



**Emerging Contaminants**

- 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- NC groundwater standard = 3.0 µg/L (outdated)



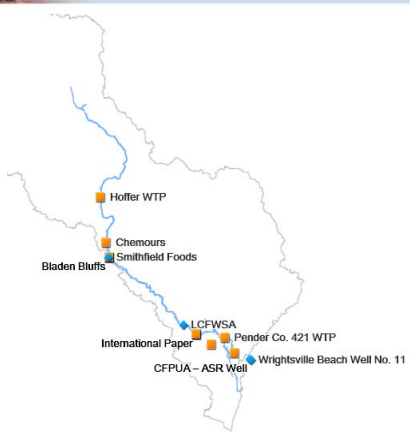
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## DuPont/Chemours


- 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 after a 2009 consent order under TSCA was signed. 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

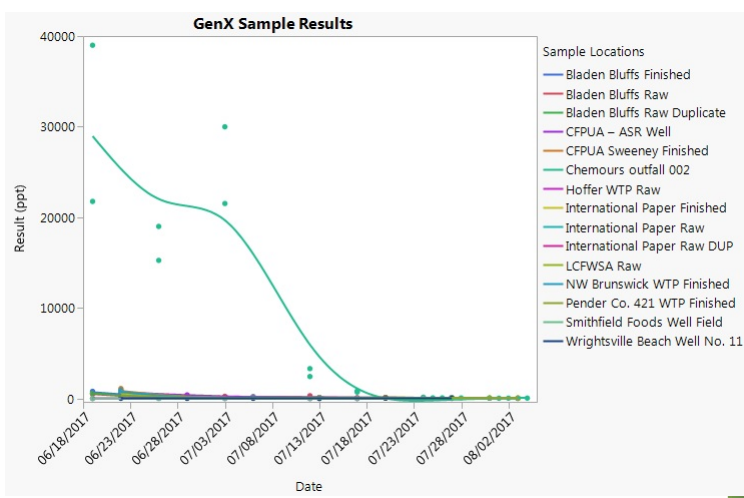


- Weekly sampling at the Chemours NPDES outfall 002.
- Weekly sampling of raw water and finished drinking water upstream and downstream of the Chemours facility.



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### Cape Fear River - Sampling




**GenX Sample Results**

Result (ppt)

Date

Sample Locations

- Bladen Bluffs Finished
- Bladen Bluffs Raw
- Bladen Bluffs Raw Duplicate
- CFPUA – ASR Well
- CFPUA Sweeney Finished
- Chemours outfall 002
- Hoffer WTP Raw
- International Paper Finished
- International Paper Raw
- International Paper Raw DUP
- LCFWSA Raw
- NW Brunswick WTP Finished
- Pender Co. 421 WTP Finished
- Smithfield Foods Well Field
- Wrightsville Beach Well No. 11



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### *Actions Taken*

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



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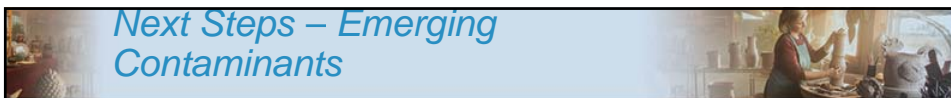
### Next Steps

- 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.




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*Next Steps – Emerging Contaminants*



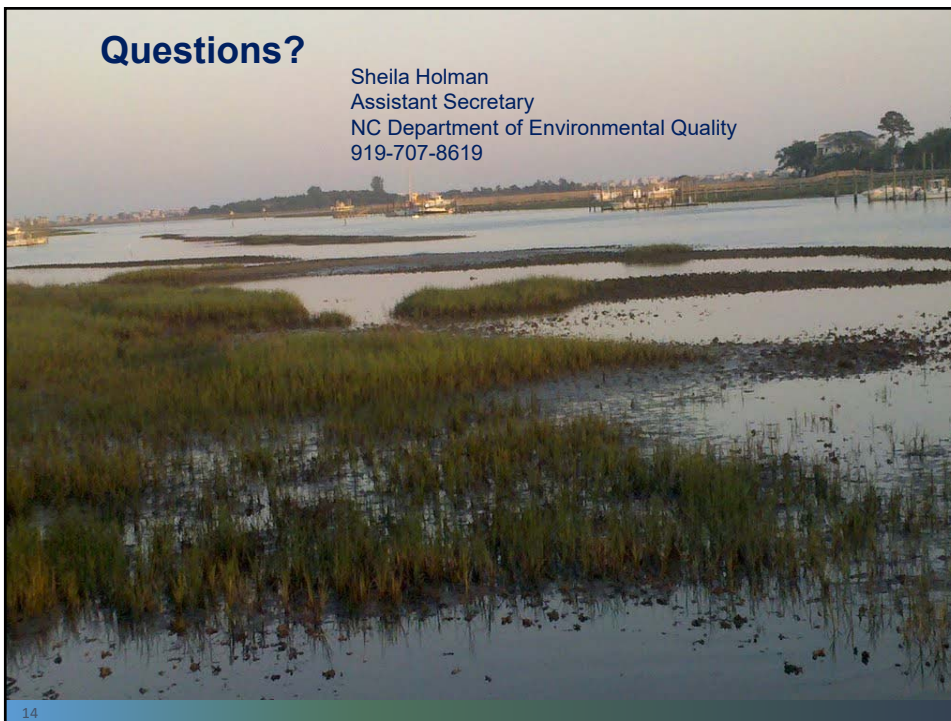
- Secretaries' Science Advisory Board
- UCMR
- NPDES Permitting – Disclosure Requirements
- Lab Test Standards
- Health Risk Information
- General Public Education



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**Questions?**

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