurtleff, Environmental Health Specialist

Private Well and Health Program

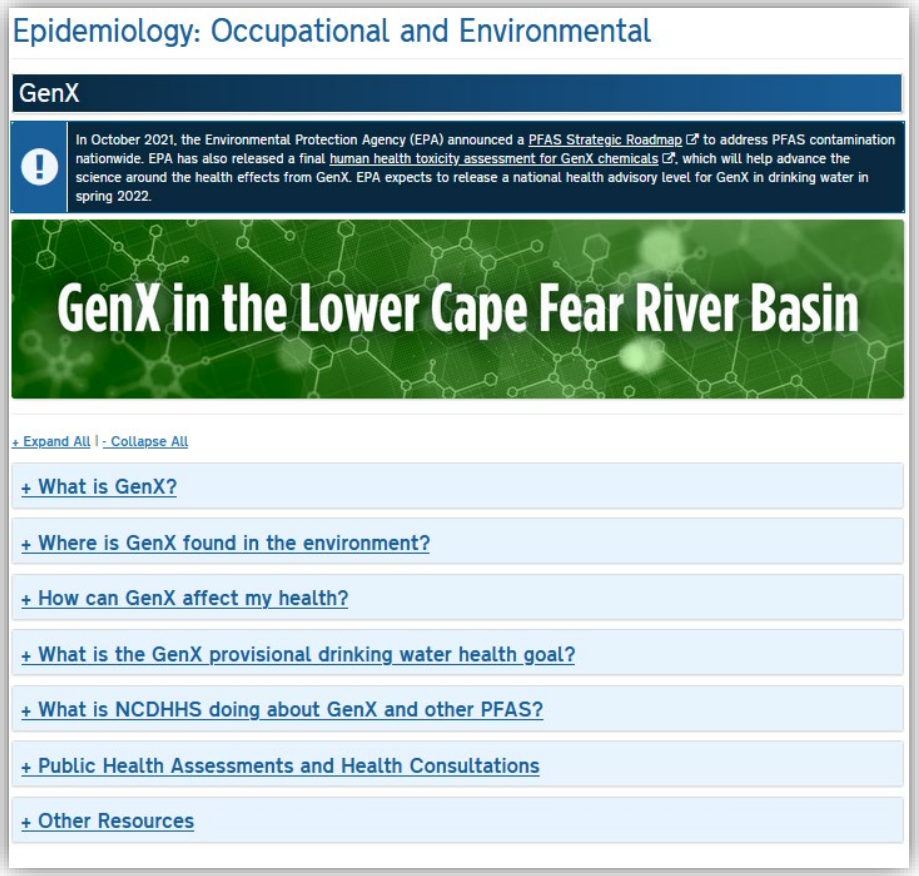
- **Bacteria and Inorganic Chemicals (like arsenic, mercury, and lead)**
  - **Monitor trends in contaminants**
  - **Help understand health impacts**
  - **Help determine treatment types**
  - **Develop factsheets and FAQs**
- **Other Contaminants**
  - **Similar support but typically less information**

Examples

GenX Provisional Drinking Water Health Goal

- Level of GenX in drinking water below which no adverse health effects would be expected over a lifetime of consumption
- Calculated based on the most vulnerable population
- Non-regulatory, non-enforceable
- Can change as new information becomes available
  - Currently 140 ppt

GenX and PFAS Health Education



Epidemiology: Occupational and Environmental

GenX

In October 2021, the Environmental Protection Agency (EPA) announced a PFAS Strategic Roadmap to address PFAS contamination nationwide. EPA has also released a final human health toxicity assessment for GenX chemicals, which will help advance the science around the health effects from GenX. EPA expects to release a national health advisory level for GenX in drinking water in spring 2022.

GenX in the Lower Cape Fear River Basin

+ Expand All | - Collapse All

+ What is GenX?

+ Where is GenX found in the environment?

+ How can GenX affect my health?

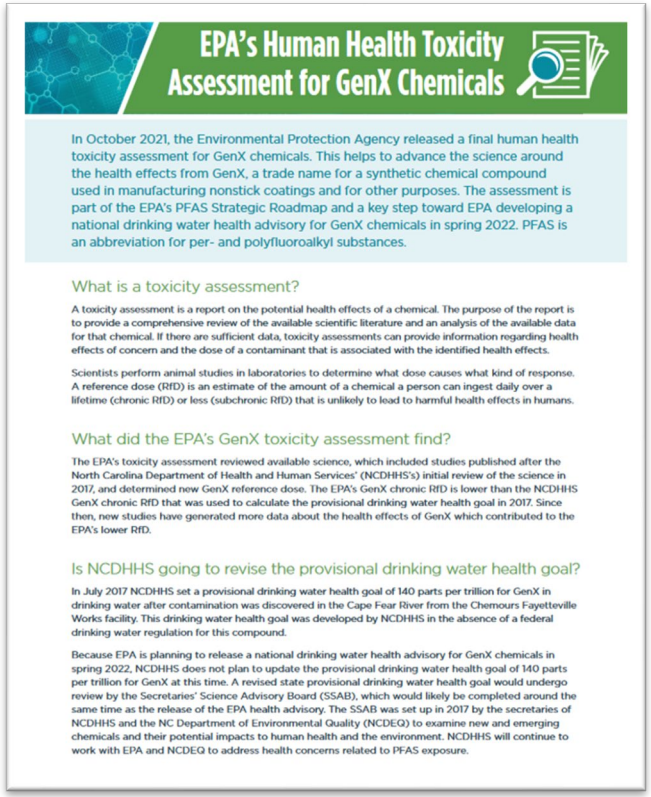
+ What is the GenX provisional drinking water health goal?

+ What is NCDHHS doing about GenX and other PFAS?

+ Public Health Assessments and Health Consultations

+ Other Resources

https://epi.dph.ncdhhs.gov/oee/a_z/genx.html



EPA's Human Health Toxicity Assessment for GenX Chemicals

In October 2021, the Environmental Protection Agency released a final human health toxicity assessment for GenX chemicals. This helps to advance the science around the health effects from GenX, a trade name for a synthetic chemical compound used in manufacturing nonstick coatings and for other purposes. The assessment is part of the EPA's PFAS Strategic Roadmap and a key step toward EPA developing a national drinking water health advisory for GenX chemicals in spring 2022. PFAS is an abbreviation for per- and polyfluoroalkyl substances.

What is a toxicity assessment?

A toxicity assessment is a report on the potential health effects of a chemical. The purpose of the report is to provide a comprehensive review of the available scientific literature and an analysis of the available data for that chemical. If there are sufficient data, toxicity assessments can provide information regarding health effects of concern and the dose of a contaminant that is associated with the identified health effects.

Scientists perform animal studies in laboratories to determine what dose causes what kind of response. A reference dose (RfD) is an estimate of the amount of a chemical a person can ingest daily over a lifetime (chronic RfD) or less (subchronic RfD) that is unlikely to lead to harmful health effects in humans.

What did the EPA's GenX toxicity assessment find?

The EPA's toxicity assessment reviewed available science, which included studies published after the North Carolina Department of Health and Human Services' (NCDHHS's) initial review of the science in 2017, and determined new GenX reference dose. The EPA's GenX chronic RfD is lower than the NCDHHS GenX chronic RfD that was used to calculate the provisional drinking water health goal in 2017. Since then, new studies have generated more data about the health effects of GenX which contributed to the EPA's lower RfD.

Is NCDHHS going to revise the provisional drinking water health goal?

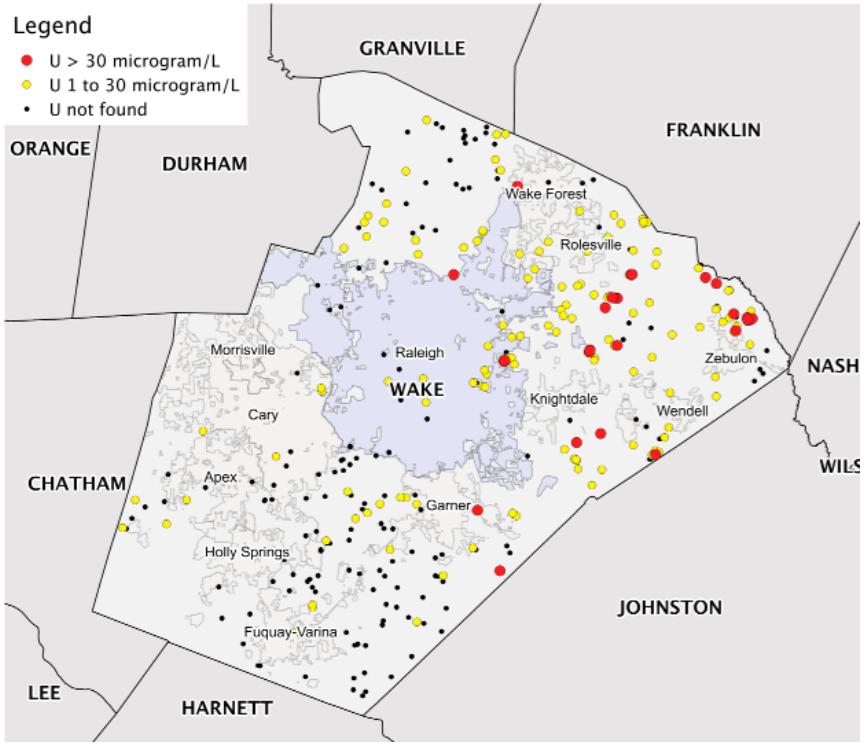
In July 2017 NCDHHS set a provisional drinking water health goal of 140 parts per trillion for GenX in drinking water after contamination was discovered in the Cape Fear River from the Chemours Fayetteville Works facility. This drinking water health goal was developed by NCDHHS in the absence of a federal drinking water regulation for this compound.

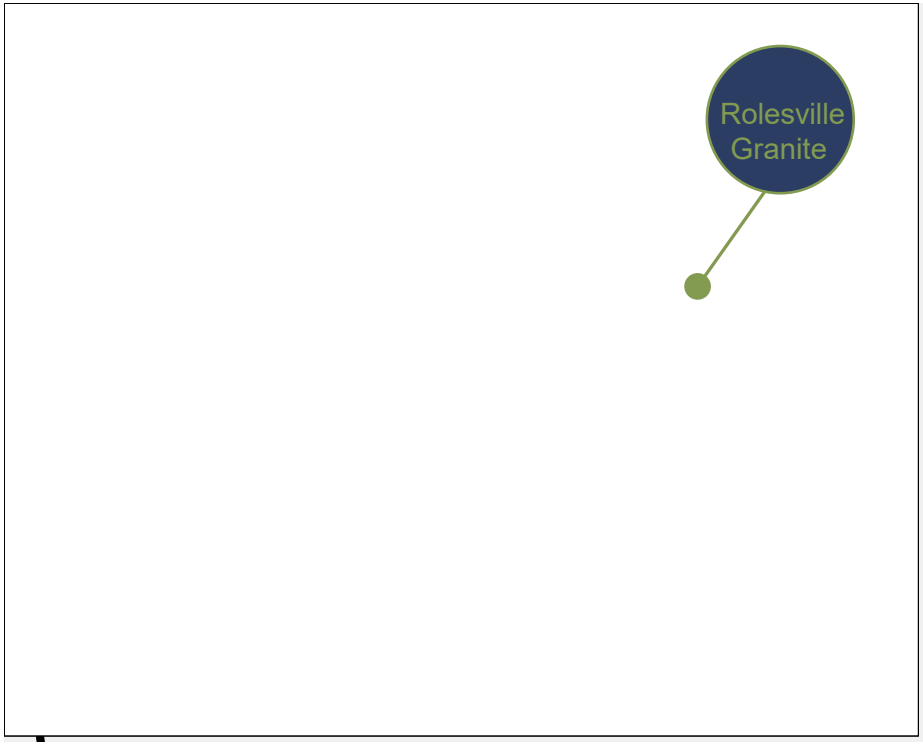
Because EPA is planning to release a national drinking water health advisory for GenX chemicals in spring 2022, NCDHHS does not plan to update the provisional drinking water health goal of 140 parts per trillion for GenX at this time. A revised state provisional drinking water health goal would undergo review by the Secretaries' Science Advisory Board (SSAB), which would likely be completed around the same time as the release of the EPA health advisory. The SSAB was set up in 2017 by the secretaries of NCDHHS and the NC Department of Environmental Quality (NCDEQ) to examine new and emerging chemicals and their potential impacts to human health and the environment. NCDHHS will continue to work with EPA and NCDEQ to address health concerns related to PFAS exposure.

https://epi.dph.ncdhhs.gov/oee/pfas/GenXToxicityAssess-Factsheet-WEB-122221.pdf

Radionuclides

- Investigation in Wake County, 2019
- Documented high concentrations of radionuclides in some wells





Radionuclides

- Shared scientific information on geological formations contributing to radionuclides in well water
- Developed FAQs for local health departments
- Attended meetings organized by Wake County to answer resident questions about radionuclides

Questions?

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