

State of Locustville Pond 2021 Water Quality Summary

LPIA annual meeting April 24, 2022; 1-3 PM

**Wood Pawcatuck Watershed Association Campus
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President LPIA

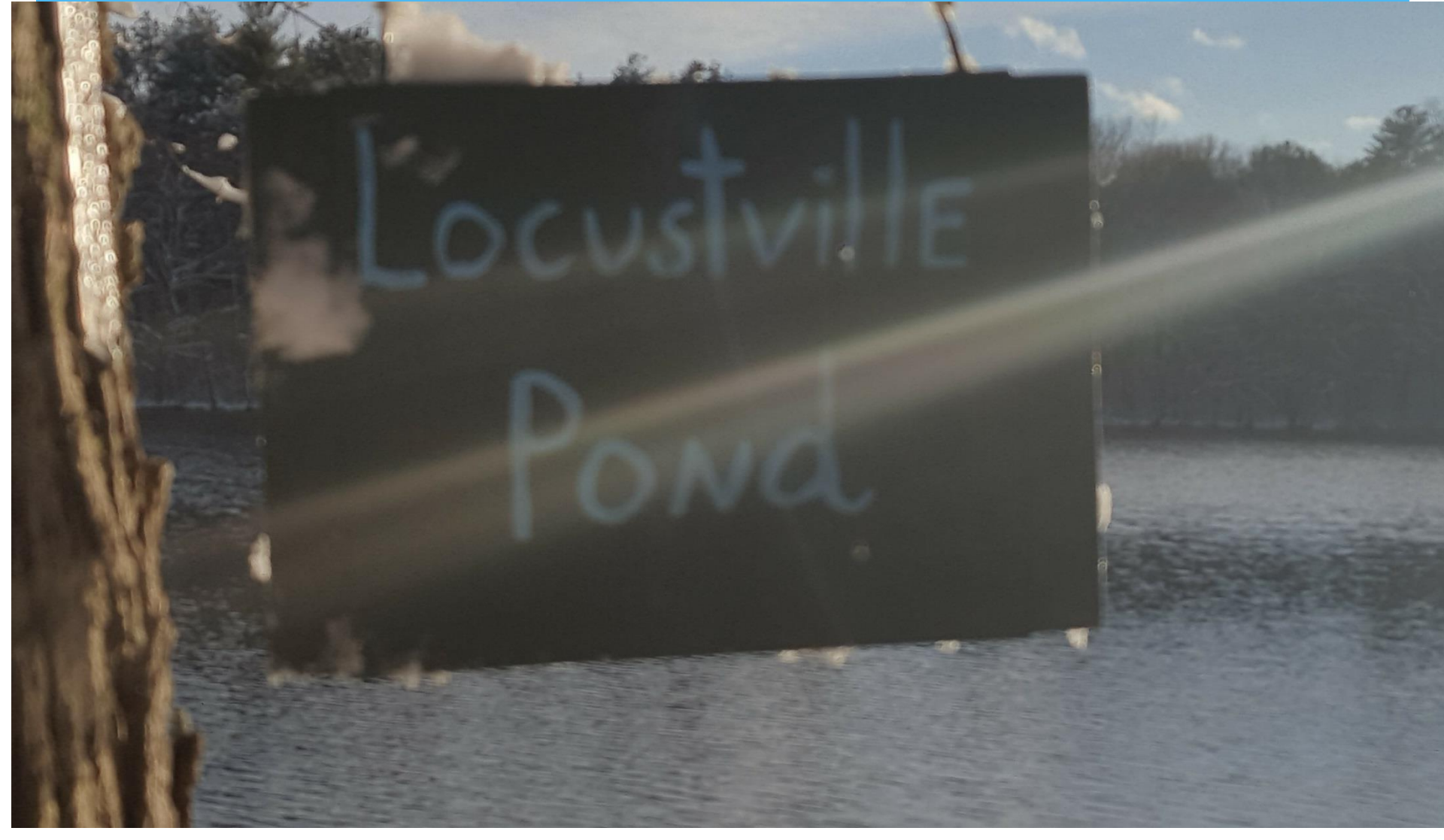
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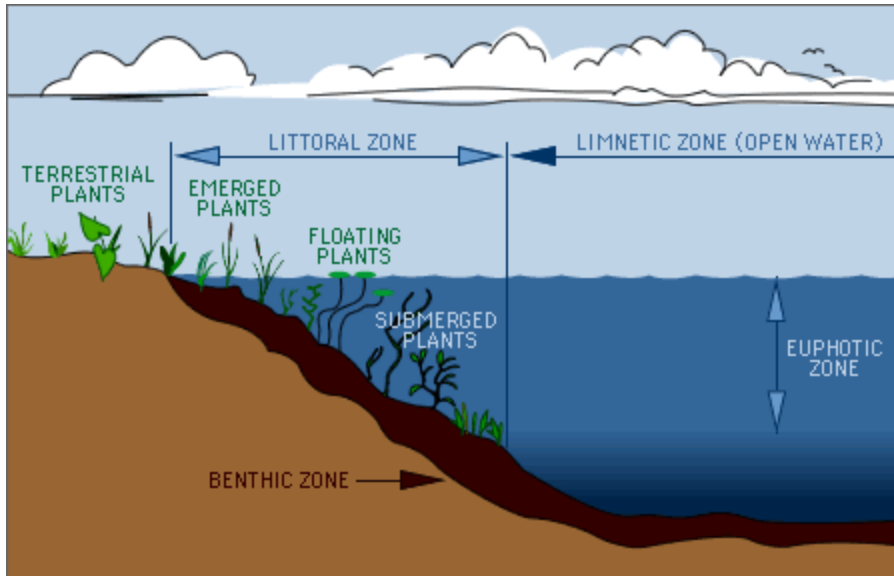
Water Quality Summary

A black rectangular sign with white text is hanging from a tree branch. The sign reads "Locustville Pond" in a handwritten style. The sign is positioned over a body of water, and a tree trunk is visible on the left side of the frame. The background shows a blue sky with some clouds and a line of trees in the distance.

Locustville
Pond

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?*

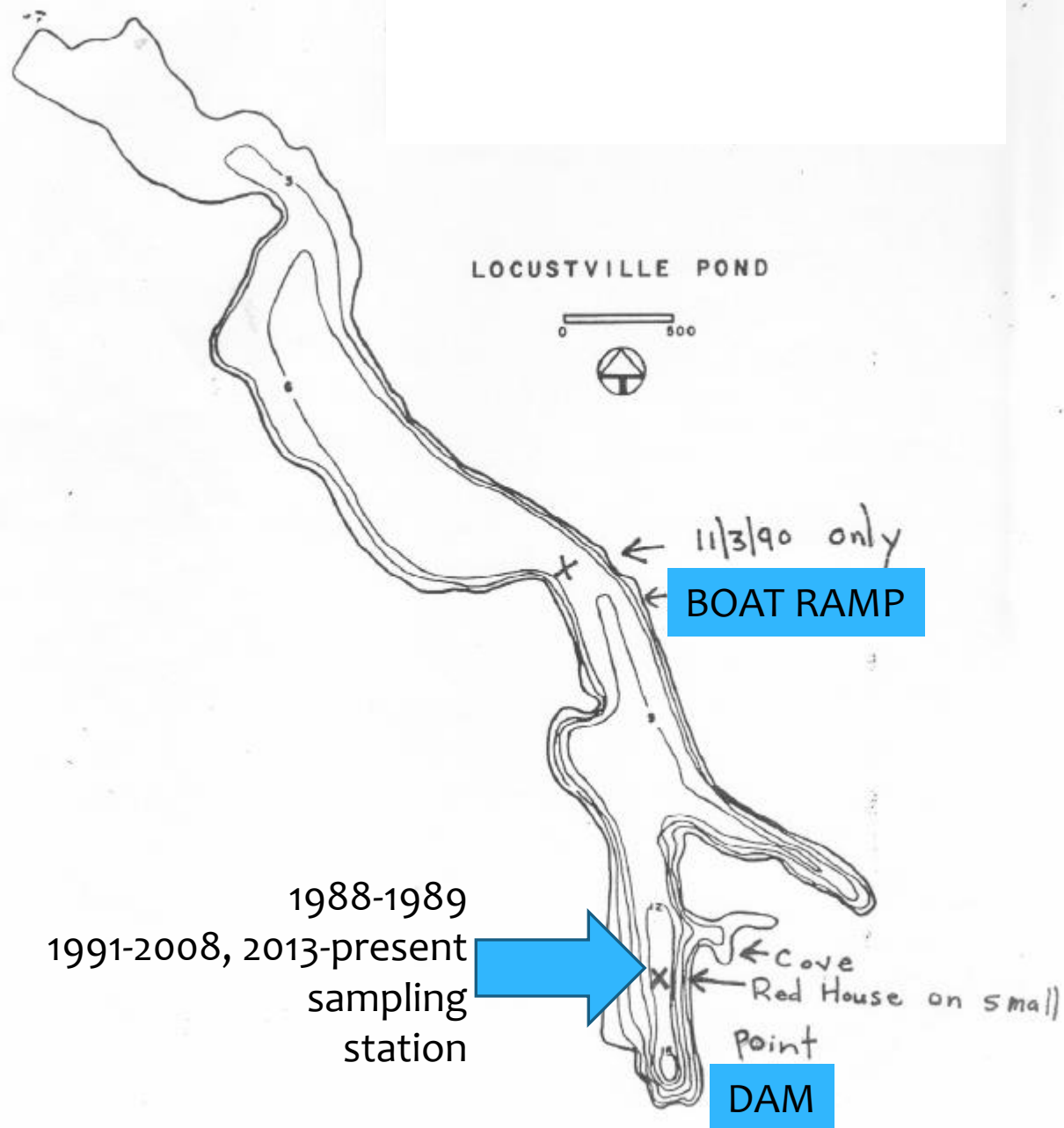
- ❖ Water Temperature (surface and 1 m depth) – weekly
- ❖ Secchi Depth - weekly
- ❖ Chlorophyll a (1 m depth) – bi-weekly (**sent to URI**)
- ❖ Nutrients (nitrogen and phosphorus)
(1 m depth) – 3 times per season (**sent to URI**)
- ❖ Chlorides, bacteria, pH, alkalinity
(1 m depth) – 3 times per season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



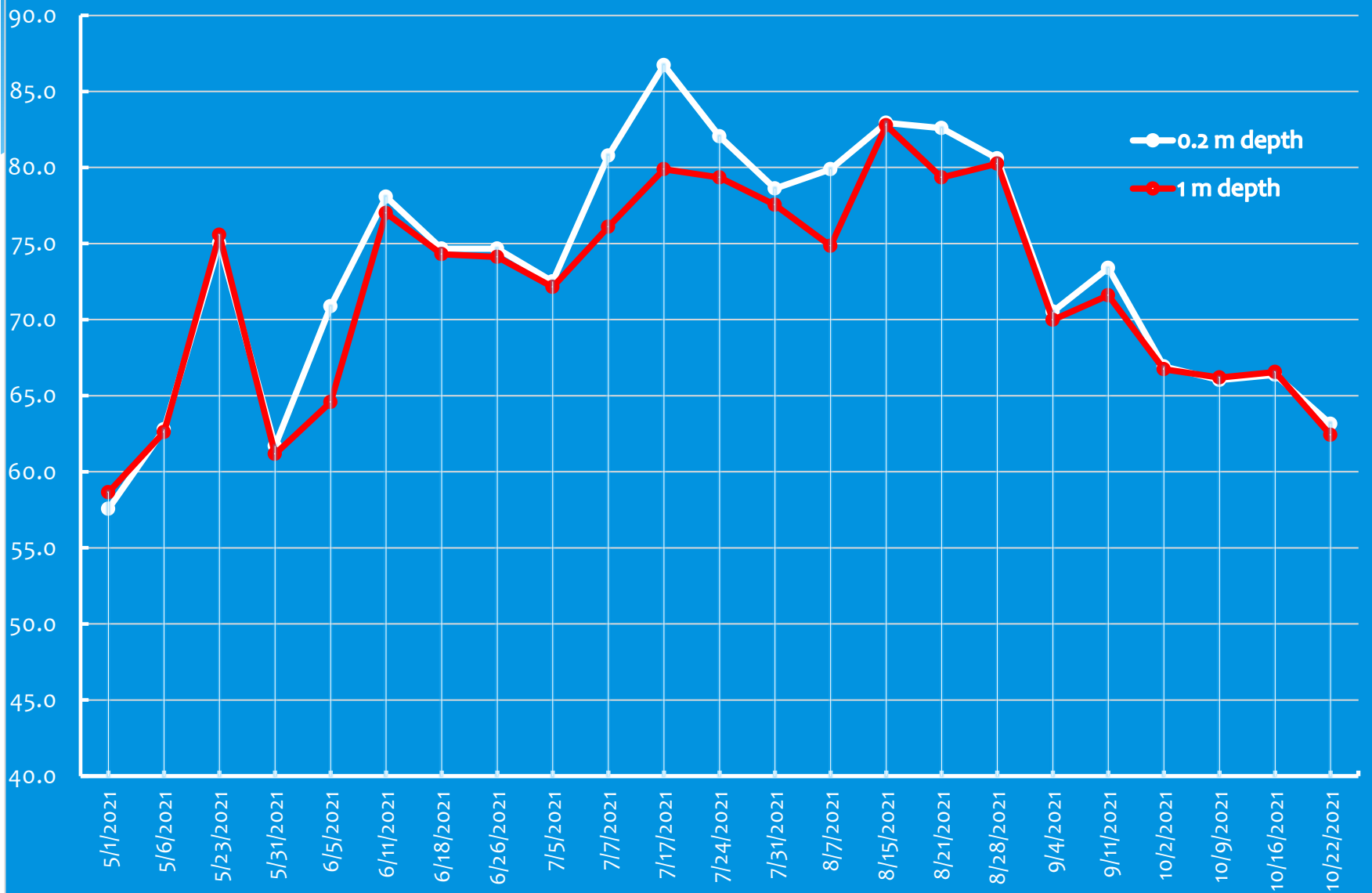


Where do we sample?



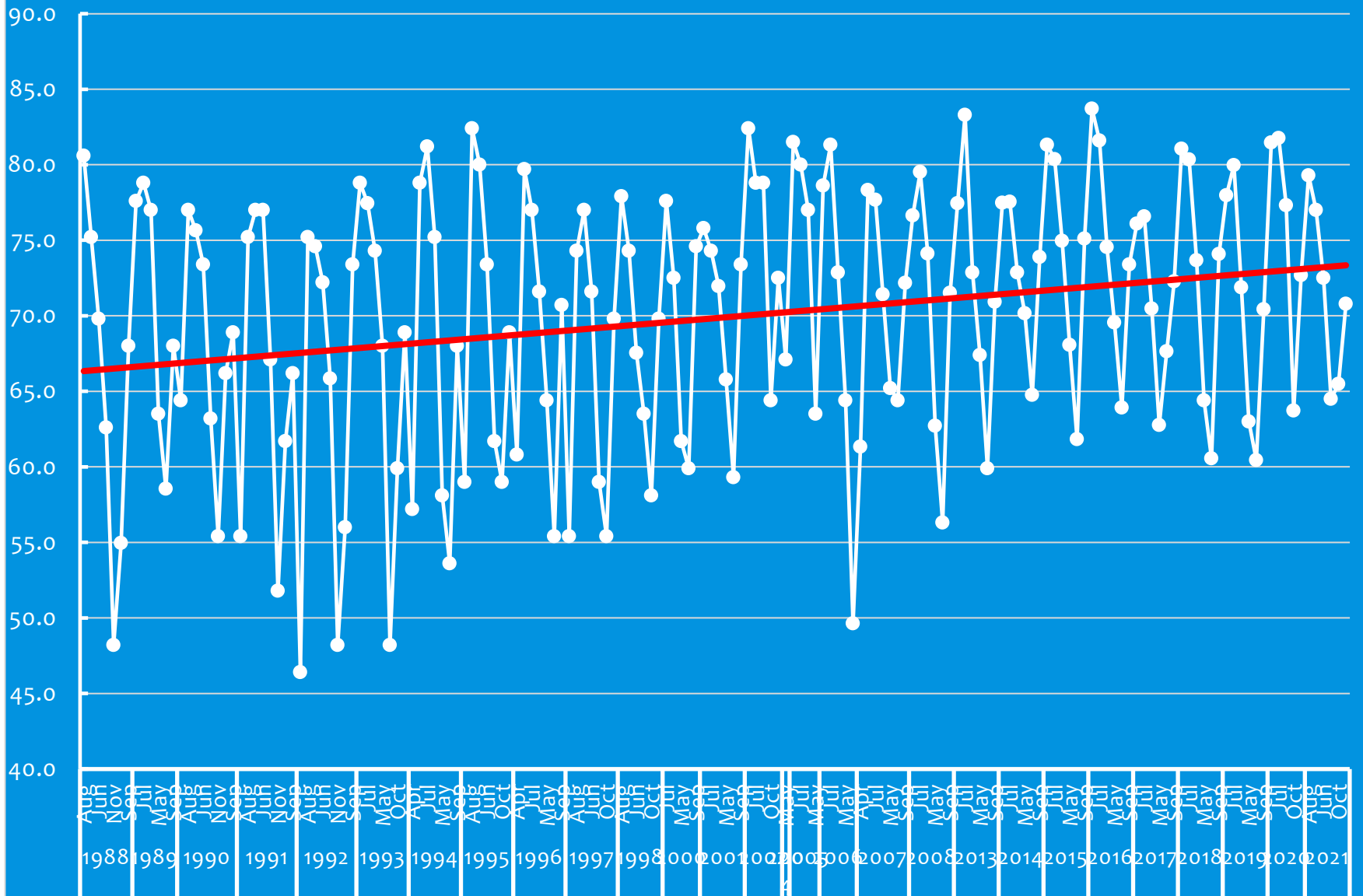


Water Temperature (2021) weekly (°F)



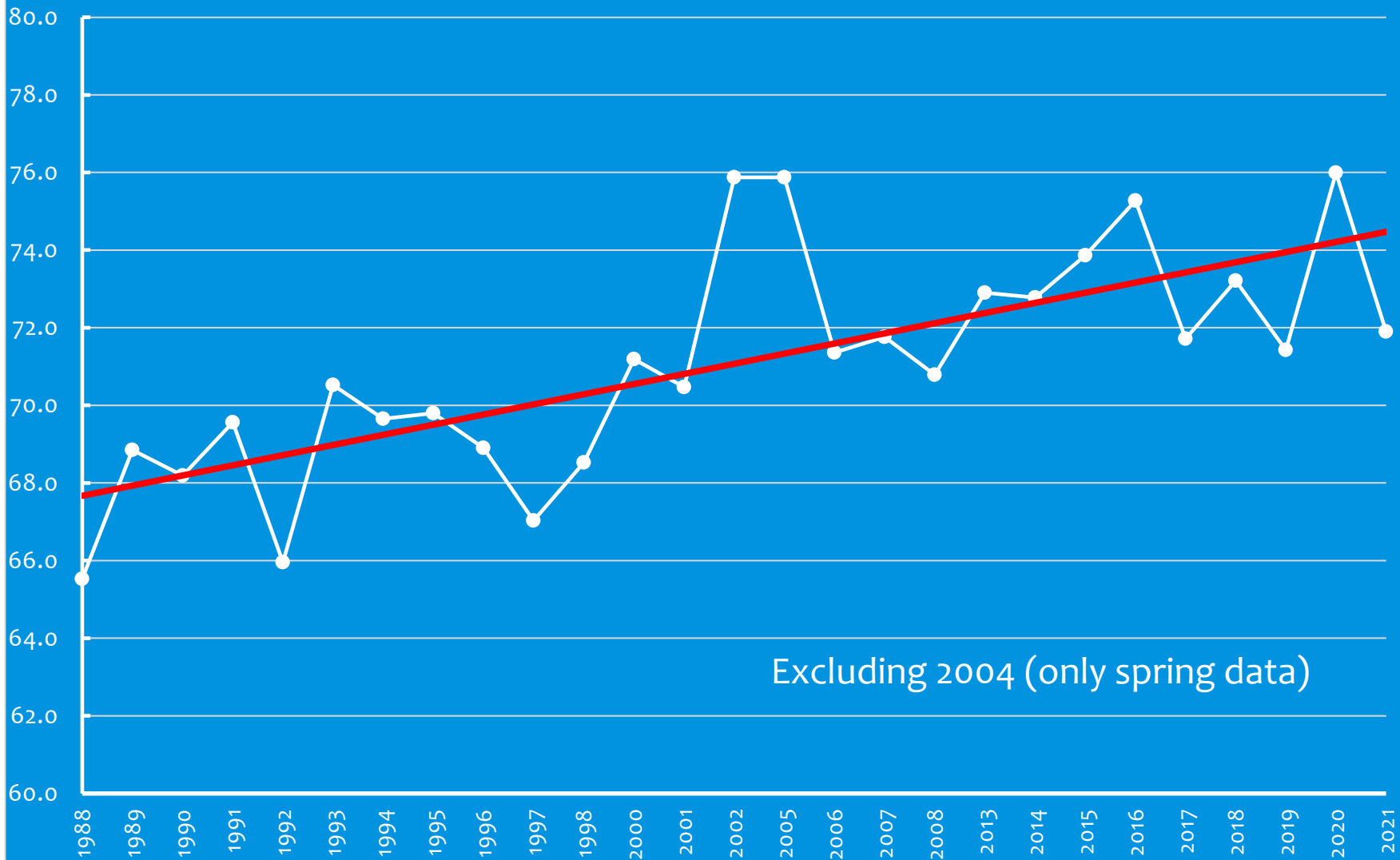


Water Temperature Seasonally by Year (1988-2021) (°F)





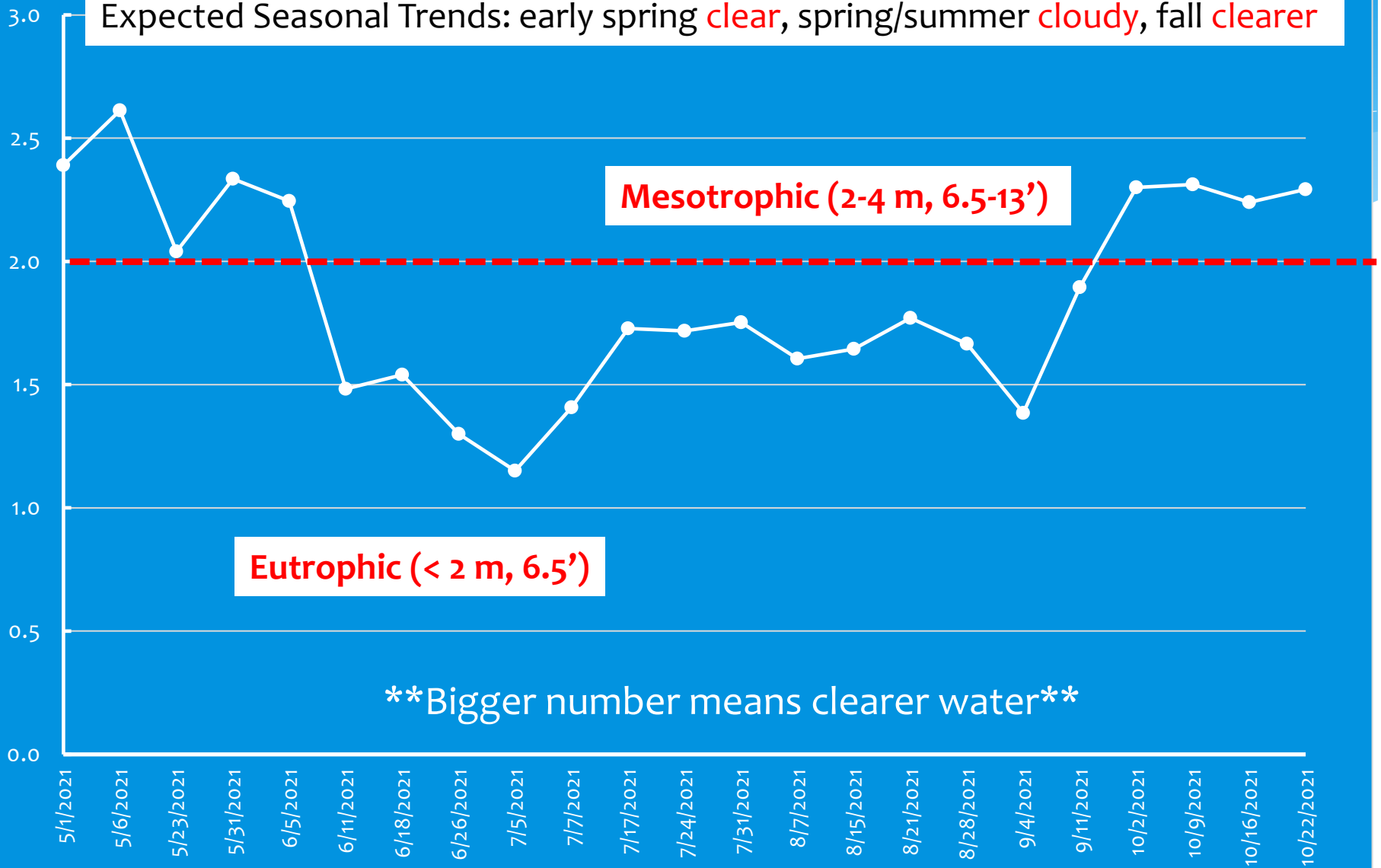
Water Temperature by Year (1988-2021) °F





Secchi Depth (m) Water Clarity (2021) Weekly

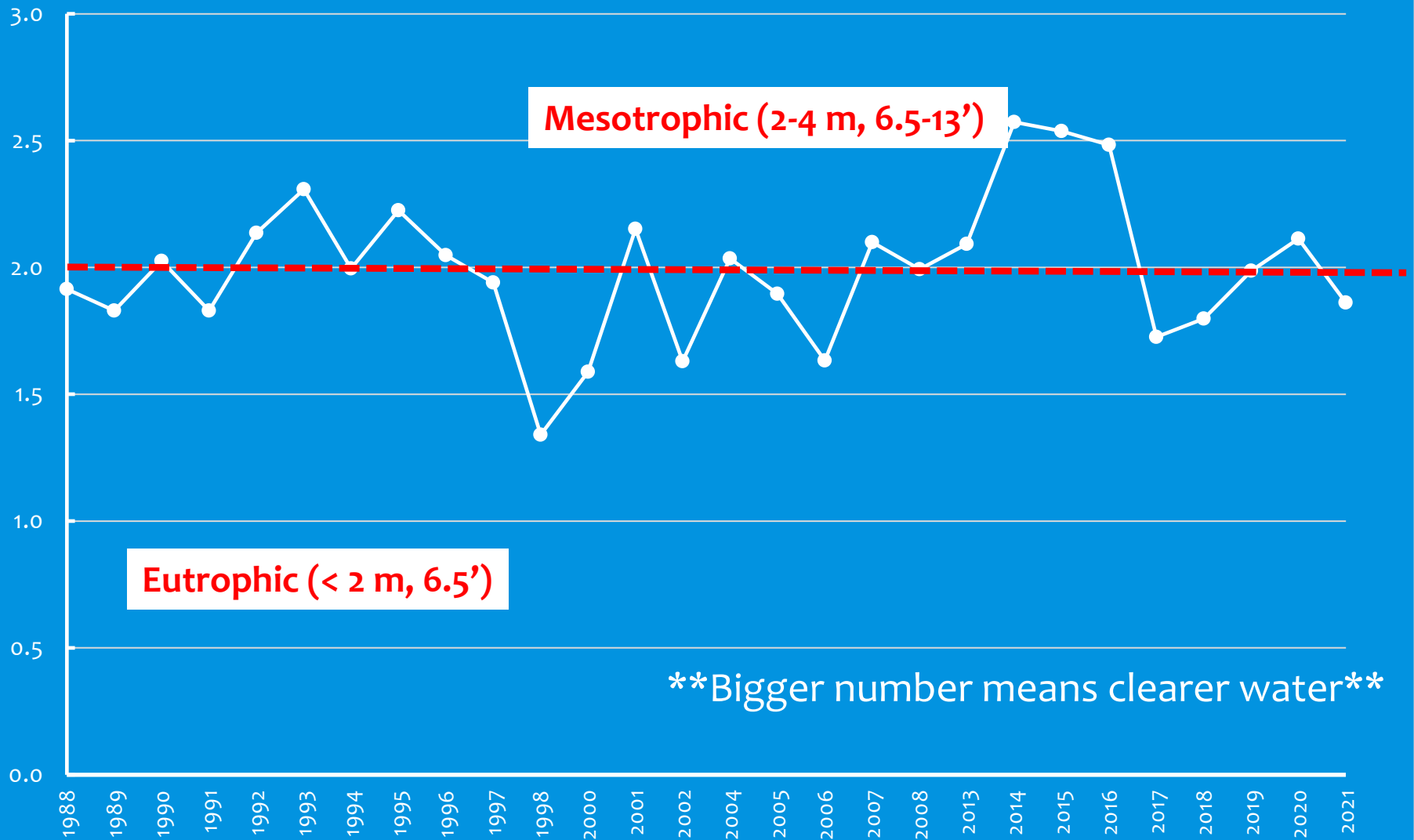
Expected Seasonal Trends: early spring **clear**, spring/summer **cloudy**, fall **clearer**







Secchi Depth (m) Water Clarity by Year (1988-2021)

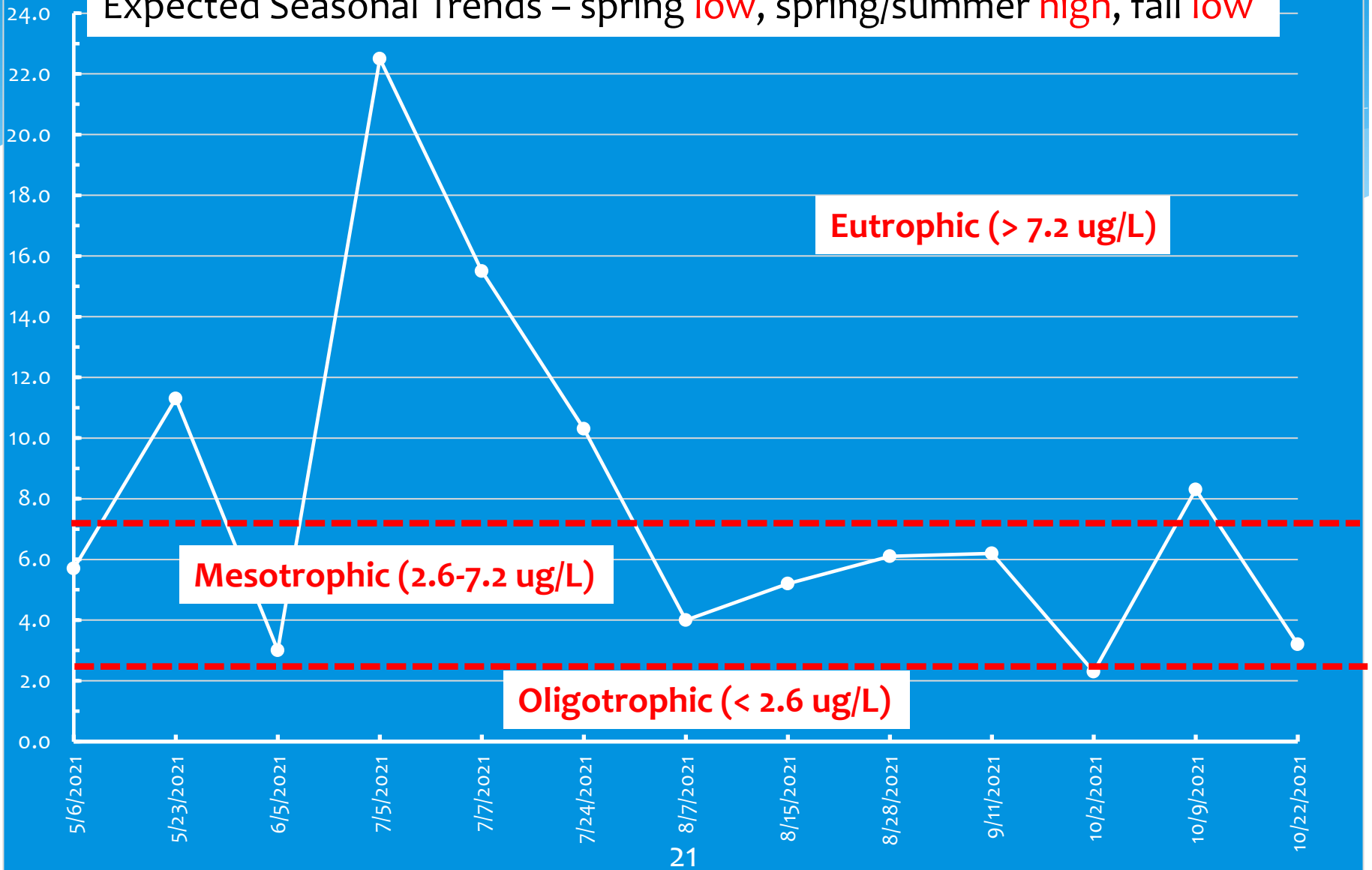


Bigger number means clearer water

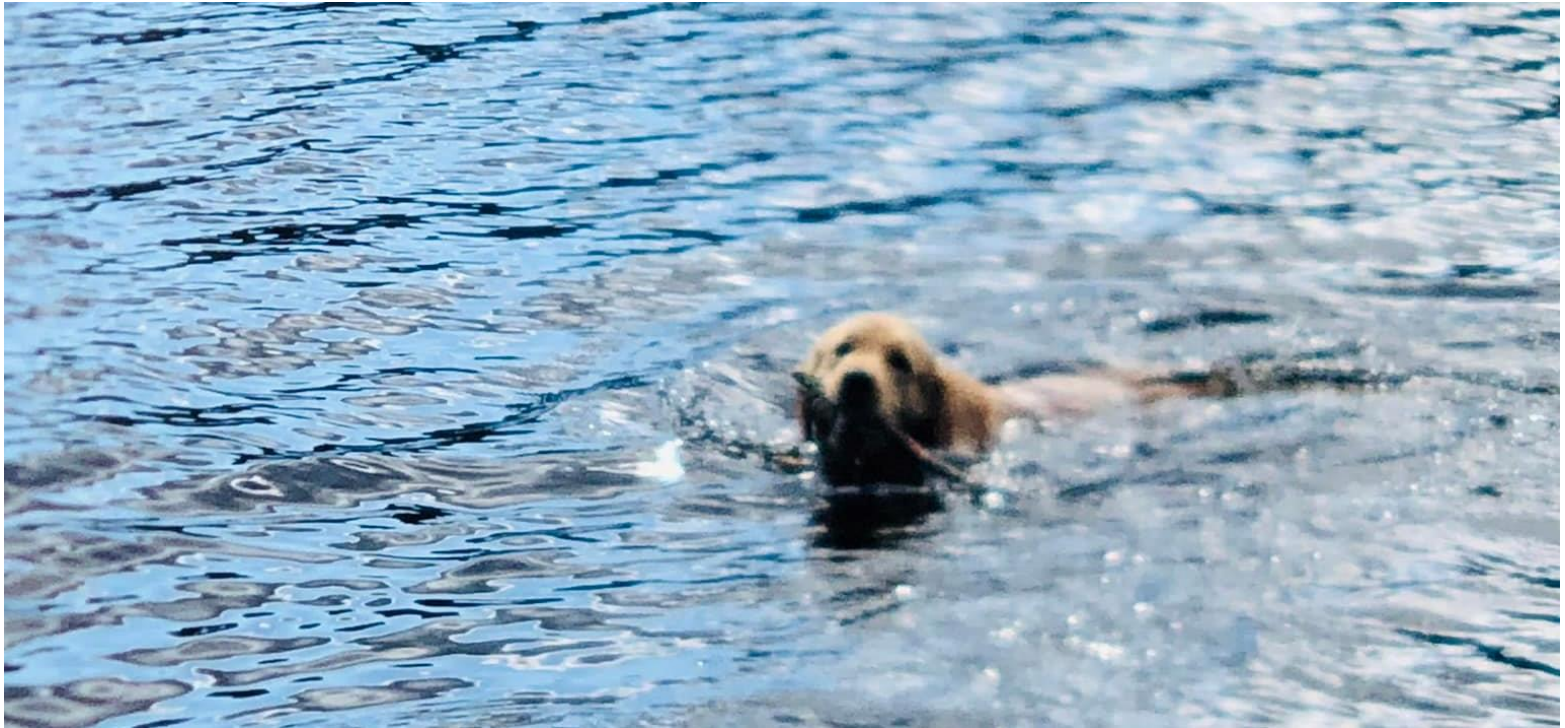


Chlorophyll a (2021)

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



A morning dip



Chlorophyll a Seasonally by Year (1988-2021)

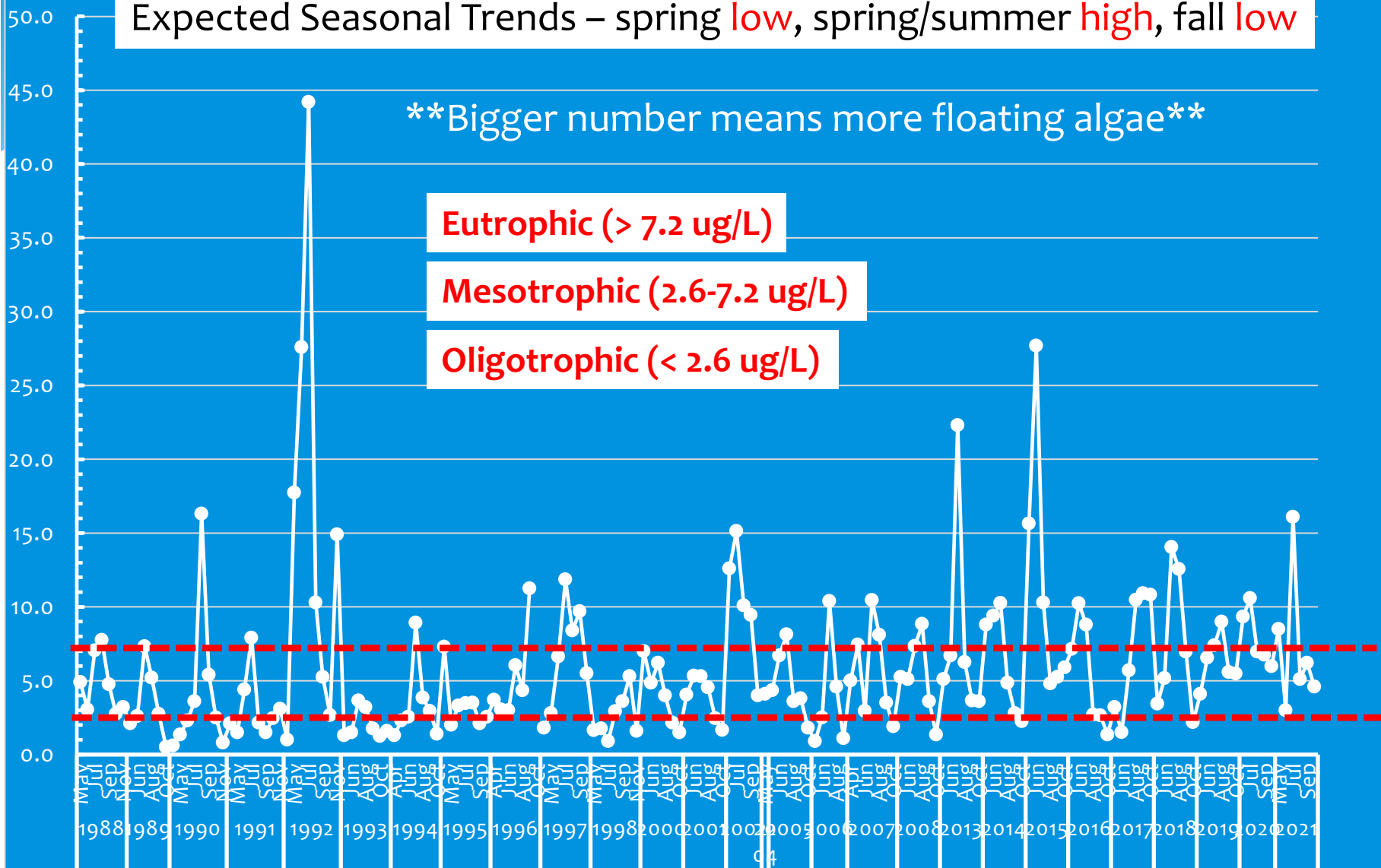
Expected Seasonal Trends – spring **low**, spring/summer **high**, fall **low**

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

Eutrophic (> 7.2 ug/L)

Mesotrophic (2.6-7.2 ug/L)

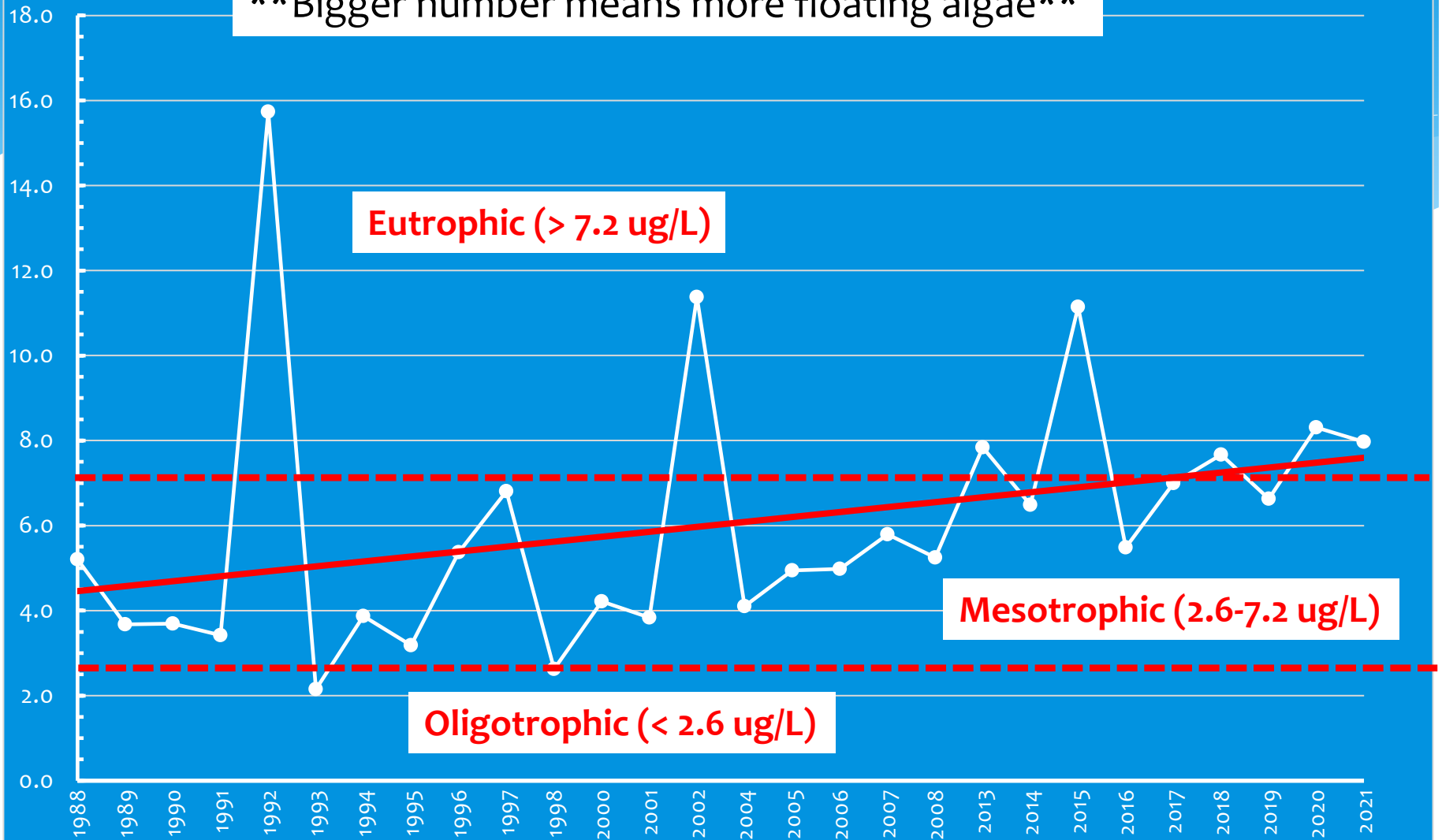
Oligotrophic (< 2.6 ug/L)





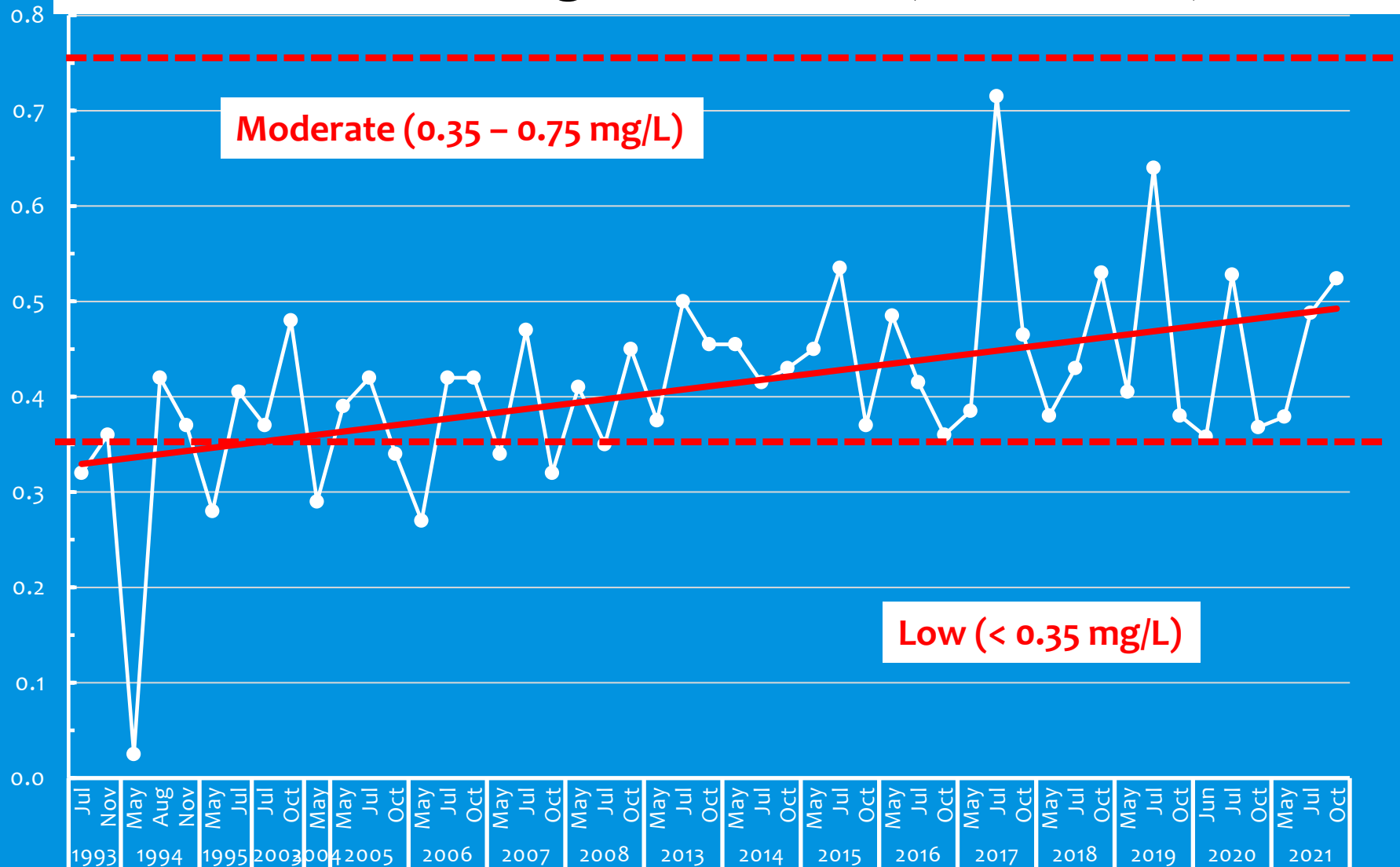
Chlorophyll-a by Year (1988-2021)

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



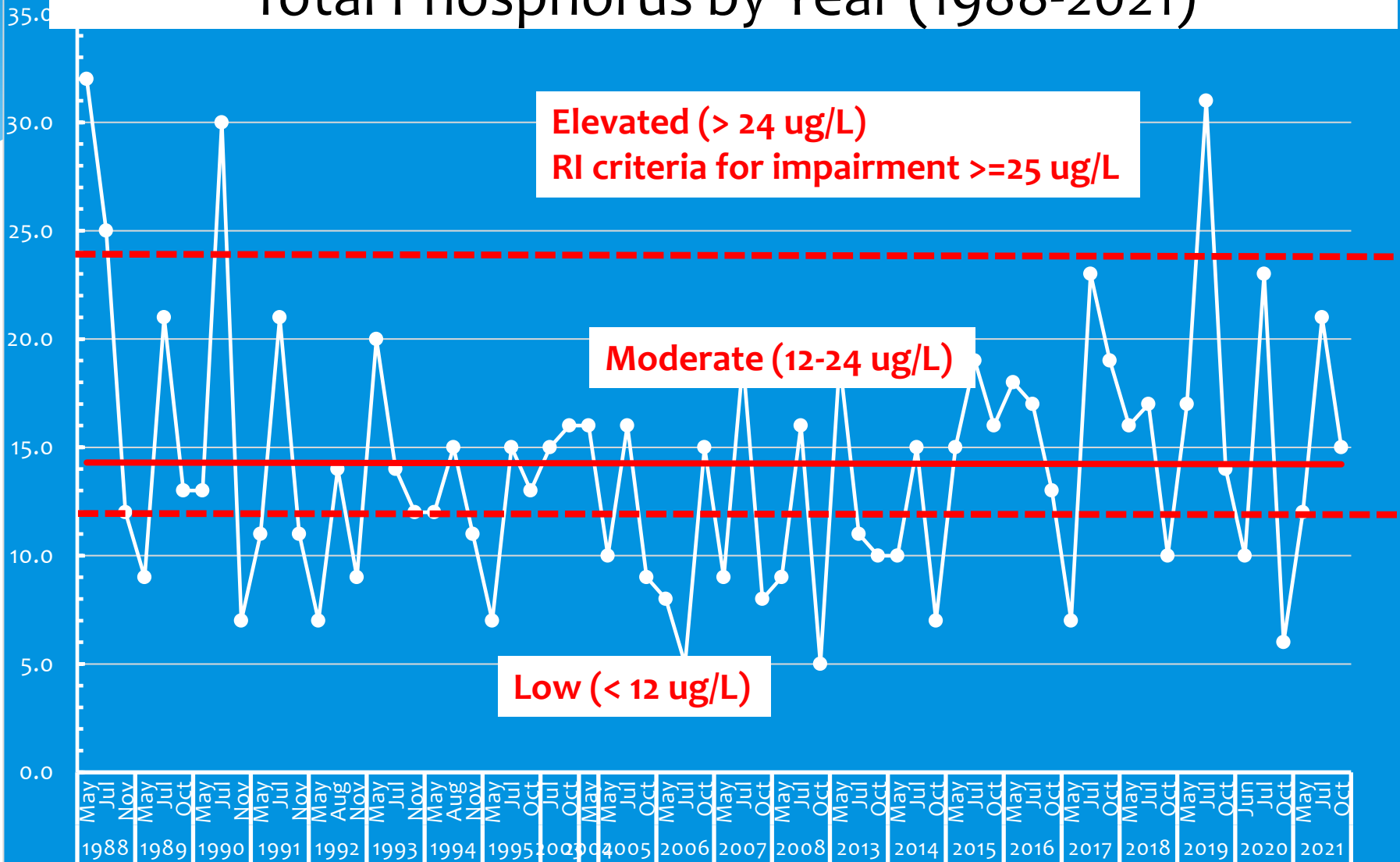


Total Nitrogen by Year (1993-2021)





Total Phosphorus by Year (1988-2021)





How to protect Water Quality of Your Pond

- 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

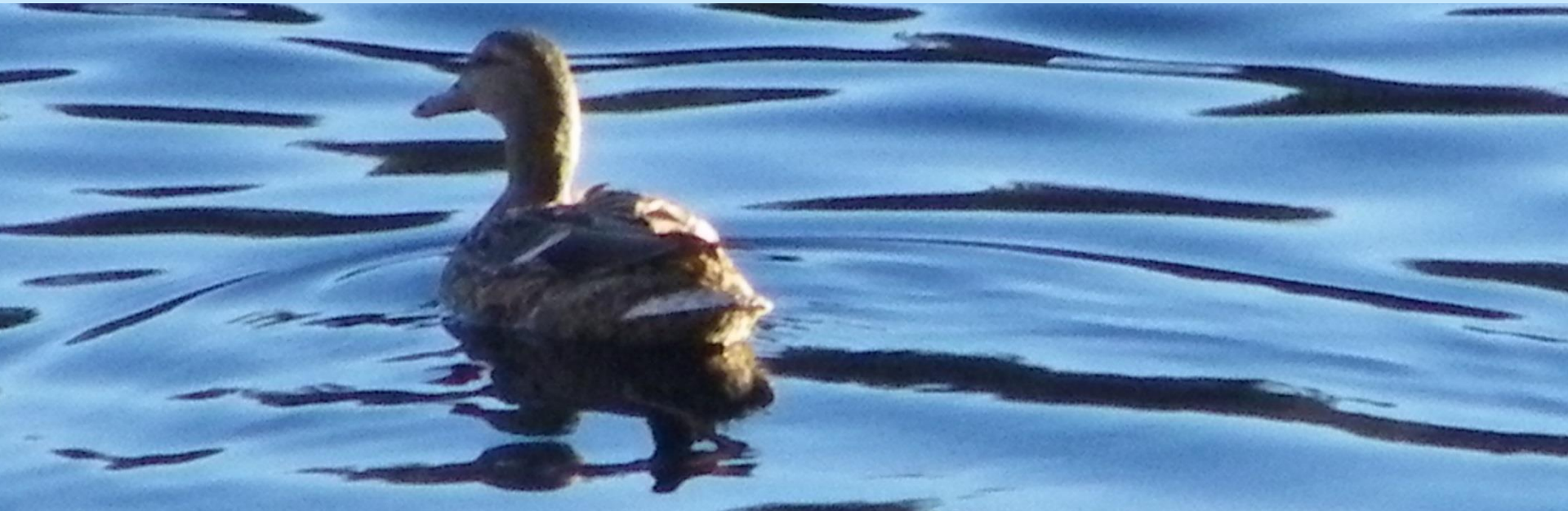


How to be good Aquatic Neighbors on Your Pond

- 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)**

2021 was a good year for us,
our milfoil problem has been reduced due to the new herbicide

Let's hope 2022 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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