

Bantam Lake 2018

Some of what we learned in 2017



*Northeast Aquatic
Research*

March 15, 2018

The background of the slide features a dark green, textured surface, possibly a book cover or a piece of fabric. In the center, there is a yellow circular object, which appears to be a page or a disc, with a black crosshair or crosshair-like pattern drawn on it. A thin, light-colored vertical line, possibly a pen or a needle, is positioned vertically, passing through the center of the yellow circle. The text "What Causes These Blooms" is written in a bold, yellow, sans-serif font across the upper portion of the image.

What Causes These Blooms

How Do We Stop Them

Phosphorus Causes Blooms

We need to know where the phosphorus is coming from and how to stop it.

2017 was the first year of intensive investigation of anatomy of Bantam Lake cyanobacteria blooms.

Our goal was to learn more about these questions:

Will ALUM help?

Will Aeration help?

Will storm-water retro-fits help?

Is it something else entirely?

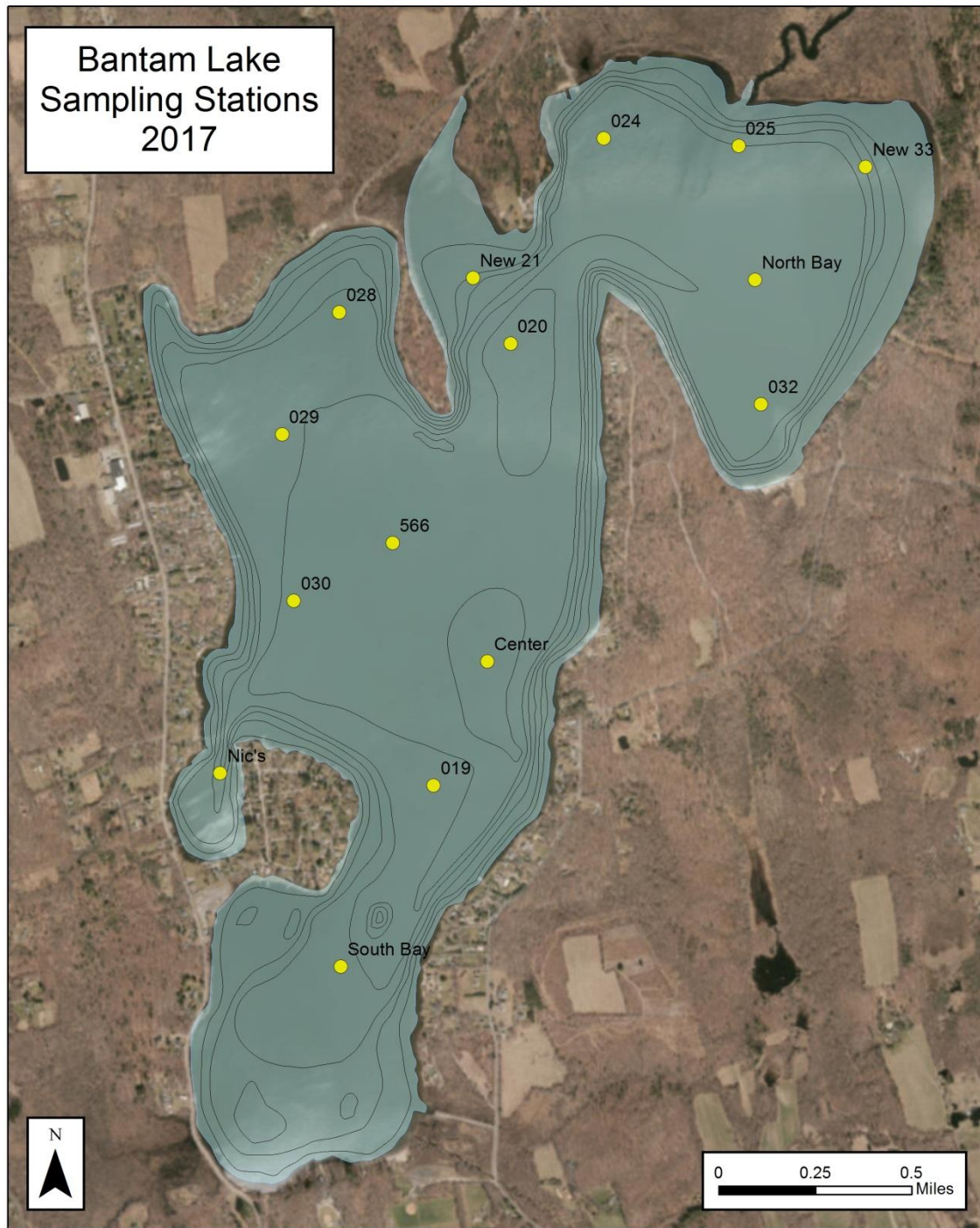


These attack internal loading

These attack external loading

2017 Sampling Stations ~15

Station	Water depth in meters
24	4.00
33	4.00
Nic's	4.50
South	4.75
25	5.00
28	5.00
32	5.50
North	5.50
20	5.75
19	5.75
29	6.00
30	6.50
566	6.75
Center	7.50



Lake Restoration

Lake restoration involves unprecedented manipulation of large complex systems. Limnologist must work on spatial units larger than those studied by most ecologists.

Serious disconnect between Pollution and those who benefit from its control.

Bantam Lake Watershed

Towns of Morris, Litchfield, Torrington, and Goshen

Heavy line = Total Bantam Lake drainage basin boundary

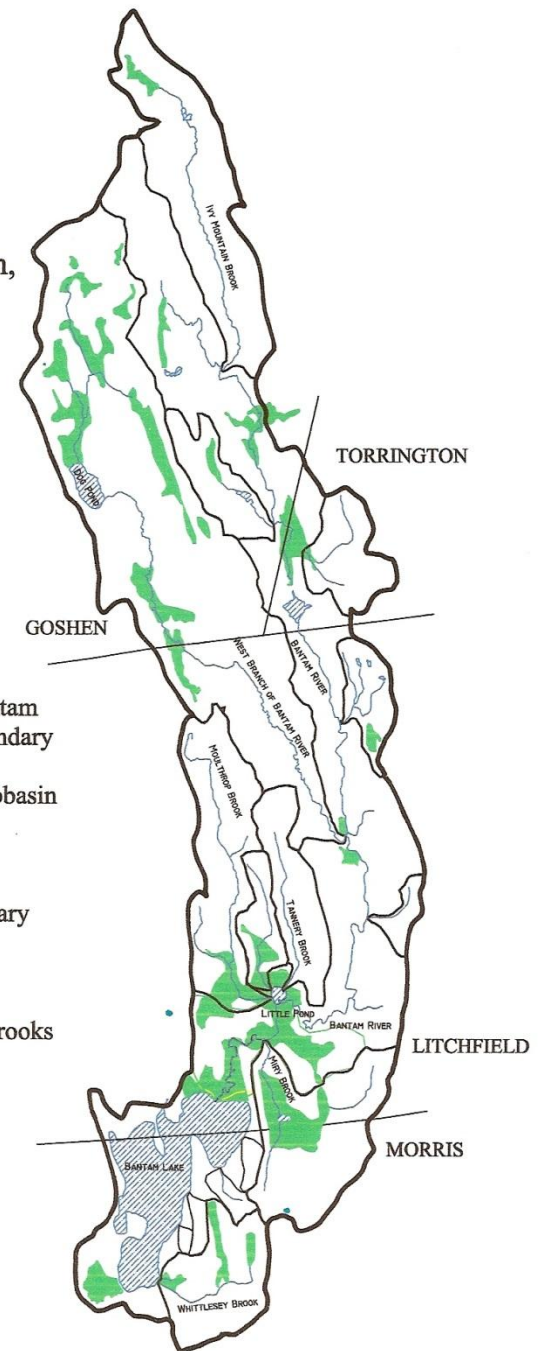
Medium line = Major subbasin boundary

light line = Minor subbasin boundary

Green = Wetlands

Blue line = Rivers and Brooks

SCALE
5,000 FEET



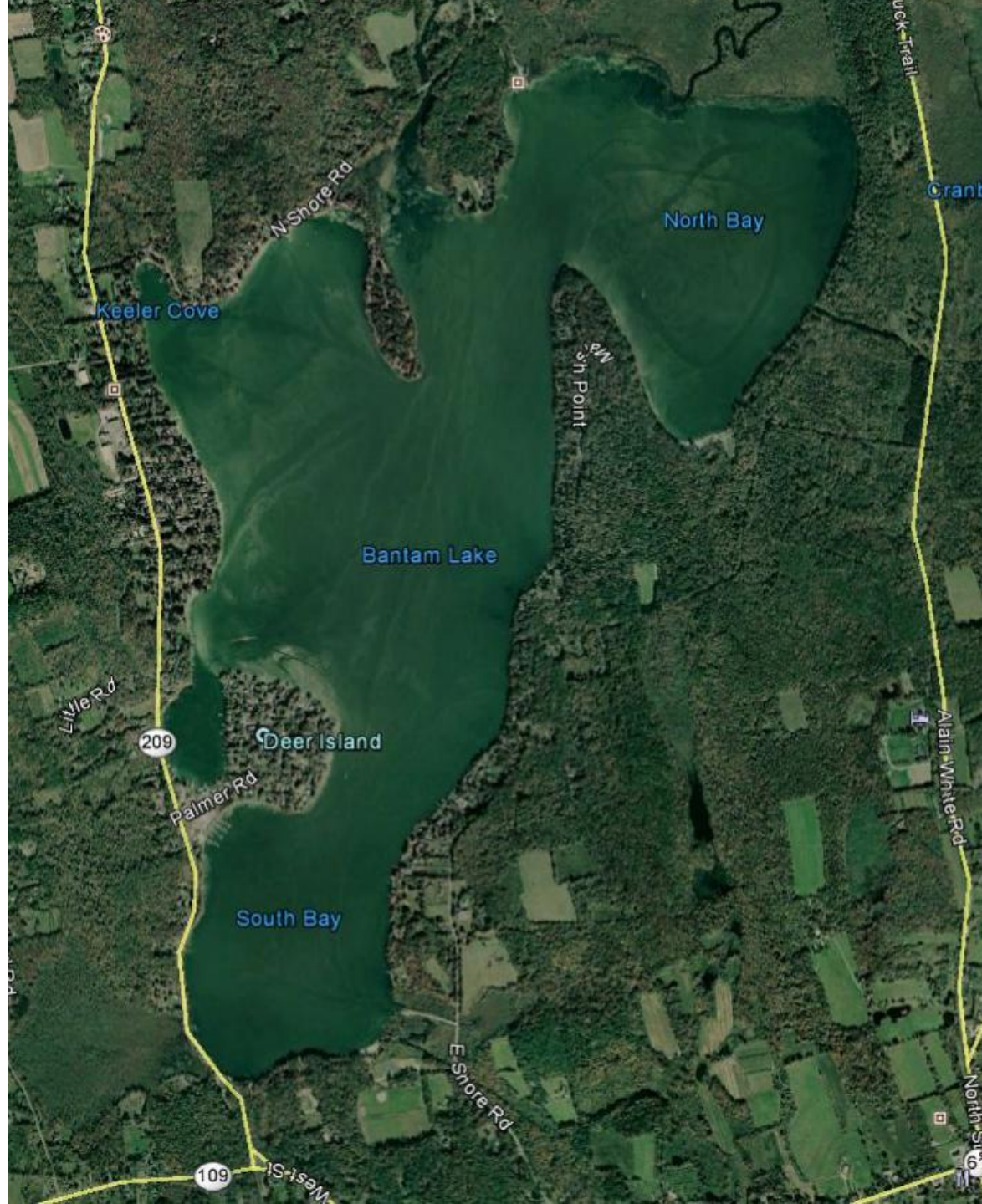
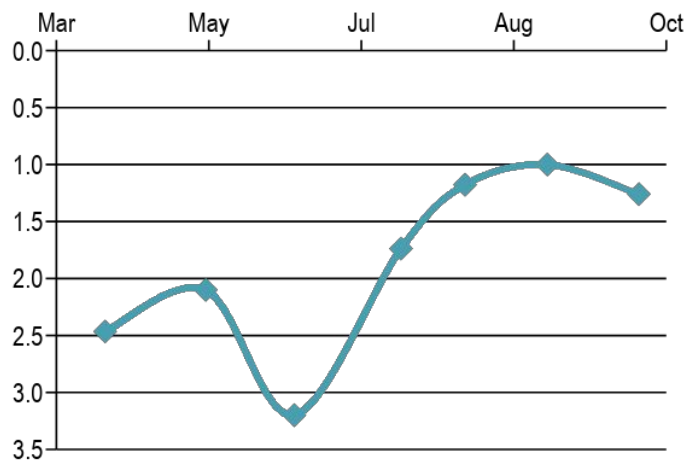
July 22, 2008
Secchi depths in
meters on that
day:

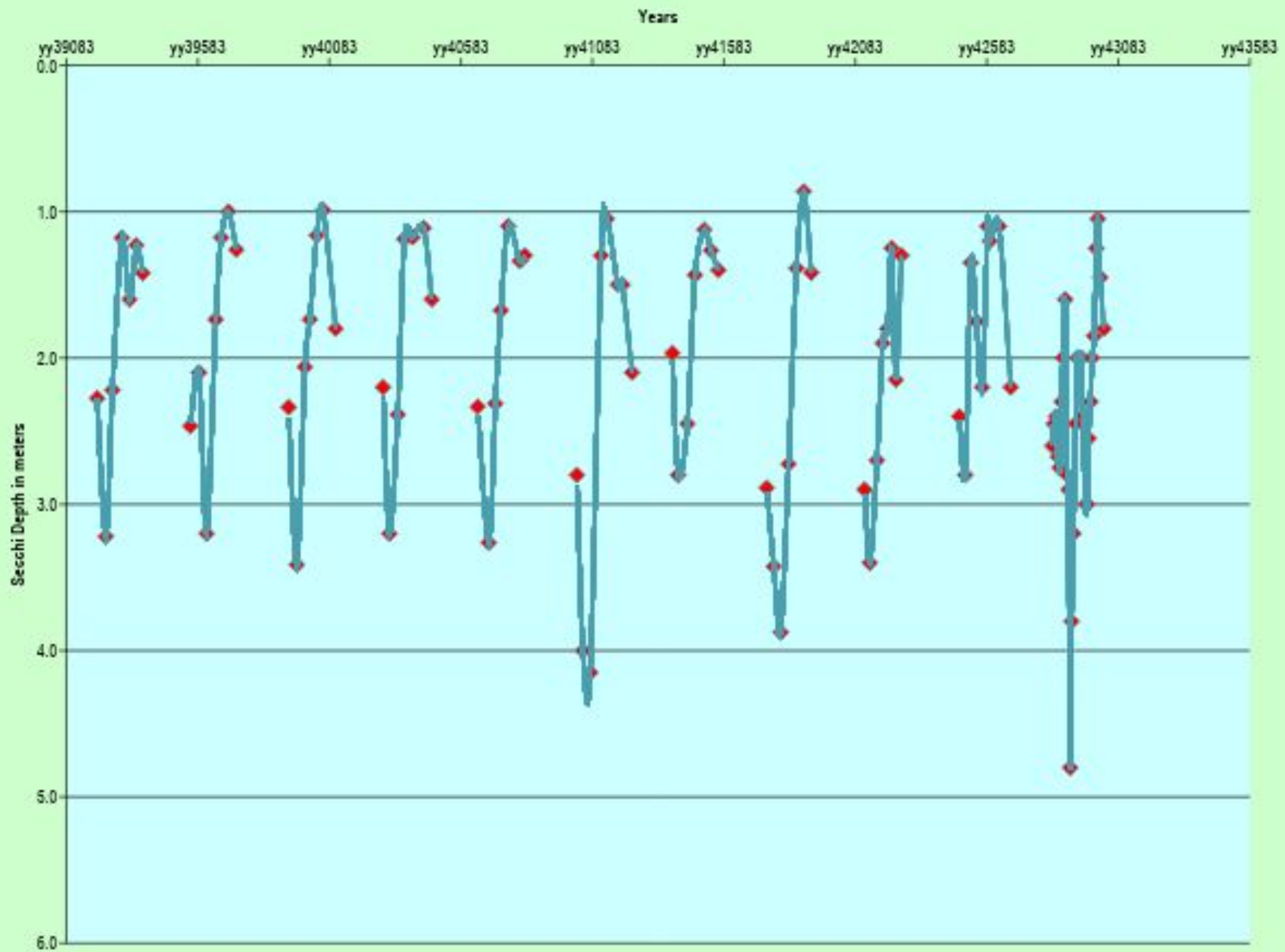
SB = 1.85

CL = 1.6

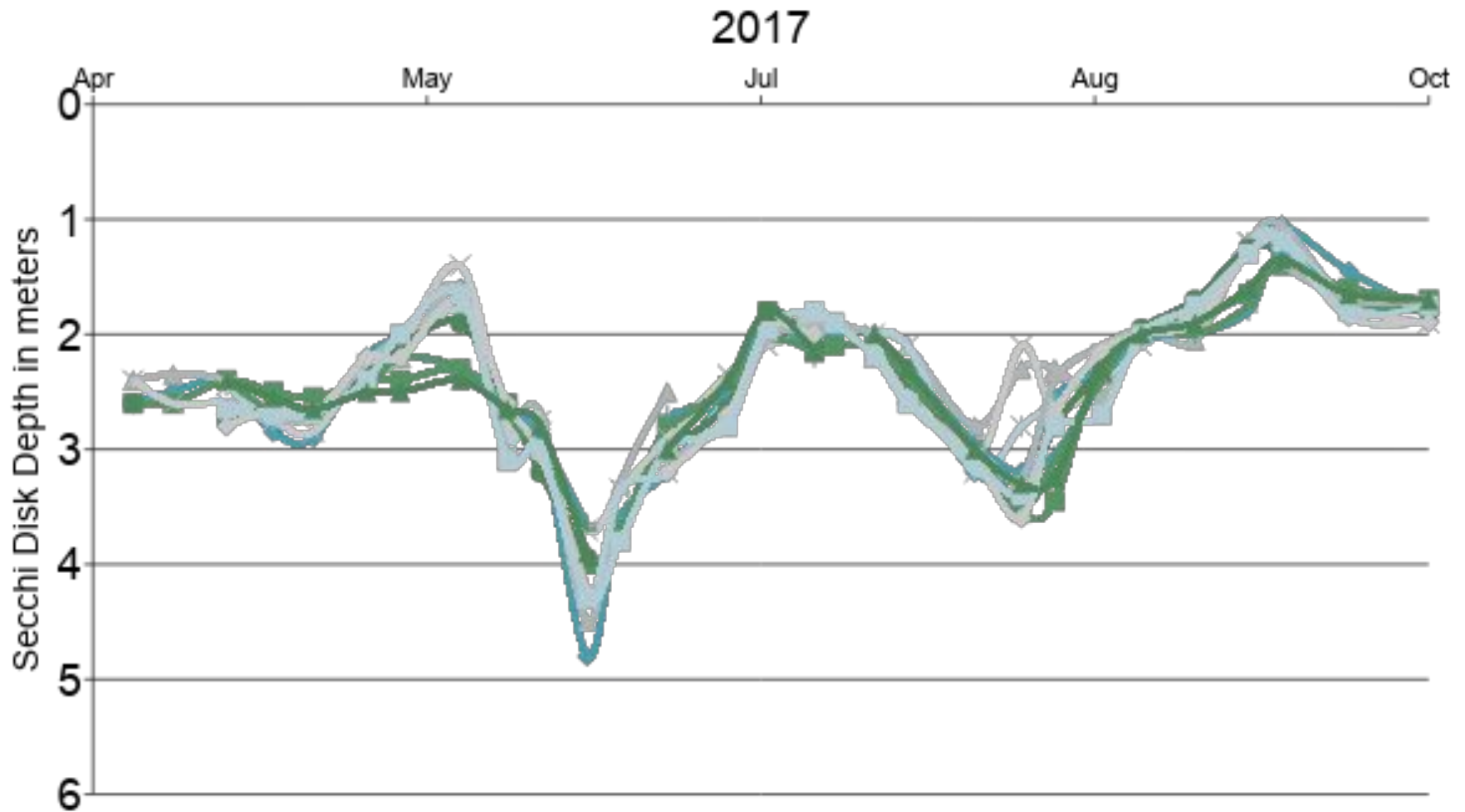
NB = 1.8

Nic's = 1.7



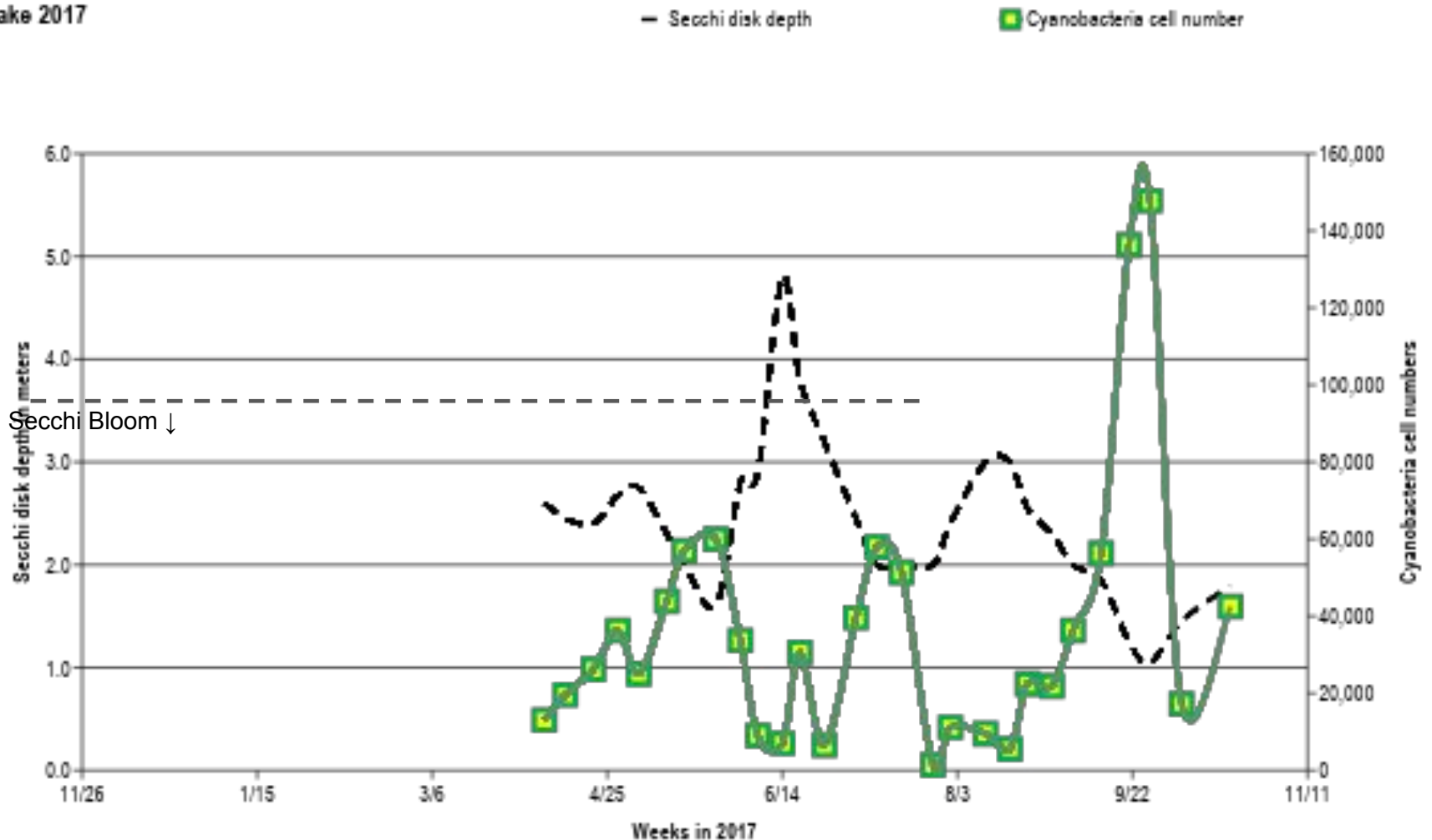


2017 water clarity trends

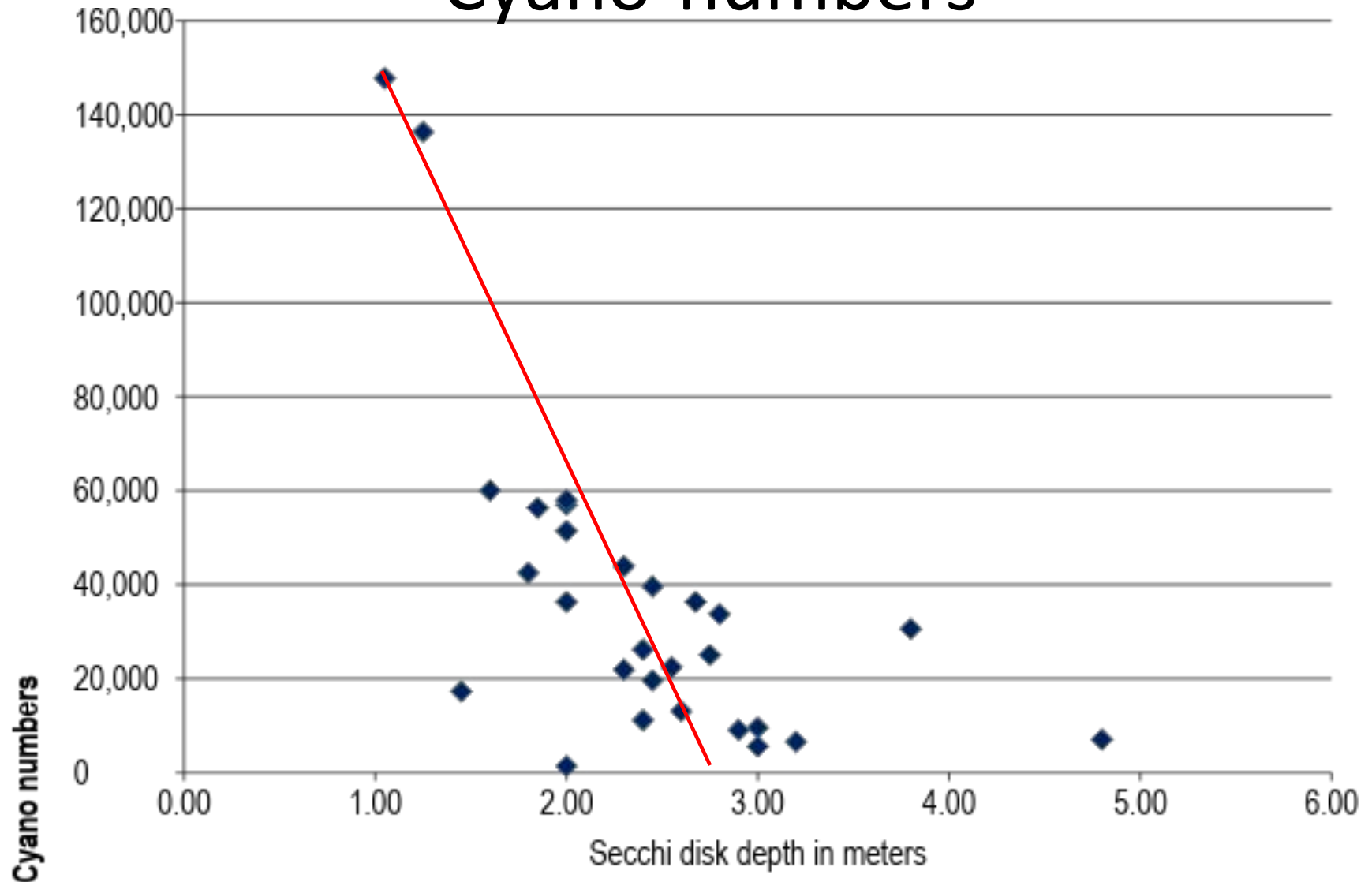


Trend in Secchi disk depth and Cyanobacteria numbers

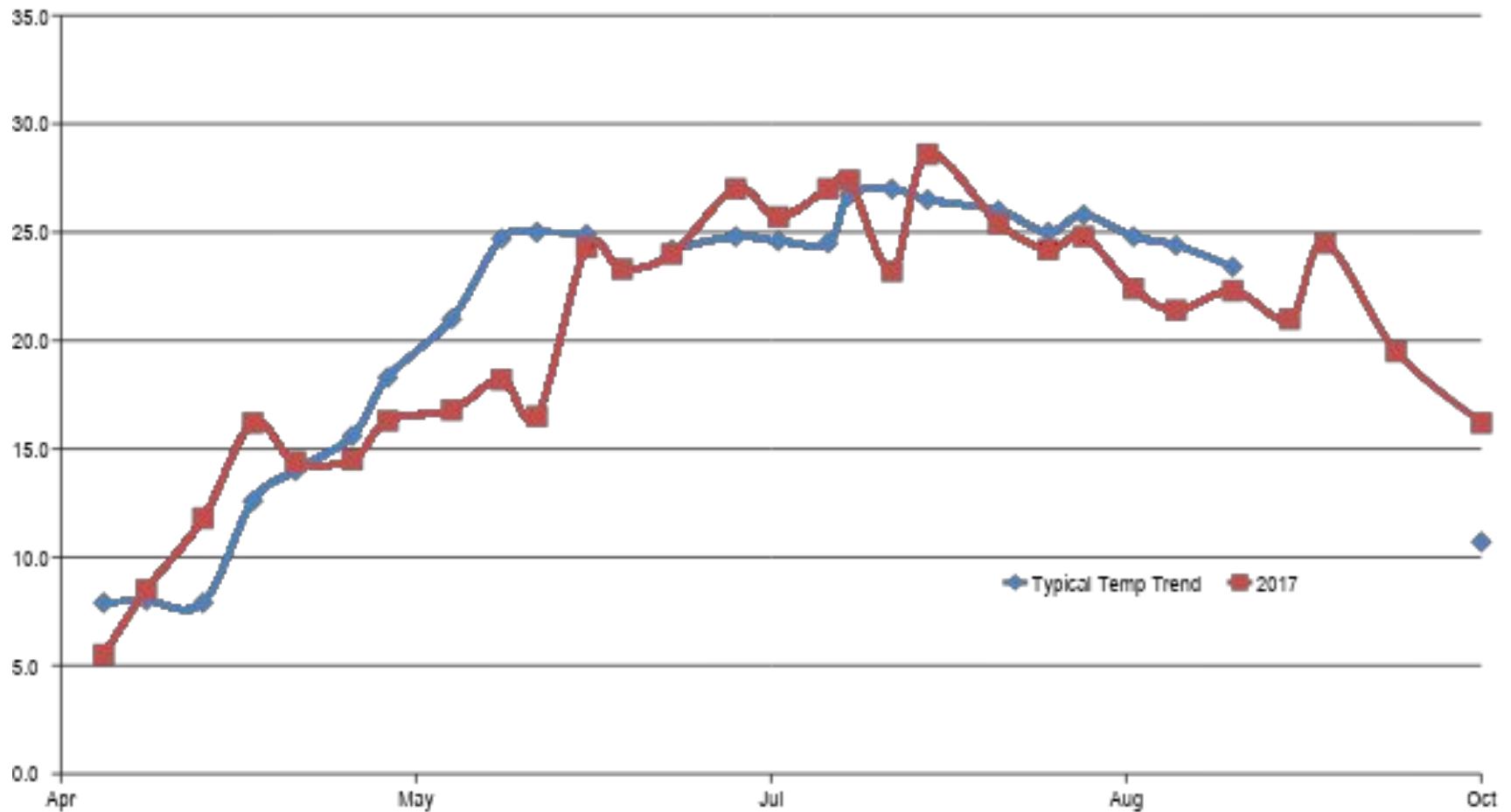
Bantam Lake 2017



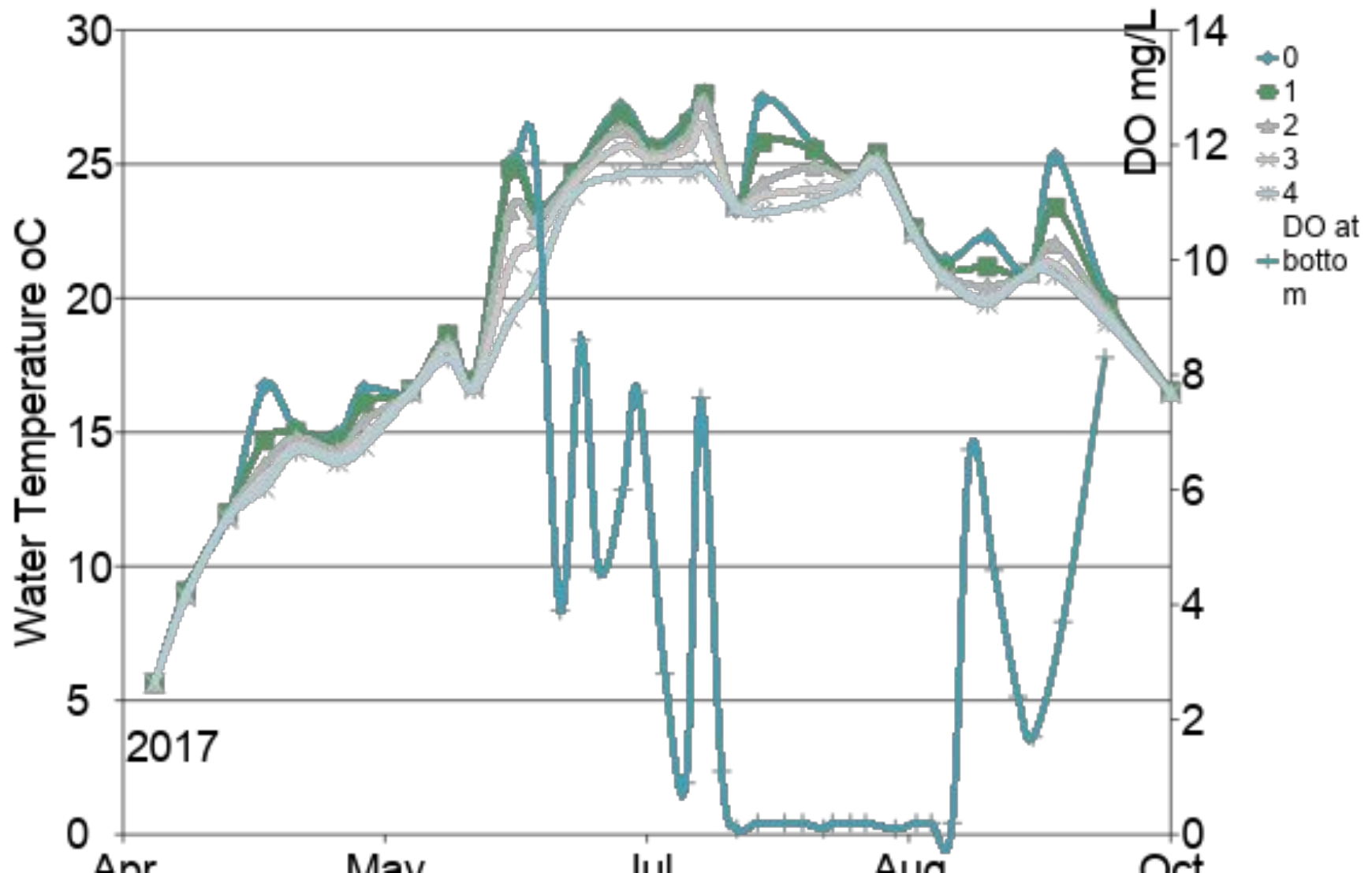
Relationship between water clarity and Cyano-numbers



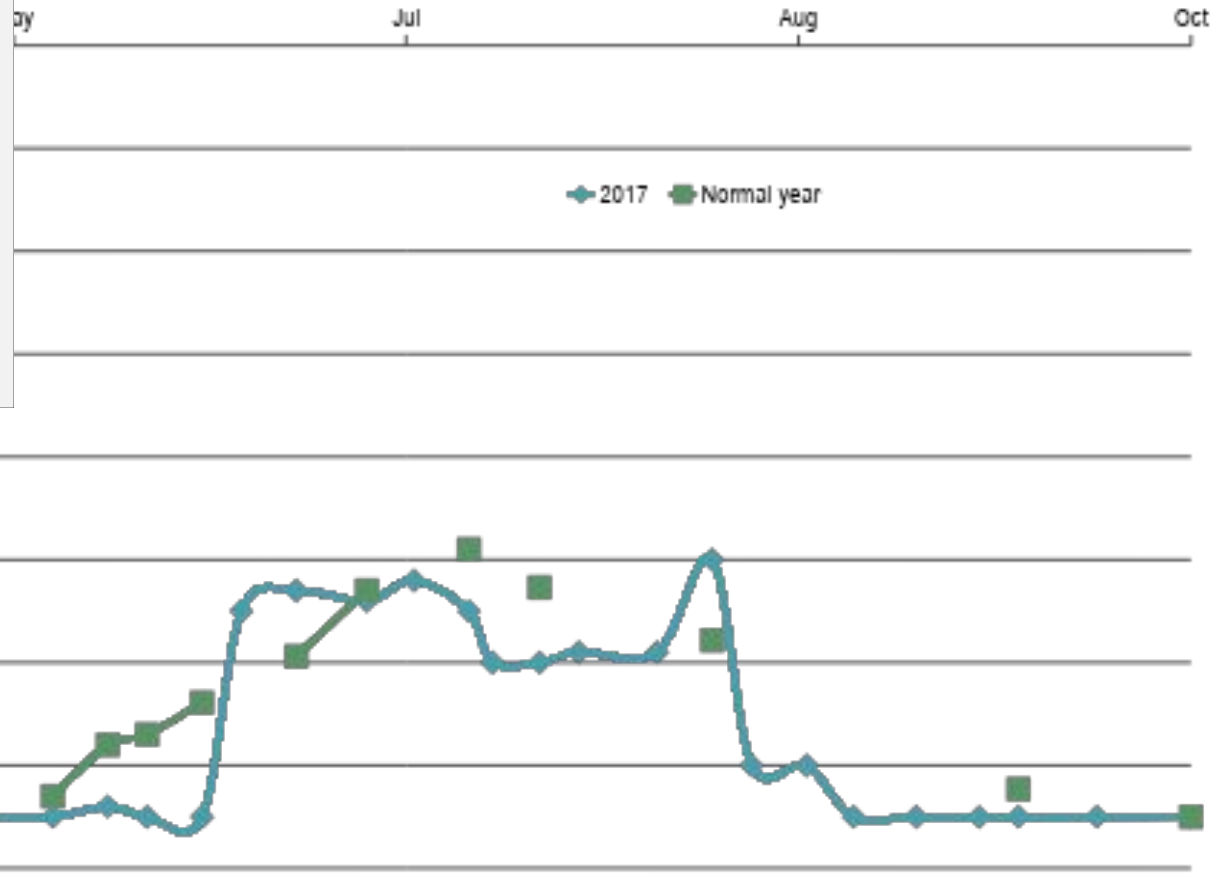
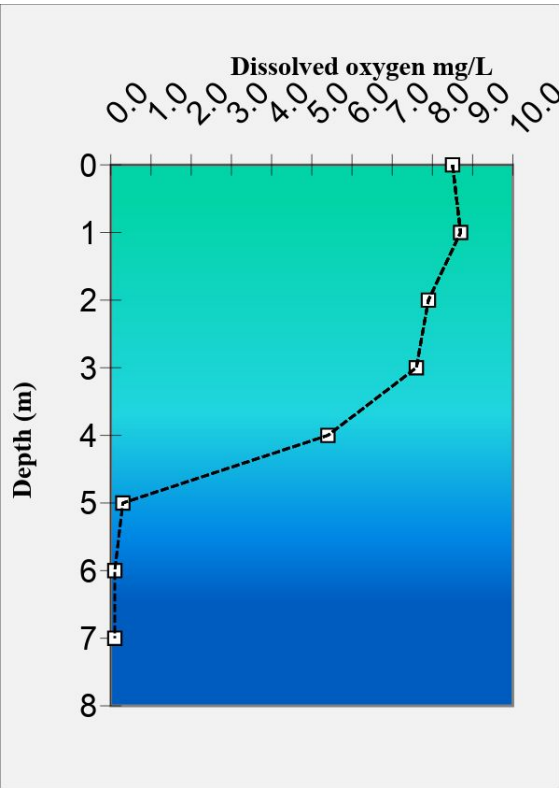
Trend in surface water temperatures

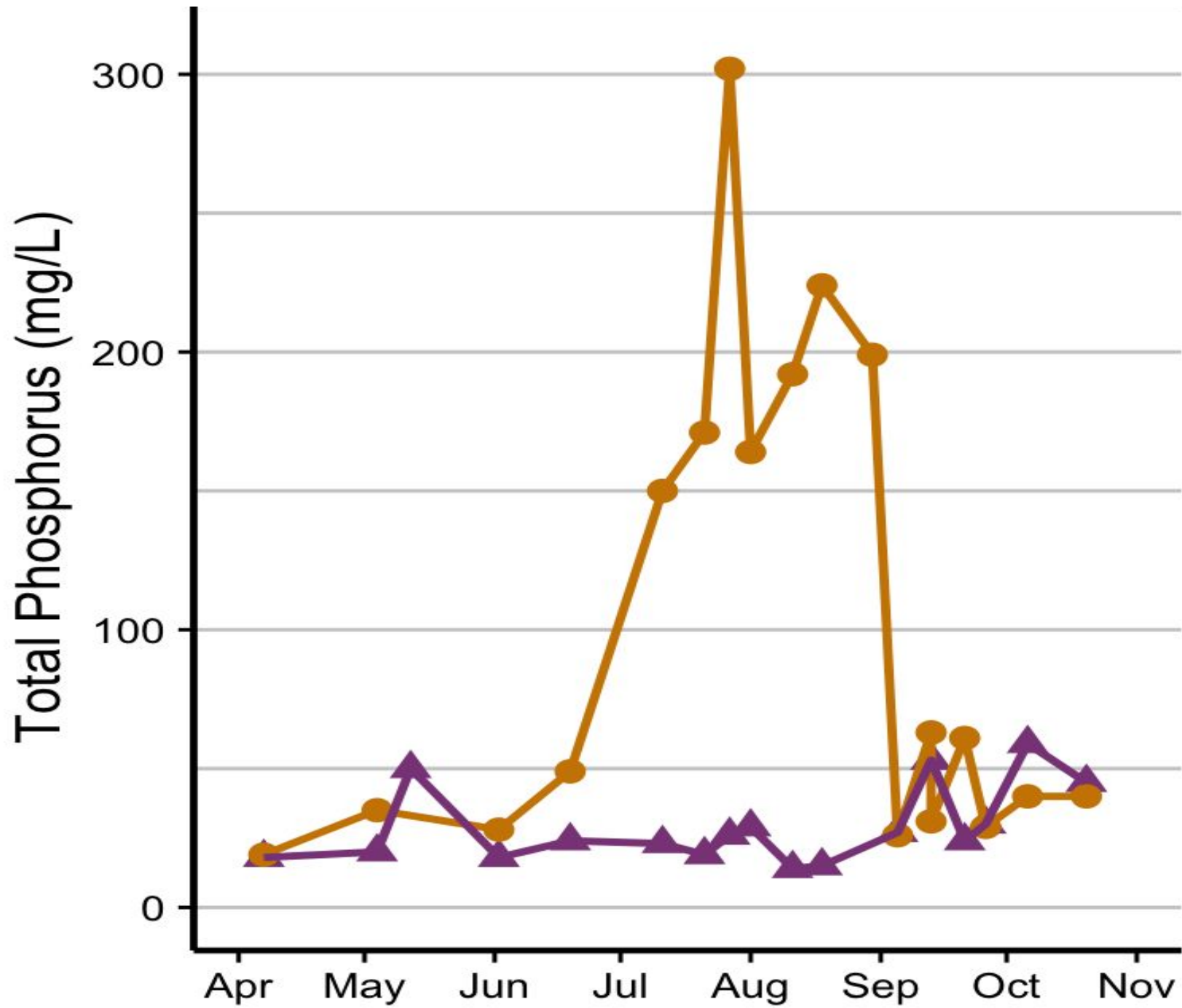


Water temperature and DO

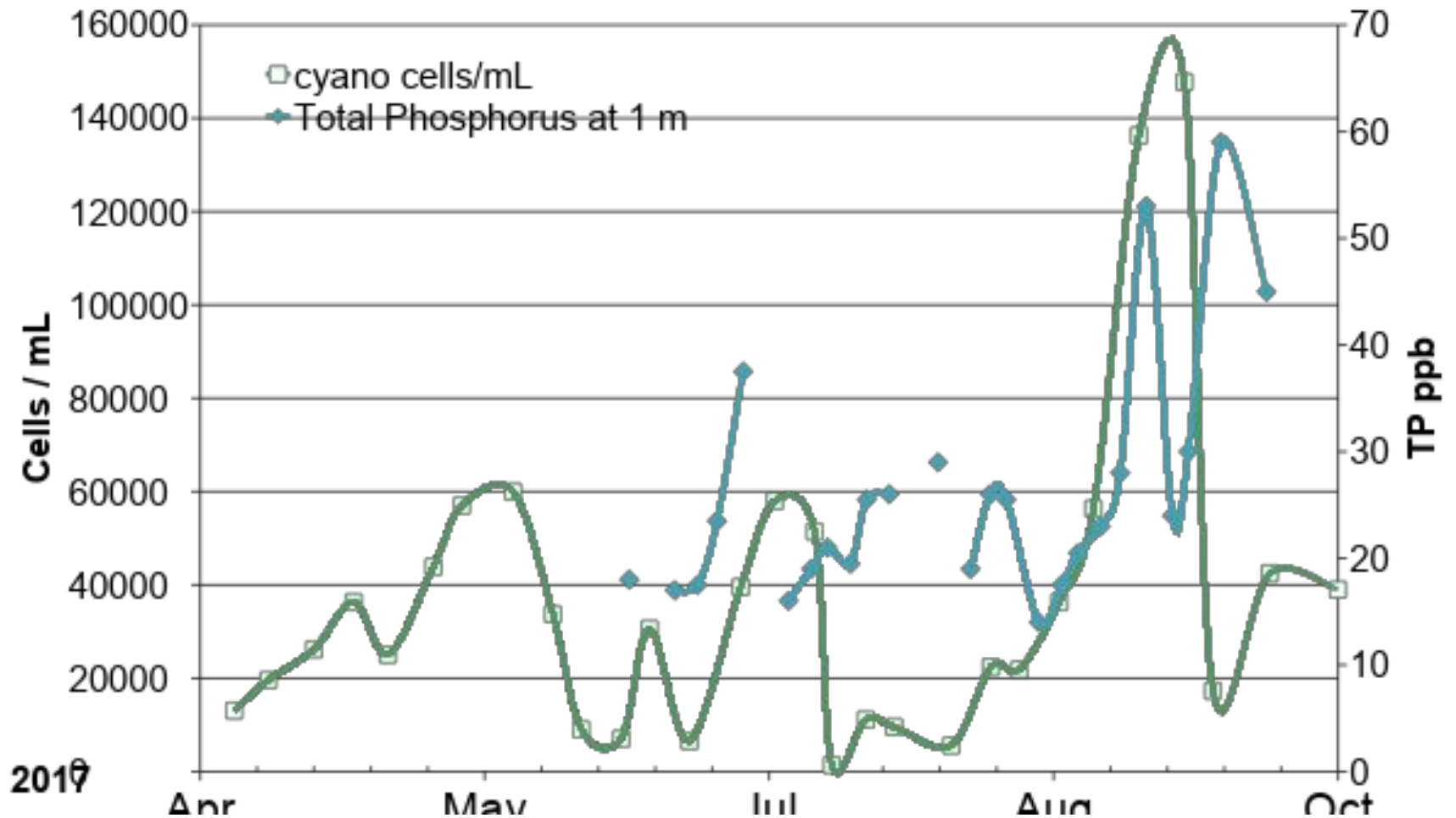


Trends in Anoxic Boundary





TP and Cyano numbers



Total phosphorus and Cyanobacteria numbers in 2017

