

Collector(s): Michael Meilinger (MRO)

Locations and Date: Moss Lake (Cleveland Co.) 6/10/2020

Reason Collected: reported algal bloom

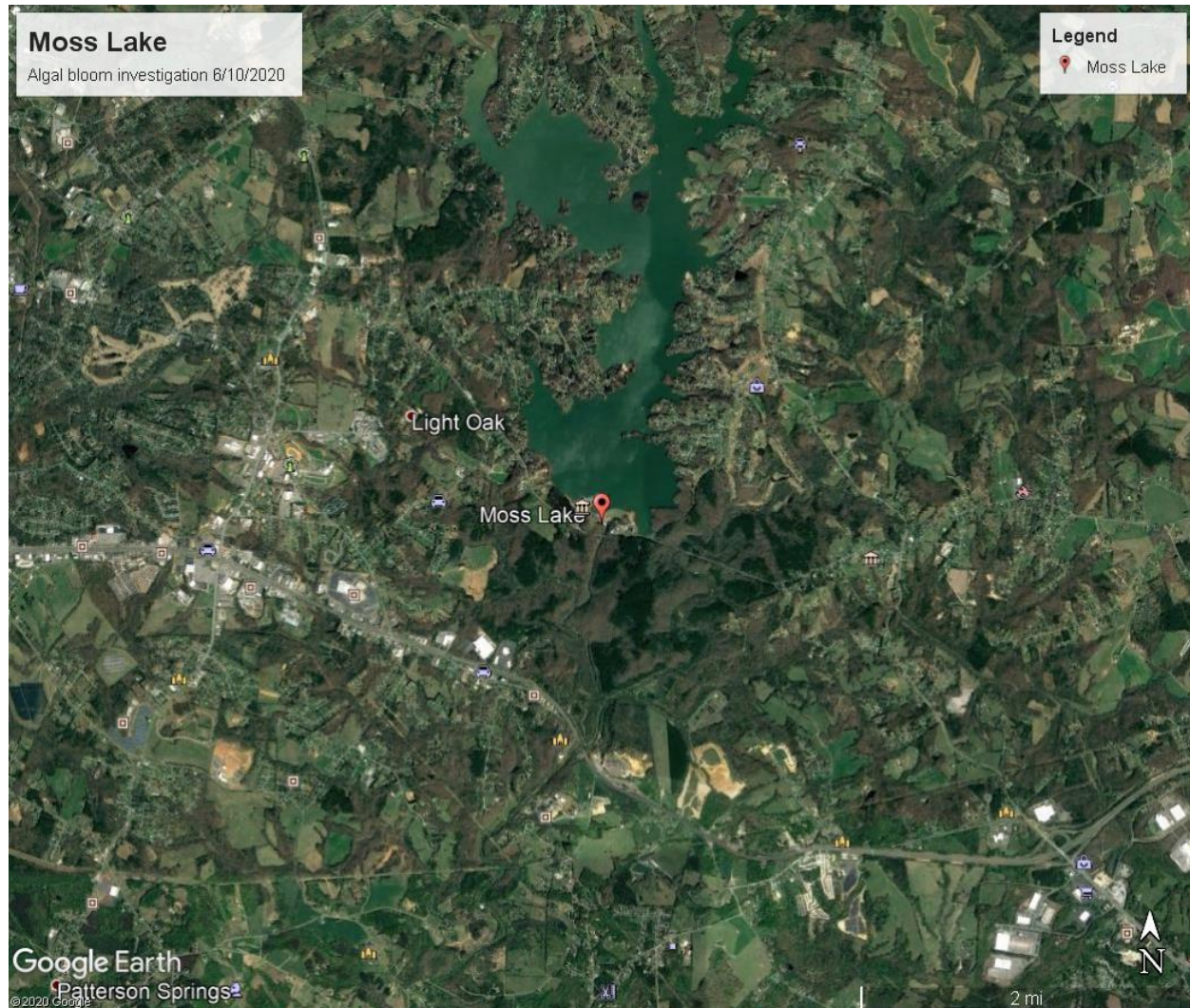


Figure 1: Moss Lake in Cleveland County, NC

**Sample Information:** On June 10<sup>th</sup>, DWR Mooresville Regional Office personnel investigated a report of an algal bloom in Moss Lake on June 8<sup>th</sup>.

**Results of Analysis:** This was a bloom of the cyanobacteria *Aphanizomenon* and *Cylindrospermopsis* and the diatom *Synedra* (Figures 2-4). Blooms of these algae 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 mm<sup>3</sup>/m<sup>3</sup> (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 *Aphanizomenon* and *Cylindrospermopsis*, may produce cyanotoxins. These blooms are commonly referred to as harmful algal blooms (HABs). There were no reports of health effects attributed to this bloom.

**Table 1:** Physical parameters

Location	Time	Cond (µS/cm)	Temp (C°)	DO (mg/L)	pH (su)	Salinity (ppt)
Moss Lake	11:20 AM	58.7	26.5	7.6 (97%)	6.8	n/a

**Table 1:** Algal concentrations

Location	Dominant Algae	Cell density (cells/ml)	Unit density (units/ml)	Biovolume (mm <sup>3</sup> /m <sup>3</sup> )
Moss Lake	<i>Aphanizomenon</i> , <i>Cylindrospermopsis</i>	159,100	19,000	2,800



Figure 2: *Aphanizomenon*



Figure 3: *Cylindrospermopsis*



Figure 4: *Synedra*

**Report prepared by:**

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