

Analyzing Water Levels and Harmful Algal Blooms in Moreau Lake

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Background

About- Moreau Lake is a 122-acre kettle lake located within Moreau Lake State Park in the Town of Moreau (Saratoga County, NY) in NYSDEC Region 5. The lake offers an assortment of recreational activities for tourists and residents.

Stakeholder Concerns- In recent years, stakeholders have become increasingly concerned with the changes in water level along with reoccurring algal blooms, though it has been deemed a mild risk at this time.

Changes in Water Levels

- Stakeholders have expressed their concerns with a drop in water level over the last decade, evident along the shoreline.
- Unusual temperature and dissolved oxygen measurements with deep samples (Figure 1).
- Potential fault line/groundwater input near data collection site.



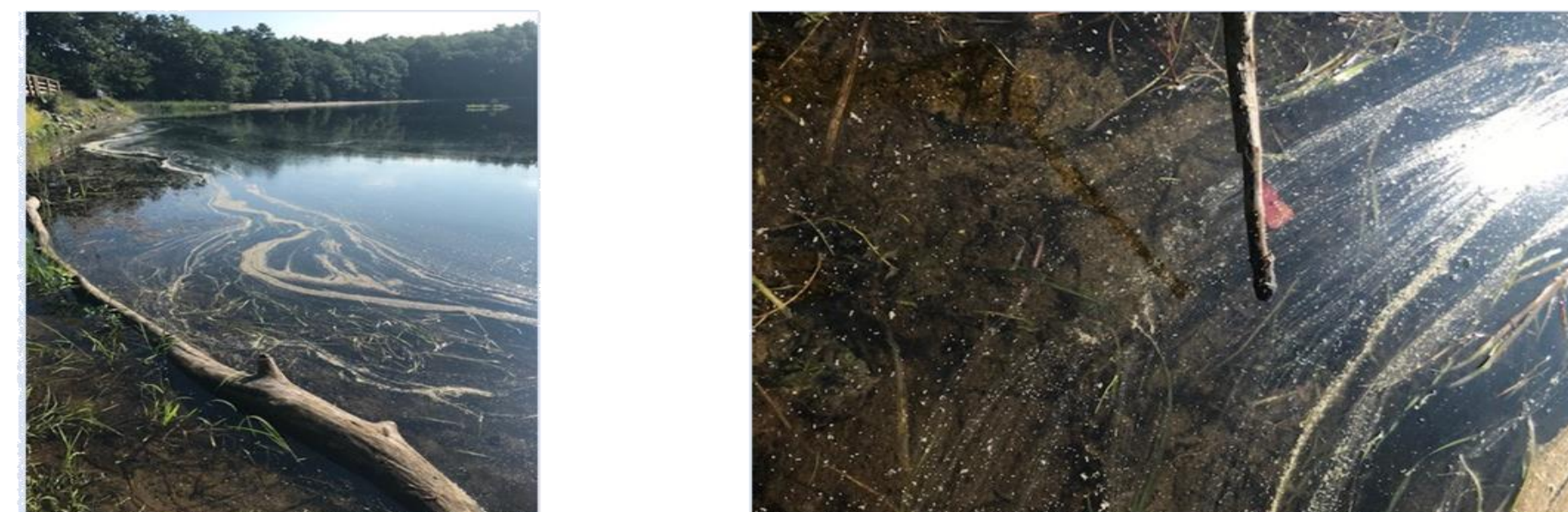
October 2016



October 2022



10/30/2019 at Causeway & Nature Center



8/24/2021 at Causeway



11/9/2021 at Back Pond/Causeway

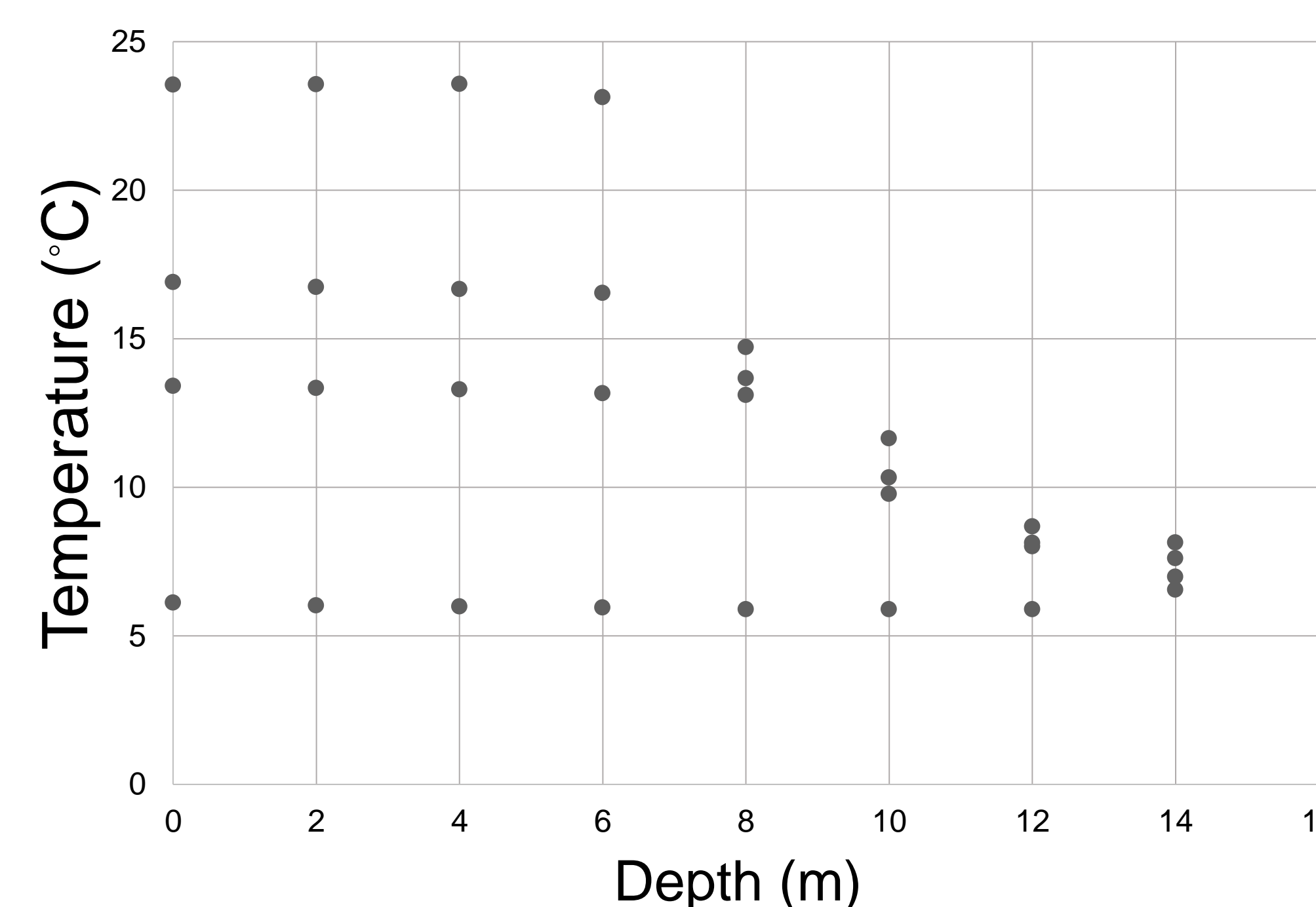


Figure 1: Temperature data collected at intervals of 2 m, showing an increase in temperature of samples collected at 14 m.

Harmful Algal Blooms

There have been multiple confirmed sightings of harmful algal blooms in Moreau Lake in recent years. Currently, they are deemed a mild risk and are reported by NYSDEC when seen.

Year	Number of Reported Blooms
2018	Suspicious Bloom
2019	Suspicious Bloom
2020	1
2021	9
2022	1

Suspicious Blooms are based on visual observations and/or digital photographs that NYSDEC staff determined fit conditions of a cyanobacteria harmful algal bloom.

Future Steps

- Continuing to collect limnological profile data
- Monitor harmful algal bloom occurrences.
- Consulting with United States Geological Survey (USGS) on fluctuations in water levels and groundwater input.
- The results of my study along with historical data provided by NYSDEC will be compiled into a comprehensive lake management plan, acting as a guide for future management of Moreau Lake.

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