



**House Select Committee on North  
Carolina River Quality**  
September 28, 2017



# Emerging Compounds

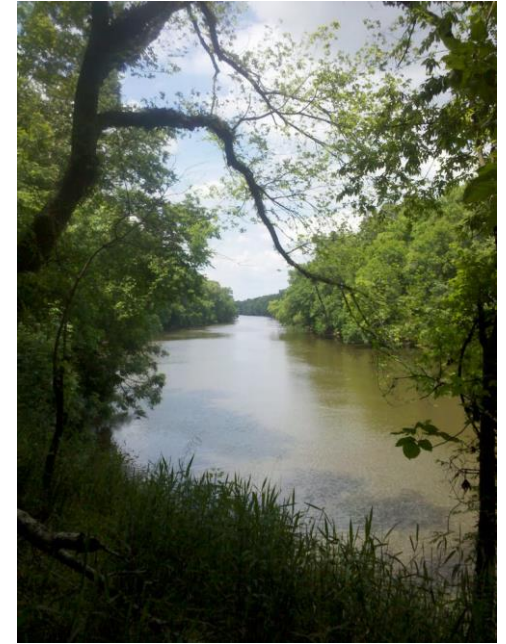


- Regulatory Program Overview
- Cape Fear River
- Next Steps



# Regulatory Program Overviews

- Toxic Substance Control Act
- Clean Water Act
  - NPDES permit (wastewater)
- Safe Drinking Water Act
  - Contaminant Candidate List
  - Unregulated Contaminant Monitoring Rule
- State Surface water and Groundwater Standards



# Recent History of the Cape Fear River Data

- EPA's Third Unregulated Contaminant Monitoring Rule (UCMR) monitoring during 2013-2015 for 28 chemicals including PFOA, PFOS and 1,4-Dioxane.
- NCSU and EPA's National Exposure Research Lab study PFOA, PFOS and other per- and poly-fluorinated chemicals in the Cape Fear River.
- DEQ 2014-2016 study on 1,4-Dioxane, focusing on the Cape Fear River after results indicated higher concentrations than other river basins.
- EPA NERL published a report in 2015 including the presences two compounds attributed to being byproducts of Nafion® manufacturing. Research findings published in Nov. 2016 on PFOA/PFOS, GenX and other related chemicals attributed to the Chemours facility.



# 1,4-Dioxane

## Regulatory Framework

### Safe Drinking Water Act - Unregulated Contaminant

- No EPA established maximum contaminant level for drinking water
  - 2012 Drinking Water Standards and Health Advisory
    - 1 in 1,000,000 estimated lifetime cancer risk at 0.3 µg/L
    - 1 in 10,000 estimated lifetime cancer risk at 35 µg/L
- NC calculated surface water criteria to protect human health (15A NCAC 02B.0208) based on 1 in 1 million cancer risk.
  - 0.35 µg/L in water supply waters (except WS-V, Jordan)
  - 80 µg/L in non-water supply waters
- NC groundwater standard = 3.0 µg/L (outdated)



# DuPont/Chemours

- DuPont began chemical manufacturing at the plant along the border of Cumberland and Bladen Counties in 1971.
- Around 1980 DuPont began manufacturing products using fluorinated compounds.
- GenX manufacturing began in 2015? GenX has been a byproduct of the vinyl ether production line, and the wastewater discharged through the NPDES outfall into the Cape Fear River.
- DuPont transitions site ownership to Chemours. The NPDES permit includes receives wastewater from tenants at the property, Kuraray and DuPont.

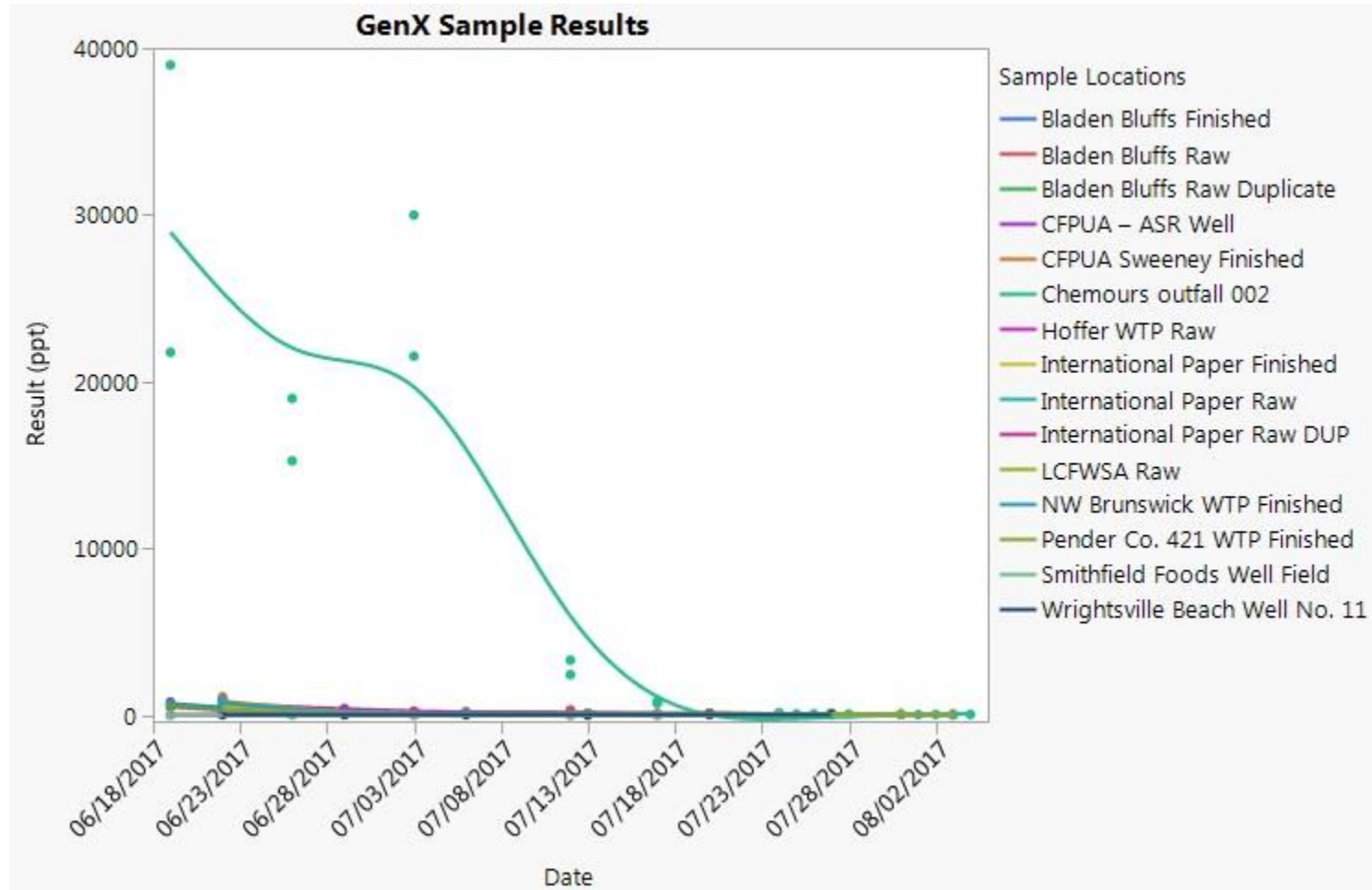


# DEQ Sampling June 19 – August 4, 2017



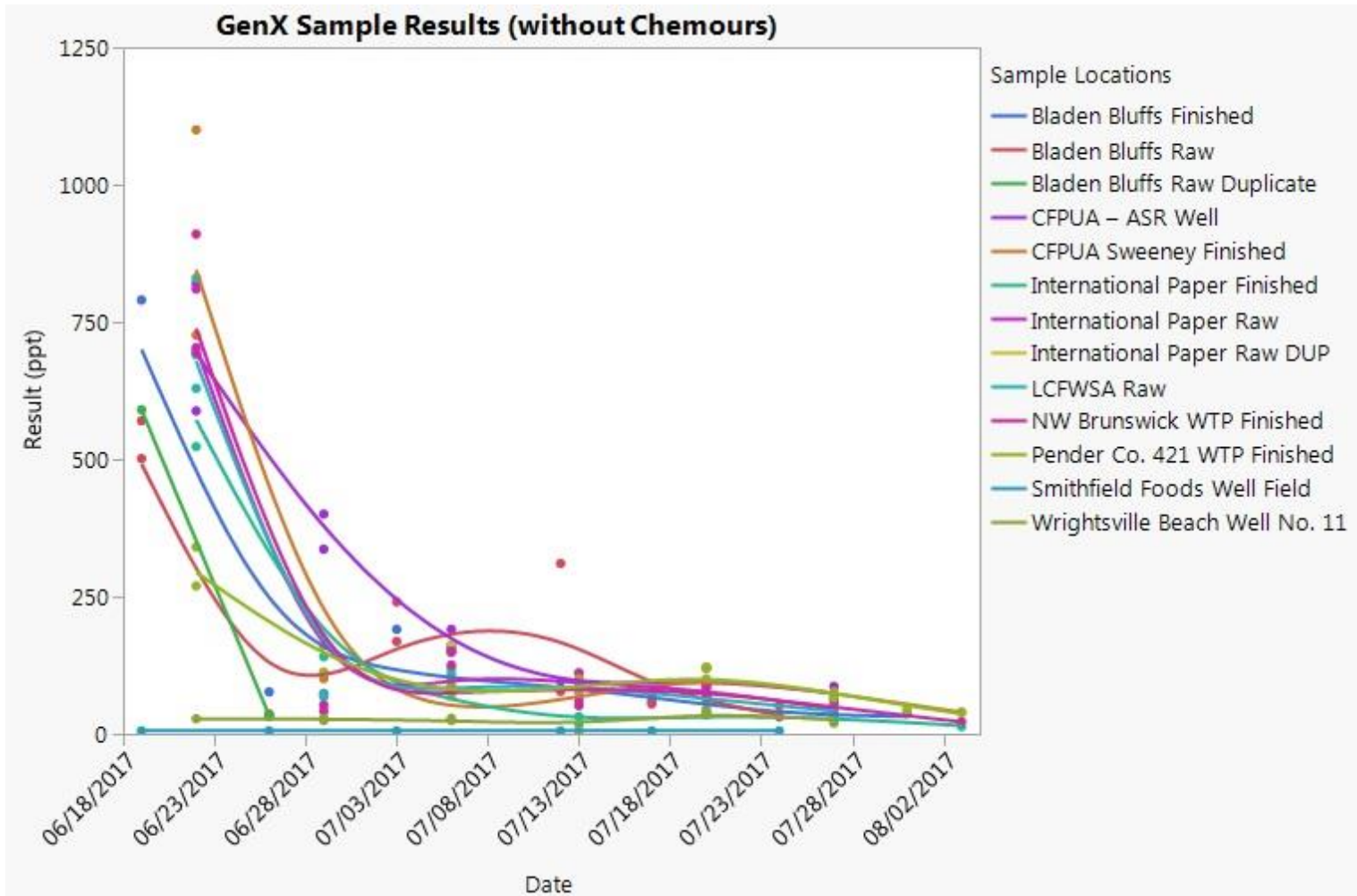
- Weekly sampling at the Chemours NPDES outfall 002.
- Weekly sampling of raw water and finished drinking water upstream and downstream of the Chemours facility.

# Cape Fear River - Sampling

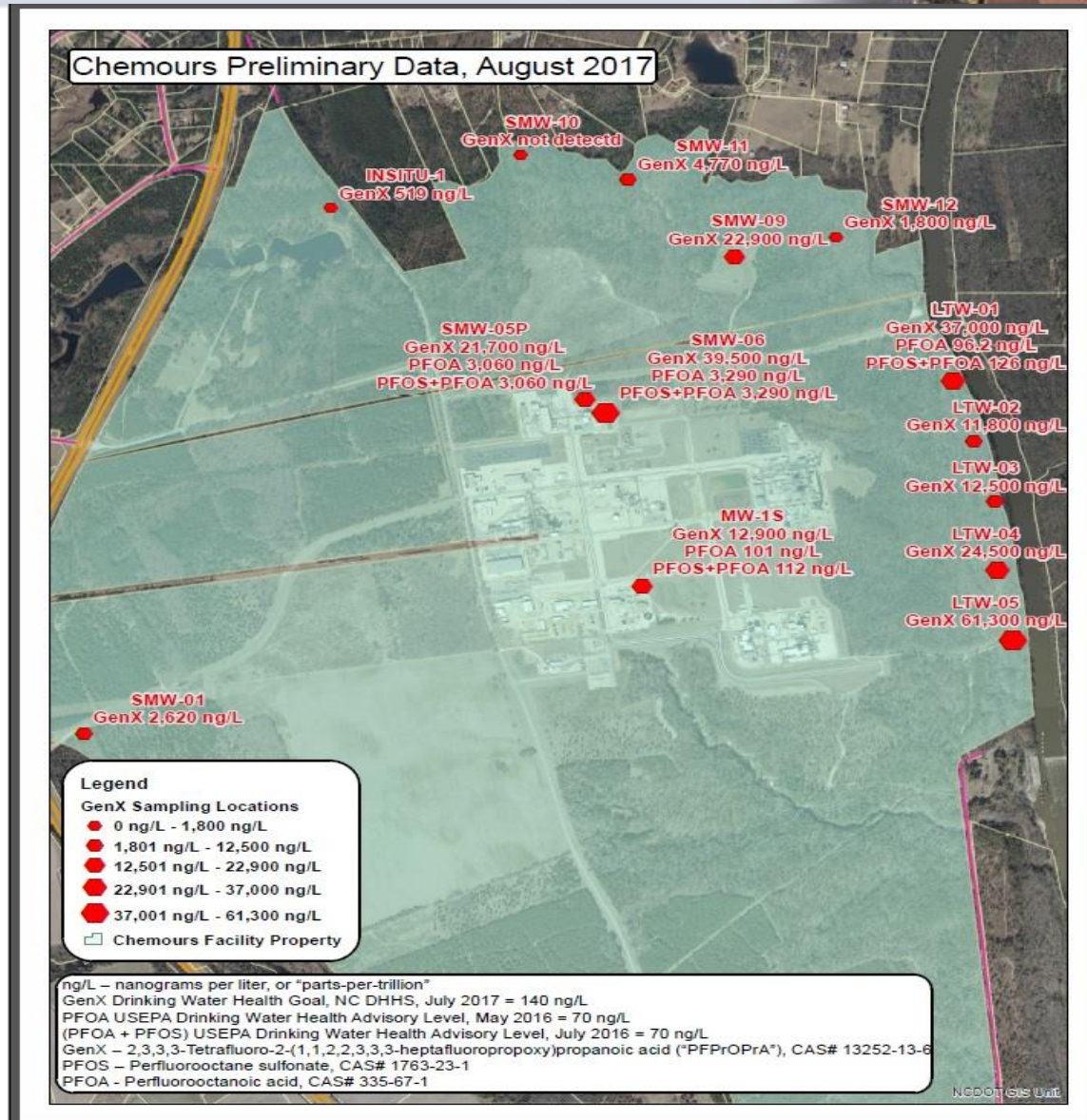




# Cape Fear River - Sampling



# Groundwater Data at Chemours



# Chemours Compliance History

- No NPDES permit violations at the Outfall 002 discharge
- Occasional Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) exceedances at an internal outfall 001 since 2001
- Bioassay tests taken by DWR in 2000 and 2011 indicated compliance
- Since 2000, Chemours has passed 74 out of 75 chronic Whole Effluent Toxicity (WET) tests. The one WET test failure occurred in Feb. 2012 and the facility passed the following two consecutive months.
- The permit renewal application was submitted 6 months prior to permit expiration as required. The permit expired on Oct. 31, 2016 and the renewal application was received on May 3, 2016. The existing permit is administratively continued until a renewal permit decision is made.



# Actions Taken

- NOV for Groundwater Violation
- 60-Day Notice of Intent to Suspend Permit
- Complaint in Bladen County Superior Court
- Partial Consent Order Entered



# Next Steps

- DEQ is continuing its study and work to remove 1,4-dioxane from North Carolina river basins.
  - Working with local governments as they investigate potential sources and seeking alternatives to eliminate the discharge.
  - Certifying laboratories for wastewater analysis, and including monitoring requirements in NPDES permits and discharge limits as appropriate.
- DEQ is continuing to evaluate Chemours discharges
  - Currently sampling the plant wastewater effluent daily and the drinking water plants weekly.
  - Further sampling of private wells for PFOA/PFOS/GenX concentrations.
  - Evaluating data and information Chemours is supplying in response to the 60-day notice for the NPDES permit renewal, the NOV issued for the state groundwater violation, and inquiry into air quality conditions.
- Continue coordination with DHHS, other states and federal agencies and industry on emerging contaminants.





- Secretaries' Science Advisory Board
- UCMR
- NPDES Permitting – Disclosure Requirements
- Lab Test Standards
- Health Risk Information
- General Public Education

# Questions?

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<https://deq.nc.gov/news/hot-topics/genx-investigation>.

