

Collector(s): Rebecca Chandler

Locations and Date: High Rock Lake (Davidson Co.) 6/10/2020

Reason Collected: dog death

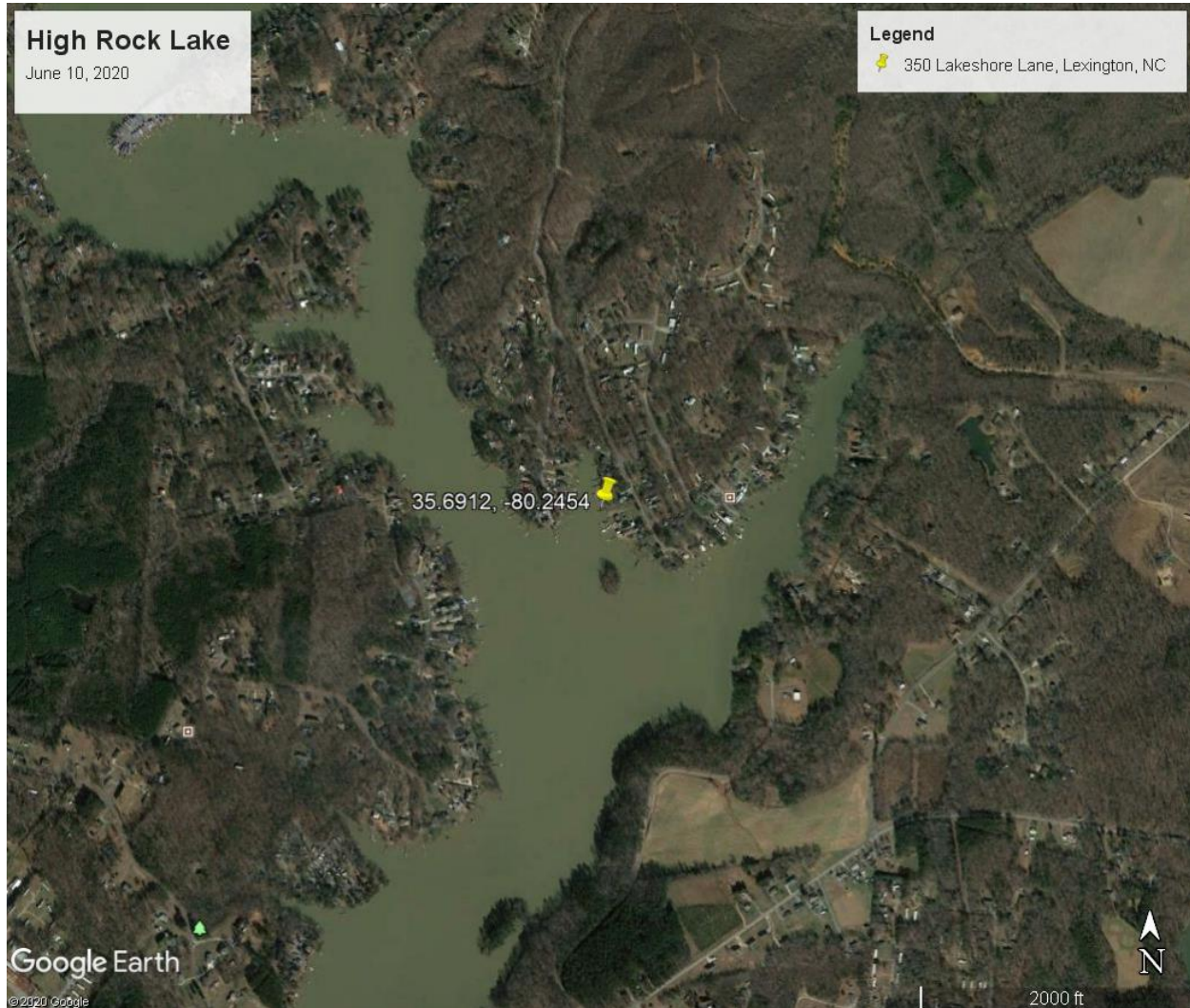


Figure 1: 350 Lakeshore Lane, Lexington in Davidson County, NC

Sample Information: On June 10th, DWR Winston Salem Regional Office personnel investigated a report of a dog collapsing after swimming in High Rock Lake on June 6th.

Results of Analysis: This was a bloom of the cyanobacteria *Pseudanabaena* and *Cylindrospermopsis* (Figures 2 and 3). Blooms of *Pseudanabaena* and *Cylindrospermopsis* are very common in North Carolina lakes during summer.

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 mm³/m³ (biovolume). Algal data confirmed the presence of an algal bloom.

Ecological Significance: Cyanobacteria and other types of algae 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 *Cylindrospermopsis*, may produce cyanotoxins. These blooms are commonly referred to as harmful algal blooms (HABs). Health effects attributed to cyanobacteria are rare in North Carolina.

Table 1: Physical parameters

Location	Time	Cond (µS/cm)	Temp (C°)	DO (mg/L)	pH (su)	Salinity (ppt)
High Rock Lake	2:10 PM	78	29.8	7.4 (101%)	7.9	0.03

Table 1: Algal concentrations

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm ³ /m ³)
High Rock Lake	<i>Pseudanabaena</i> , <i>Cylindrospermopsis</i>	347,300	38,900	5,800

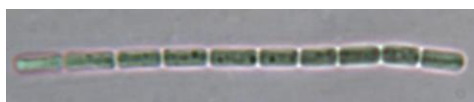


Figure 2: *Pseudanabaena*



Figure 3: *Cylindrospermopsis*

Report prepared by:

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