

Real Time Monitoring of Cyanobacteria in Newfoundland & Labrador

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Health & Environmental Concerns



Human health

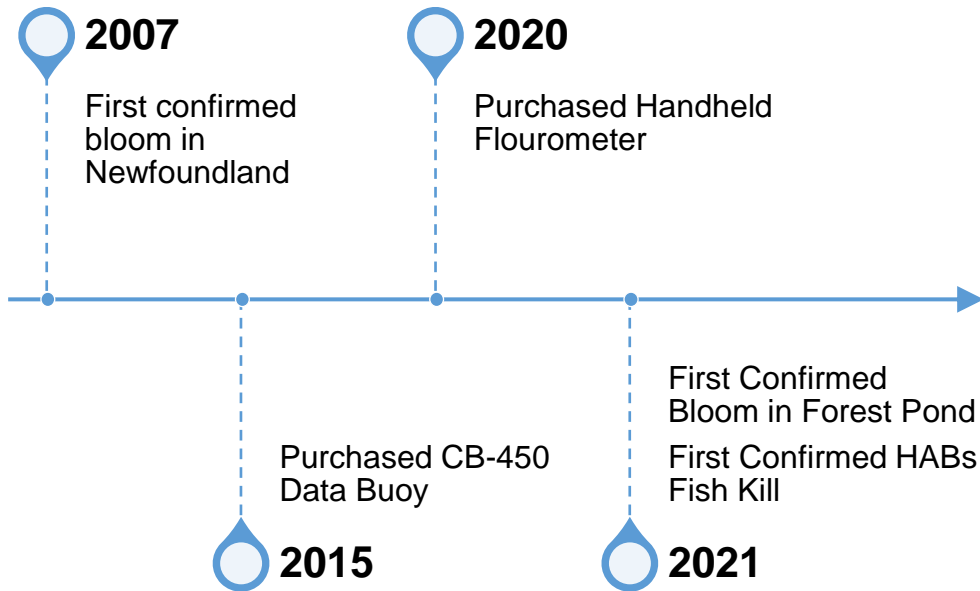


Environmental
Health



Aesthetics

History of Cyanobacteria in Newfoundland



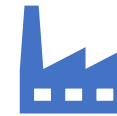
Forest Pond Watershed



Agriculture



Cottages &
Homes



Waste Water
Treatment Plant



Beach &
Swimming Area

Sampling Methods

Grab Samples



Cell counts, species
identification, cyanotoxins
nutrients, & metals,



Expensive



Time Consuming



Long turnaround



Data snapshots



Real-Time Monitoring



Temperature, pH, DO,
SC, turbidity, chlorophyll
a, phycocyanin



Expensive upfront



Mostly remote



Near-real time



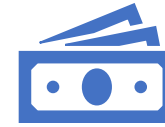
Continuous data



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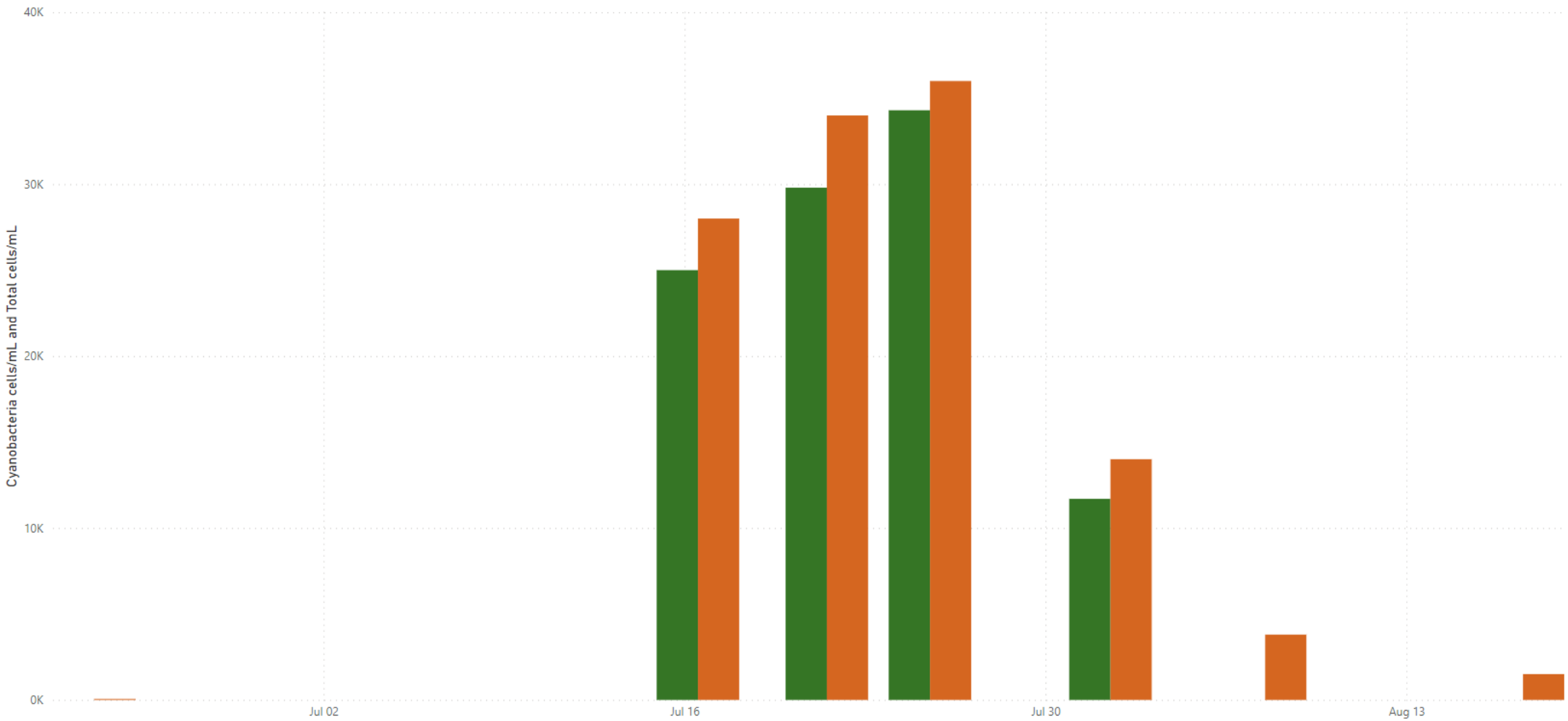
Near-real time

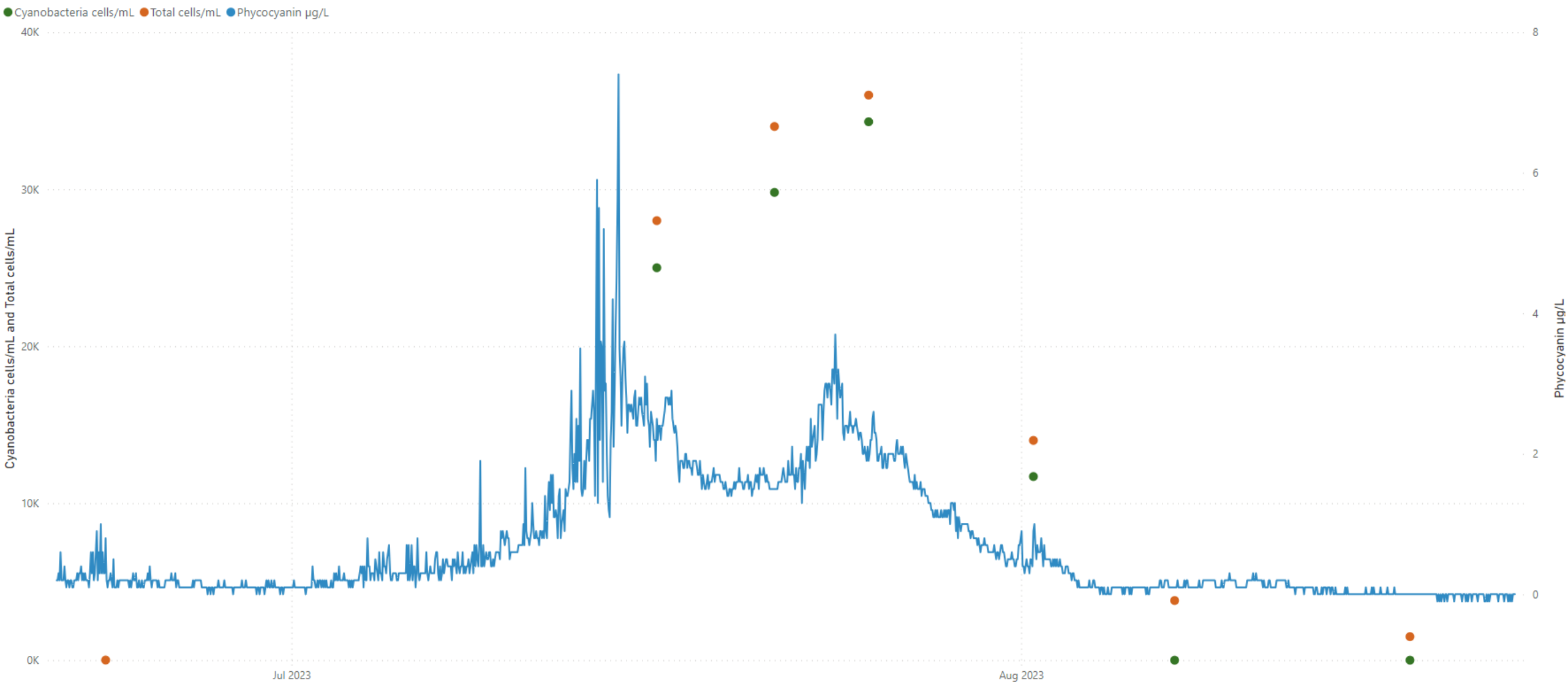


Continuous data

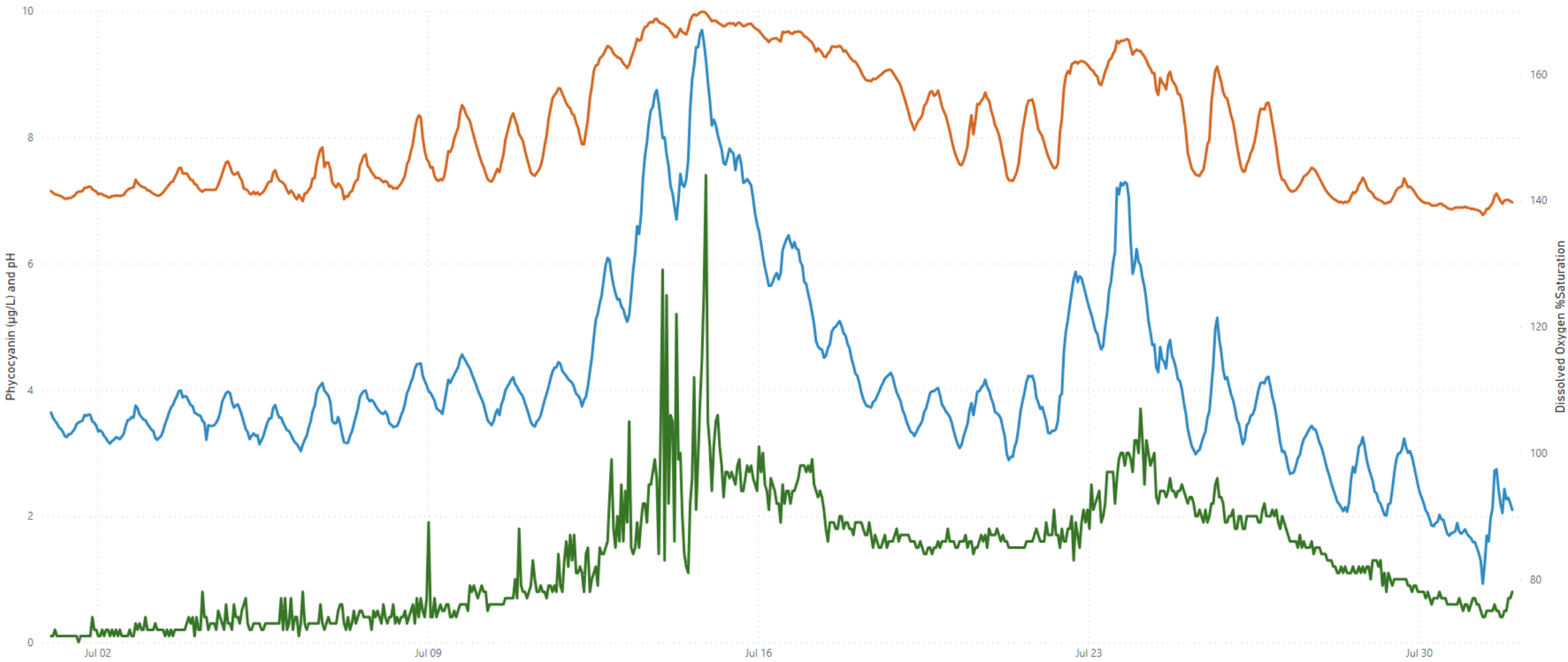


● Cyanobacteria cells/mL ● Total cells/mL





Phycocyanin (µg/L) pH Dissolved Oxygen %Saturation





A photograph of a body of water, likely a pond or slow-moving stream, heavily infested with a bright green algal bloom (HAB). The bloom covers most of the water's surface, with some darker, clearer water visible in the lower right. The shoreline is lined with dense green trees and shrubs, their reflections visible in the water. The overall scene is a natural setting with a significant environmental issue.

Lessons Learned

- Early indicators of HAB
 - %DO, pH, phycocyanin
- Calibration Period
- Data-sharing
- Utility for recreational & drinking water



Questions?