
GENX AND LEGACY CHEMICALS IN THE LOWER CAPE FEAR RIVER

ENGL 7705 | ETHICAL CASE STUDY REPORT | MAY 28TH 2018 | JULIA WARREN



BACKGROUND

- Chemours (under DuPont) operates a chemical manufacturing facility called “Fayetteville Works” on the Cape Fear River near Fayetteville, NC.
- The Cape Fear River flows into the Atlantic through multiple population hubs.
- Brunswick, New Hanover, and Pender counties obtain a significant amount of public utility water sourced from the Cape Fear River.

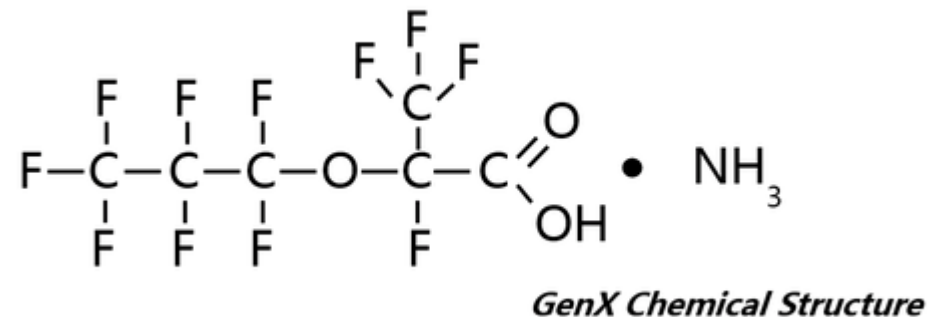
<https://cen.acs.org/articles/96/i7/whats-genx-still-doing-in-the-water-downstream-of-a-chemours-plant.html>



BACKGROUND

- In June of 2017, the unregulated chemical dubbed by Chemours as “GenX” was reportedly found in the Cape Fear River.
- GenX was the successor of a known dangerous compound perfluorooctanoic acid (PFOA).
 - PFOA was found in products such as Teflon.
 - Multiple manufacturers were sued successfully for discharging PFOA for decades.
- Most filtration systems (including public water utilities) cannot filter GenX from drinking water.

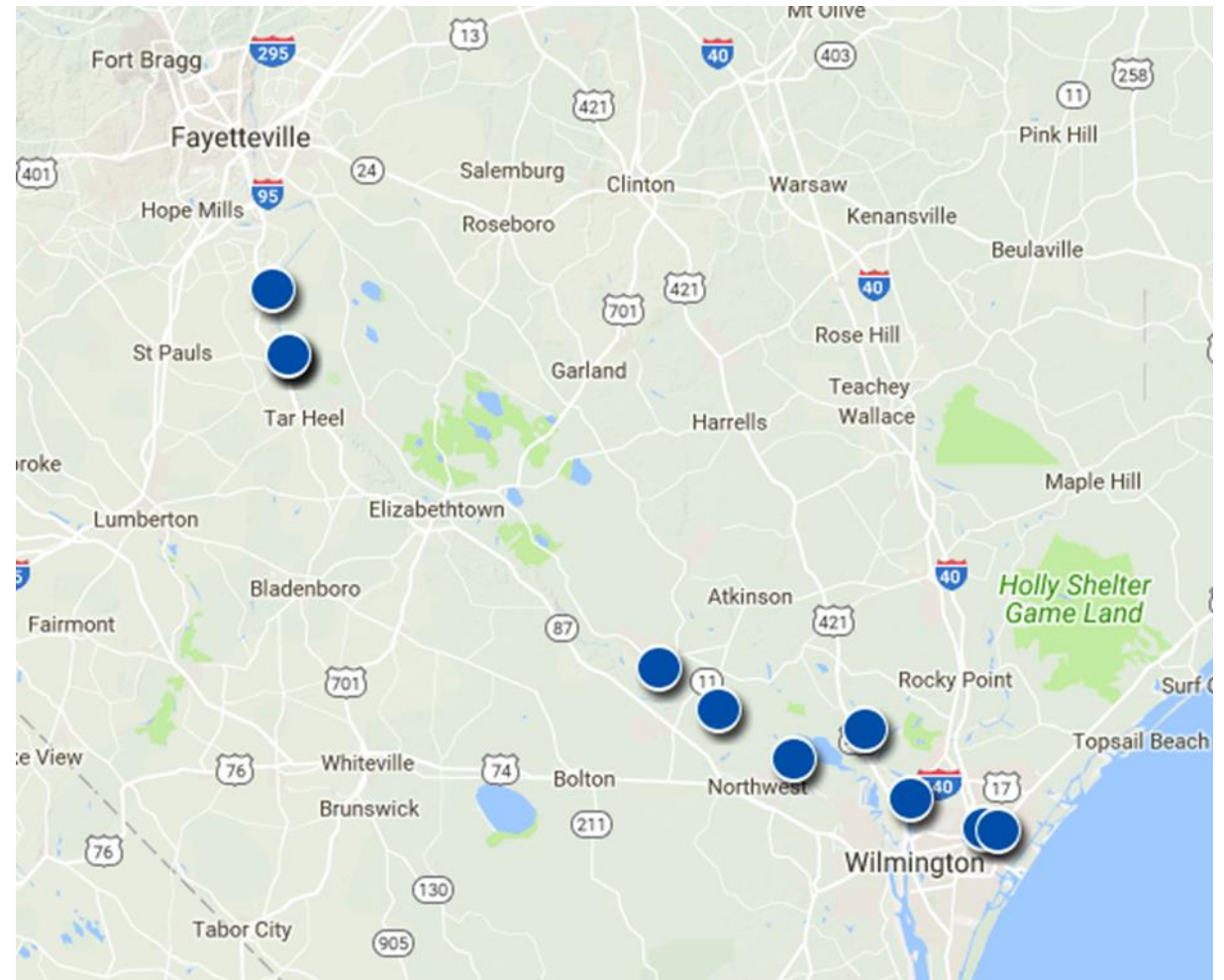
<https://lbxcxlbcuiglrfaq3rd6w9-wpengine.netdna-ssl.com/wp-content/uploads/2017/06/GenXStructure.png>



BACKGROUND

- Subsequently, North Carolina's Departments of Environmental Quality and Health and Human Services rushed to sample for GenX in multiple spots along the Cape Fear River.
- Within weeks of the investigation commencing, Chemours announced it would stop discharging the chemical into the Cape Fear River.
- Since last summer, the state has been in a constant battle with Chemours regarding its chemical discharges into the main source of drinking water for the lower Cape Fear region.
- In addition to public utilities being affected, well owners in the area have also had tests for the chemical performed on their groundwater. The DEQ ordered Chemours to provide these residents with bottled water after initial tests showed the presence of GenX.

<http://pulse.ncpolicywatch.org/wp-content/uploads/2017/06/Screen-Shot-2017-06-22-at-3.37.34-PM.png>



ETHICAL ISSUES

- “Unregulated chemicals” legal loophole.
 - The federal Toxic Substances Control Act enabled DuPont to form a legal agreement with the EPA to manufacture GenX
 - The agreement specifies that requirements for capture, destruction, or recycling of chemicals do not apply to manufacturing byproducts, which GenX is.
- How long have they actually been discharging the chemical?
 - The Star News reported that Chemours (formerly DuPont) had been discharging some form of fluoroethers (similar in chemical structure to GenX) since 1980.

ETHICAL ISSUES

- Investigations are ongoing into the effects of the “chemical cocktail” that has been discovered in the river.
 - Polyfluoroalkyl substances (PFASs)
 - GenX is included in this group of compounds. Scientists also discovered other byproducts under this umbrella in the Cape Fear River.
 - EPA guidelines state that other types of PFASs, specifically PFOS and PFOA, can lead to:
“reproductive and developmental, liver and kidney, and immunological effects in laboratory animals. Both chemicals have caused tumors in animals. The most consistent findings are increased cholesterol levels among exposed populations, with more limited findings related to:
 - low infant birth weights,
 - effects on the immune system,
 - cancer (for PFOA), and
 - thyroid hormone disruption (for PFOS).”
 - GenX is technically a successor to these compounds, so the effects are still indeterminate.
 - GenX is a shorter chain of carbons that is less bioaccumulative.



THE ROLE OF RHETORIC AND TECHNICAL COMMUNICATORS



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- I have identified four organizational perspectives from which to view this case:
 1. Local media (Star News)
 2. Company (Chemours Fayetteville Works)
 3. State (DEQ)
 4. Special interests (Cape Fear River Watch)
- Each of these sources has extensive writings and documentation regarding the issue.

STARNEWS

- Wilmington's newspaper
- Broke the initial story regarding the presence of the chemicals in the water source
- A search for GenX on their website resulted in 540 hits.
 - Arguably the forefront of local coverage of the issue.
 - There are numerous editorials highly critical of Chemours
- While there are a multitude of articles, ultimately, the StarNews is not quite a technical communication haven. Reporters may keep a lid on bias, but editorial decisions will probably be made in the best interest of informing the public.

COMPANY

- Chemours Fayetteville Works web page shares information about GenX using very favorable language about their product:

“The materials produced at Fayetteville Works, including GenX, are critical to the state’s and the nation’s economy. Every airplane, automobile, cell phone and other communication device requires fluoropolymers. Fluoropolymers are also key components of consumer electronics, of micro-chips for the semiconductor industry and of life-saving medical equipment, from catheters, to saline bags, to medical analytical equipment. Fayetteville Works supplies a substantial percentage of the fluoropolymer needs of the U.S. military, the automobile industry, the aerospace industry and the semiconductor industry among many others.”

<https://www.chemours.com/Fayetteville-Works/en-us/our-products/index.html>

COMPANY

- However, they make some interesting choices regarding the terminology they use. For instance, the subsection on what is colloquially known as GenX is labeled “C3 Dimer Acid and PFAS”.
 - The entire page of information is very technical and not in very plain language. For example, “developing and implementing comprehensive remediation” is just one phrase that could be stated more plainly.
- Hiding important and health-related information behind dense language is something that from a technical communication standpoint should be avoided.

STATE

- NC's DEQ website has a multitude of pages on the investigation, including a timeline, FAQ, and other assembled resources regarding the ongoing situation.
- The web page clearly articulates the department's roles and actions in the proceedings.
- <https://deq.nc.gov/news/hot-topics/genx-investigation>

SPECIAL INTERESTS

- Cape Fear River Watch is an advocacy organization formed to educate and monitor the status of the Cape Fear River.
- The site has a page on the GenX investigation.
- This page is obviously written from a very colloquial standpoint. “Folks” is used multiple times to address the audience, and phrases such as “toxic cocktail” and “gaming the system” are used to describe GenX and Chemours.
- However, it does appear contain a professionally-organized assemblage of information, and the page does link to primary sources such as scientific articles.



MAIN TAKEAWAYS



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- A nearly four-decade practice of discharging PFAS chemicals has come to a stop (supposedly) as a result of the information coming public.
 - However, the chemicals still have a residual presence in the sediments of the river. Additionally, there is still a need to investigate any potential accumulation of these chemicals in humans who have been consuming the water.
- Costs of filtration services have to be passed to utility companies and subsequently their customers.
 - The workaround through the EPA regarding manufacturing byproducts has unfortunately cost citizens.
- Legality does not equal morality
 - So much is unknown about GenX that studies are only just starting to examine its long-term effects on humans.

References:

GenX What Happened. (n.d.). Retrieved May 26, 2018, from <http://www.capefearriverwatch.org/advocacy/genx-what-happened>

GenX Investigation. (n.d.). Retrieved May 26, 2018, from <https://deq.nc.gov/news/hot-topics/genx-investigation>

C3 Dimer Acid and PFAS. (n.d.). *Chemours*. Retrieved May 26, 2018, from <https://www.chemours.com/Fayetteville-Works/en-us/c3-dimer-acid/index.html>

Our Products. (n.d.). *Chemours*. Retrieved May 26, 2018, from <https://www.chemours.com/Fayetteville-Works/en-us/our-products/index.html>

Basic Information on PFAS. (n.d.). *EPA*. Retrieved May 26, 2018, from <https://www.epa.gov/pfas/basic-information-pfas#tab-3>

Wagner, Adam, and Tim Buckland. "Chemours: GenX polluting the Cape Fear since 1980." *Wilmington Star News*. June 15, 2017. Retrieved May 26, 2018, from <http://www.starnewsonline.com/news/20170615/chemours-genx-polluting-cape-fear-since-1980>

Hogue, Cheryl. "What's GenX still doing in the water downstream of a Chemours Plant?" *Chemical & Engineering News*. February 12, 2018. Vol 96 issue 7. Retrieved May 26, 2018, from <https://cen.acs.org/articles/96/i7/whats-genx-still-doing-in-the-water-downstream-of-a-chemours-plant.html>