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State of Locustville Pond 2023 Water Quality Summary

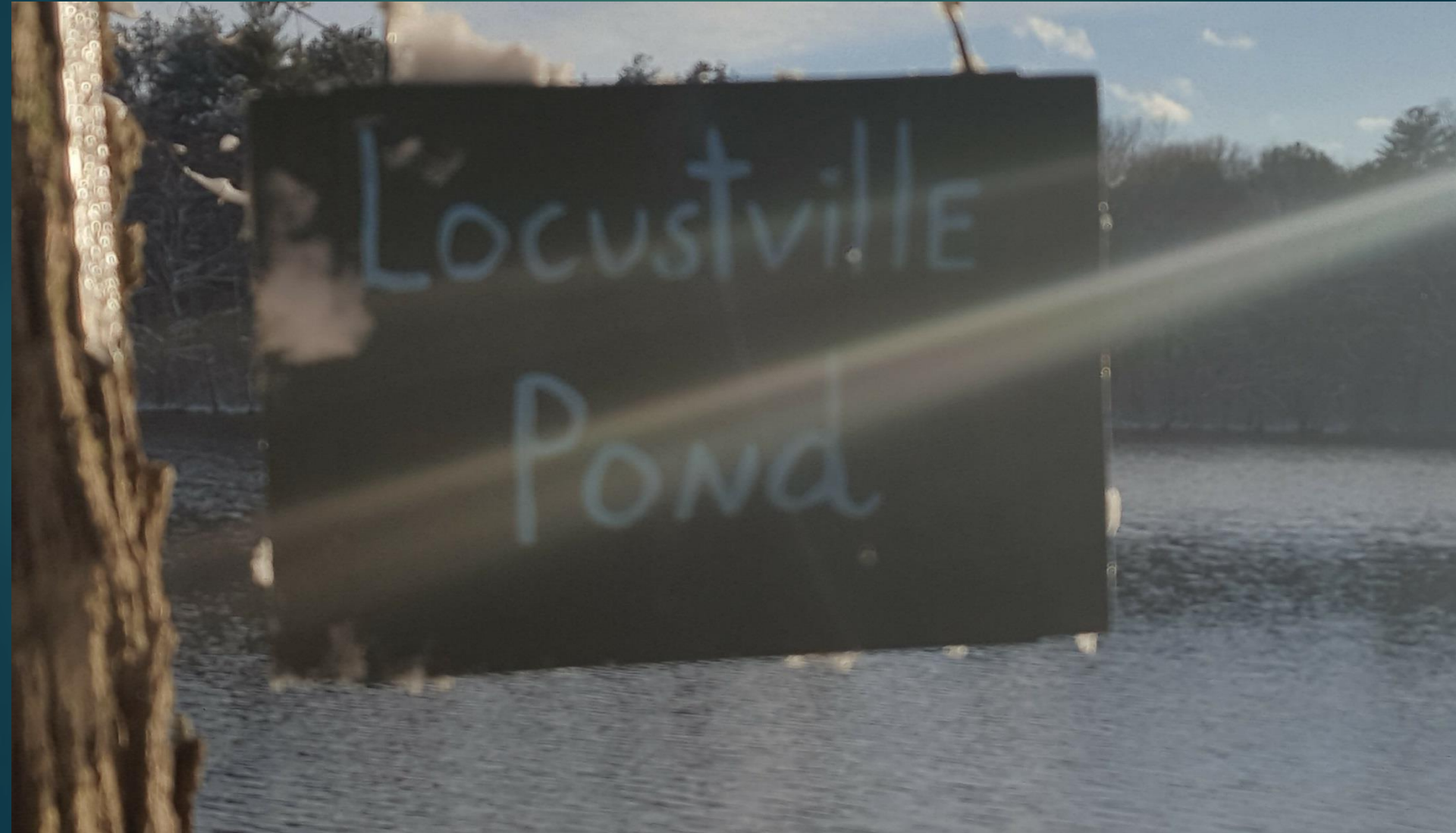
LPIA ANNUAL MEETING

APRIL 21, 2024; 1-3 PM

WPWA HQ

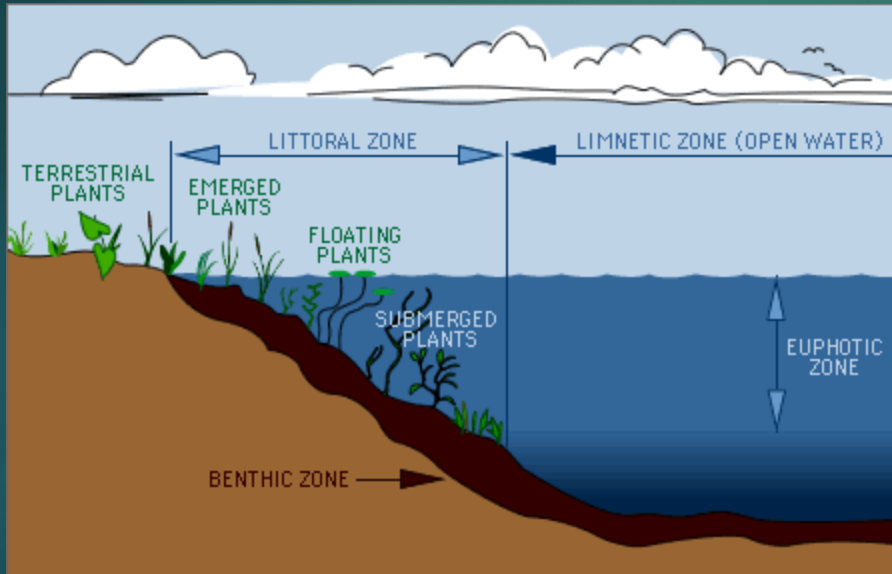
Water Quality Summary

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What do we look at?

❖ Water Clarity (as measured with a Secchi disk) weekly



Water clarity can be affected by

- floating algae (phytoplankton)*,
- suspended particles (dirt) and
- colored dissolved matter (from leaves)

*indicator is chlorophyll a

A cold day on
the pond

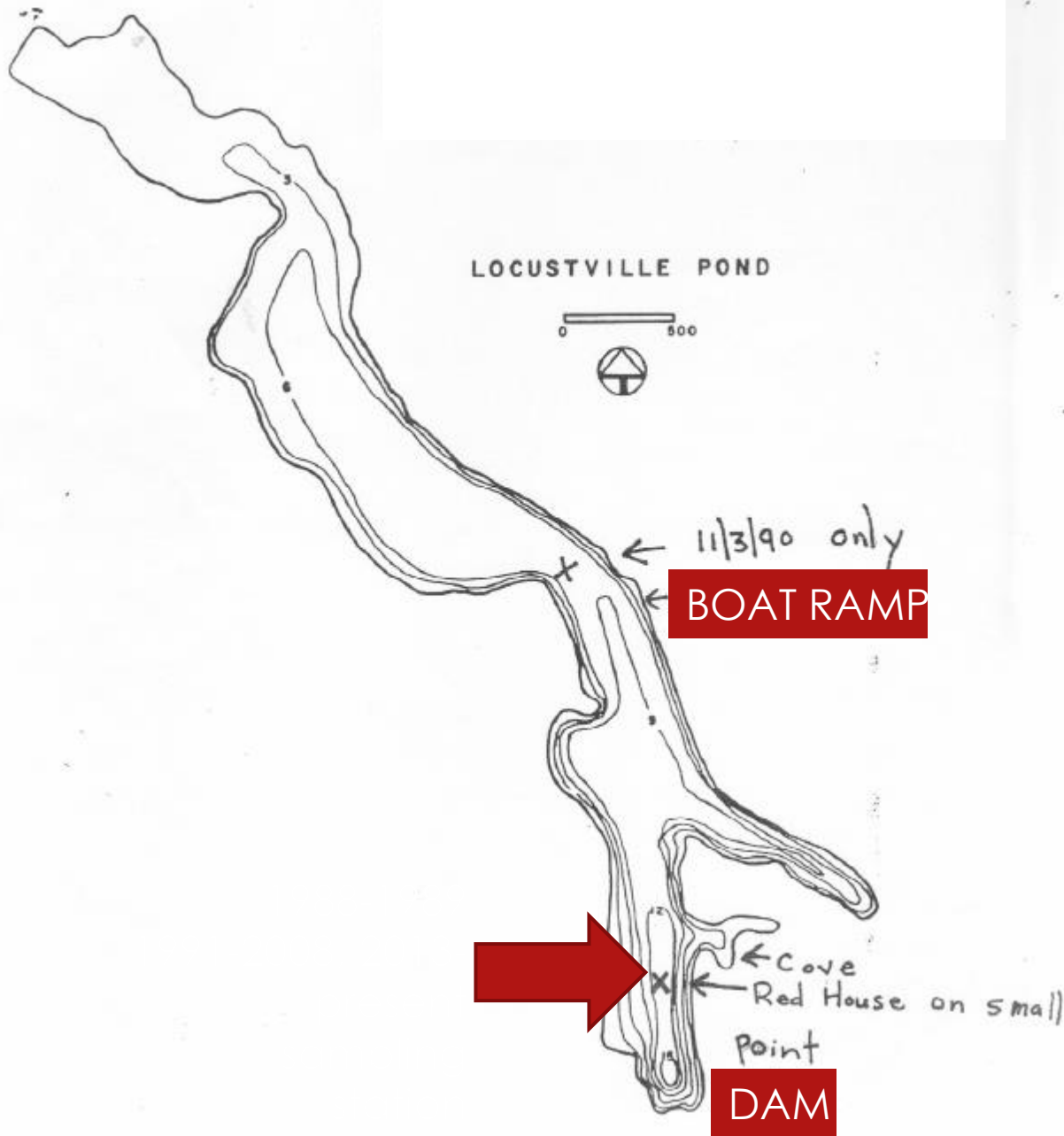


What do we look at?*

- ❖ Water Temperature (surface and 1 m depth) – weekly
- ❖ Secchi Depth - weekly
- ❖ Chlorophyll a (1 m depth) – bi-weekly (sent to URI)
- ❖ Nutrients (nitrogen and phosphorus)
(1 m depth) – 3 times per season (sent to URI)
- ❖ Chlorides, bacteria, pH, alkalinity
(1 m depth) – 3 times per season (sent to URI)

* Cost of supplies, training, analysis, and overhead at URI is ~\$650 per year .
Sampling is done as in-kind service by Jim, 2 hours per week for 6 months

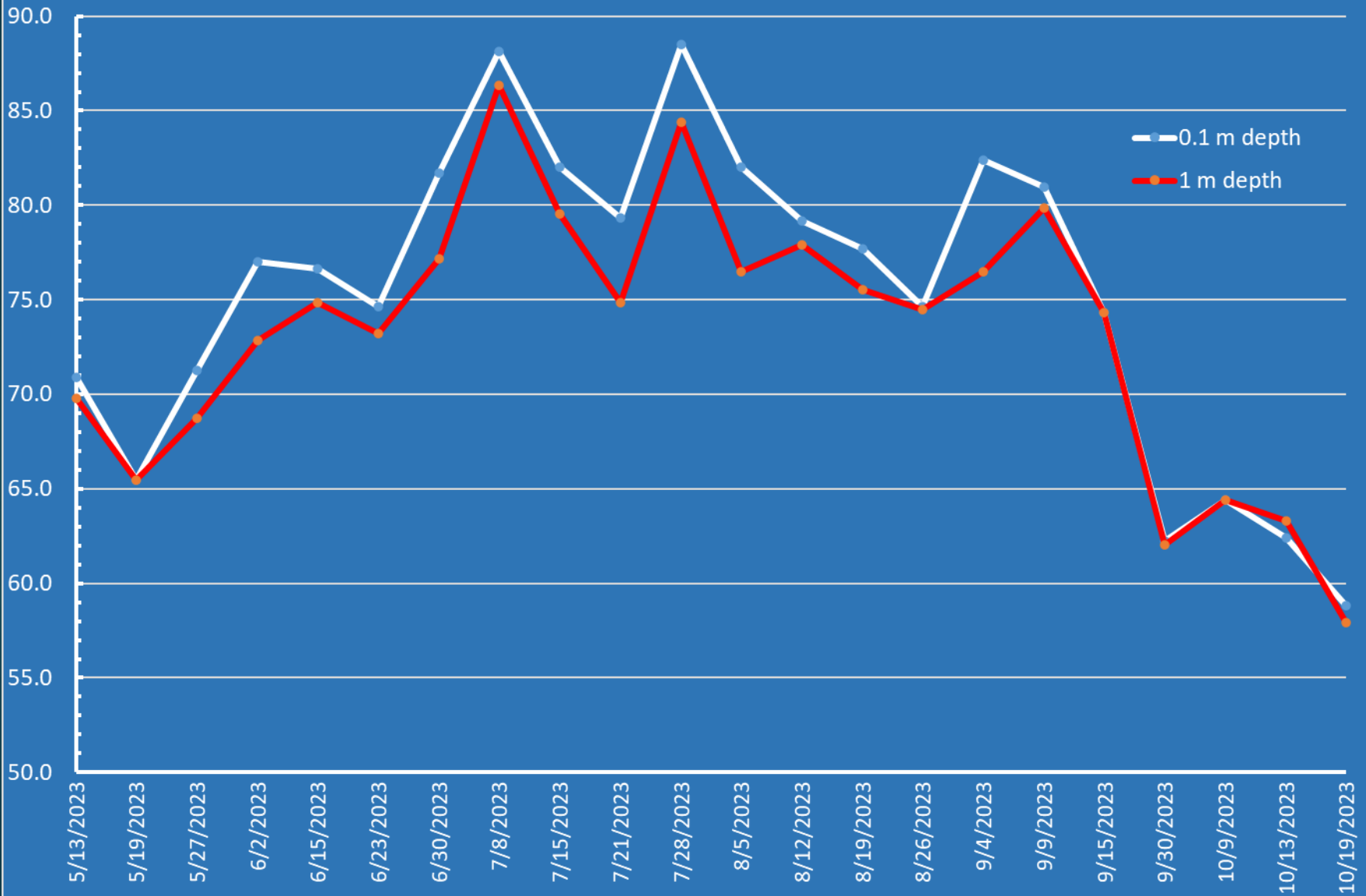




Where
do we
sample?

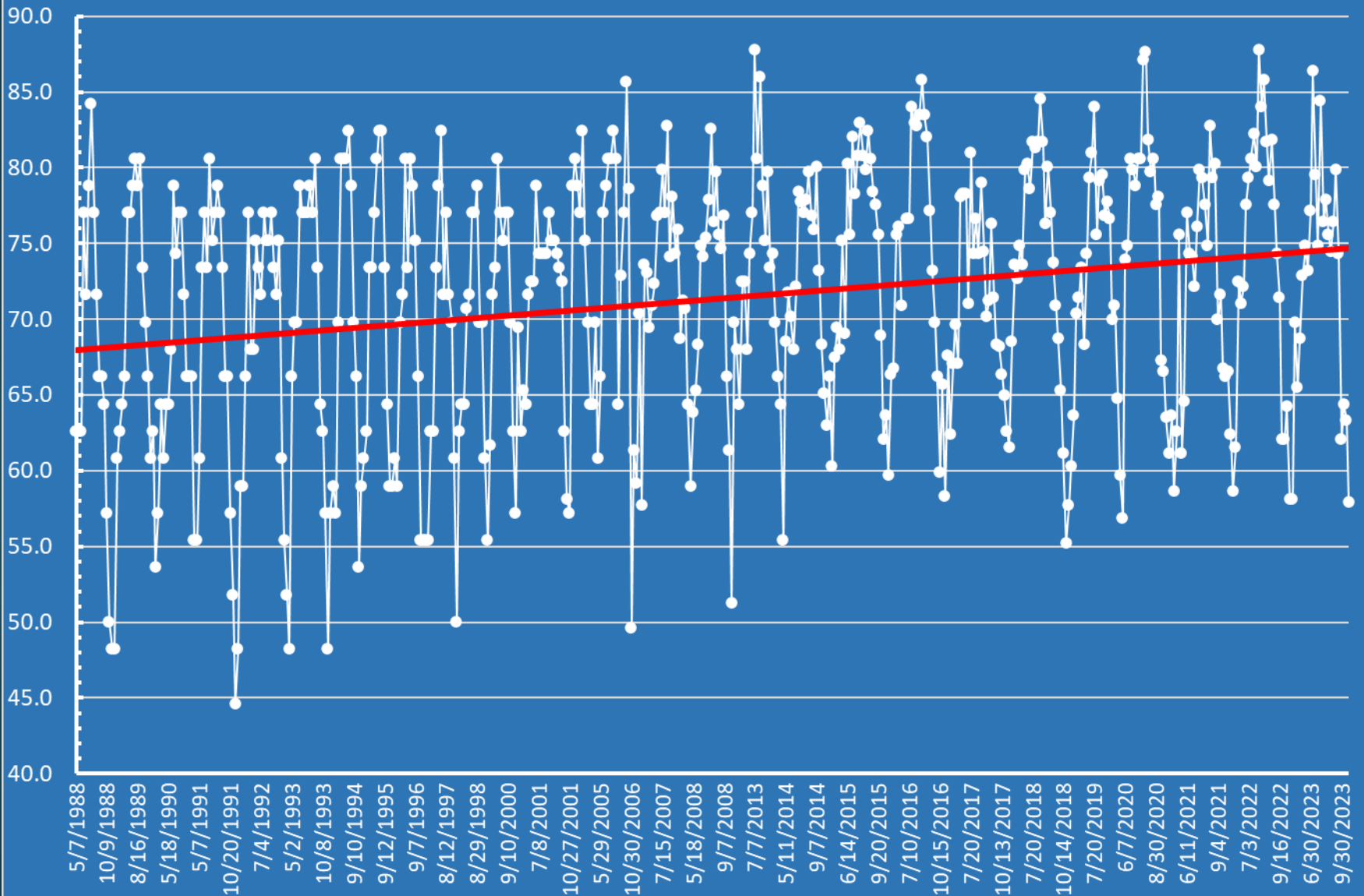


Water Temperature (2023) (°F)





Water Temperature @ 1m (1988-2023) (°F)







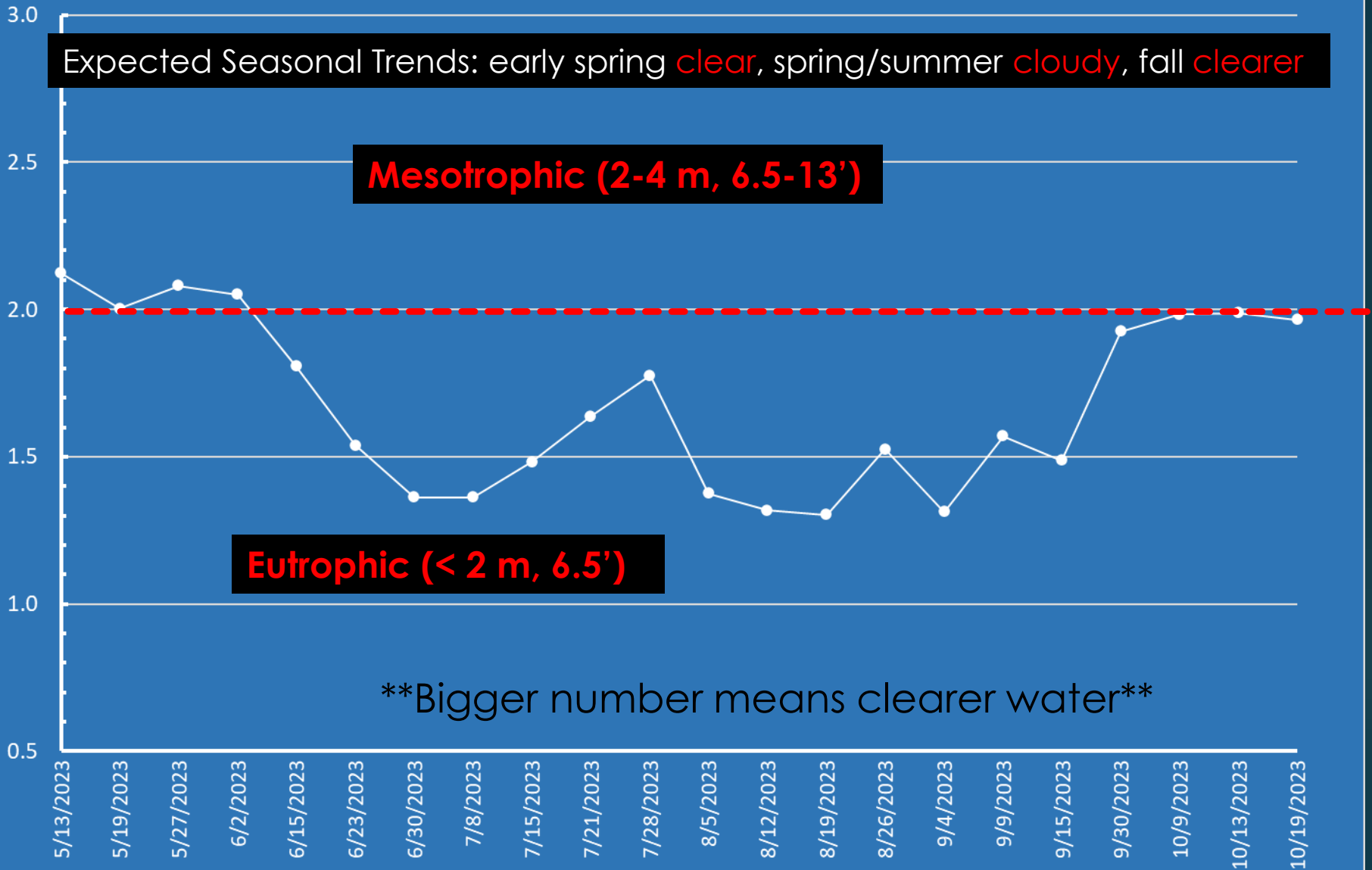
Secchi Depth (m) Water Clarity (2023)

Expected Seasonal Trends: early spring **clear**, spring/summer **cloudy**, fall **clearer**

Mesotrophic (2-4 m, 6.5-13')

Eutrophic (< 2 m, 6.5')

****Bigger number means clearer water****

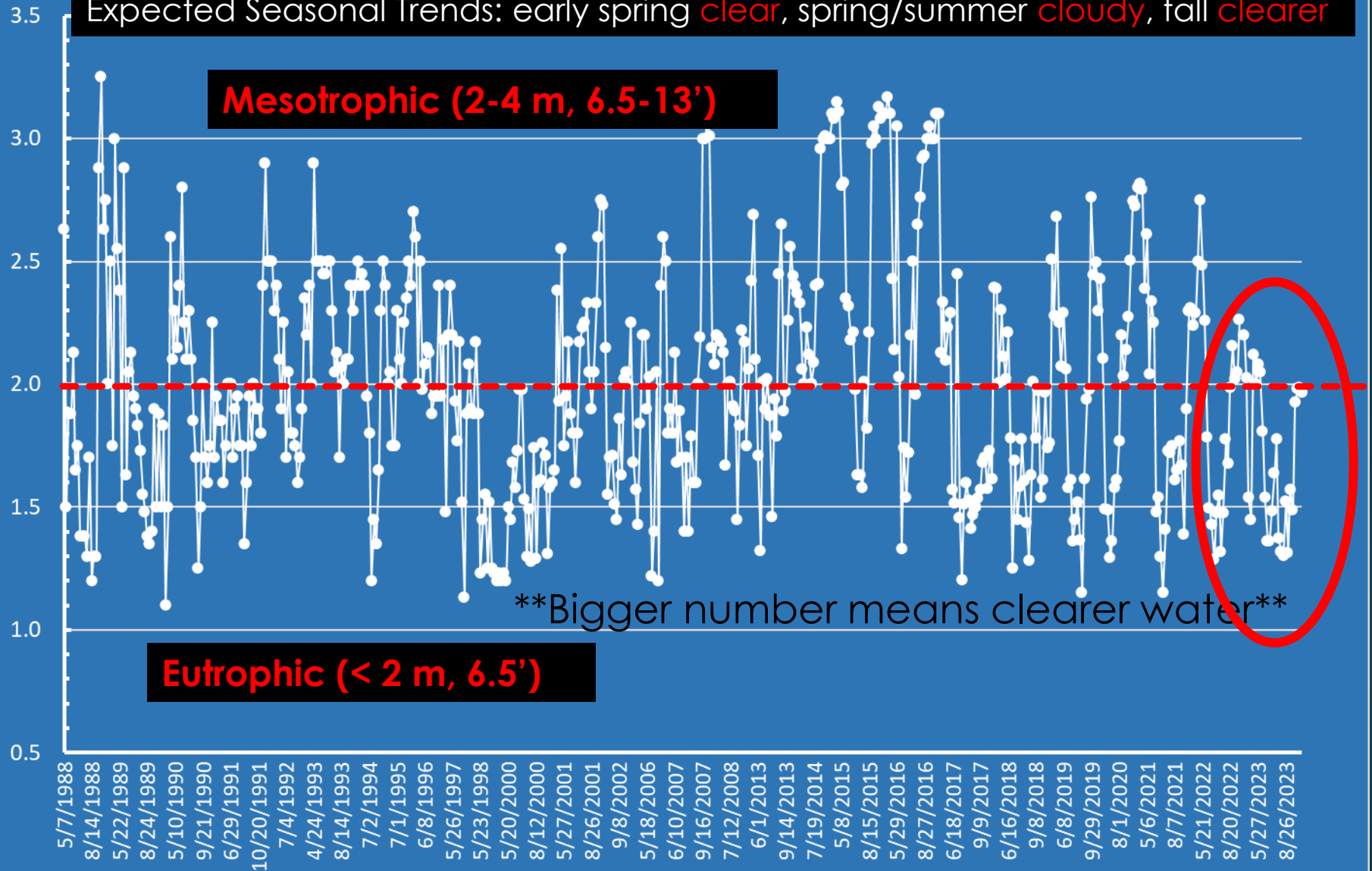




Secchi Depth (m) Water Clarity (1988-2023)

Expected Seasonal Trends: early spring **clear**, spring/summer **cloudy**, fall **clearer**

Mesotrophic (2-4 m, 6.5-13')



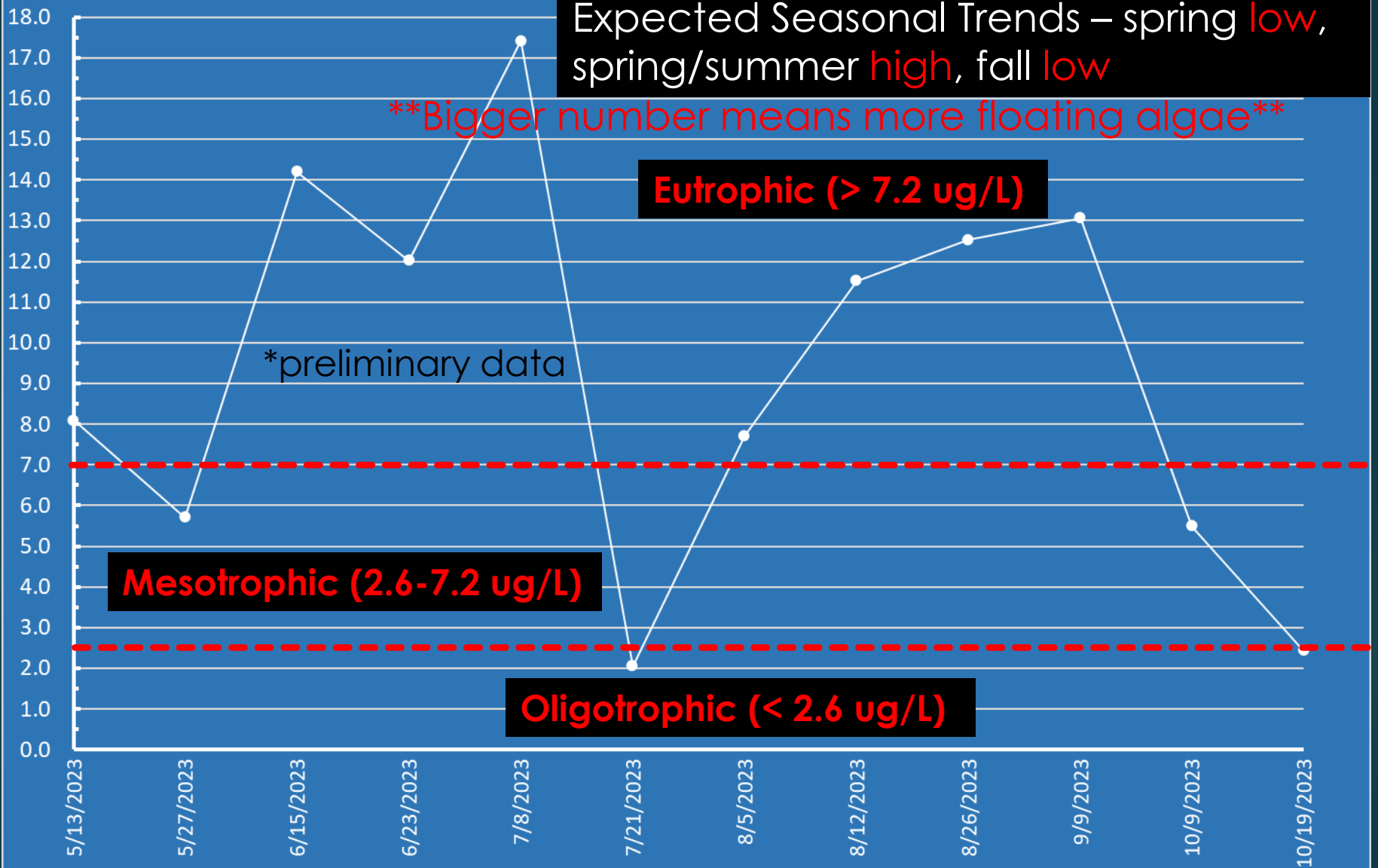
Eutrophic (< 2 m, 6.5')

****Bigger number means clearer water****



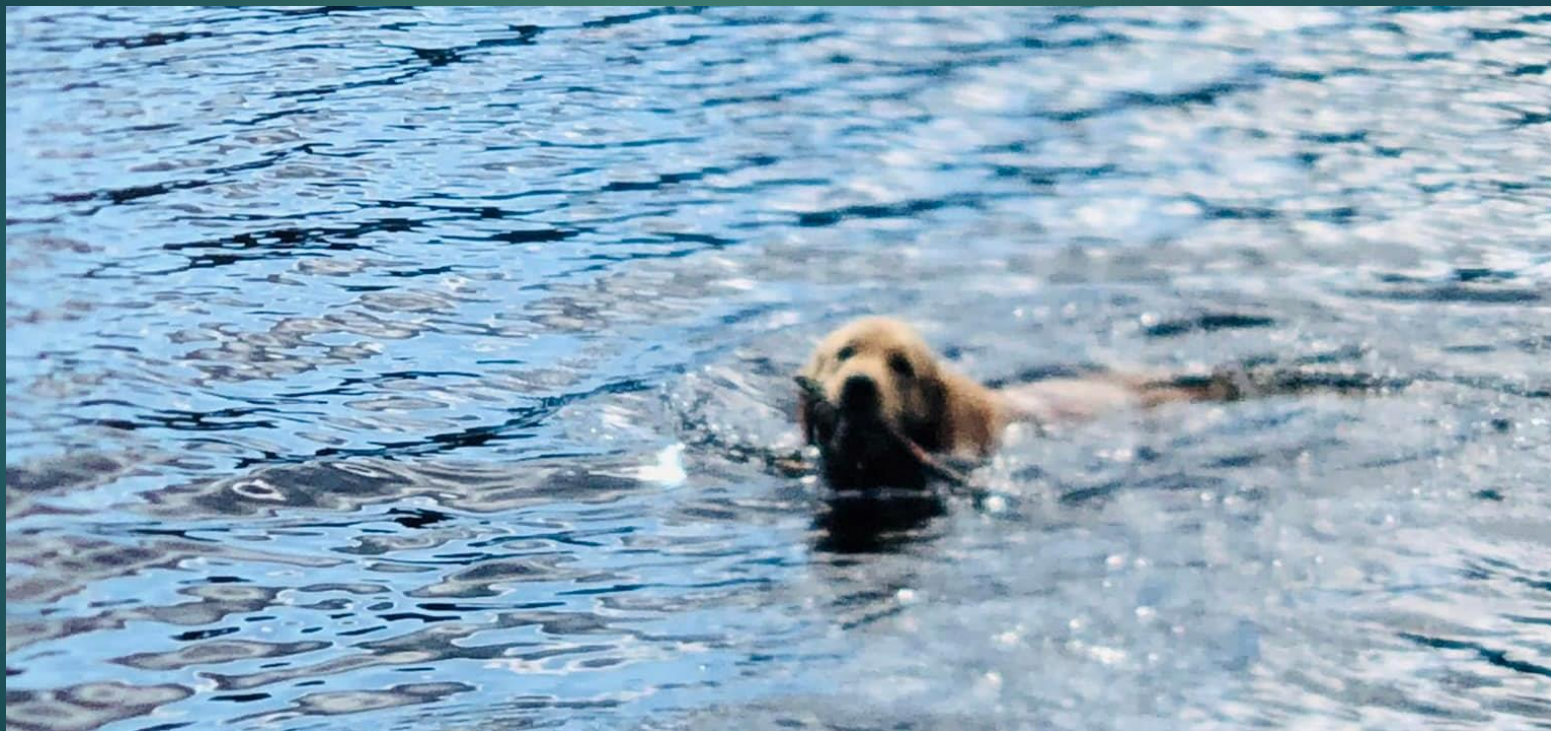


Chlorophyll a (2023*)



A morning dip

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Chlorophyll a by Year (1988-2023*)

Expected Seasonal Trends – spring **low**, spring/summer **high**, fall **low**

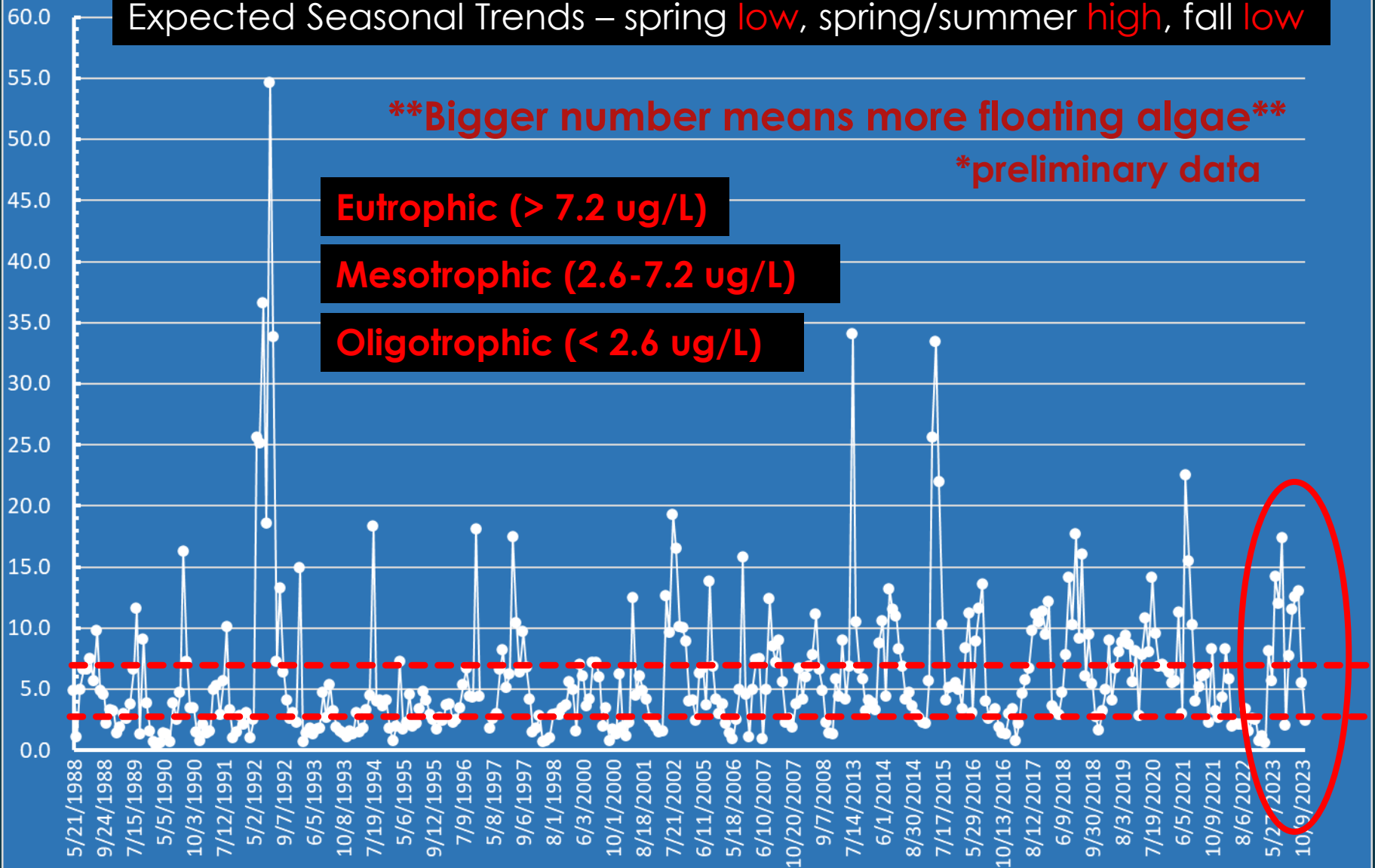
****Bigger number means more floating algae****

***preliminary data**

Eutrophic (> 7.2 ug/L)

Mesotrophic (2.6-7.2 ug/L)

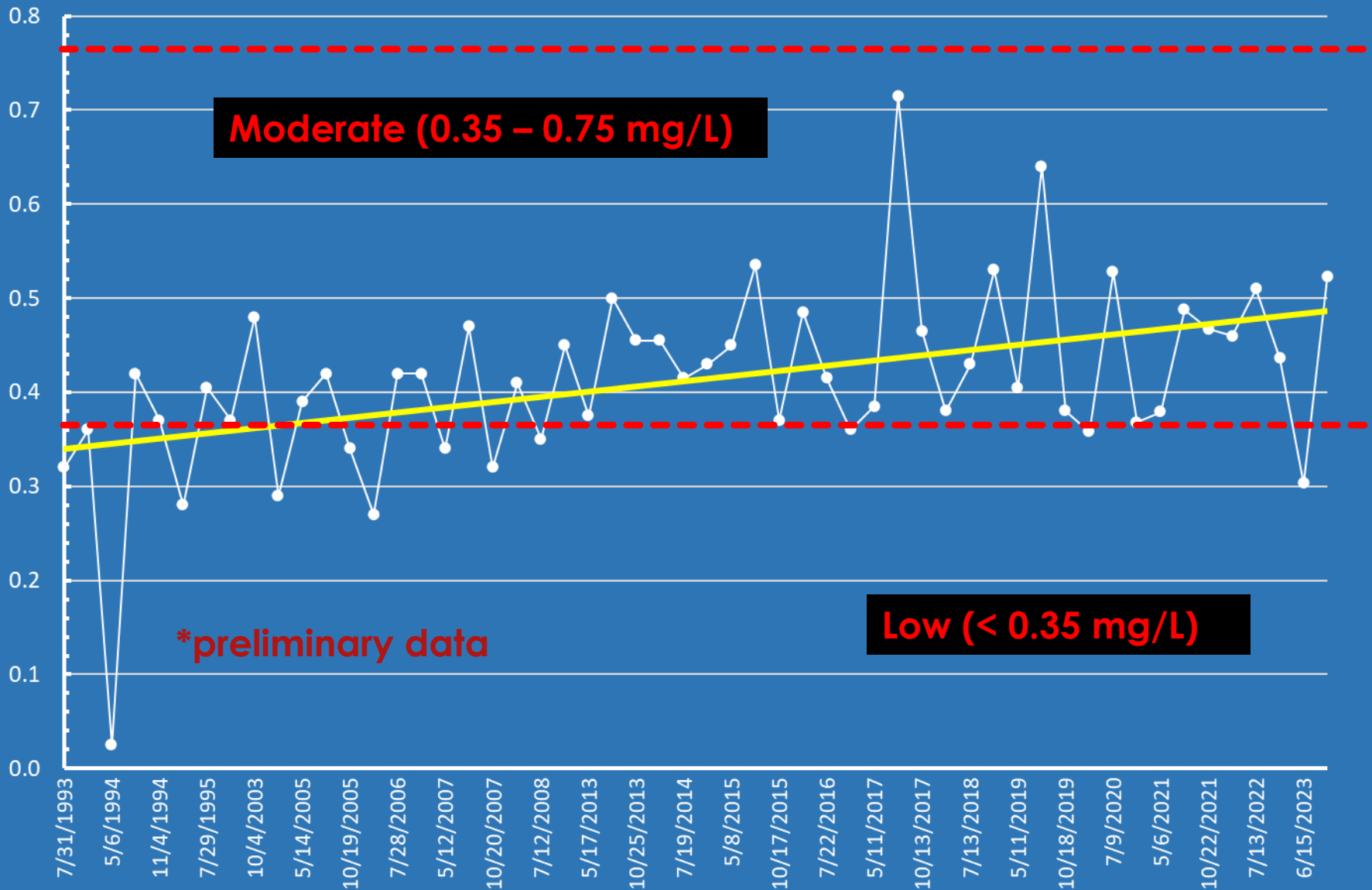
Oligotrophic (< 2.6 ug/L)







Total Nitrogen by Year (1993-2023*)



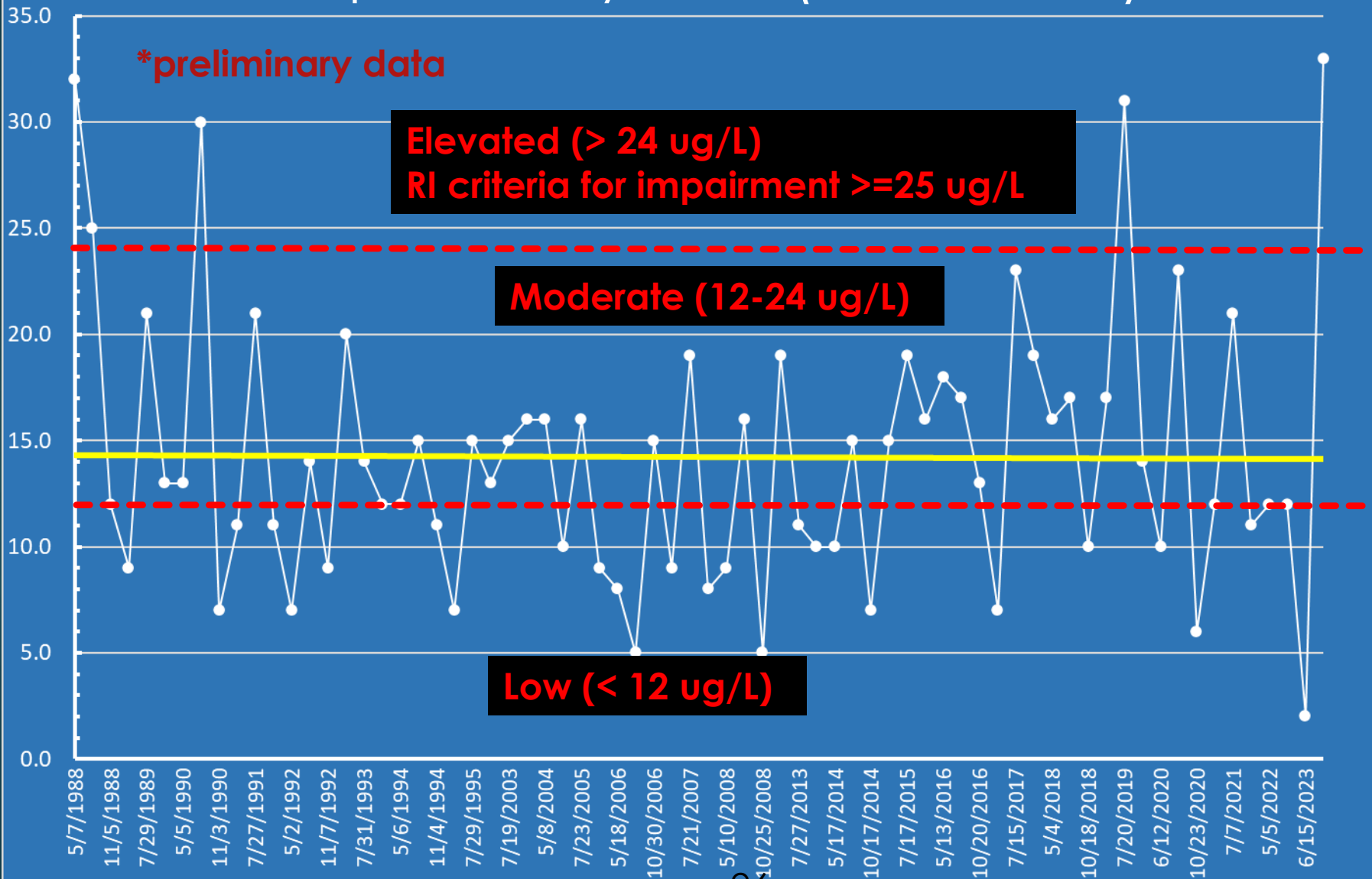
Moderate (0.35 - 0.75 mg/L)

*preliminary data

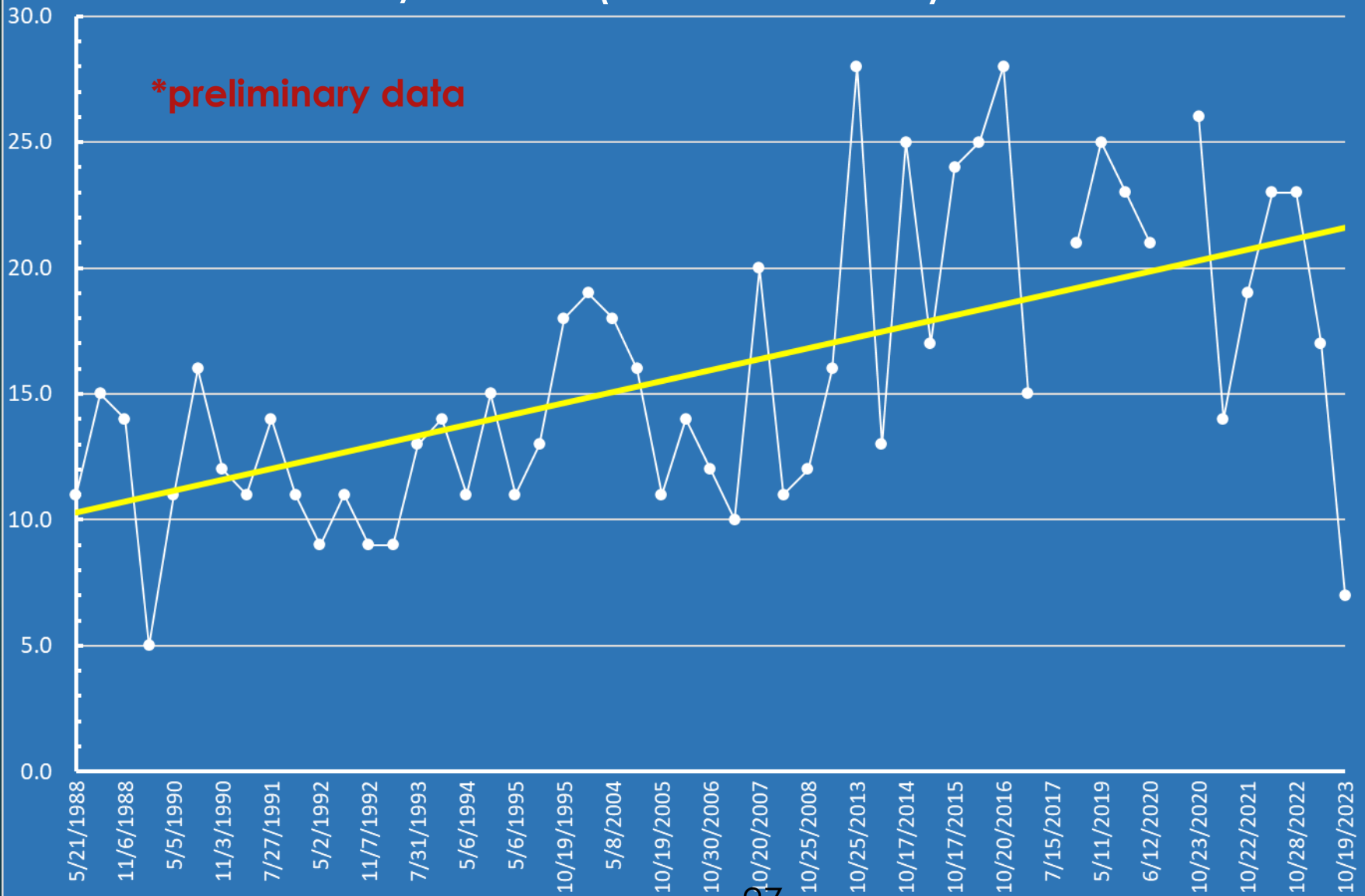
Low (< 0.35 mg/L)



Total Phosphorus by Year (1988-2023*)



Chlorides by Year (1988-2023*)





How to protect Water Quality of Your Pond

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- Minimize use of fertilizer on your property
- Avoid applying fertilizer to hard surfaces
- Maintain your septic system
(regular pumping is required by law)
- Don't allow animal waste to enter pond
 - Livestock
 - Minimize geese invasion of your property
- Keep a buffer of shrubs and trees near the pond
(DEM will assess fines for removal of trees too close)
- Never dump raked leaves in the pond
- Never dump cut grass in the pond



How to be good Aquatic Neighbors on Your Pond

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- Respect personal watercraft (kayaks, canoes, paddle boards, etc.) **Slow down power boats near personal watercraft**
- Respect swimmers and fishers (give them wide berth)
- There is a 10 hp limit to boats entering pond at boat ramp **(DEM/Police will assess fines)**



2023 was a good year for us,
our milfoil problem has been reduced due to the new herbicide

Let's hope 2024 is another great year!



If you have any concerns or questions contact me at
401-486-9749 or spesjsl@gmail.com

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