

Collector(s): Estuarine Monitoring Team (WaRO)

Locations and Date: Chowan River dock on Old Ferry Rd., Rockyhock, 7/7/20

Reason Collected: Discolored water/suspected bloom



Figure 1: Chowan River dock on Old Ferry Road, Rockyhock

Sample Information: The Estuarine Monitoring Team received reports of green water on the Chowan River on July 6th and collected samples on July 7th (Figure 1).

Results of Analysis: The sample did not appear to be an algal bloom. The dominant alga in the sample was *Dolichospermum spiroides* (Figure 2). The algal community was typical for early summer on the Chowan.

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). While physical and algal data did not confirm the presence of an algal bloom (Tables 1 and 2) during sampling, visual evidence seen the day before (Figure 3) indicates the bloom dispersed.

Ecological Significance: The Chowan River and Albemarle Sound have experienced summer cyanobacteria blooms since 2015. *Dolichospermum*, like most 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*, 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 health effects reported with this bloom.

Table 1: Physical parameters

Location	Time	Cond (µS/cm)	Temp (C°)	DO (mg/L)	pH (su)	Salinity (ppt)
Chowan dock	11:25 AM	202	30.1	5.9 (78%)	7.2	0.10

Table 2: Algal concentrations

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm ³ /m ³)
Chowan dock	<i>Dolichospermum</i>	53,100	5,100	3,800



Figure 2: *Dolichospermum spirooides*



Figure 3: Chowan dock on July 6th

Report prepared by:

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