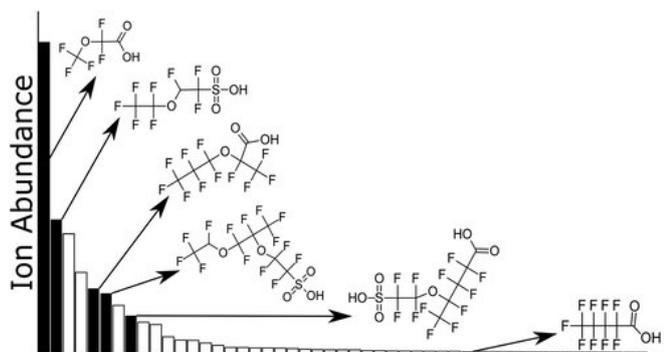


New PFASs discovered in Cape Fear River, though levels are declining

17 April 2019



Credit: American Chemical Society

In 2015, a fluorosurfactant known by the trade name "GenX" made headlines when researchers discovered it and related compounds in the Cape Fear River of North Carolina, a source of drinking water for many residents of the area. Now, researchers report in ACS' journal *Environmental Science & Technology* that they have detected the same per- and polyfluoroalkyl substances (PFASs) in the river, as well as some new ones, but their overall levels are decreasing.

PFASs are incorporated into a variety of manufactured products, including food packaging, stain-resistant fabrics and nonstick surfaces. Early versions of PFASs, such as perfluorooctanesulfonate (PFOS) and [perfluorooctanoic acid](#) (PFOA), were used extensively until concerns over their persistence in the environment and possible toxicity were raised. The compounds were phased out, and manufacturers now use newer PFASs, such as GenX and related compounds, many of which are proprietary and have uncertain toxicological properties. To confirm their previous findings, Mark Strynar—one of the researchers from the U.S. Environmental Protection Agency who detected GenX in the Cape Fear River in 2015—and James

McCord wanted to test the river for PFASs again.

Surface water samples were collected from May 2017 to February 2018, and Strynar and McCord analyzed them using nontargeted high-resolution mass spectrometry. Upstream of a fluorochemical plant, they detected 10 of the older PFAS compounds, such as PFOA and PFOS, which persist in the environment for many years. But downstream from the plant, they found 58 PFASs, including some new [compounds](#) that hadn't been previously identified. Total PFAS abundance decreased by about two orders of magnitude during the nine-month study period, coinciding with the company beginning to dispose of their fluorochemical wastewater in a deep injection well, rather than the river.

More information: Identification of Per- and Polyfluoroalkyl Substances in the Cape Fear River by High Resolution Mass Spectrometry and Nontargeted Screening, *Environ. Sci. Technol.*, Article ASAP, pubs.acs.org/doi/abs/10.1021/acs.est.8b06017

Provided by American Chemical Society

APA citation: New PFASs discovered in Cape Fear River, though levels are declining (2019, April 17)
retrieved 19 January 2020 from <https://phys.org/news/2019-04-pfass-cape-river-declining.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.