

Collector(s): Estuarine Monitoring Team (WaRO)

Locations and Date: Perquimans River at SR1336 at Hertford (M5000000), 10/21/20

Reason Collected: Green scum/suspected bloom

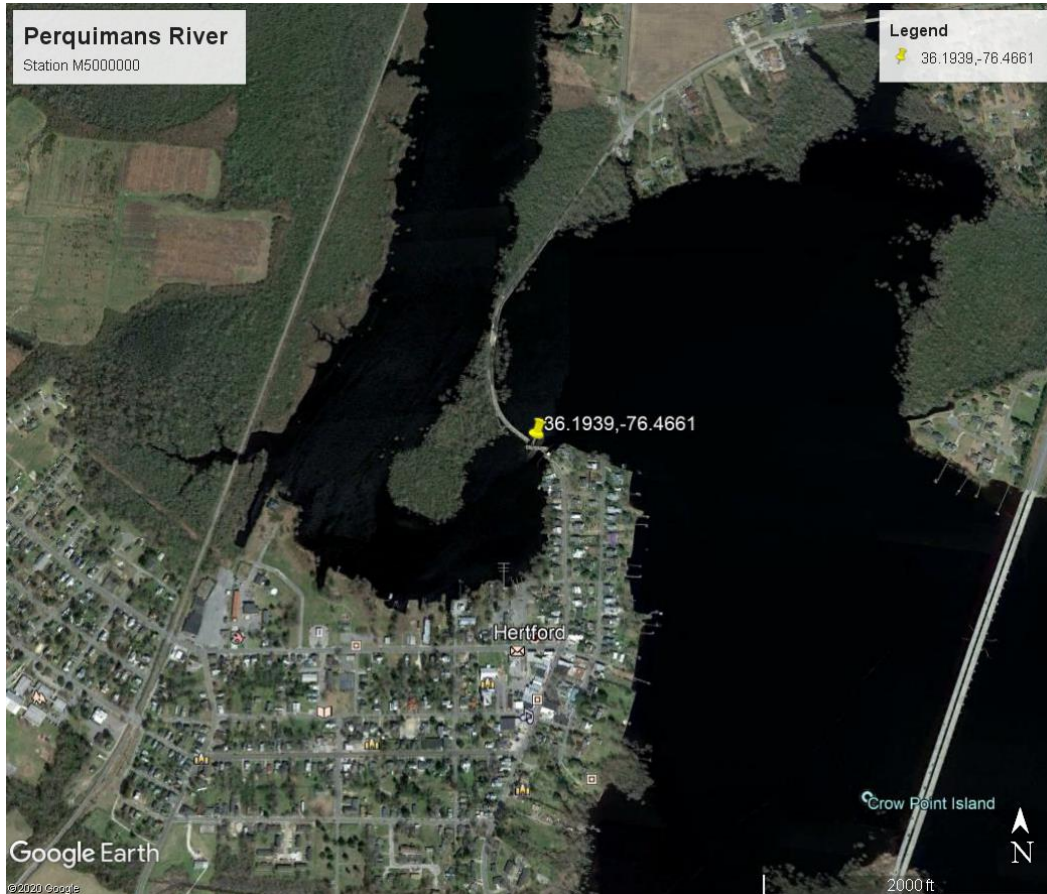


Figure 1: Perquimans River at Hertford

Sample Information: The Estuarine Monitoring Team observed green scum (Figure 2) during regular monitoring of the Perquimans River on October 21st.

Results of Analysis: This was a bloom of the cyanobacteria *Dolichospermum spiroides* (Figure 3). *Dolichospermum* frequently blooms in the rivers of the Albemarle Sound during warm weather.

Physical data and results of the algal analysis from the site can be found in Tables 1 and 2. DWR definitions of an algal bloom include dissolved oxygen concentrations at or above 9 mg/L (110% saturation), pH higher than 8. Additional DWR definitions of algal blooms include algal concentrations at or above 10,000 units/ml (unit density) or 5,000 mm³/m³ (biovolume). Algal data confirmed the presence of an algal bloom (Tables 1 and 2).

Ecological Significance: The Albemarle Sound has experienced summer cyanobacteria blooms since 2015. *Dolichospermum* (formerly *Anabaena*), like most cyanobacteria, can grow quickly in summer when daylight is intense and temperatures are higher. Cyanobacteria are known to form blooms that discolor water and may cause taste and odor problems. Some cyanobacteria, such as *Dolichospermum*, may produce cyanotoxins. These blooms are commonly referred to as harmful algal blooms (HABs) and can cause illnesses in humans and have been attributed to the death of pets and livestock. There were no reports of adverse health effects reported with this bloom.

Table 1: Physical parameters

Location	Time	Cond (μS/cm)	Temp (C°)	DO (mg/L)	pH (su)	Salinity (ppt)
Perquimans River	12:30 PM	817	21.6	6.7 (75%)	6.8	0.40

Table 2: Algal concentrations

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm ³ /m ³)
Perquimans River	<i>Dolichospermum</i>	98,100	17,000	9,000



Figure 2: River on 10/21/20



Figure 3: *Dolichospermum*

Report prepared by:

Perquimans River 201021

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