



## EMERGING CONTAMINANTS

### Perfluorinated Compounds (PFCs)

On December 21, 2017, Durham County Utilities Division staff was made aware of a blog post titled [“Chemical cousins to PFAs, PFOAs, found in Jordan Lake, Town of Cary drinking water”](#) on NC Policy Watch. Two scientists from Duke University collected three (3) samples from Jordan Lake and four (4) samples from faucets in Cary and analyzed the seven (7) water samples for seven (7) types of perfluorinated compounds. Very low levels of PFOAs and PFAs (perfluoroalkoxy) were detected. This has led to questions concerning the source of these compounds.

A reporter from the Durham Herald Sun contacted Durham County and requested a statement that afternoon. The following statement from the Acting Deputy Director was given, *“Durham County TWWTP discharges into Northeast Creek as you know. We work closely with neighboring utilities and run a strict pretreatment program because we care about the environment and the citizens we serve. We are unaware of any users discharging PFAs or PFOAs to the wastewater treatment plant. We do not have any sampling data for these pollutants on the effluent.”*

#### What are perfluorinated compounds (PFCs)?

A perfluorinated compound (PFC) is an organofluorine compound containing only carbon-fluorine bonds, carbon-carbon bonds and other heteroatoms (no carbon-hydrogen bonds). These chemicals are used to make fluoropolymer coatings and products that resist heat, oil, stains, grease, and water that are found in a large number of consumer products such as non-stick coating surface for pans and other cookware, fabric protectors, furniture, cosmetics, household cleaners, and packaged food containers. The brand names well-known are: Teflon, Stainmaster, Scotchgard, and SilverStone.

Because these compounds (and ones similar) are often used on clothing for stain and water resistance, one might believe that dry cleaners and laundering services may be required to analyze their wastewater discharges for these compounds. That is not the case and typically these facilities are not issued pretreatment permits unless they discharge large volumes of water and are then classified in one of the categories found in the Significant Industrial User definition in 40 CFR 403.3(v). Most regulations for these facilities focus on air emissions.

Certain PFCs, including *Perfluorooctanoic Acid (PFOA)* and *Perfluorooctyl Sulfonate (PFOS)*, are no longer manufactured in the United States as a result of voluntary phase-out and the [PFOA Stewardship Program](#), with a few exceptions for limited industrial uses. As part of the Stewardship Program, eight major chemical manufacturers committed to eliminate the use of PFOA and PFOA-related chemicals in their

products, and PFOA and PFOA-related chemical emissions from their facilities by 2015. All eight companies have declared that they have met the PFOA Stewardship Program goals. The companies that participated were: Arkema, Asahi, BASF Corporation (successor to Ciba), Clariant, Daikin, 3M/Dyneon, DuPont, and Solvay Solexis.

Although PFOA and PFOS are no longer manufactured in the United States, they are still produced in other countries and continue to be imported into the United States in consumer goods such as carpets, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics. EPA established a health advisory level of 70 parts per trillion (ppt) for combined concentrations of PFOA and PFOS. There are currently no state standards in North Carolina.

#### What is Durham County Utilities Division doing?

- Durham County Utilities Division staff will collect wastewater samples and have them analyzed for PFCs. Once the results are received we will share our findings.
- A survey form was sent to each permitted Significant and Local Industrial User to determine if any of the facilities have PFCs on their sites.
- The Durham County Utilities Division staff have contacted NCDEQ-DWR to find out who will be overseeing the additional sampling that NCDEQ-DWR plan to conduct in Jordan Lake.

#### Resources

- [EPA: PFOA & PFOS Drinking Water Health Advisories](#)
- [National Institute of Environmental Health Sciences: Perfluorinated Chemicals](#)
- [EPA: Per- and Polyfluoroalkyl Substances \(PFAS\) in Your Environment](#)

#### Articles

- [Chemical cousins to PFAs, PFOAs, found in Jordan Lake, Town of Cary drinking water](#)
- [Elevated levels of unregulated chemicals found in Jordan Lake, Cary drinking water](#)
- [How did GenX-related chemicals get in OWASA water, Jordan Lake? Scientist has theory.](#)