

Collector(s): Estuarine Monitoring Team (WaRO)

Locations and Date: Wharf Landing on Chowan River, 8/28/2018

Reason Collected: Discolored water/suspected bloom

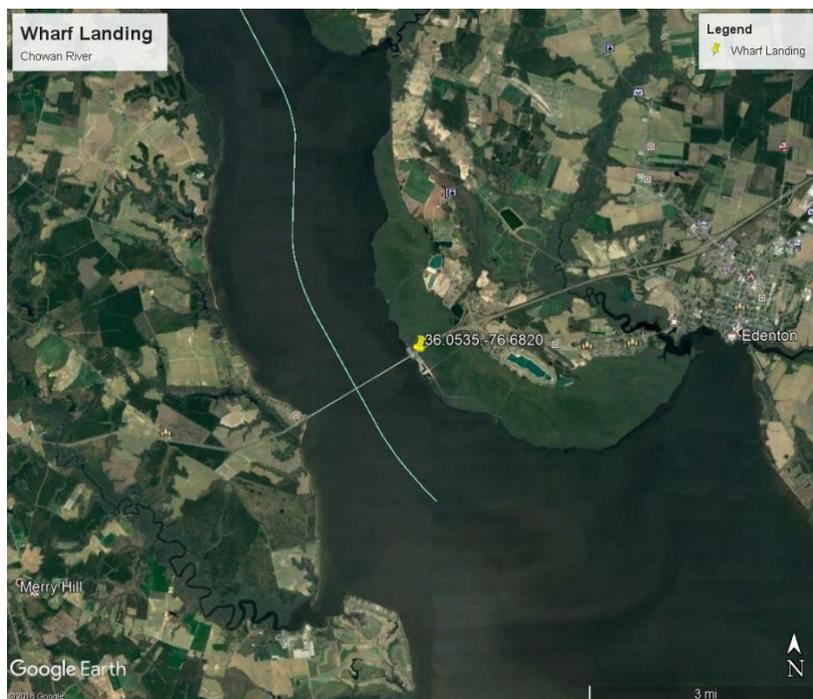


Figure 1: Location of bloom

Sample Information: The Estuarine Monitoring Team (EMT) responded to reports of green water on the Chowan River on August 28th.

Results of Analysis: The dominant alga in the sample was *Dolichospermum spiroides*. Another cyanobacteria species, *Microcystis aeruginosa* was also present (Figures 2 and 3). *Dolichospermum* frequently bloomed on the Chowan last summer.

Physical data and algal results from the sites 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). Physical and algal data did not confirm the presence of a bloom, but green water and algal clumps were reported by residents and the EMT.

Ecological Significance: The Chowan River and Albemarle Sound experienced cyanobacteria blooms during the summers of 2015-2017. *Dolichospermum*, like most filamentous cyanobacteria, can grow quickly in summer when the daylight is more 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* and *Microcystis*, 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. Fortunately, no human or animal illnesses have been attributed to HABs in NC.

Table 1. Physical parameters at Wharf Landing

Location	Time	Cond ($\mu\text{S}/\text{cm}$)	Temp ($^{\circ}\text{C}$)	DO (mg/L)	pH (su)
Wharf Landing	12:00PM	2594	31.7	8.6 (116%)	7.6

Table 2. Algal densities and biovolume at Wharf Landing

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm^3/m^3)
Wharf Landing	<i>Dolichospermum</i>	117,500	4,720	4,544



Figure 2: *Dolichospermum spiroides*

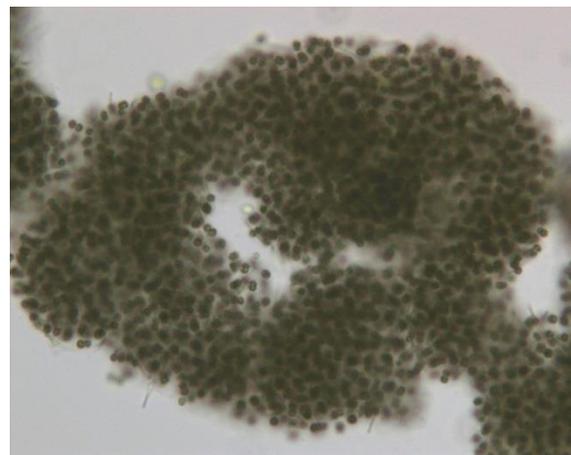


Figure 3: *Microcystis aeruginosa*

Report prepared by:

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