

# Protecting Public Health in the Era of Emerging Contaminants

Geoff Gisler

June 28, 2019

NC Primary Care Conference



## Toxin taints CFPUA drinking water



By Vaughn Hagerty StarNews Correspondent

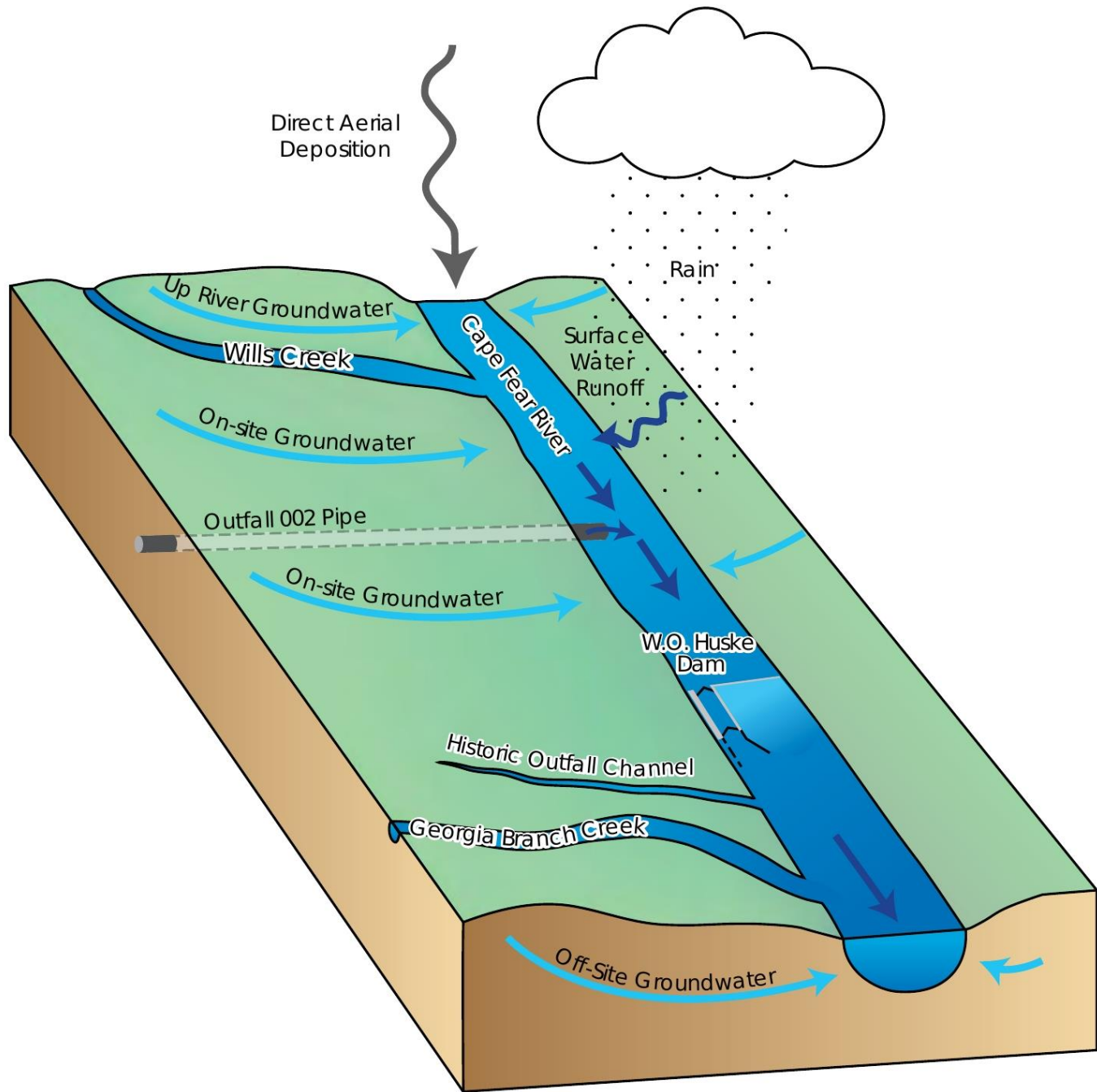
Posted Jun 7, 2017 at 10:31 AM

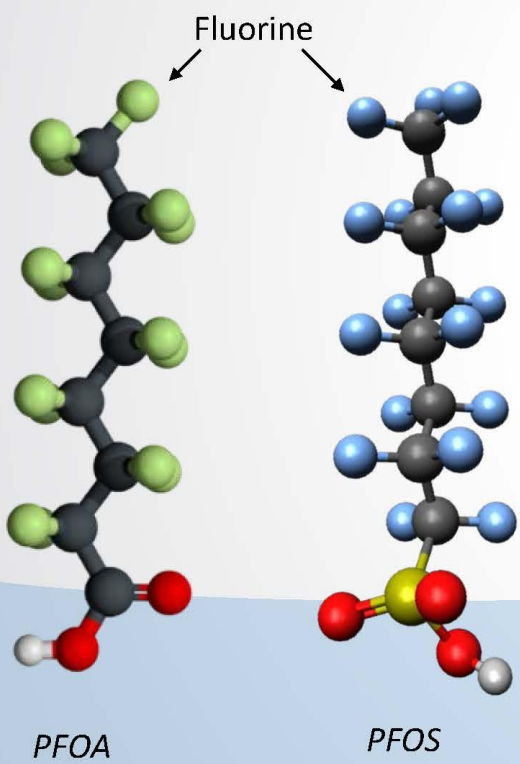
Updated Jun 8, 2017 at 10:38 AM



### Utility can't filter out chemical produced upriver at Fayetteville plant

WILMINGTON -- A chemical replacement for a key ingredient in Teflon linked to cancer and a host of other ailments has been found in the drinking water system of the Cape Fear Public Utility Authority (CFPUA), which cannot filter it.

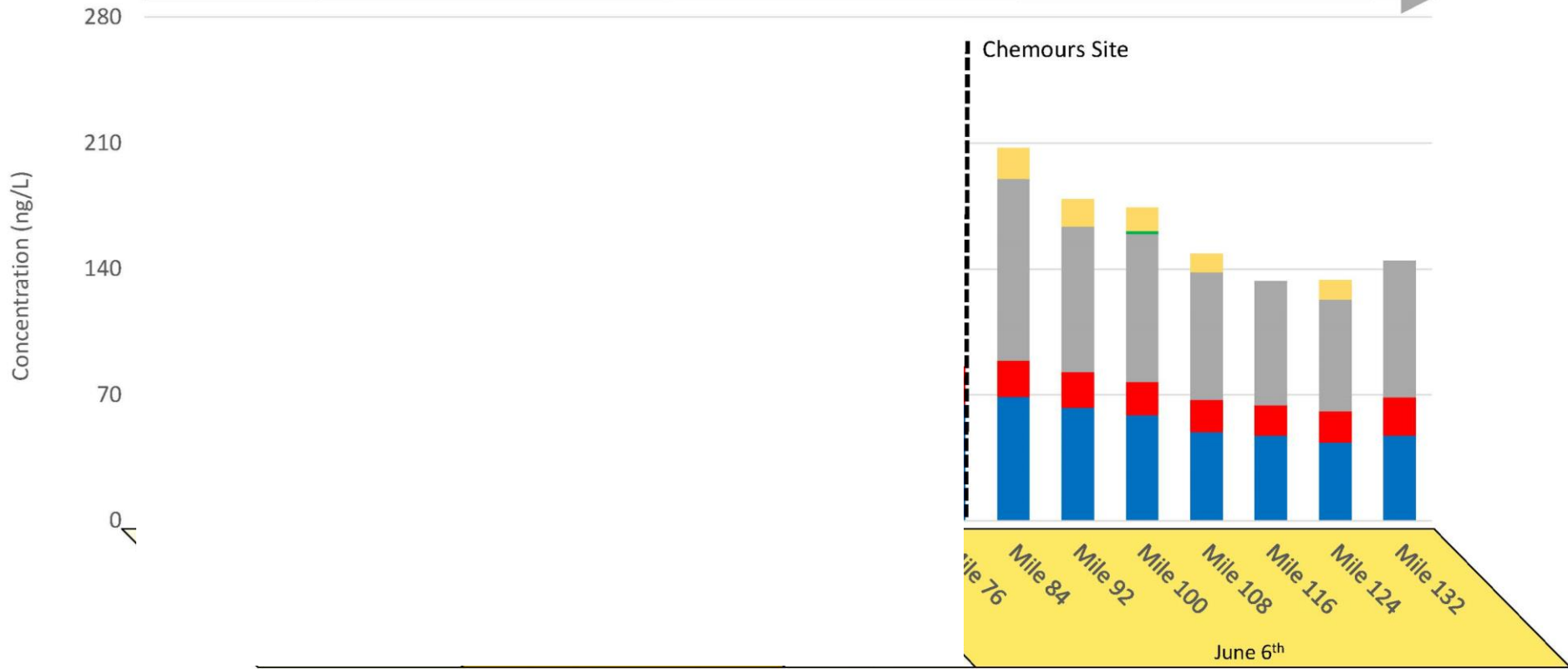




## A class of man-made chemicals

- **Chains** of carbon (C) atoms surrounded by fluorine (F) atoms, with different endings
- **Complicated chemistry** – thousands of different variations exist in commerce
- **Widely used** in industrial processes and in consumer products
- **Some** PFAS are known to be **PBT**:
  - **Persistent** in the environment
  - **Bioaccumulative** in organisms
  - **Toxic** at relatively low (ppt) levels

Water takes approximately 10 to 20 days to travel from mile 0 to 132



**Acronyms and Notes:**

Dup - Duplicate  
 PFCA: Perfluoroalkyl Carboxylic Acid  
 PFSA: Perfluoroalkyl Sulfonic Acid  
 PFECA: Perfluoroalkyl Ether Carboxylic Acid  
 PFESA: Perfluoroalkyl Ether Sulfonic Acid  
 HFPO-DA: Hexafluoropropylene Oxide Dimer Acid (C3-Dimer Acid; GenX)  
 ng/L: Nanograms per Liter

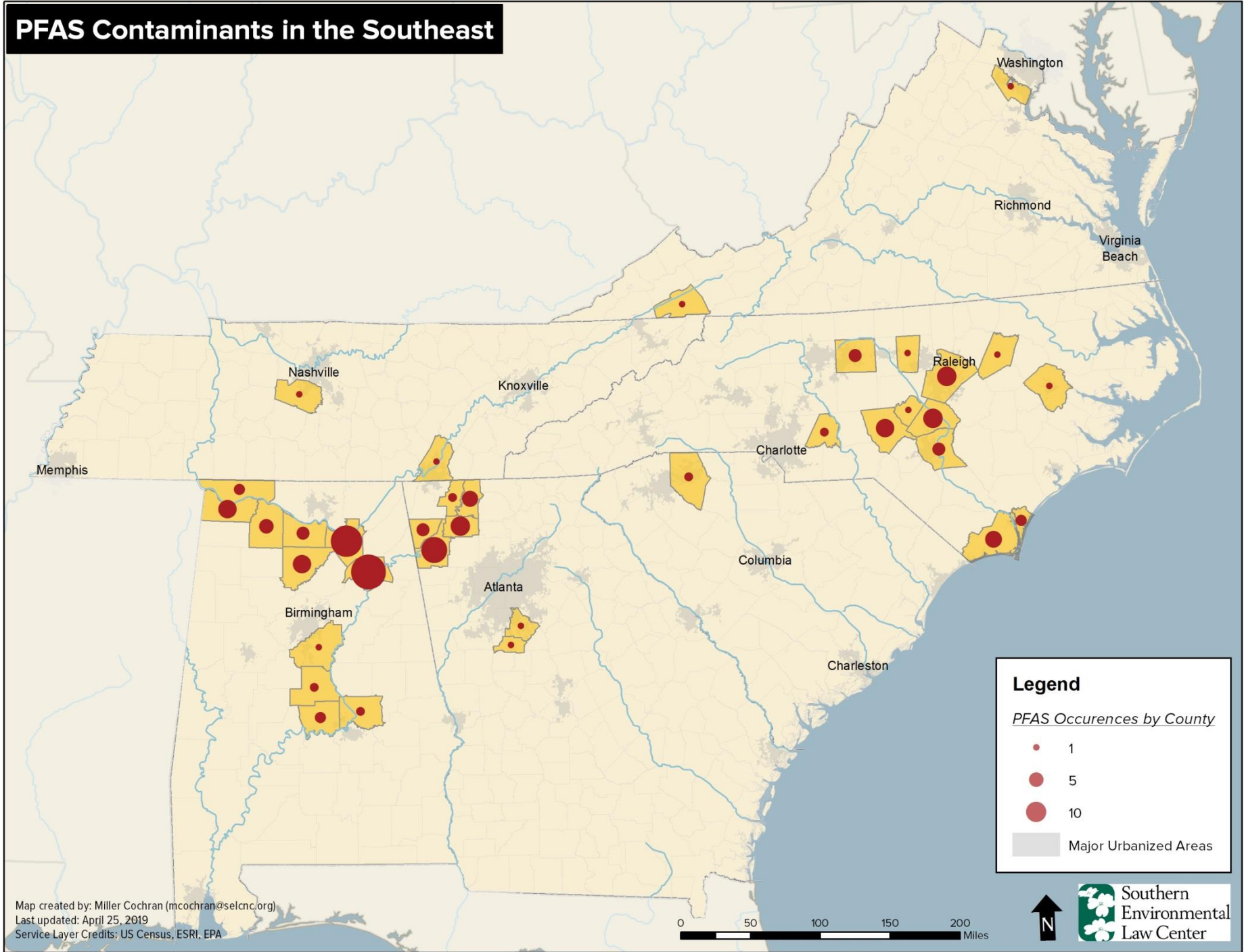
■ PFCAs ■ PFSA ■ PFECAs ■ PFESAs ■ HFPO-DA

**Sample Collection Date:**

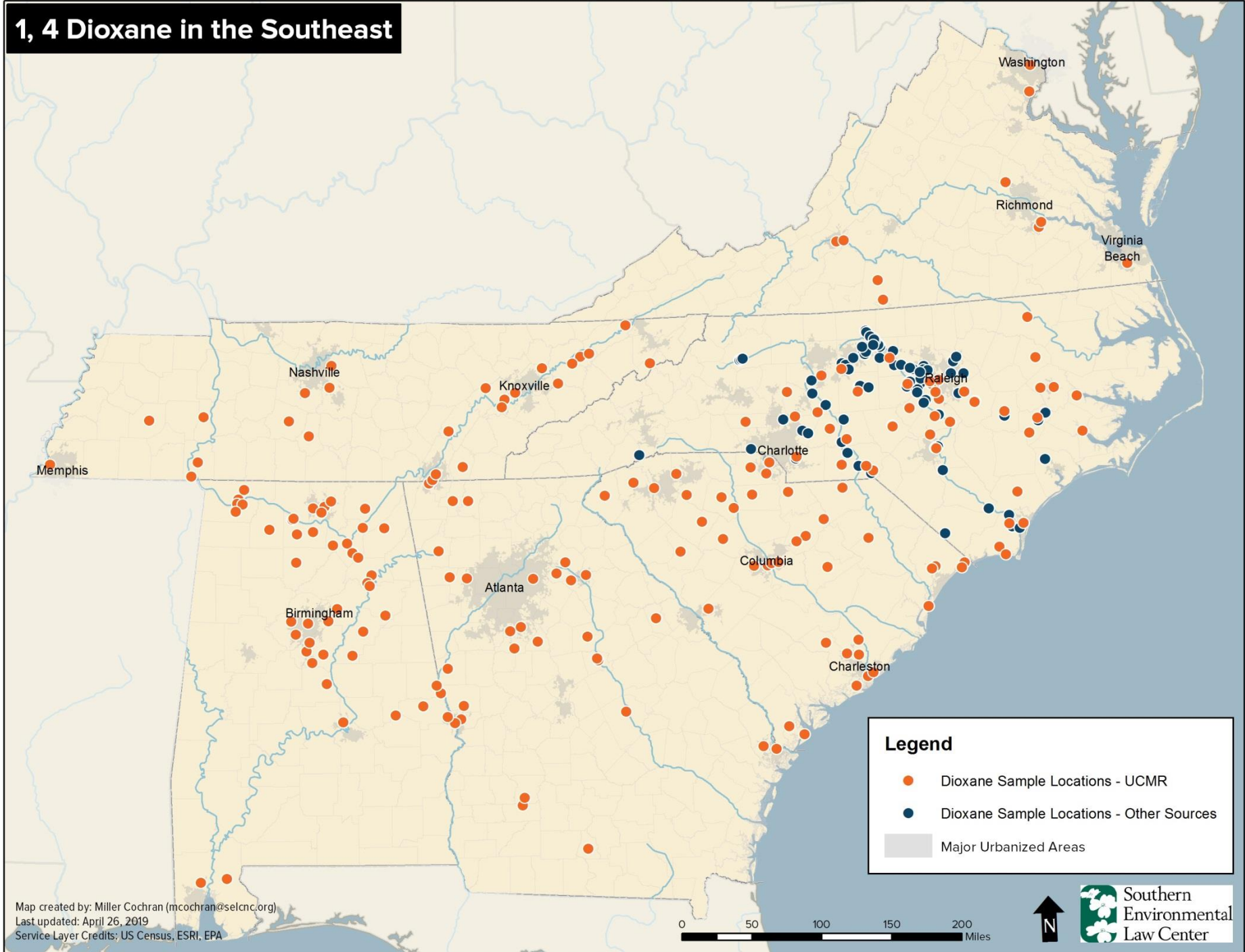
June 5 <sup>th</sup> 2018
June 6 <sup>th</sup> 2018
June 8 <sup>th</sup> 2018

<b>Cape Fear River PFAS Bar Chart</b> Chemours Fayetteville Works, North Carolina	
Raleigh	September 2018
Figure <b>12</b>	

# PFAS Contaminants in the Southeast

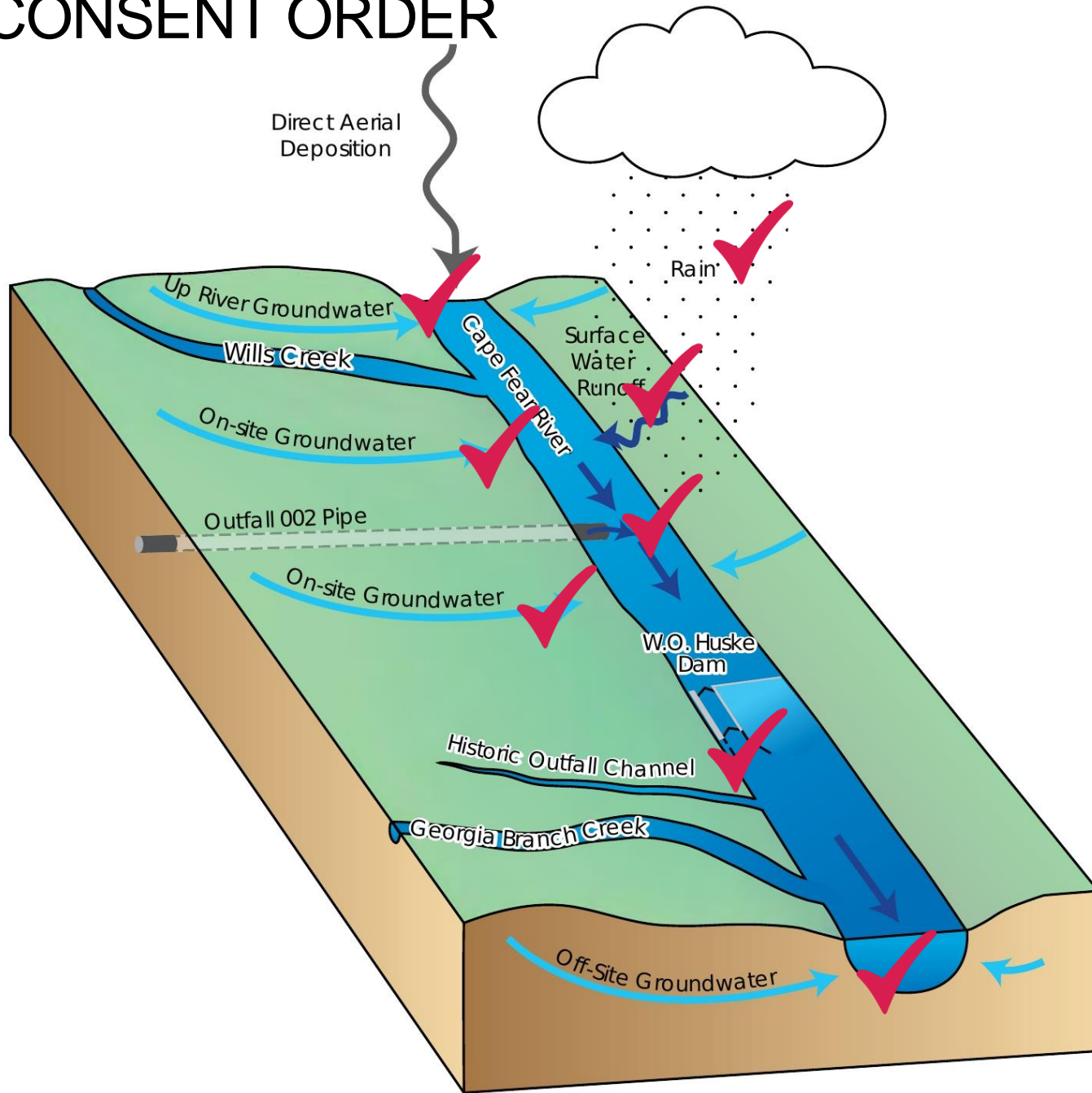


# 1, 4 Dioxane in the Southeast

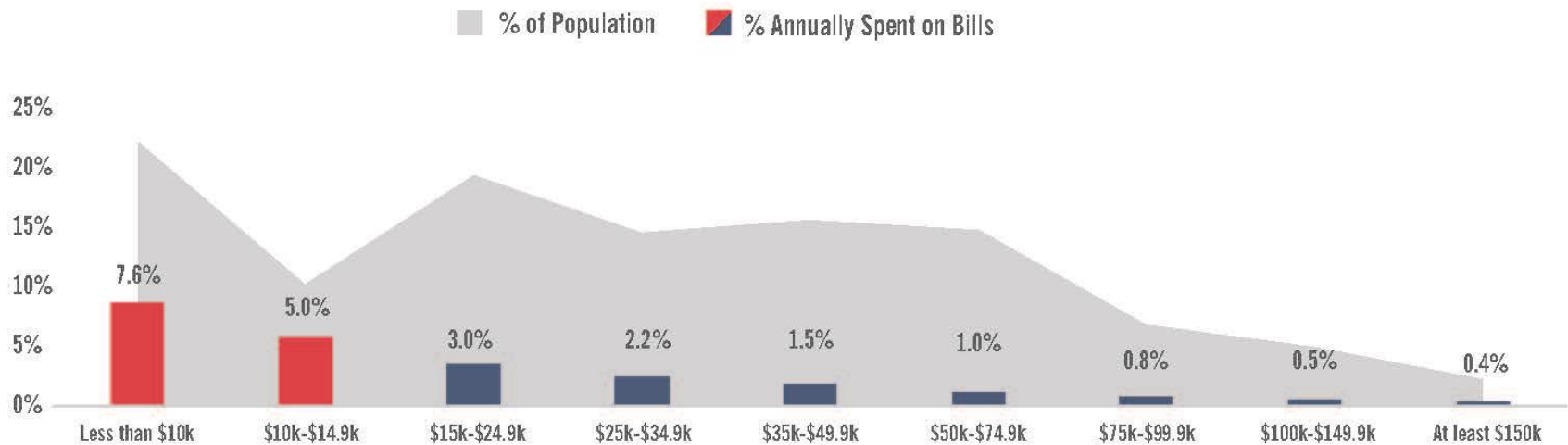




# CONSENT ORDER



**Figure 2. Affordability of Water and Wastewater Rates in Detroit**  
 (Assessed at 5,000 Gallons/Month and 2015 Income Levels)



**Note:** EPA guidelines suggest that spending more than 4.5 percent of household income on drinking water and wastewater combined is unaffordable.

**Source:** University of North Carolina at Chapel Hill Environmental Finance Center<sup>13</sup>

# Questions?

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