

# 2024 Ticklenaked Pond Water Quality: Comparison to Before and After 2014 Alum Treatment

Mark Mitchell, Limnologist

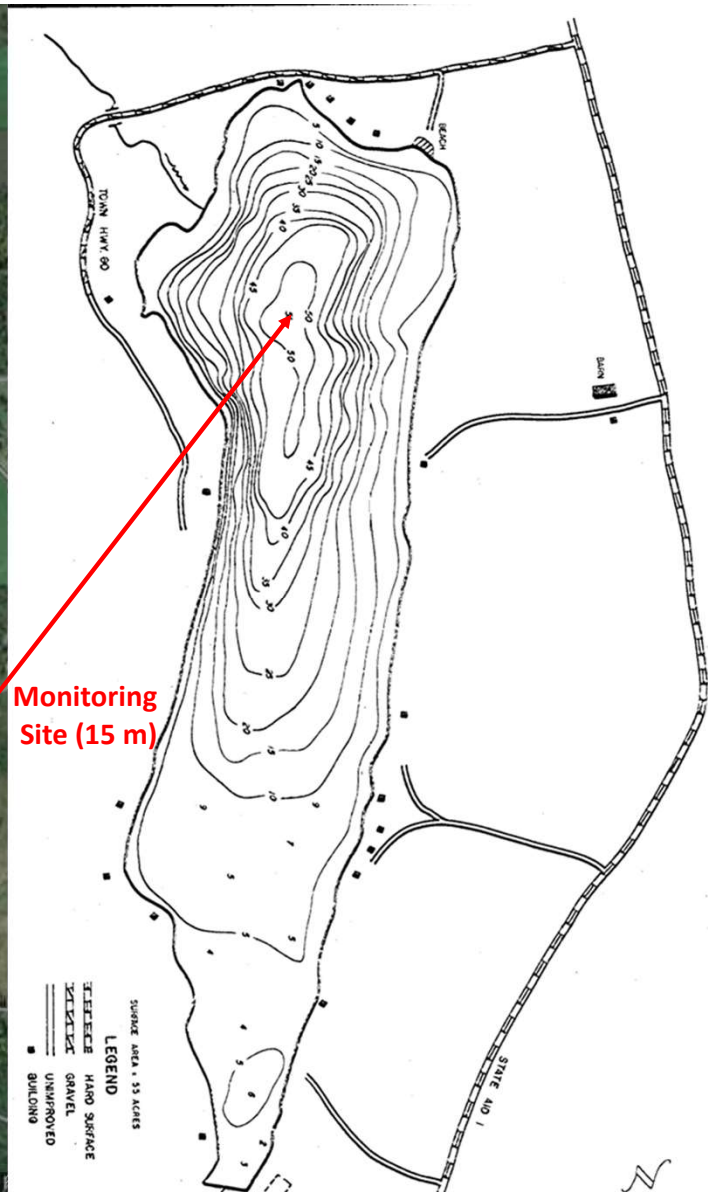
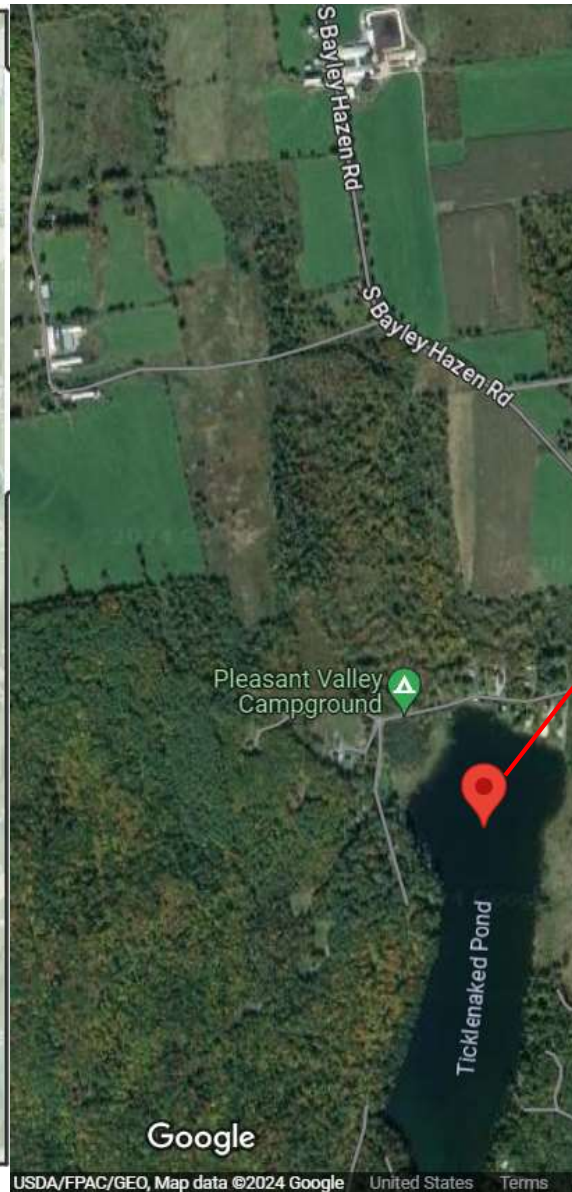
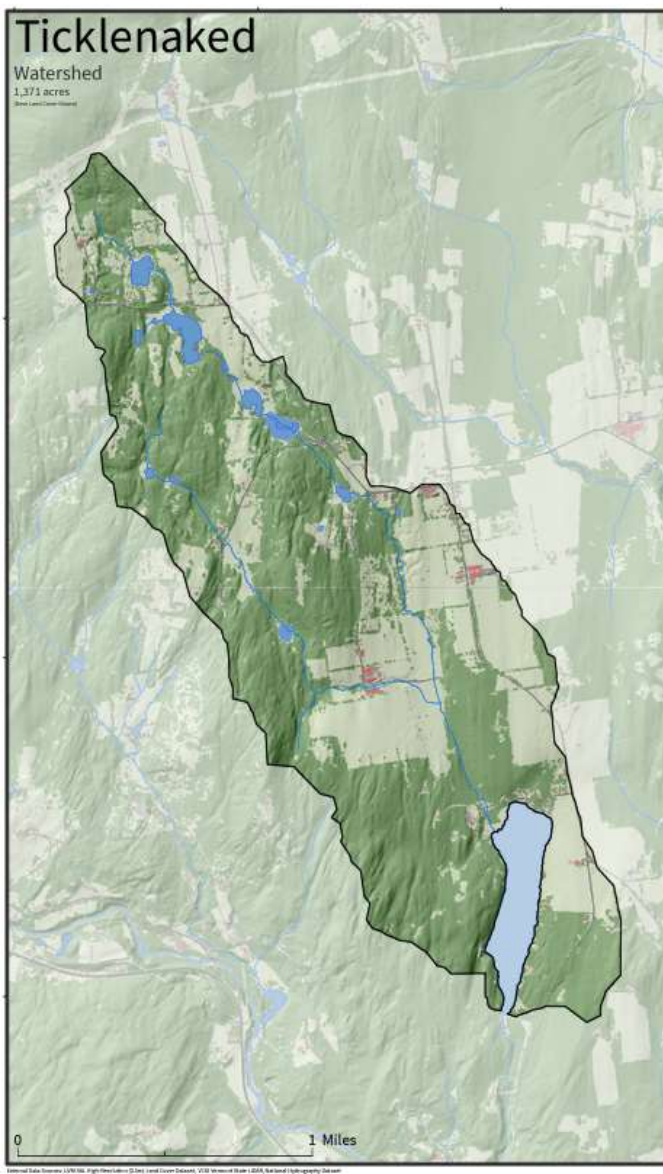
Lake Monitoring and Community Outreach Coordinator

VT DEC Lakes & Ponds Program and UVM Lake Champlain Sea Grant

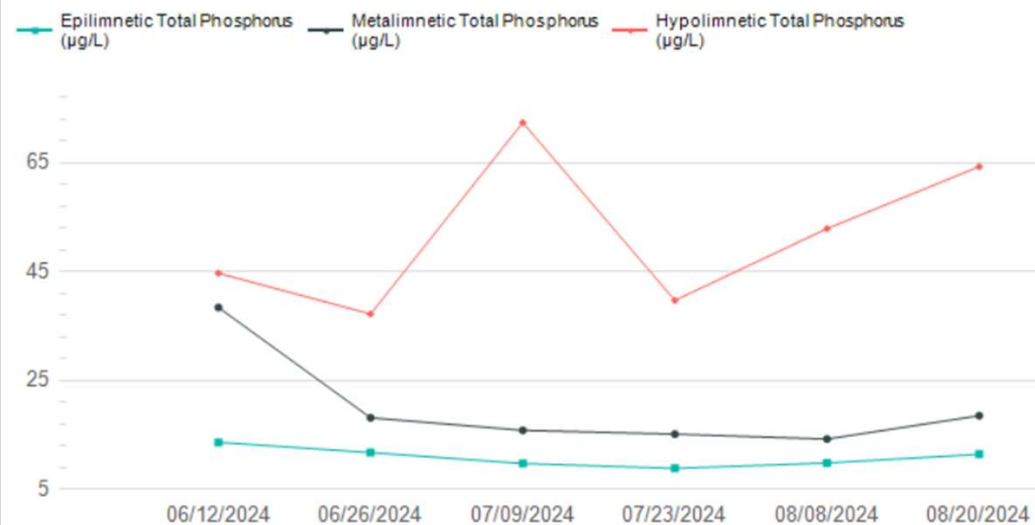
(April 2025)



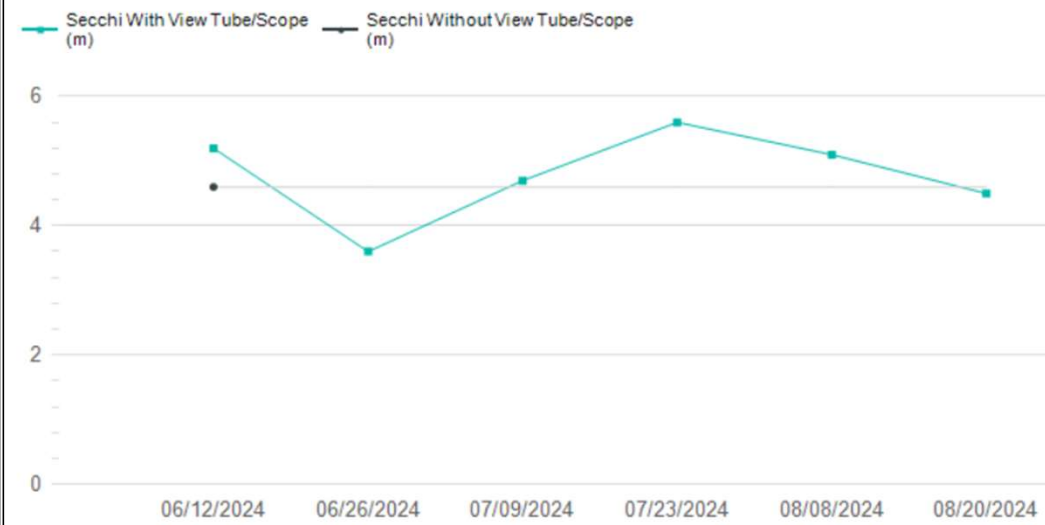




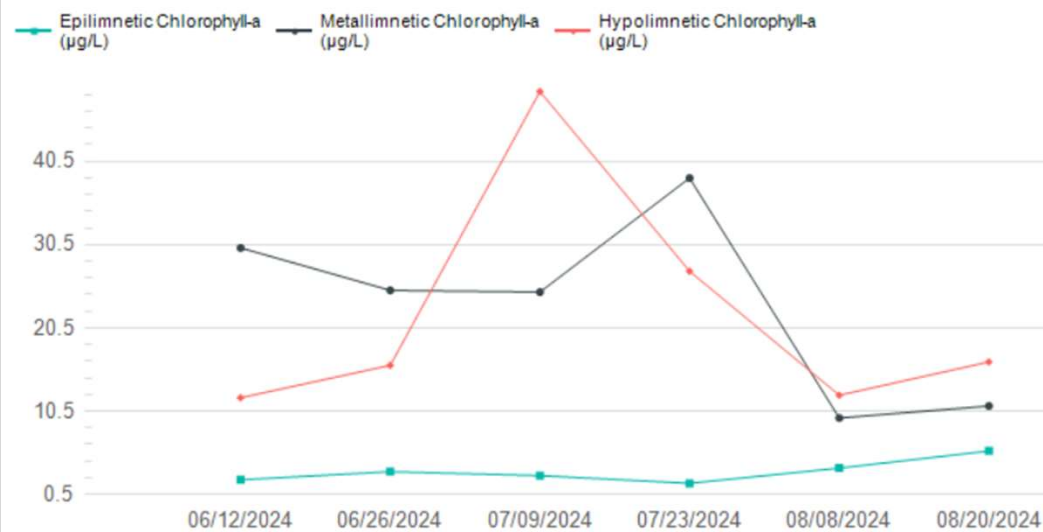
### 2024 Lay Monitoring Total Phosphorus



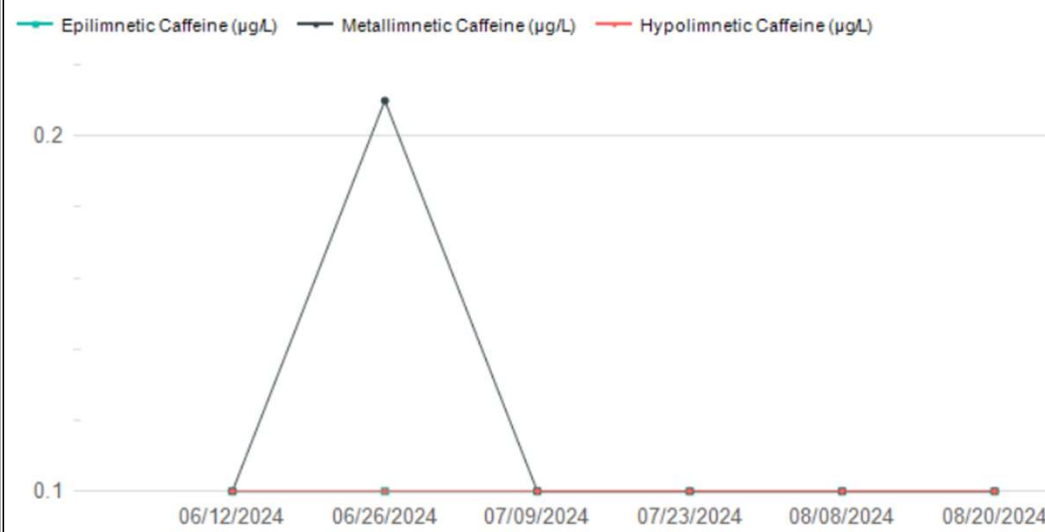
### 2024 Lay Monitoring Secchi Transparency



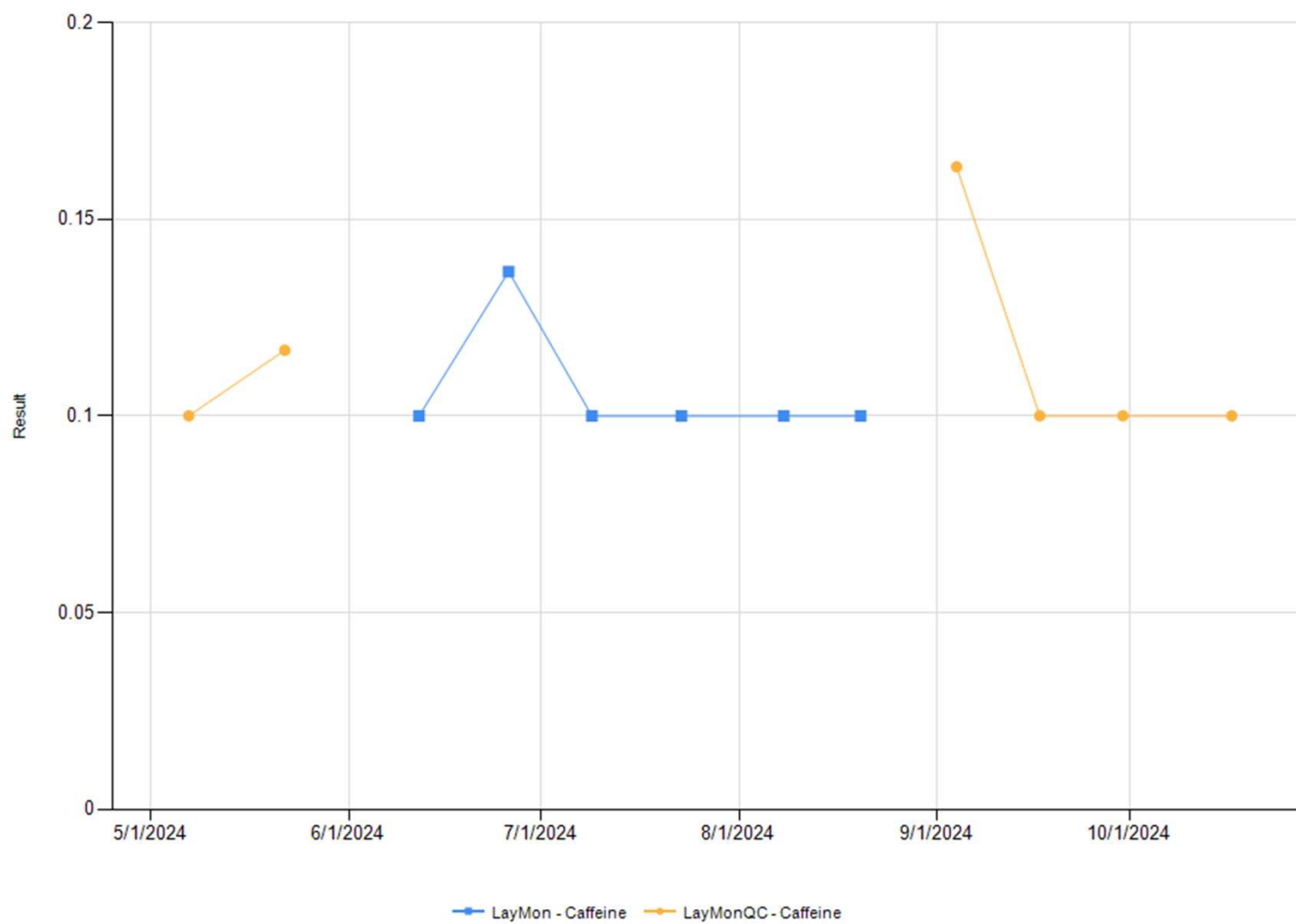
### 2024 Lay Monitoring Chlorophyll-a



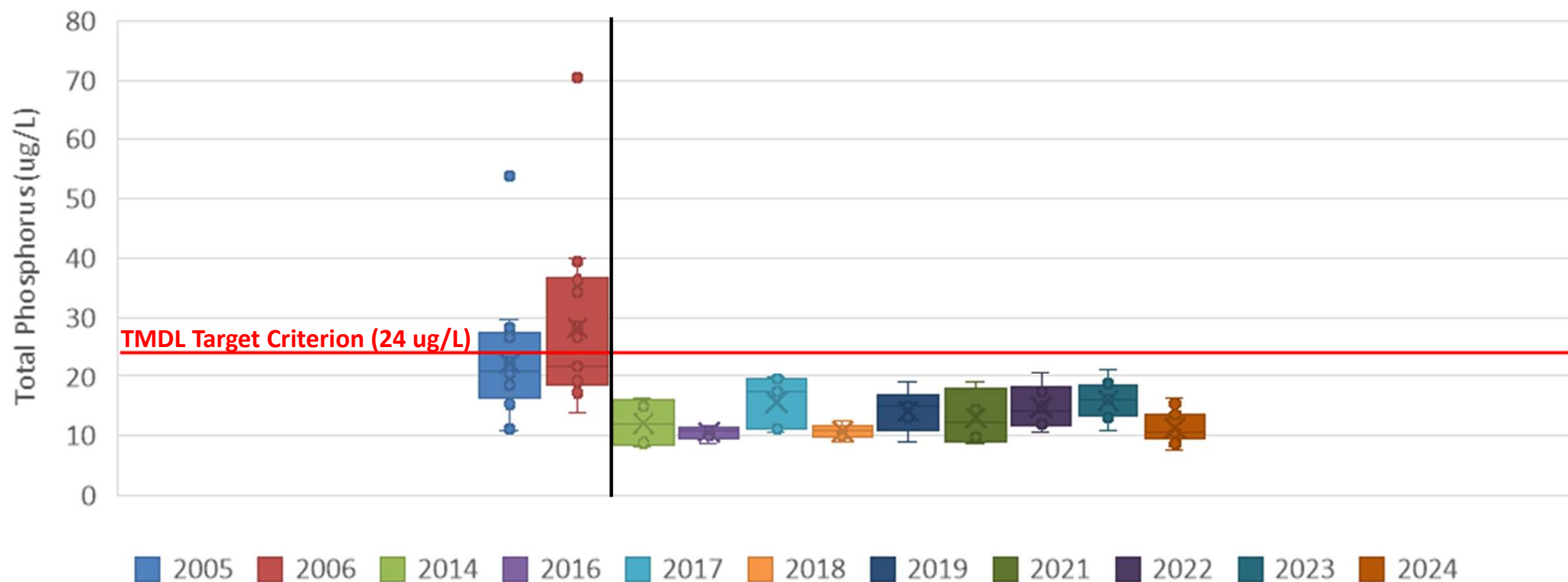
### 2024 Lay Monitoring Caffeine



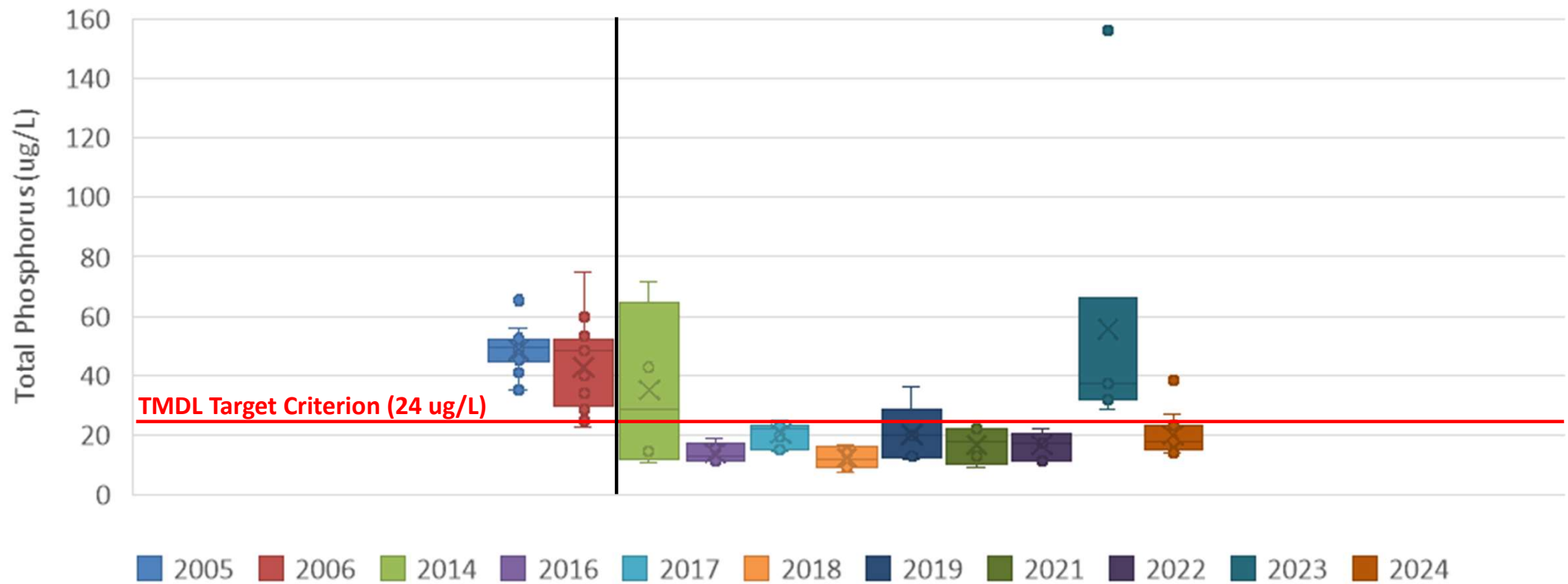
Ticklenaked Pond



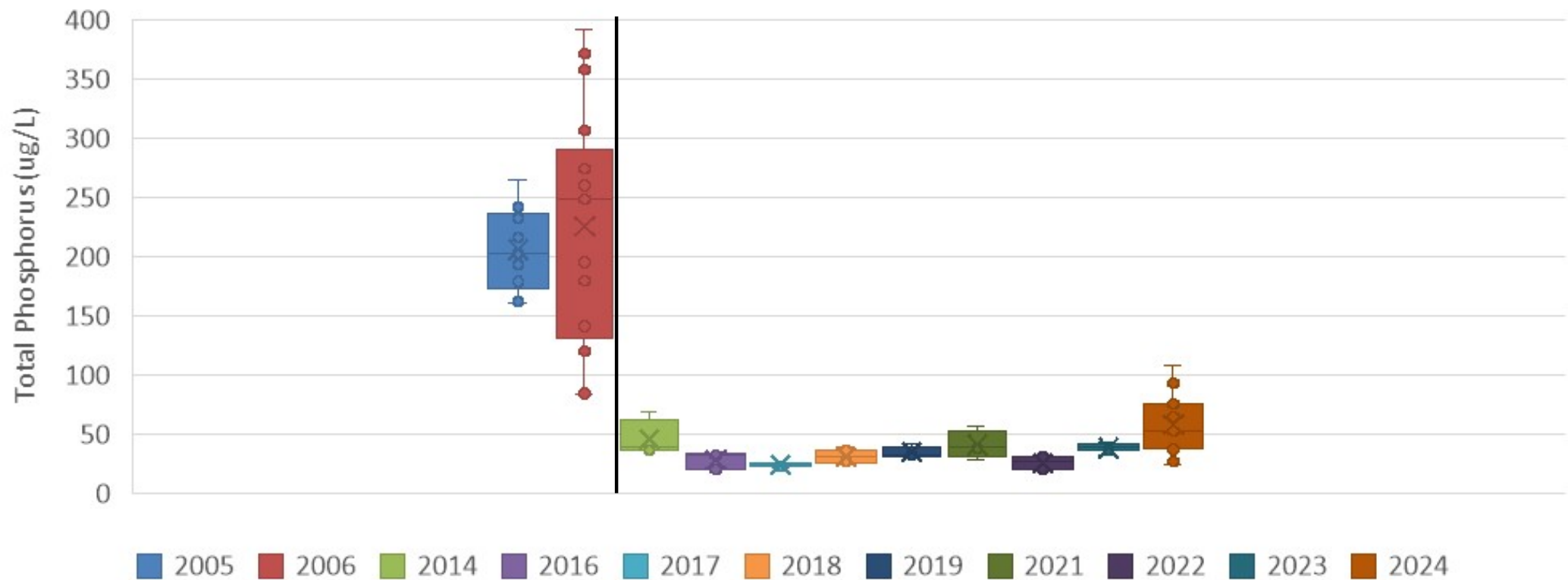
# Ticklenaked Pond Epilimnetic (0.2-1 m) Total Phosphorus: Before (2005-2006) and After (2014-2024) Alum Treatment



# Ticklenaked Pond Metalimnetic (5-6 m) Total Phosphorus: Before (2005-2006) and After (2014-2024) Alum Treatment

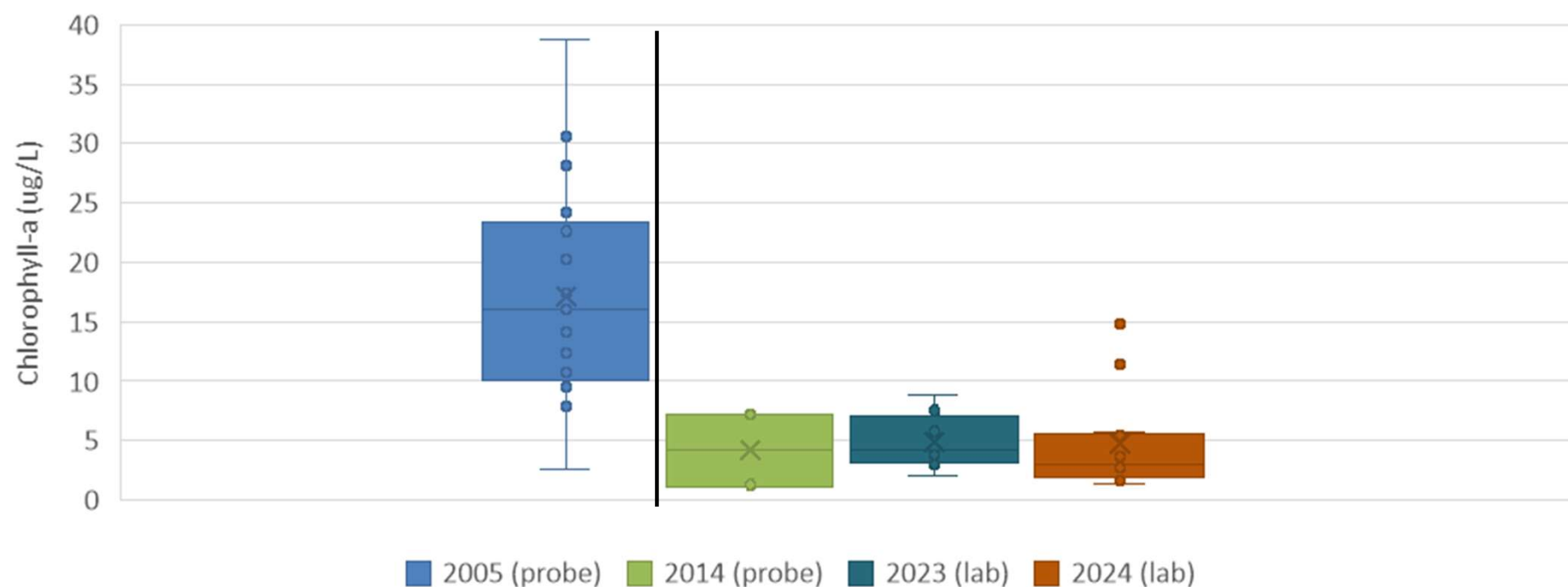


# Ticklenaked Pond Hypolimnetic (12-13 m) Total Phosphorus: Before (2005-2006) and After (2014-2024) Alum Treatment



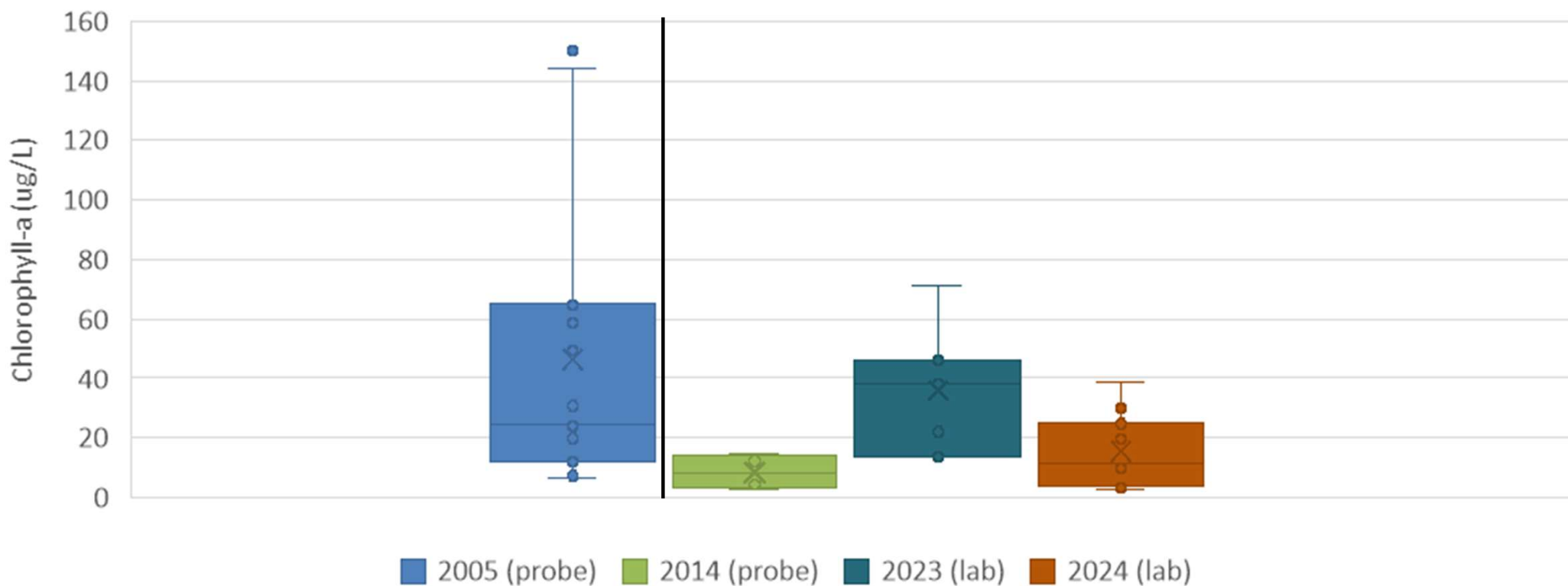


# Ticklenaked Pond Epilimnetic (0.2-1 m) Chlorophyll-a: Before (2005) and After (2014, 2023-2024) Alum Treatment

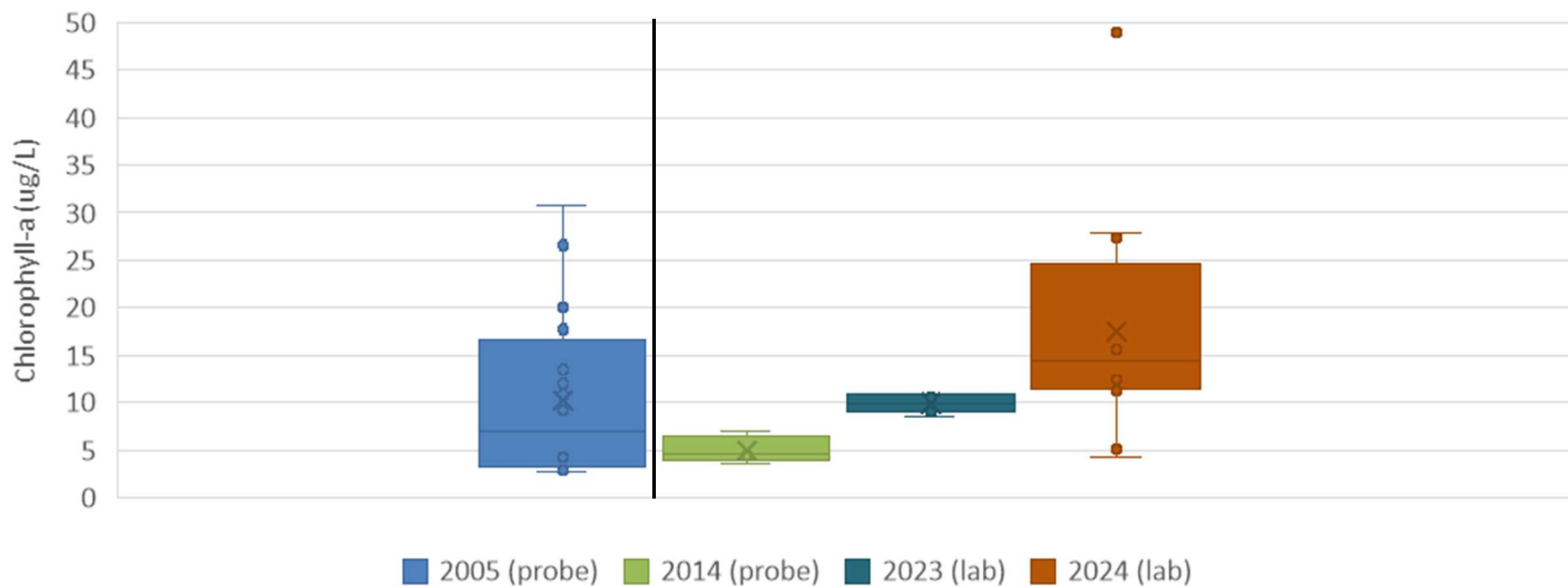




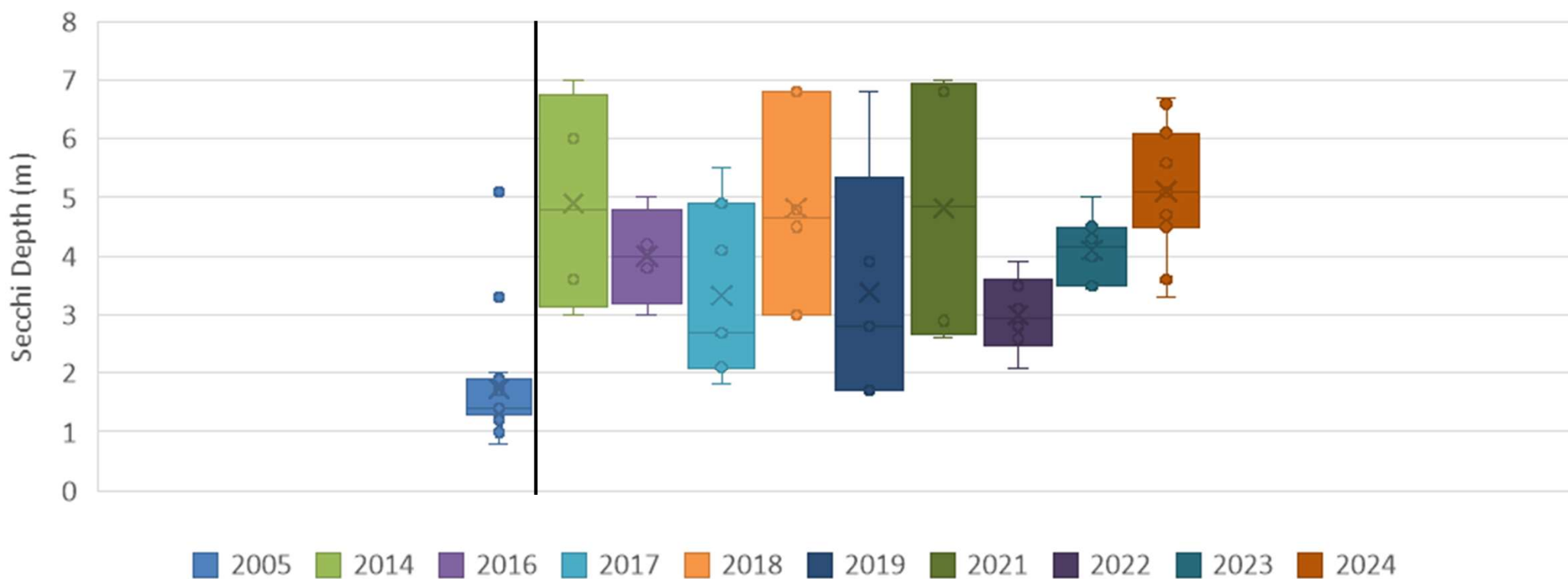
# Ticklenaked Pond Metalimnetic (6 m) Chlorophyll-a: Before (2005) and After (2014, 2023-2024) Alum Treatment



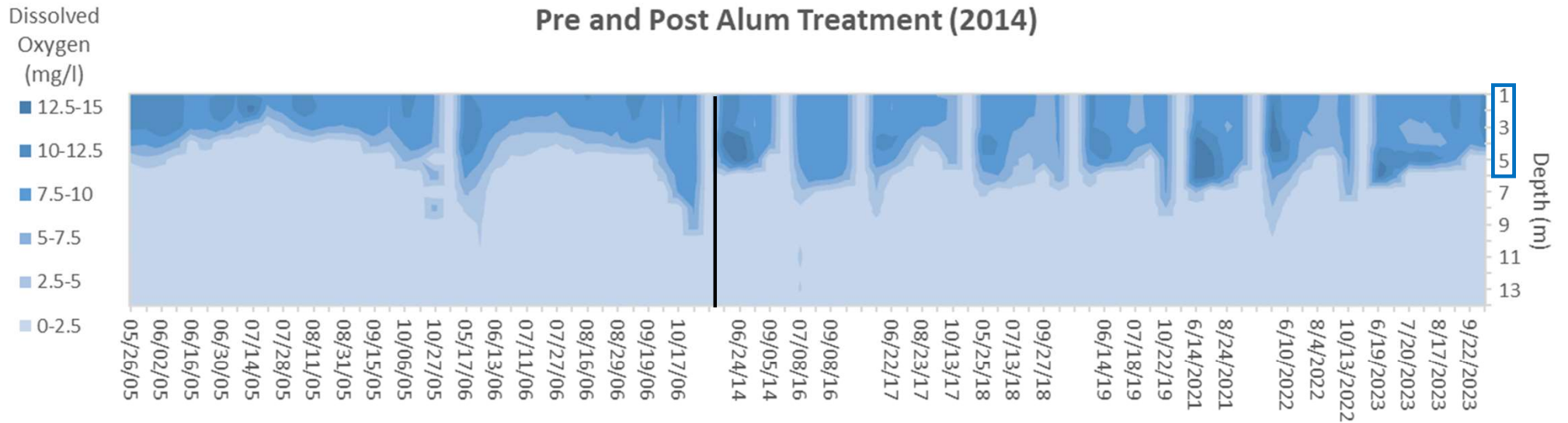
# Ticklenaked Pond Hypolimnetic (12 m) Chlorophyll-a: Before (2005) and After (2014, 2023-2024) Alum Treatment



# Ticklenaked Pond Secchi Transparency: Before (2005) and After (2014-2024) Alum Treatment

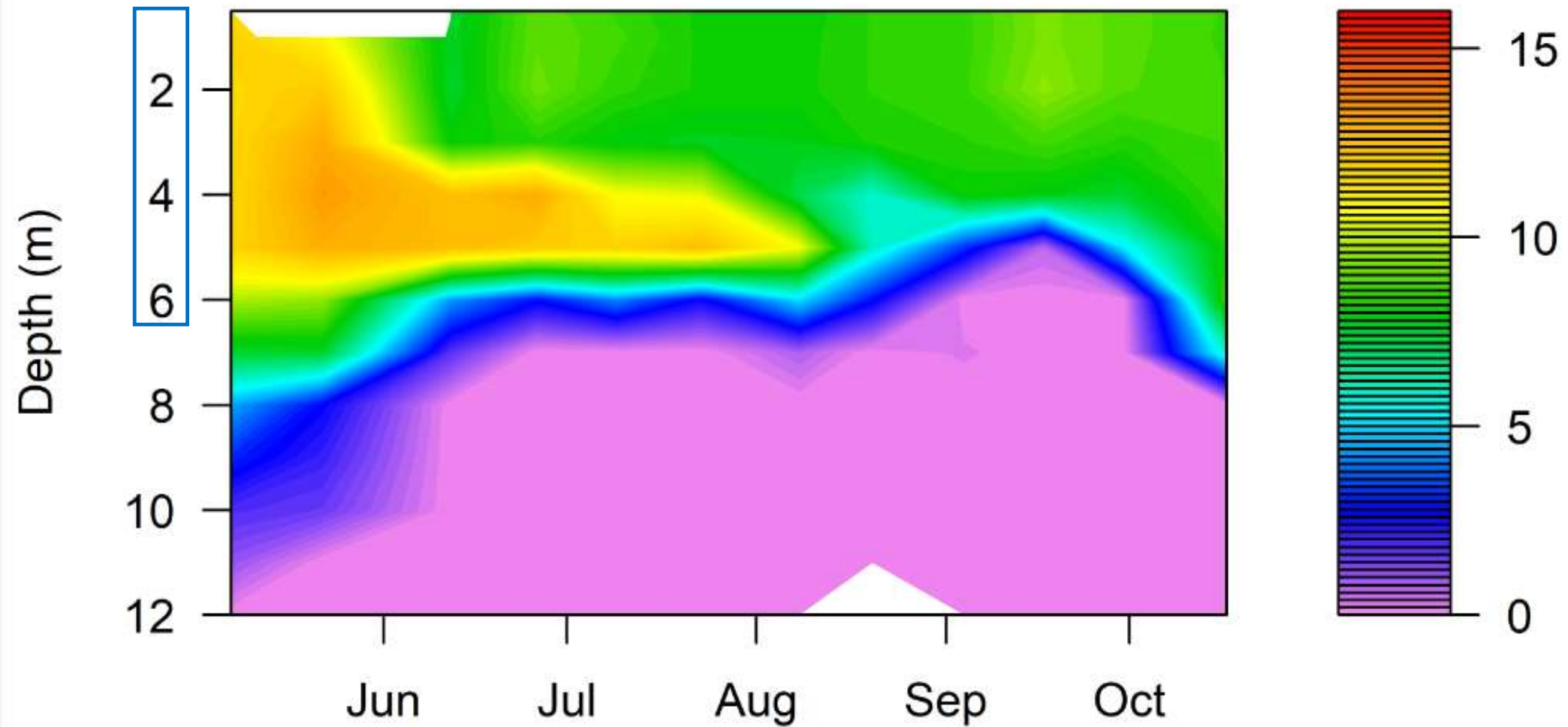


# Ticklenaked Pond Station # 1 Dissolved Oxygen Profiles May-Oct 2005-2006 and 2014-2023: Pre and Post Alum Treatment (2014)

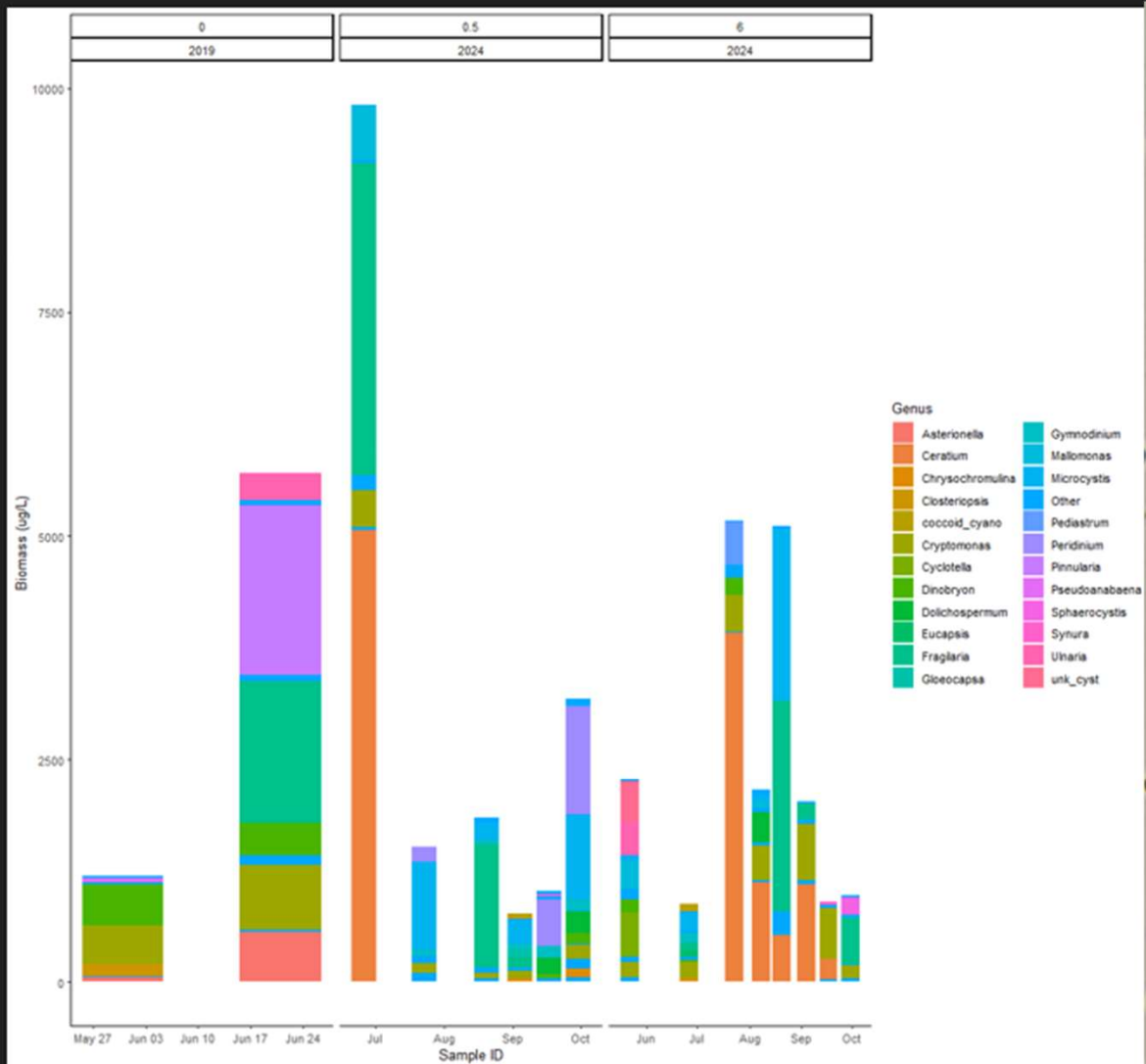




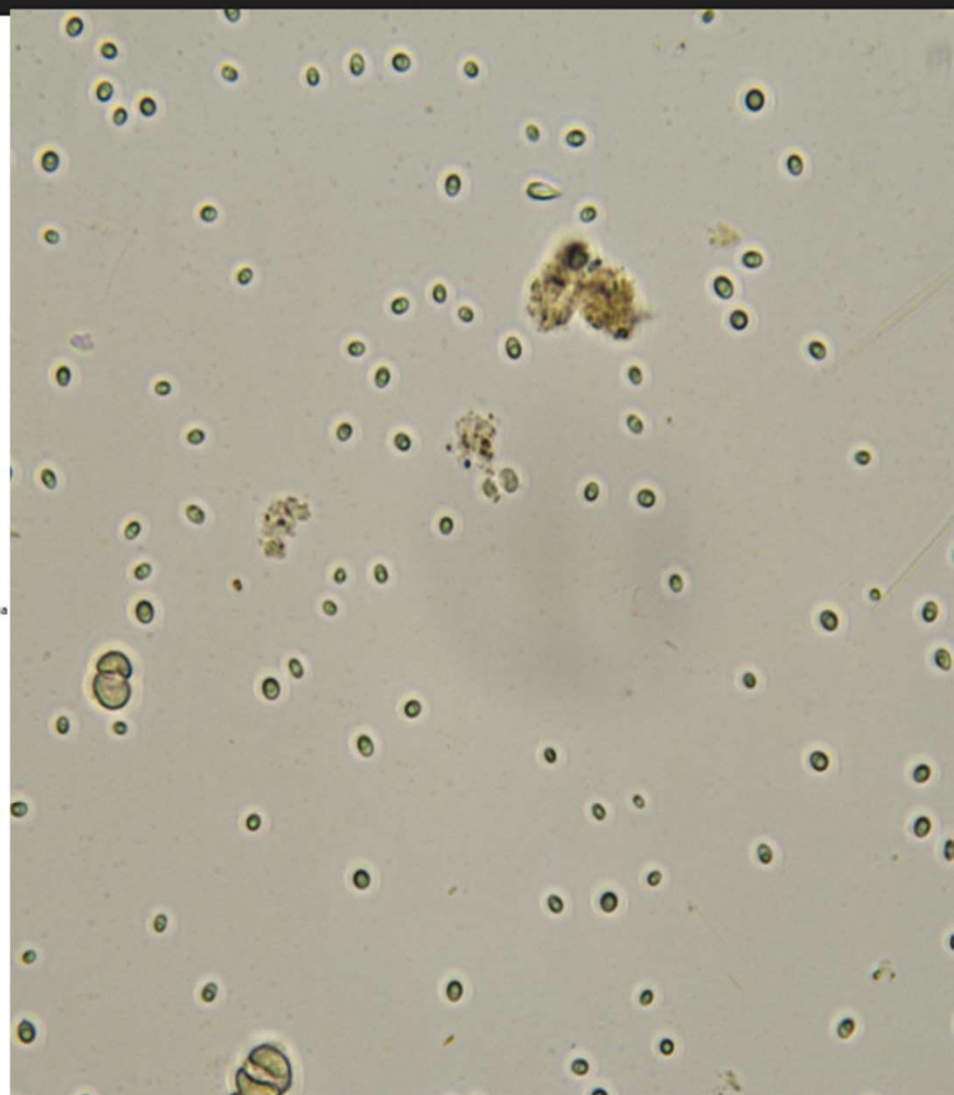
## Ticklenaked 2024 - Dissolved Oxygen (mg/L) LDO (mg/L)



Ticklenaked Pond phytoplankton composition 2019-2024.png



TICKL\_062624\_12.0.lif\_unk\_coccooid\_000.jpg





# 2024 Monitoring Summary and Next Steps

- Mean epilimnetic and metalimnetic TP not exceeding TMDL target 24 ug/l
- Mean hypolimnetic TP higher but still well below pre-alum concentrations
- Mean epilimnetic chlorophyll-a continues to be lower (mesotrophic range)
- Mean metalimnetic and hypolimnetic chlorophyll-a are in eutrophic range
- Mean Secchi transparency continues to be higher (mesotrophic range)
- Dissolved oxygen continues to be higher at deeper depths (less hypoxia)
- ID, count and compare phytoplankton samples from different depths
- Continue monitoring and start planning for another alum treatment





Thanks!

Questions?

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