

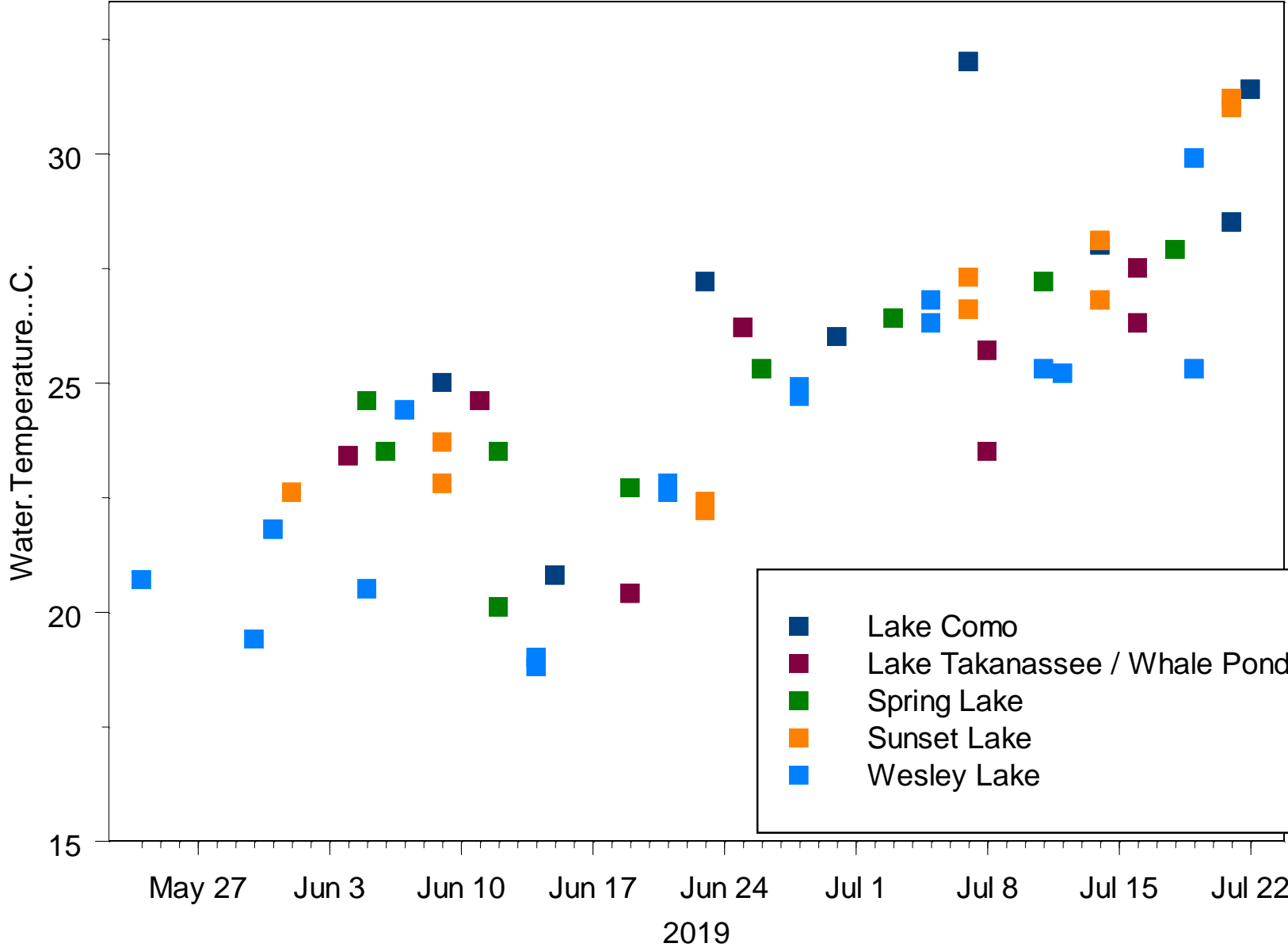
# CLONet Citizen Science Checkup

Parameter measurements as of July 23, 2019

Plots show measurements by date

Symbols are color coded for waterbody

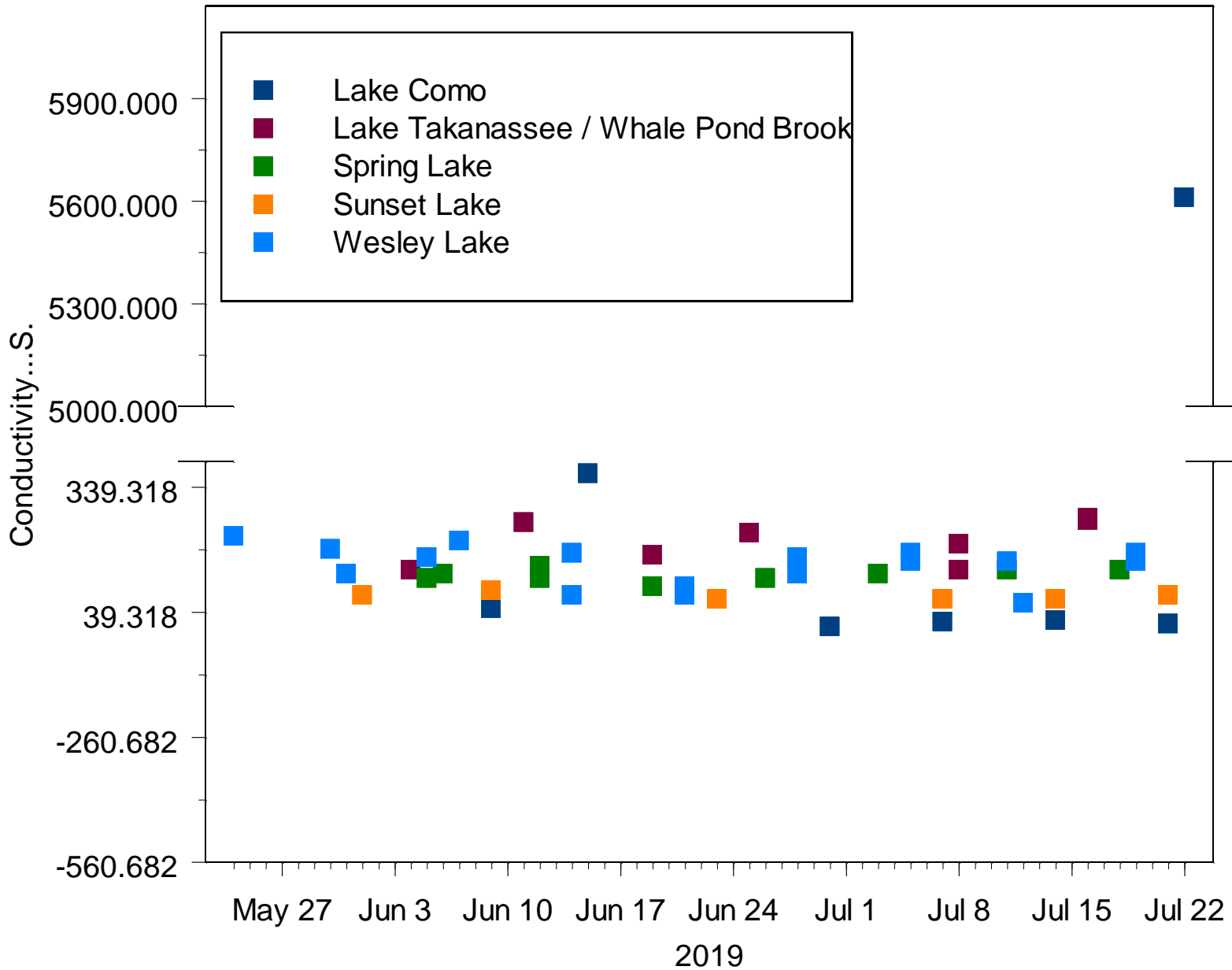
Multiple station within a waterbody are not distinguished here



Water temperature: All lakes appear to heating up similarly.

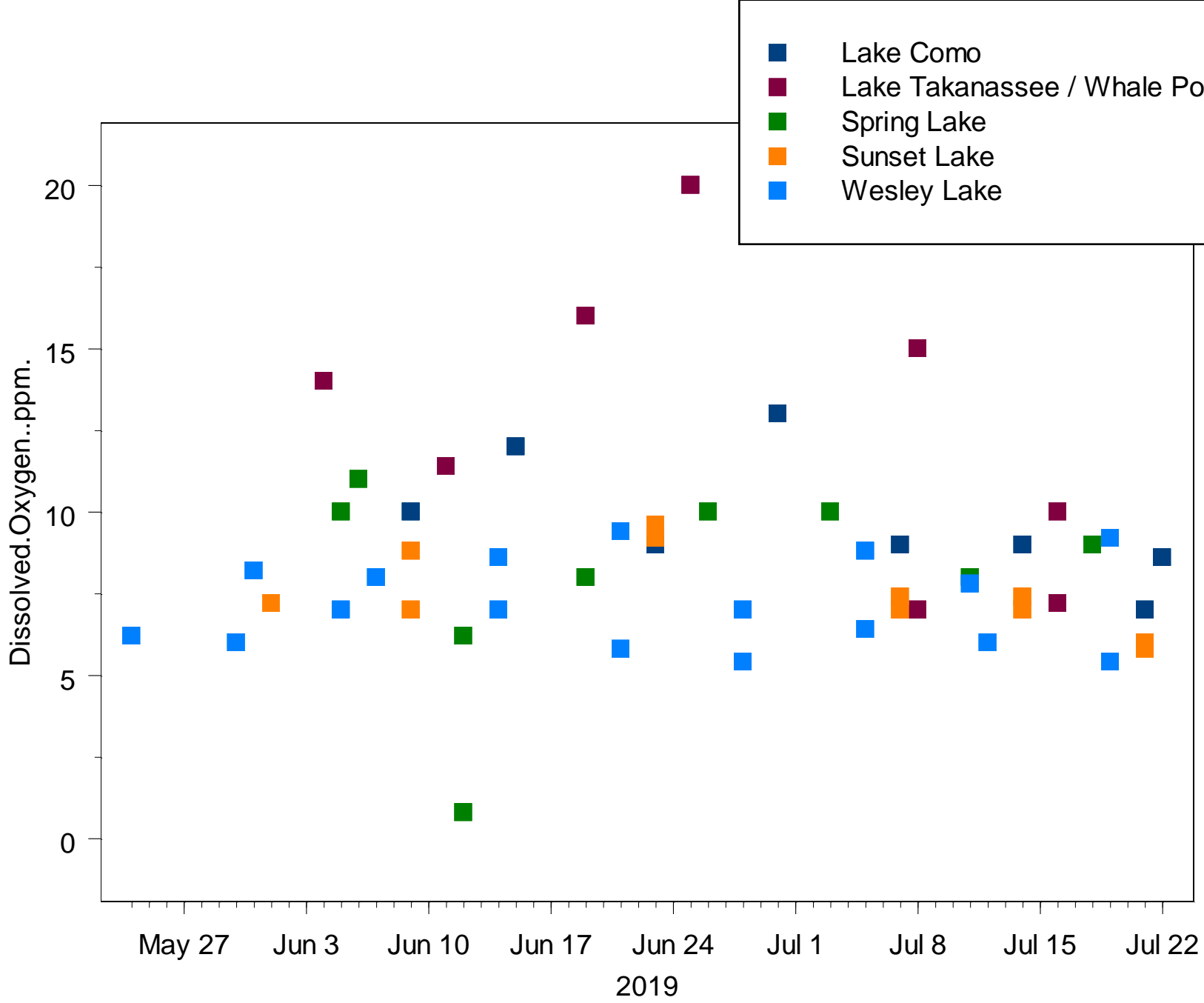
There is a hint of early-season differences among lakes





Conductivity: The lakes mostly have similar conductivity, except for the last sample taken at Lake Como near the ocean.

It looks like they are trending down over time so it might be good to check the calibration of the conductivity pens.

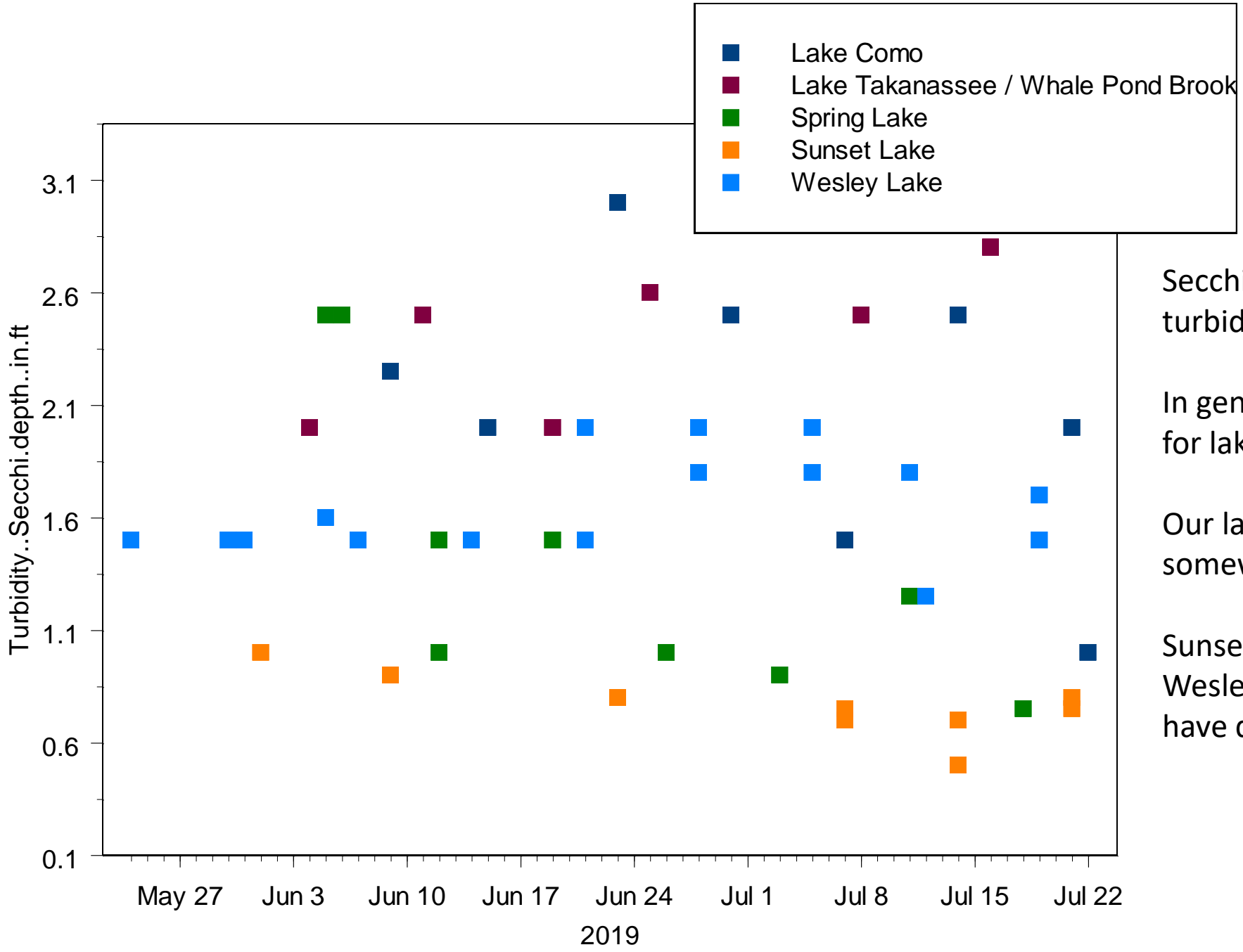


- Lake Como
- Lake Takanassee / Whale Pond Brook
- Spring Lake
- Sunset Lake
- Wesley Lake

Dissolved oxygen (ppm) – except for the one low measurement in Spring Lake, most values are within the acceptable / normal range for lakes (0-2 is worst (things start to die), 5-12 is ok, 12+ is high but not necessarily harmful)

Why does Lake Takanassee have such high D.O. mid summer? Did this correspond to the weeds blooming?

I'm curious to see how this changes with reduced sunlight in the summer – fall transition.

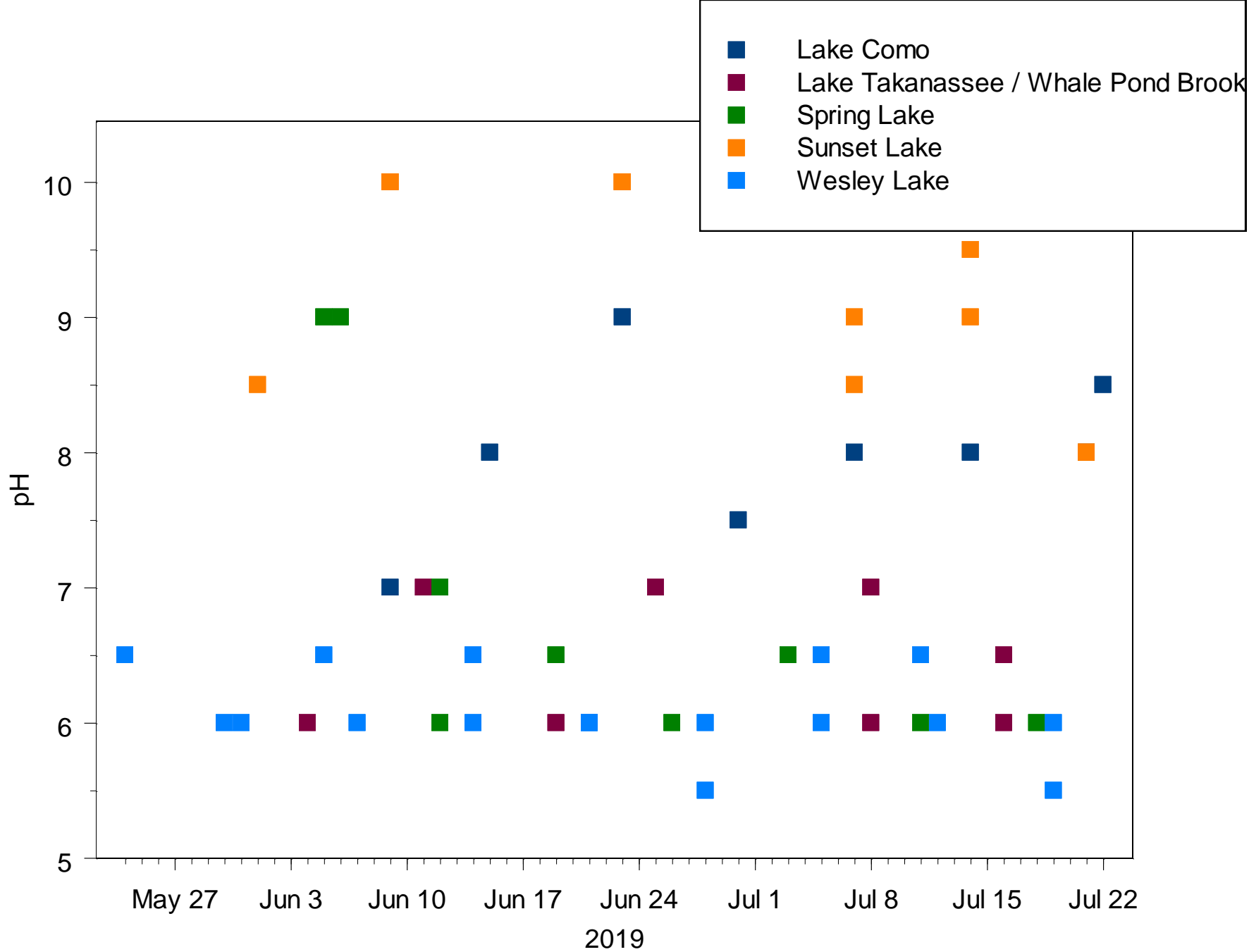


Secchi depth: Lower values means more turbid water.

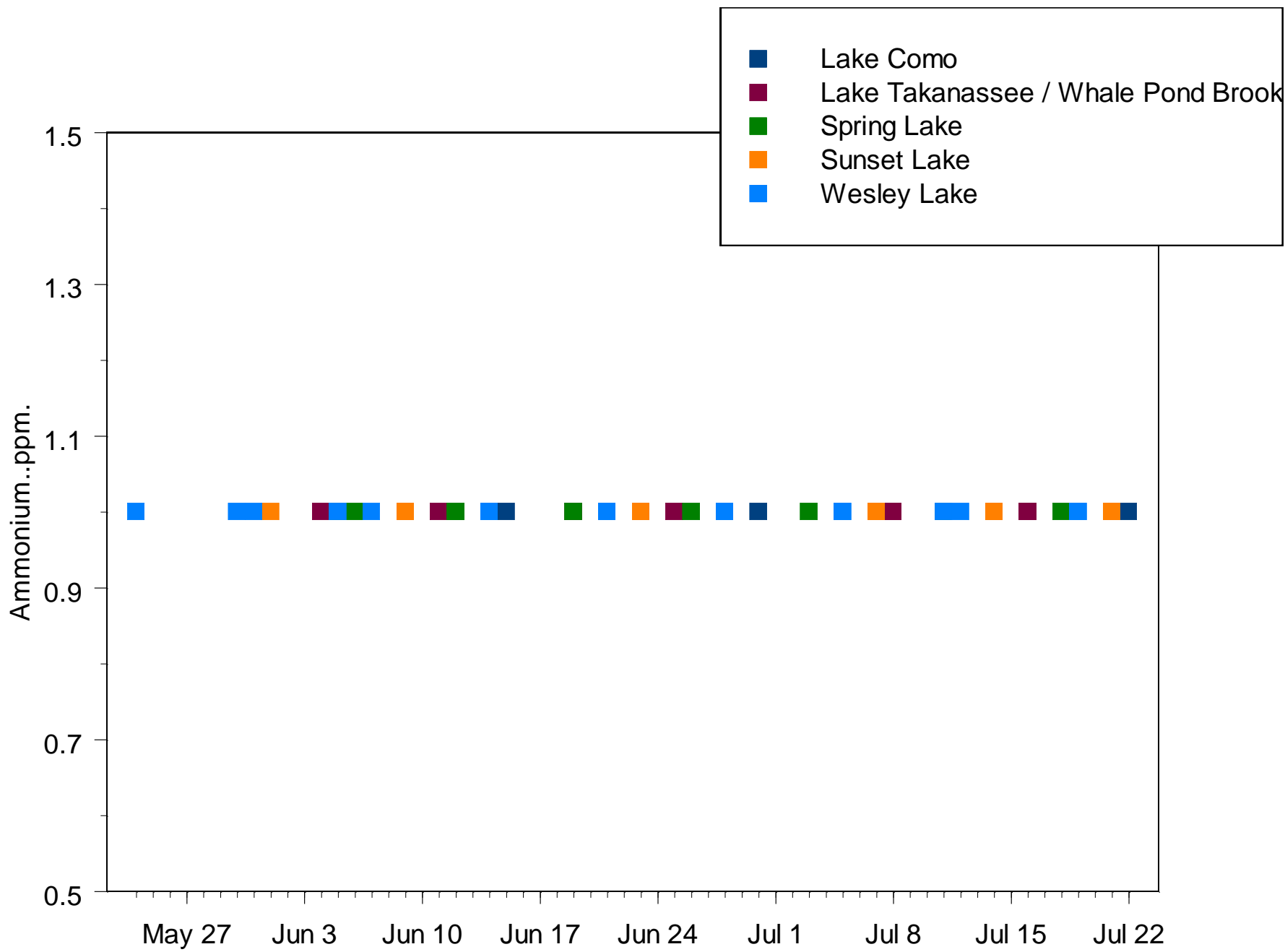
In general, lower Secchi depth are worse for lakes (e.g. support less life)

Our lakes appear to have different values somewhat consistently.

Sunset is lowest, Tak and Como highest, Wesley in the middle. Spring appears to have declined through the summer

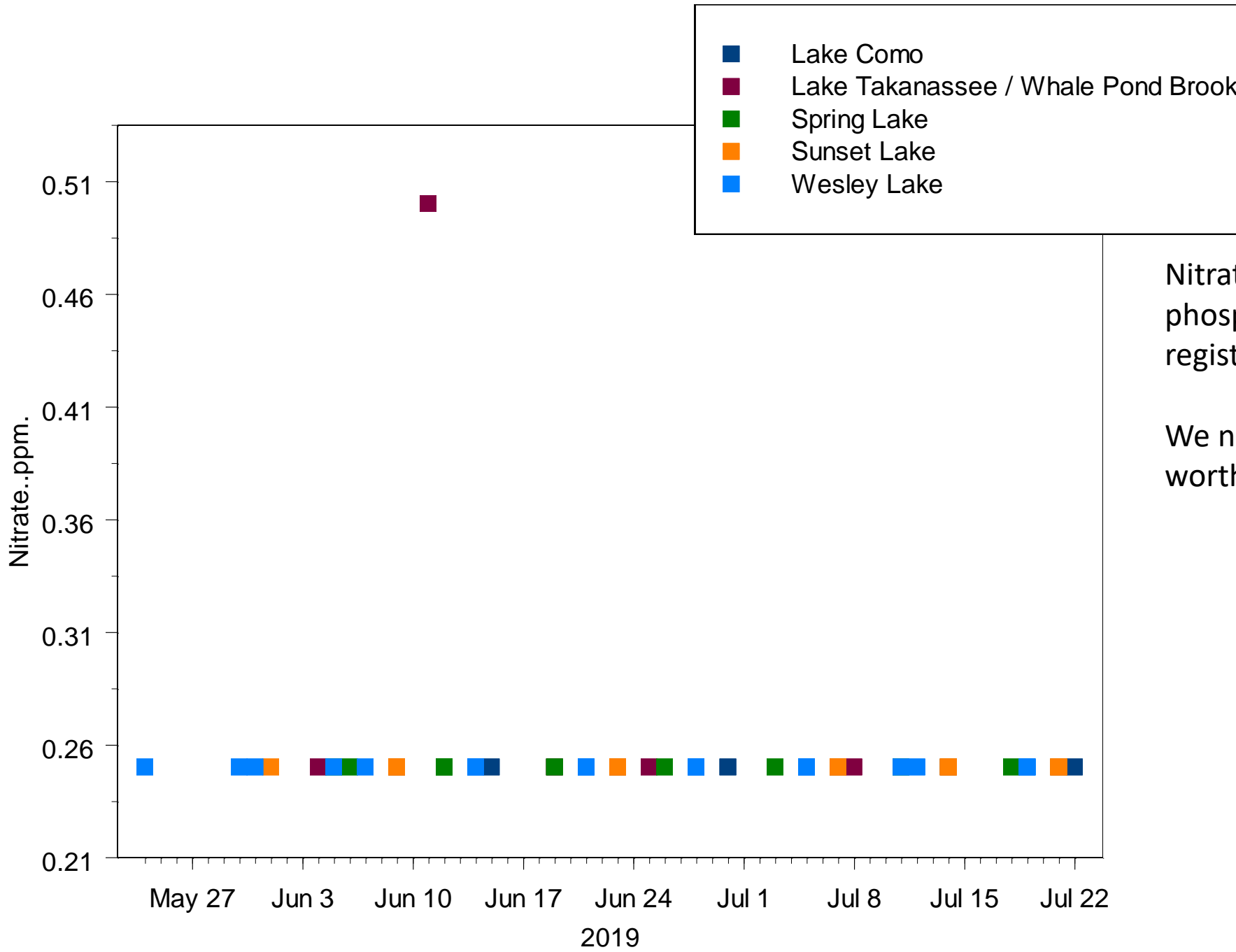


pH: Lakes appear to have different pH values. HABs will increase the pH (e.g. Sunset) but other factors can affect pH as well. I'm not sure why Wesley Lake and Tak pH is so low.



Ammonium: Our ammonium, Nitrate and phosphate kits don't seem to be registering any useful data

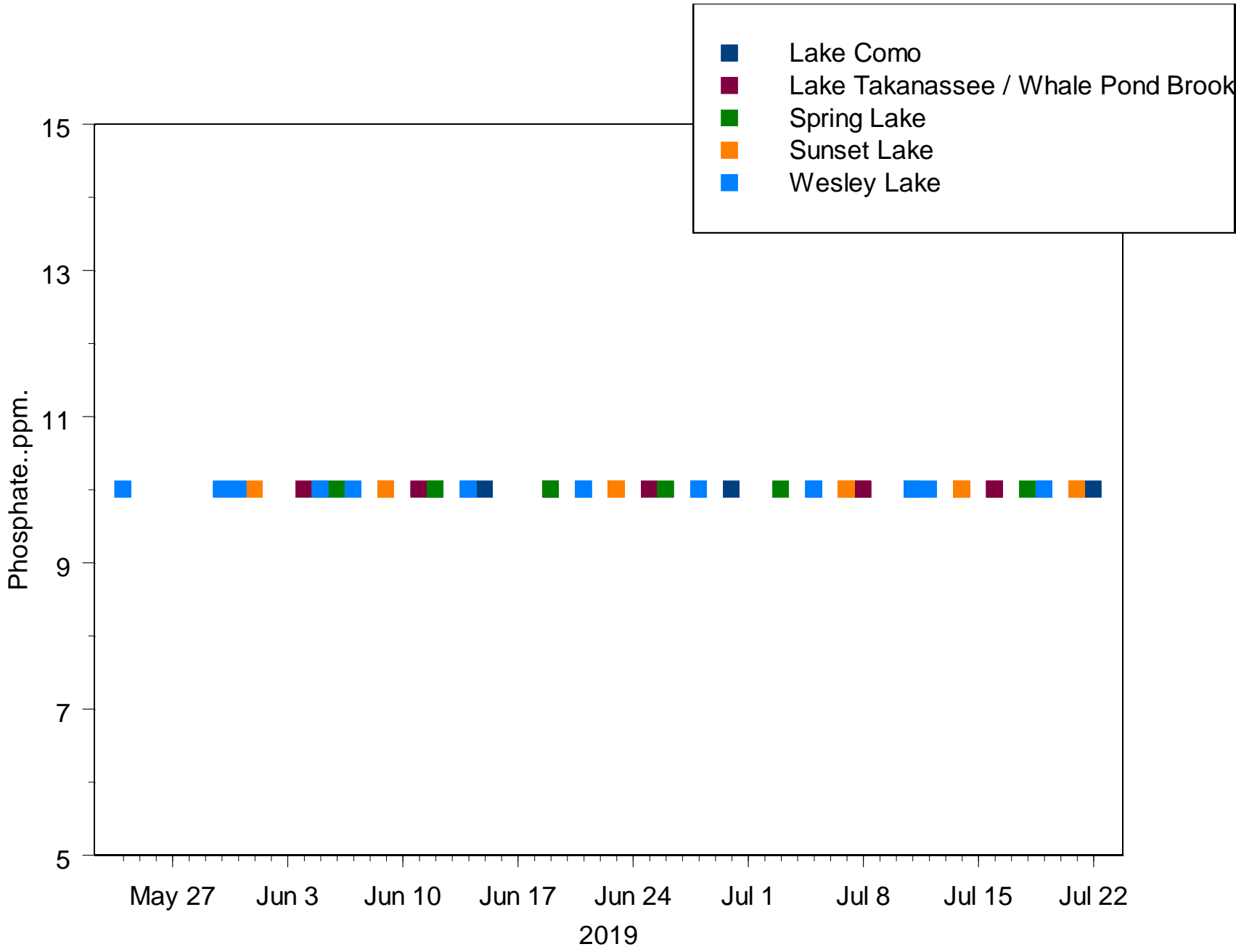
We need to consider whether or not its worth continuing these measurements



Nitrate: Our ammonium, nitrate and phosphate kits don't seem to be registering any useful data

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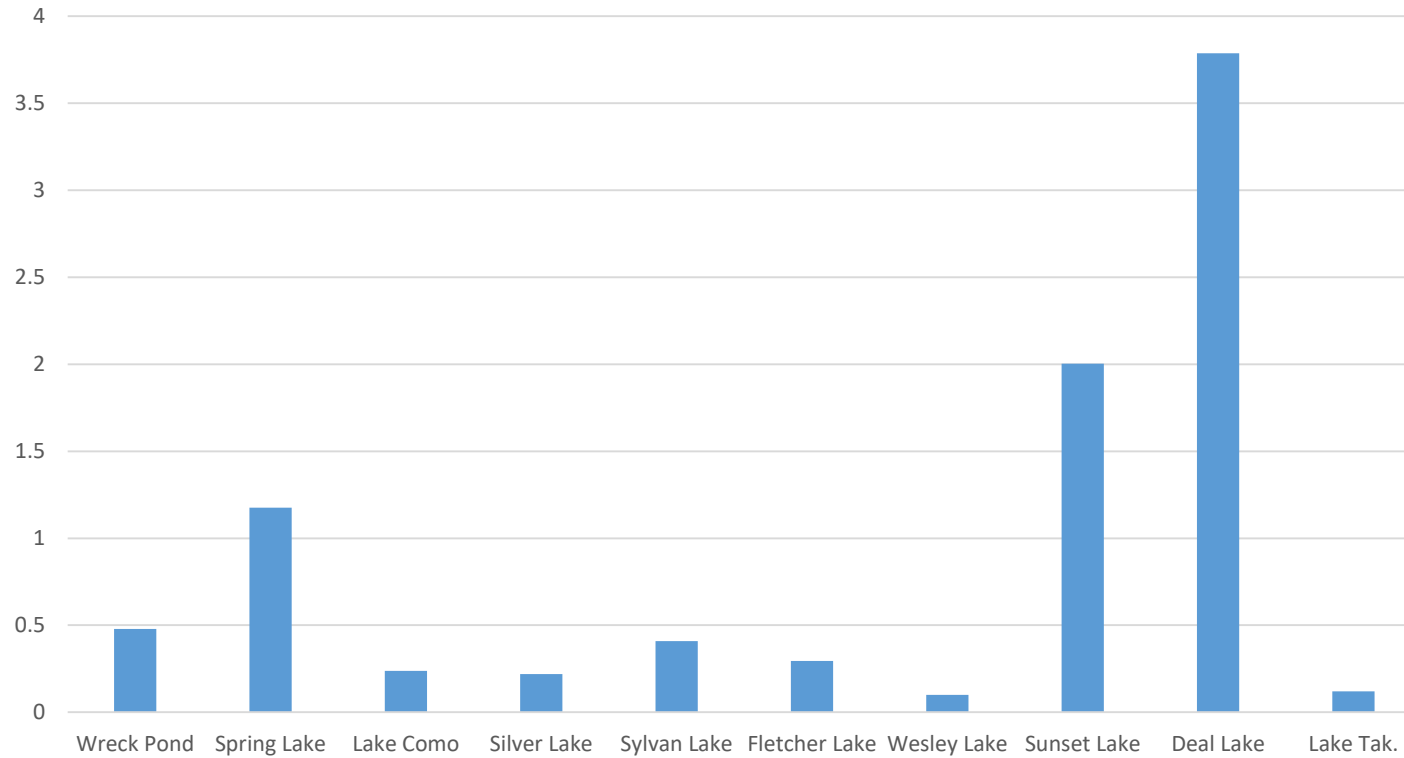




Phosphate: Our ammonium, Nitrate and phosphate kits don't seem to be registering any useful data

We need to consider whether or not its worth continuing these measurements

PC:Chl 7/17/2019



This graph shows an index of harmful algal bloom (HAB) abundance in different lakes: bigger bars = more HAB

My lab group's nutrient data, analyzed by NJ DEP labs, are being worked up now...

For most of the summer, Sunset was the highest, then Deal Lake caught up.

Very interesting to ask why most lakes DON'T get HABs

# Thoughts...

- It's early to draw conclusions, but the observations that some parameters appear to differ systematically among lakes means that these are useful indicators. Next step is to understand why and document seasonal changes.
- Continued observation over time is key. Temp, Conductivity, Secchi depth, pH, and dissolved oxygen seem to be the most useful indicators. How will they respond to watershed management measures or lake treatment efforts? And how will they change over time?
- Nitrate, ammonium, and phosphate need to be re-evaluated. My students and the NJ DEP have been measuring these nutrients in a lab so we will have nutrient data to put together with this data set.
- I'm excited to see these data and appreciate all of your hard work!!!!