

**Collector(s):** Estuarine Monitoring Team (WaRO)

**Locations and Date:** Chowan River at Edenton Bridge (D94900NS), 6/18/2019

**Reason Collected:** Discolored water/suspected bloom



**Figure 1:** Station D94900NS at Edenton Bridge

**Sample Information:** The Estuarine Monitoring Team reported seeing green water and evidence of an algal bloom in progress at its Chowan River Edenton Bridge site (D94900NS, Figure 1) on June 18<sup>th</sup> during regular monitoring.

**Results of Analysis:** The dominant alga in the sample was *Dolichospermum planctonicum* (Figure 2). *Dolichospermum* frequently bloomed on the Chowan during past summers.

Physical data and algal results 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 mm<sup>3</sup>/m<sup>3</sup> (biovolume). Physical and algal data at the site confirm the presence of an algal bloom (Tables 1 and 2).

**Ecological Significance:** The Chowan River and Albemarle Sound experienced cyanobacteria blooms during the summers of 2015-2018. *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. Fortunately, no human or animal illnesses have been attributed to HABs in NC.

**Table 1.** Physical parameters at Edenton Bridge

Location	Time	Cond ( $\mu\text{S}/\text{cm}$ )	Temp ( $^{\circ}\text{C}$ )	DO (mg/L)	pH (su)
D94900NS	12:30 PM	88	27.9	9.9 (126%)	8.7

**Table 2.** Algal densities and biovolume at Edenton Bridge

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume ( $\text{mm}^3/\text{m}^3$ )
D94900NS	<i>Dolichospermum</i>	81,328	7,550	6,935



Figure 2: *Dolichospermum planctonicum*

**Report prepared by:**

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