



Real Time Monitoring of Cyanobacteria in Newfoundland & Labrador

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Health & Environmental Concerns



Human health

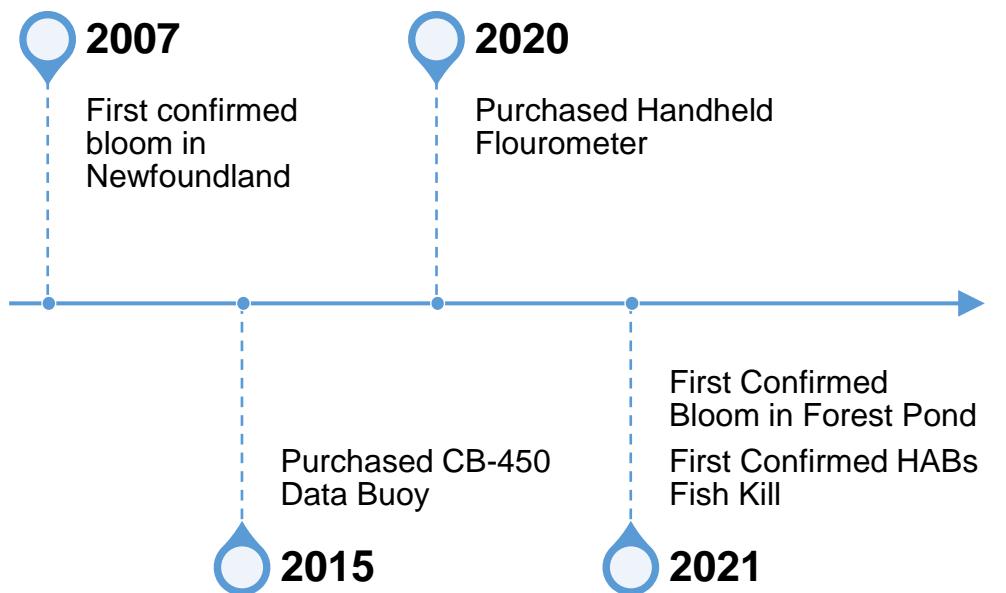


Environmental
Health



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

Grab Samples

Newfoundland & Labrador

Real-Time Monitoring



Temperature, pH, DO, SC, turbidity, chlorophyll a, phycocyanin, Expensive upfront, Mostly remote, Near-real time, Continuous data

Real-Time Monitoring

Newfoundland & Labrador

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



● Cyanobacteria cells/mL ● Total cells/mL

40K

30K

20K

10K

0K

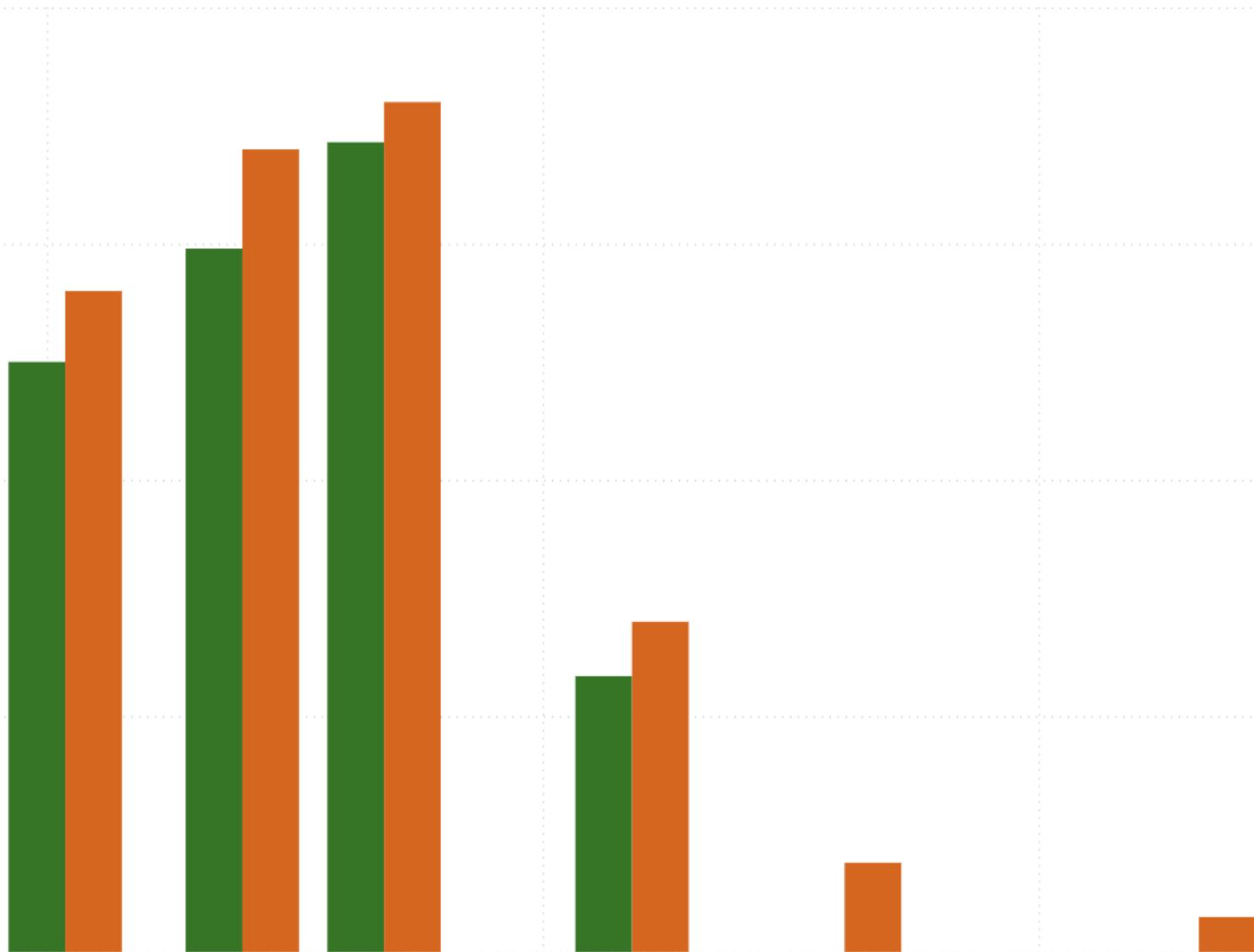
Cyanobacteria cells/mL and Total cells/mL

Jul 02

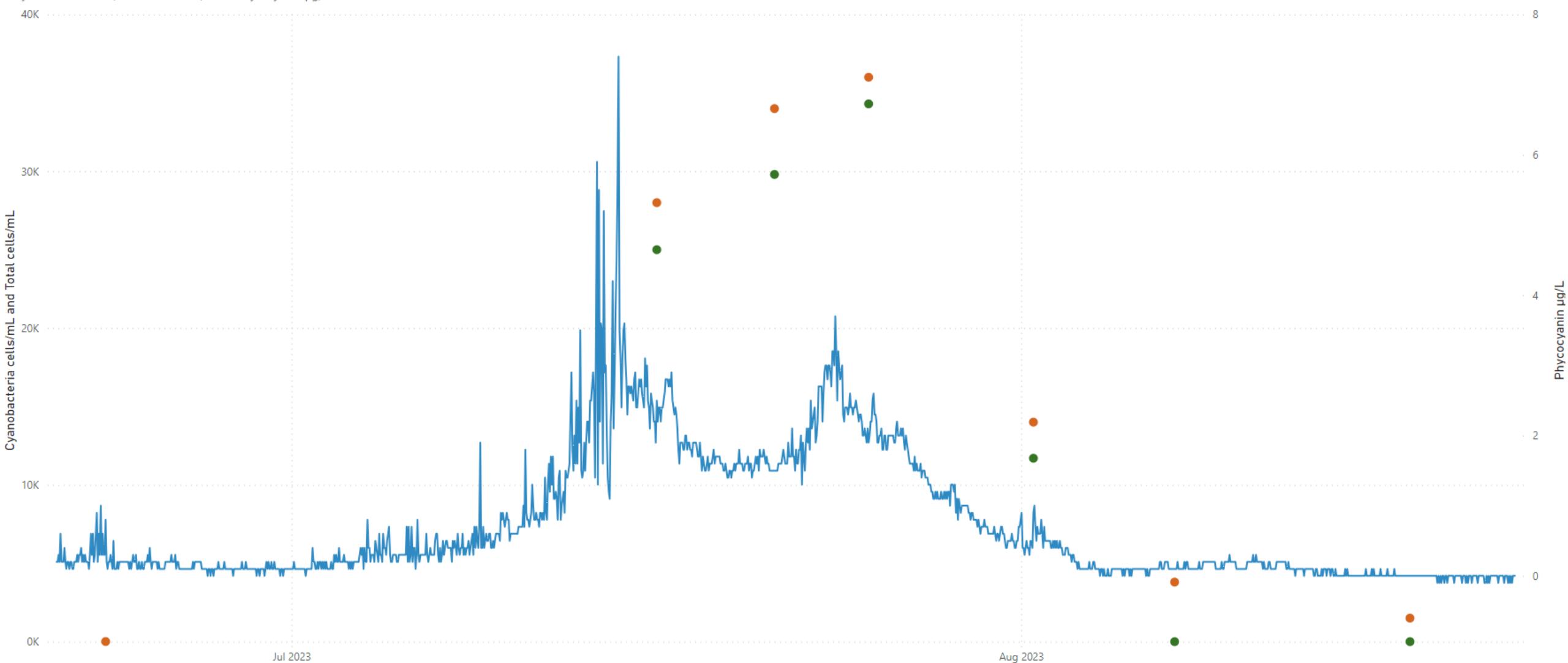
Jul 16

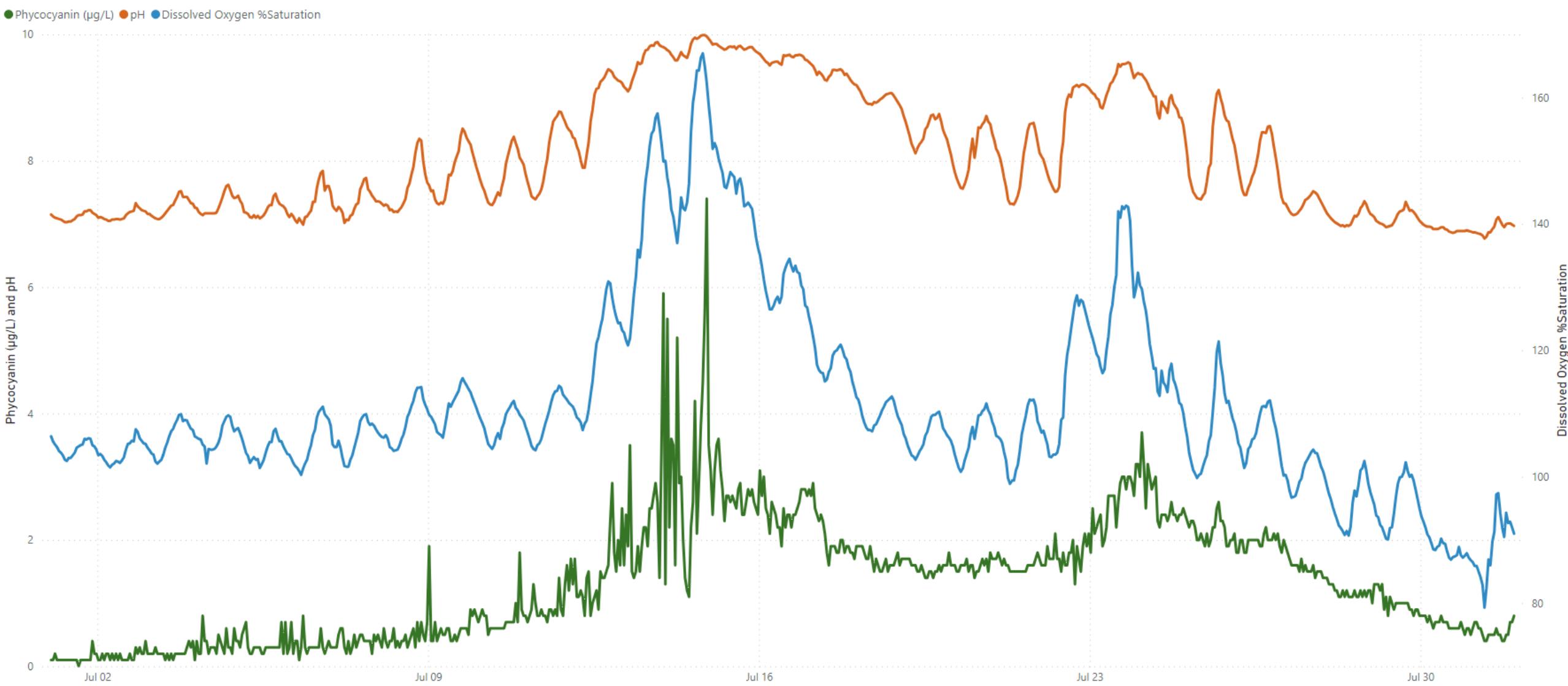
Jul 30

Aug 13



● Cyanobacteria cells/mL ● Total cells/mL ● Phycocyanin µg/L







A photograph of a body of water, likely a lake or river, covered in a thick, green algal bloom. The water is a bright green color, with darker green patches where the bloom is more dense. In the background, there is a dense line of green bushes and trees, some with autumn-colored leaves. The overall scene is one of environmental concern, as the algal bloom is a sign of water quality issues.

Lessons Learned

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



Questions?

