Bantam Lake
2018

Some of what we learned in 2017

Northeast Aquatic Research

March 15, 2018


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:

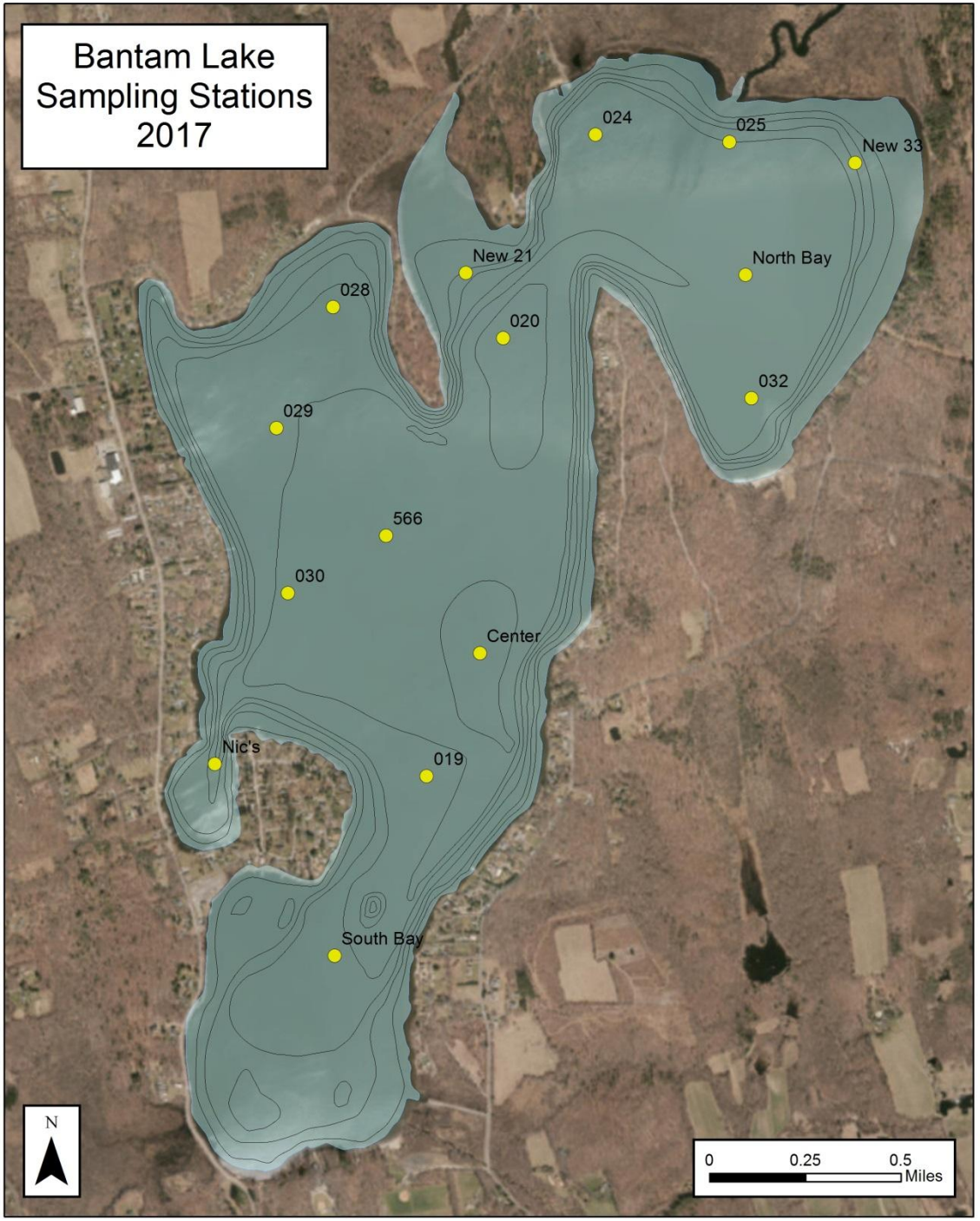
- Will ALUM help?
- Will Aeration help?
- Will storm-water retro-fits help?
- Is it something else entirely?

These attack internal loading

These attack external loading

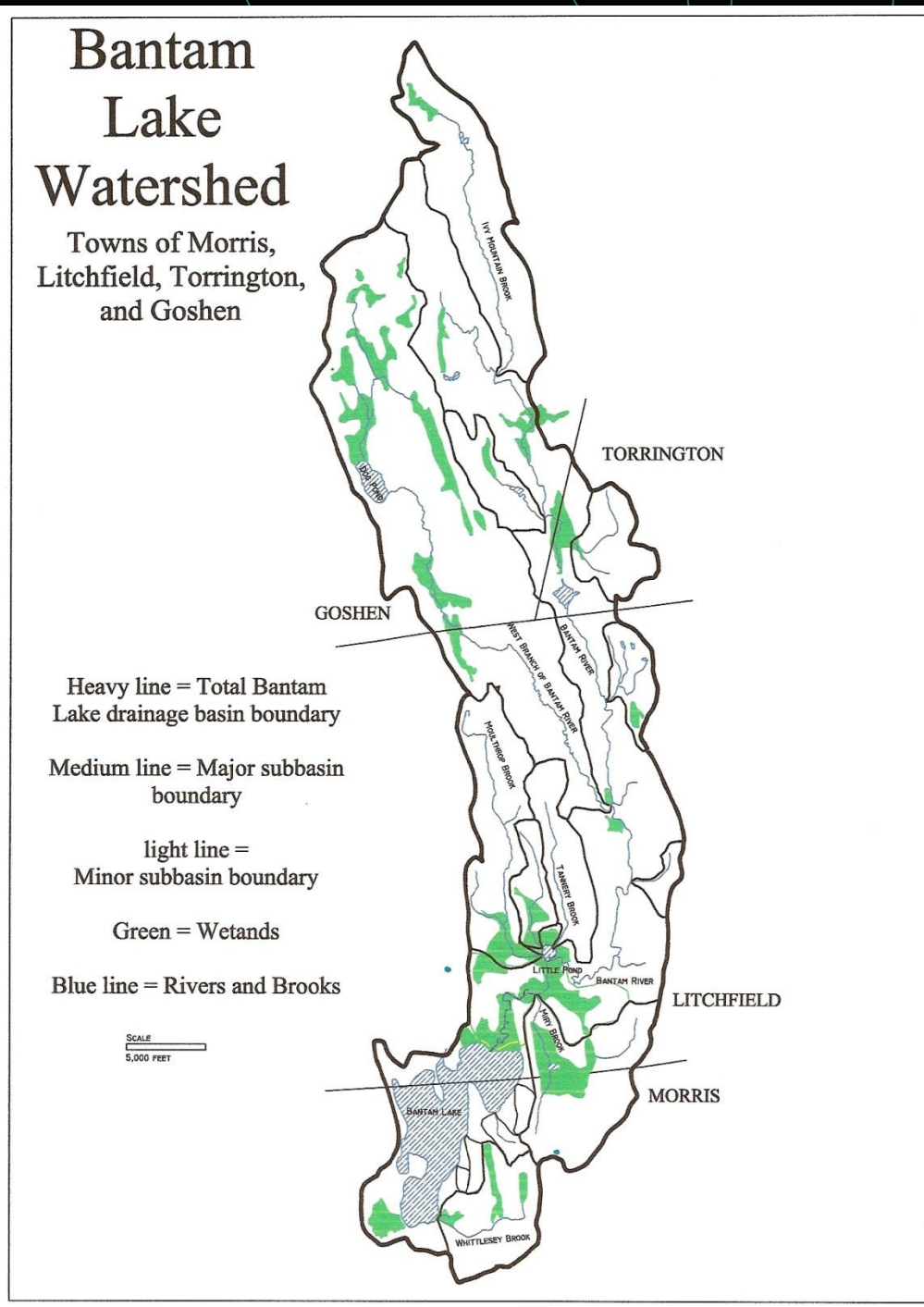
2017 Sampling Stations ~15

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.



July 22, 2008

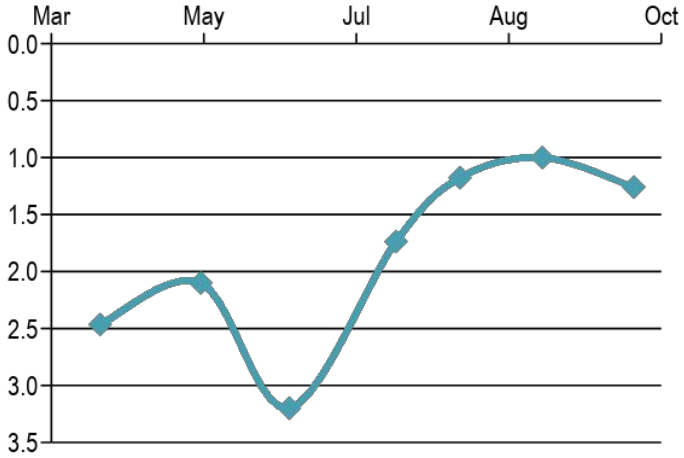
Secchi depths in meters on that day:

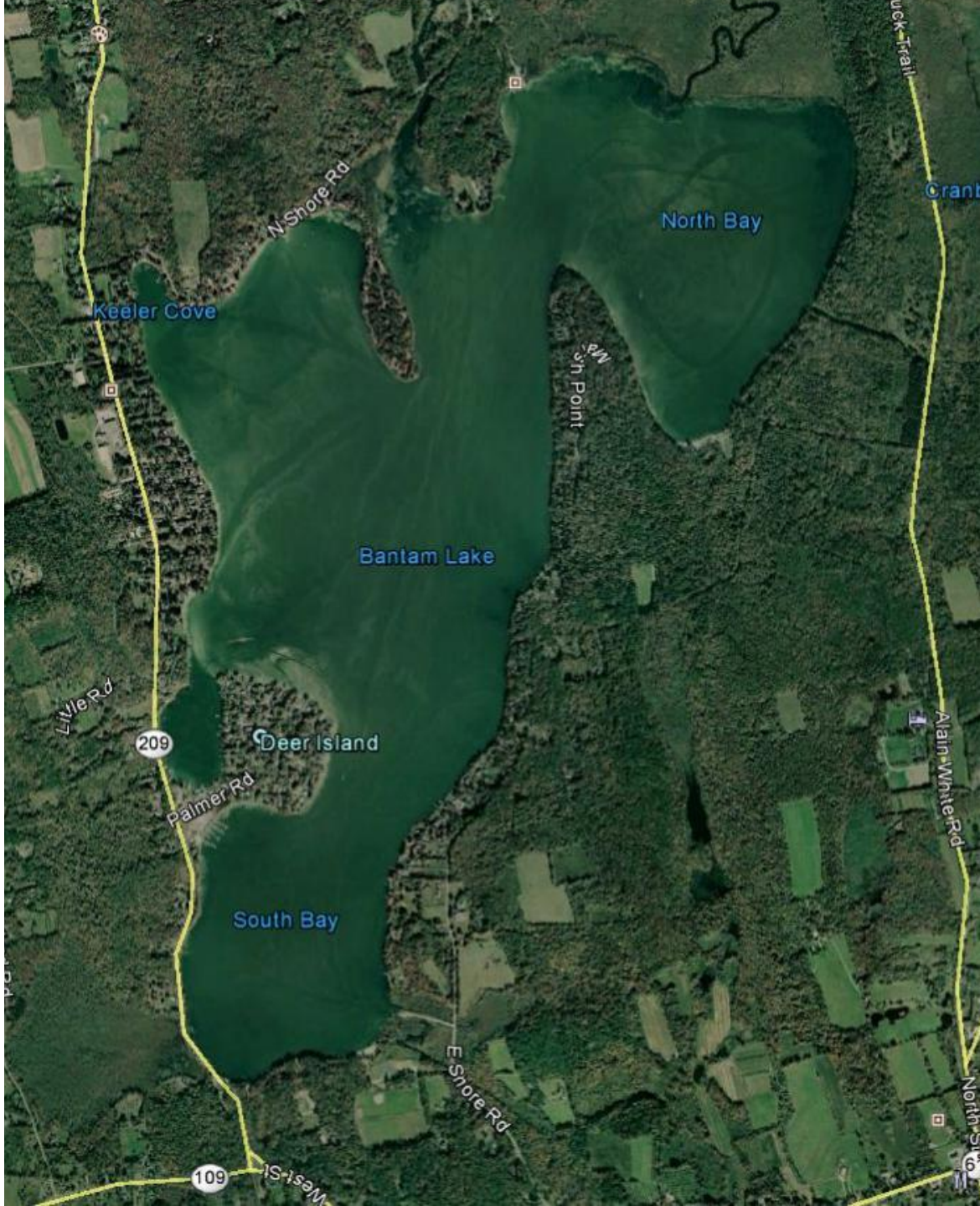
SB = 1.85

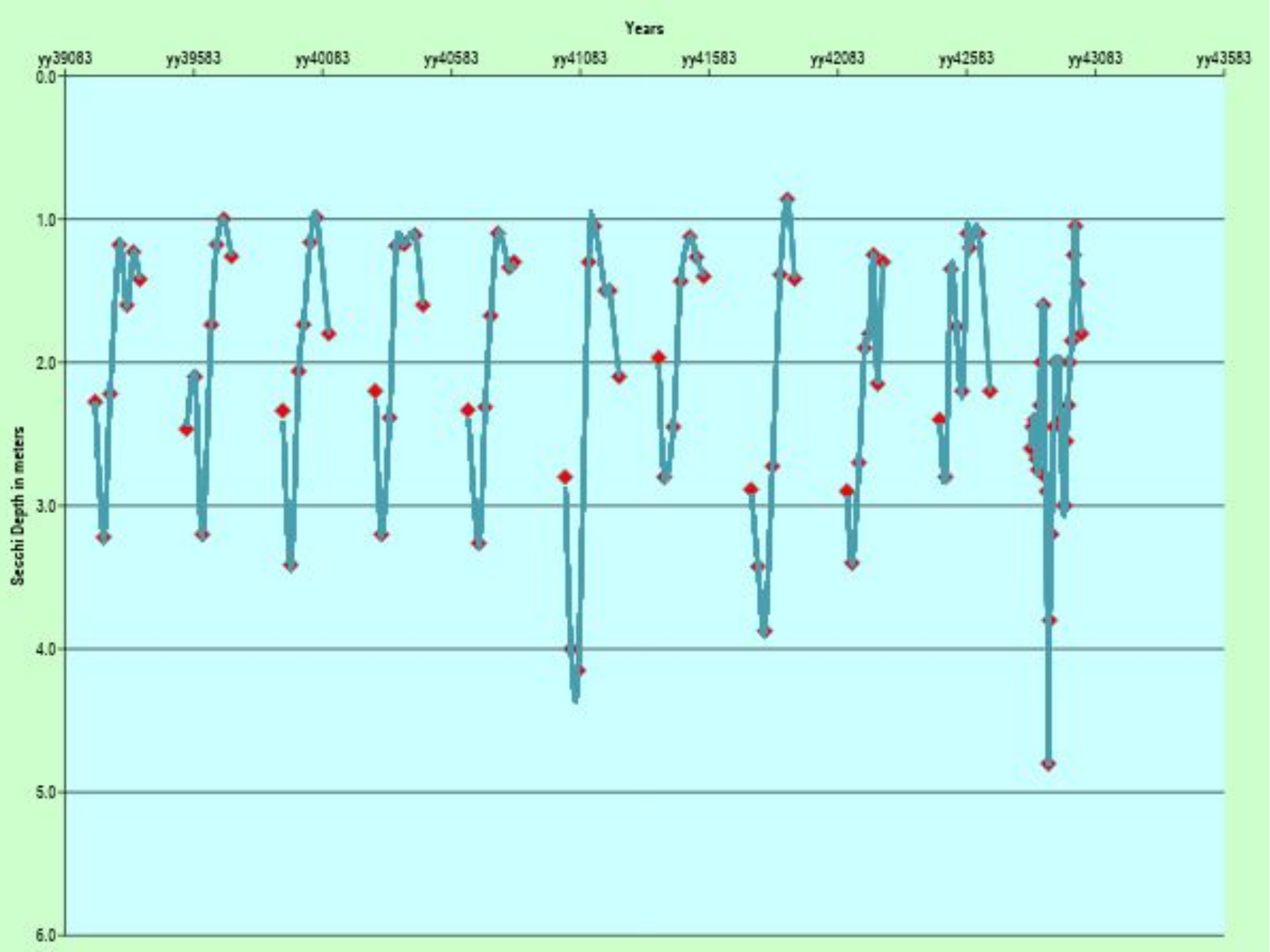
CL = 1.6

NB = 1.8

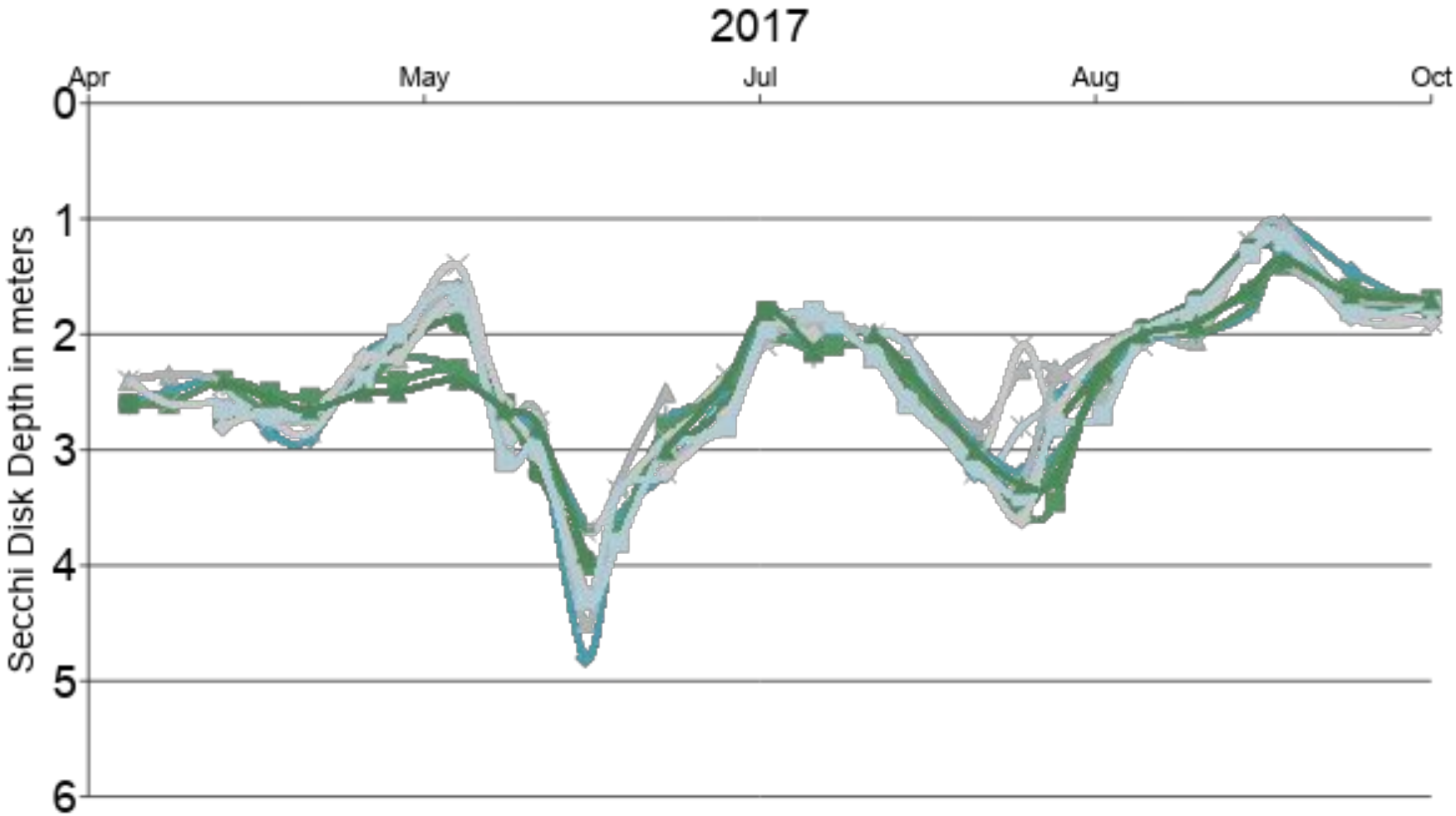
Nic's = 1.7



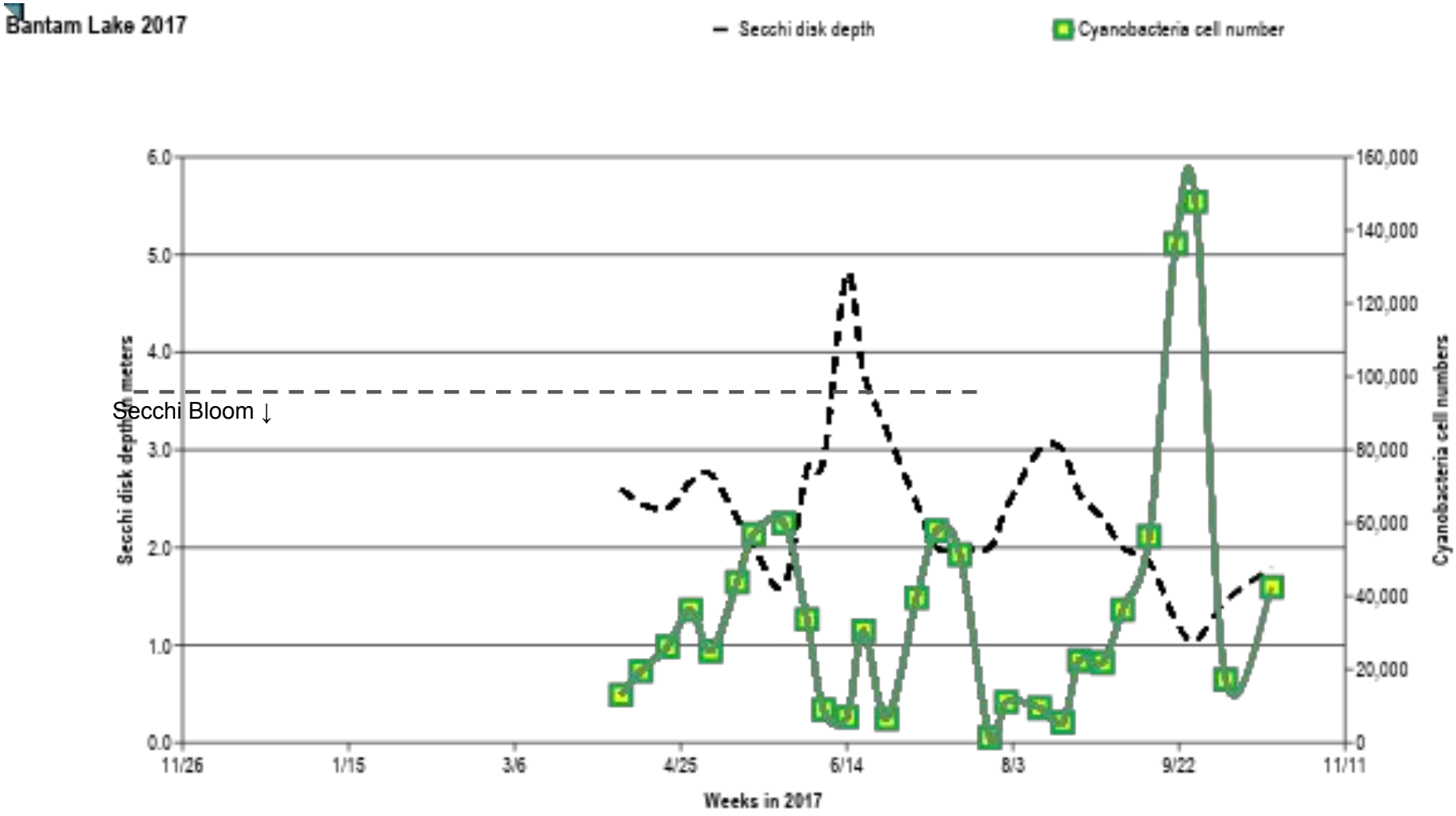



Years
yy39083
yy39583
yy40083
yy40583
yy41083
yy41583
yy42083
yy42583
yy43083
yy43583
0.0
1.0
2.0
3.0
4.0
5.0
6.0
Secchi Depth in meters

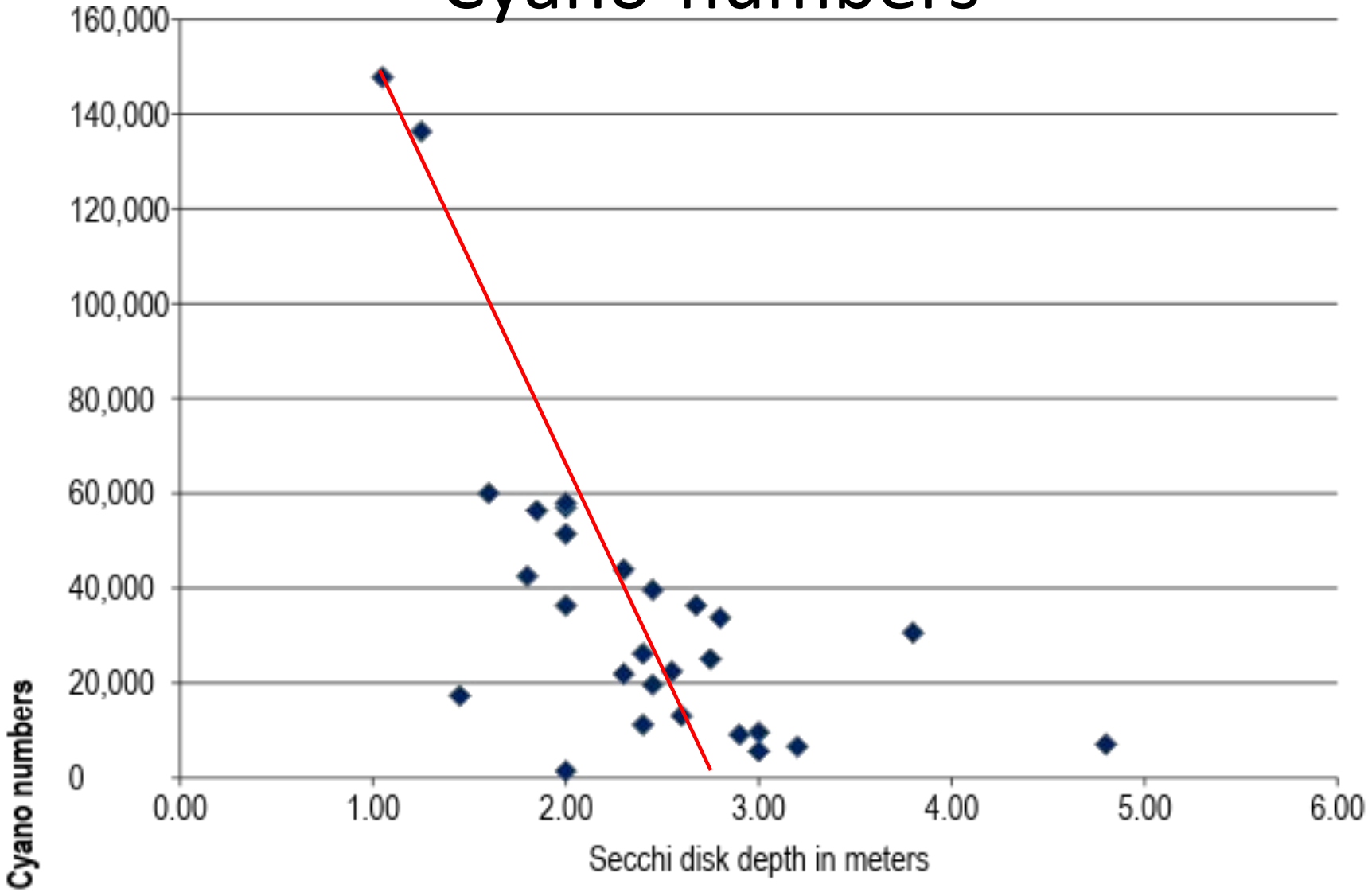
2017 water clarity trends



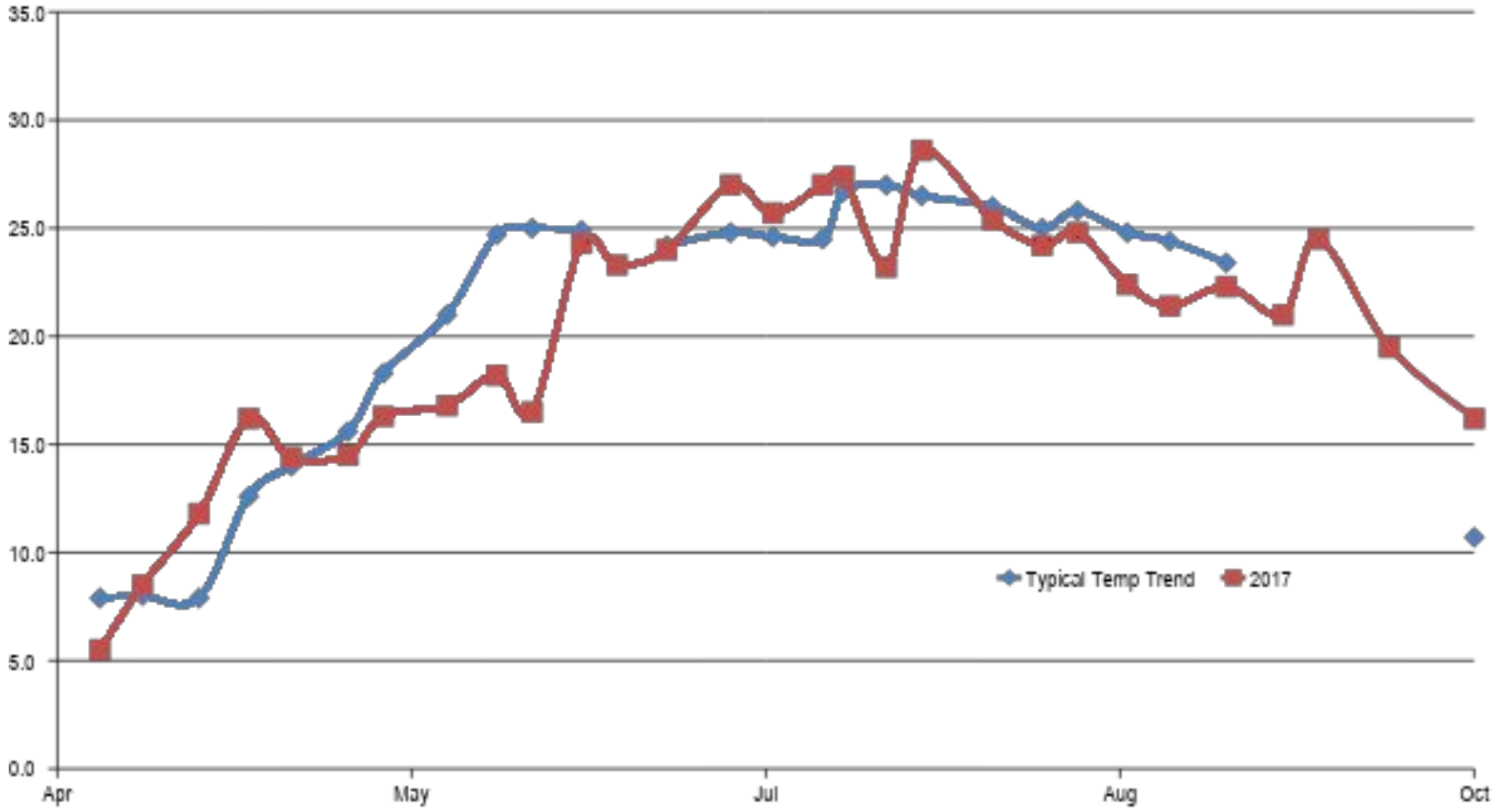
Trend in Secchi disk depth and Cyanobacteria numbers



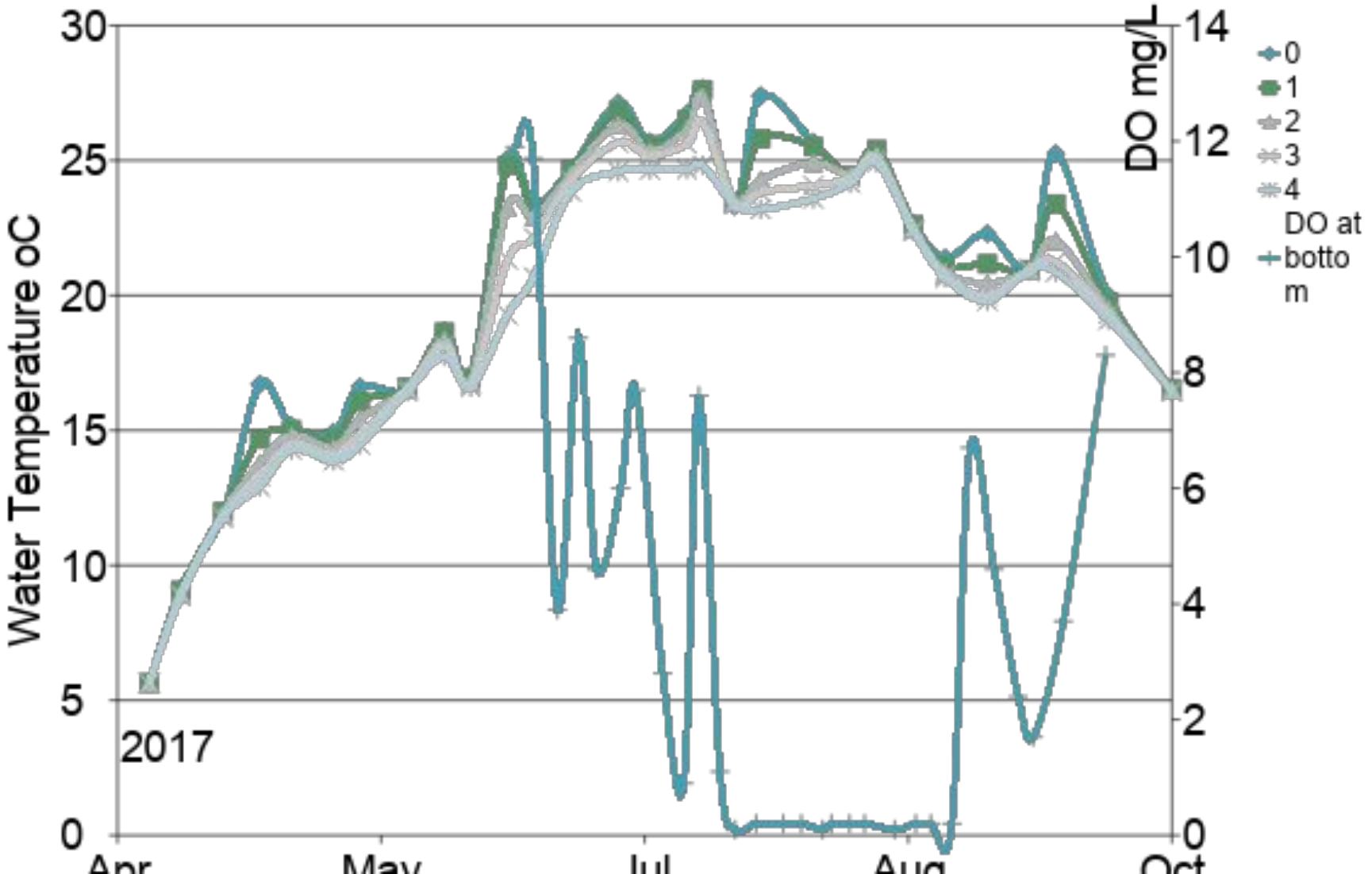
Relationship between water clarity and Cyano-numbers



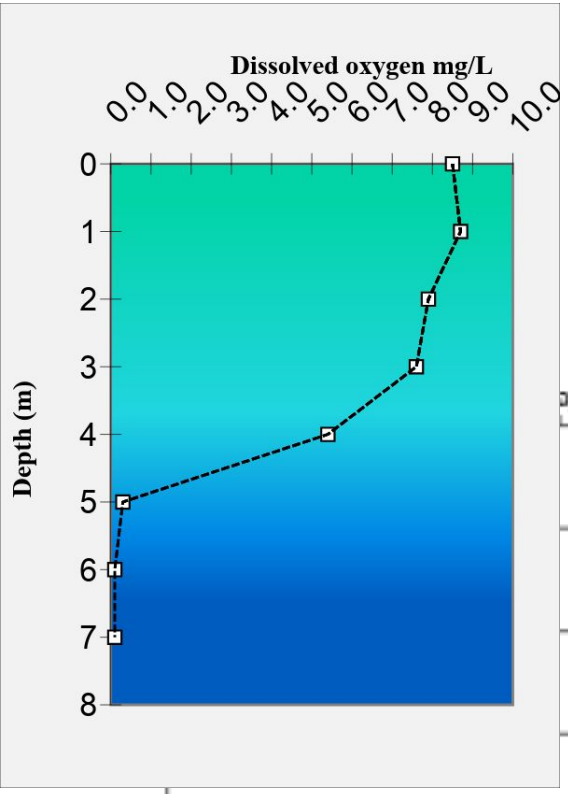
Trend in surface water temperatures

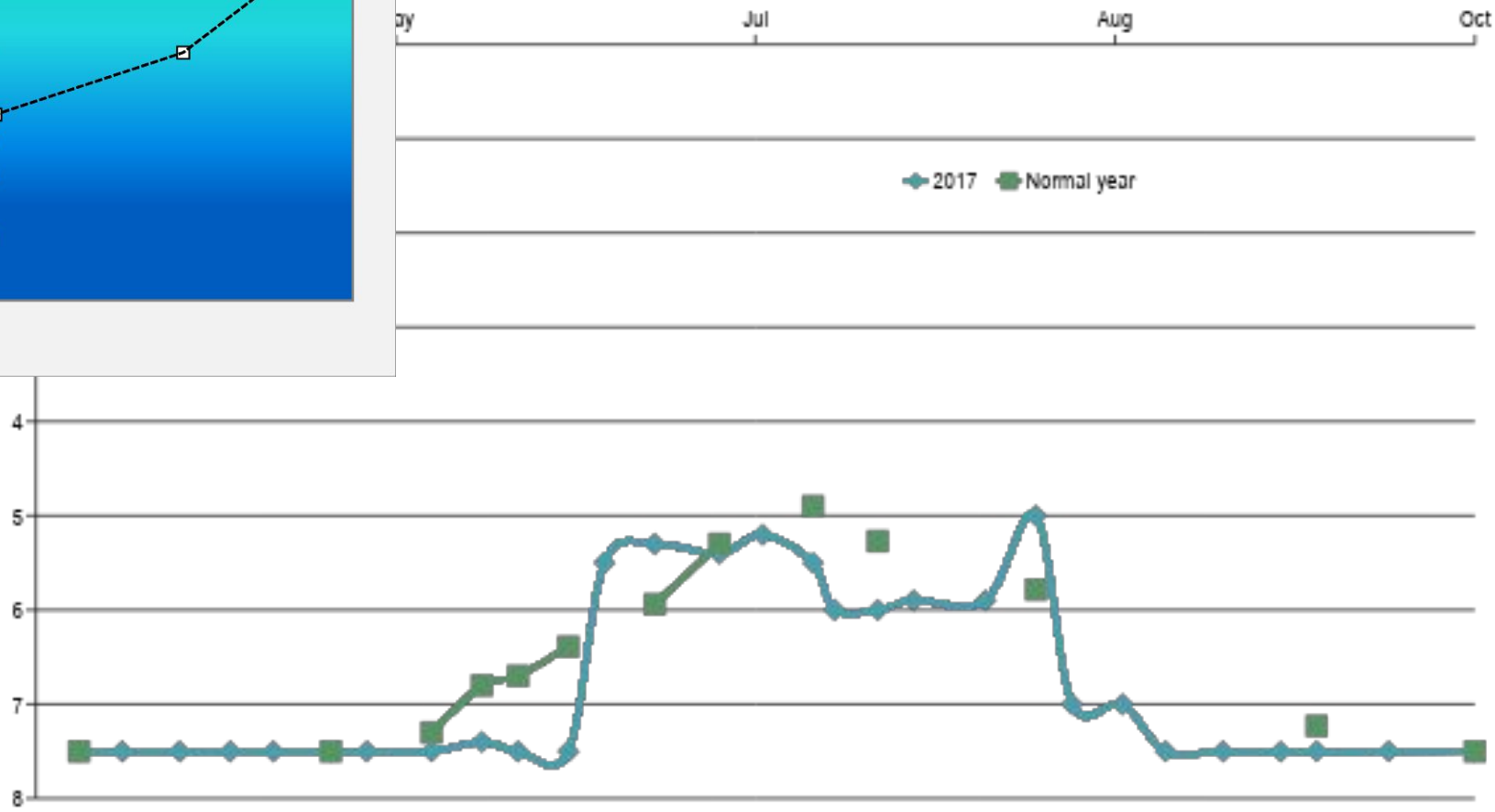


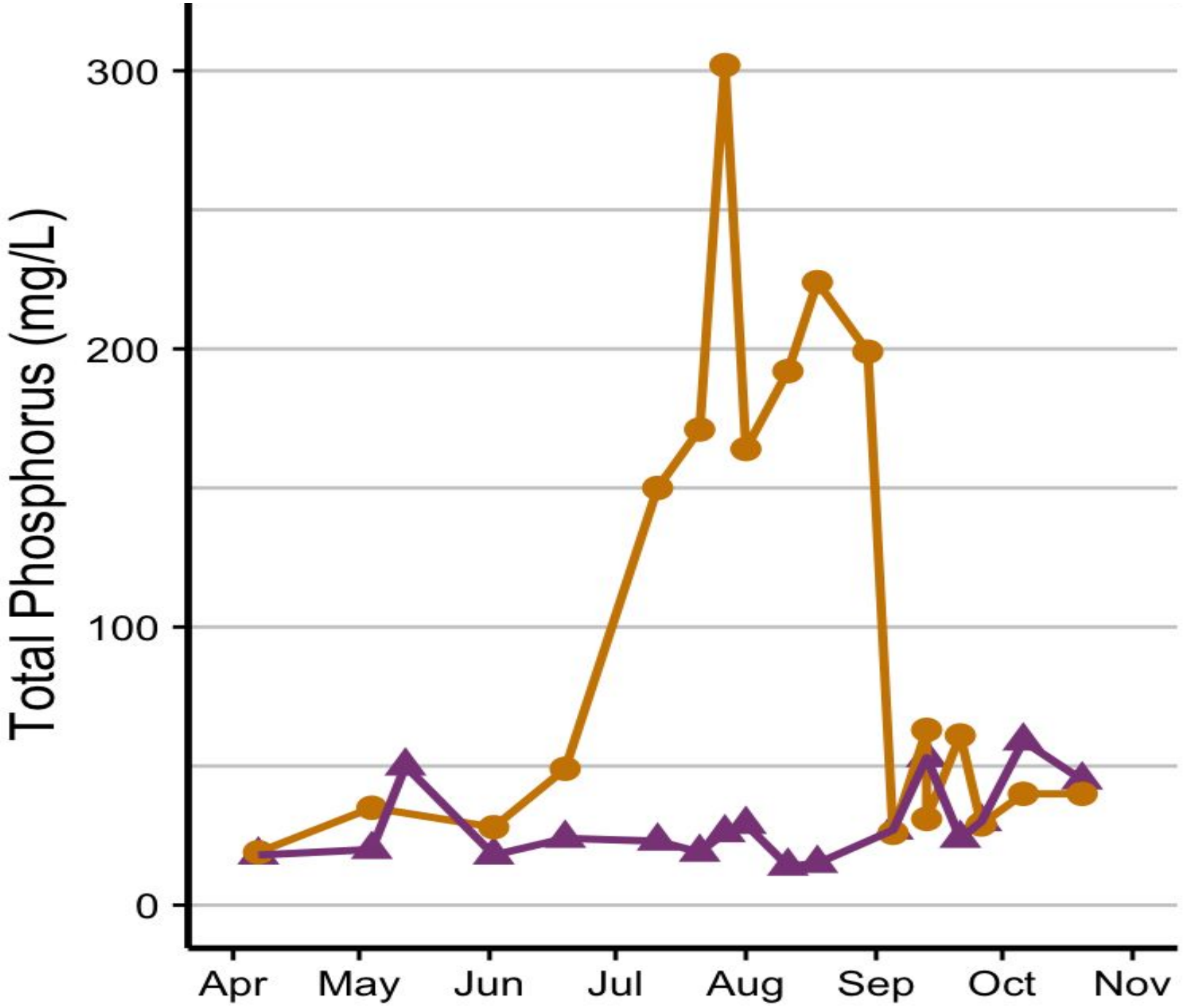
Water temperature and DO



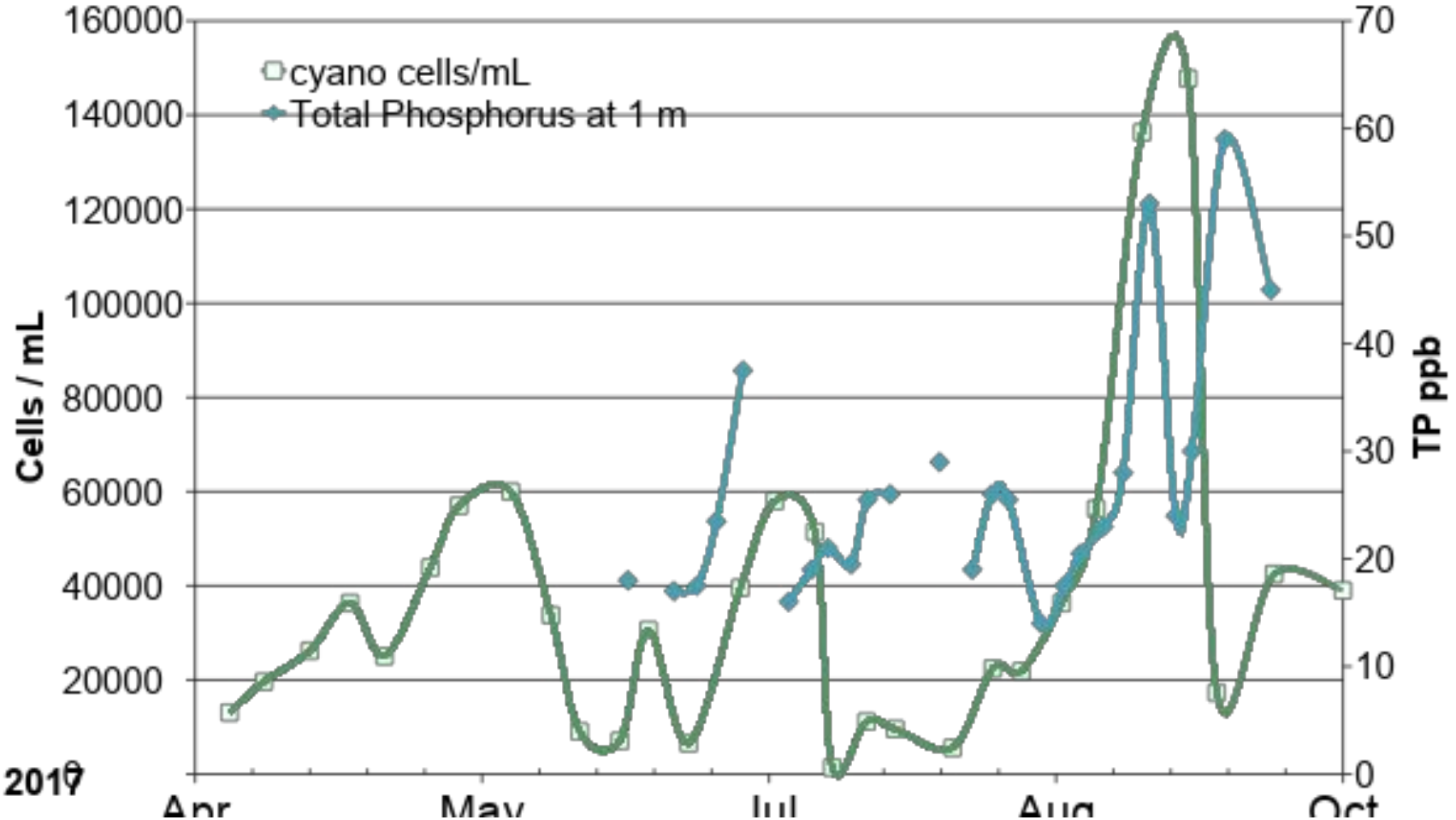
Trends in Anoxic Boundary






Total Phosphorus (mg/L)
300
200
100
0
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov

TP and Cyano numbers



Total phosphorus and Cyanobacteria numbers in 2017