

2023 Canandaigua Lake Sampling and Monitoring Program

Report to the Canandaigua Lake Watershed Council
June 5, 2024

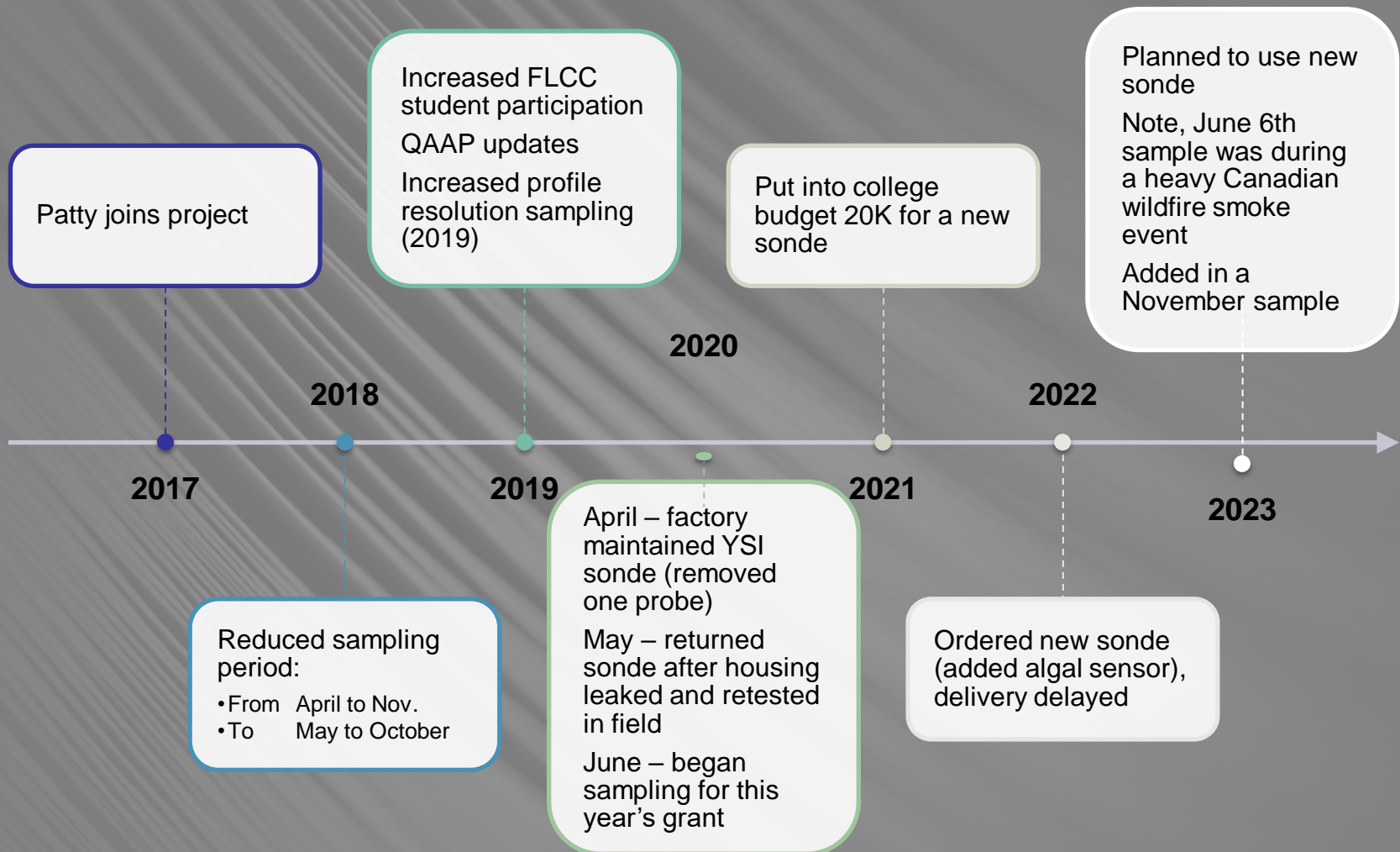
Patty Rockwell, M.S.
Associate Professor of Environmental Conservation



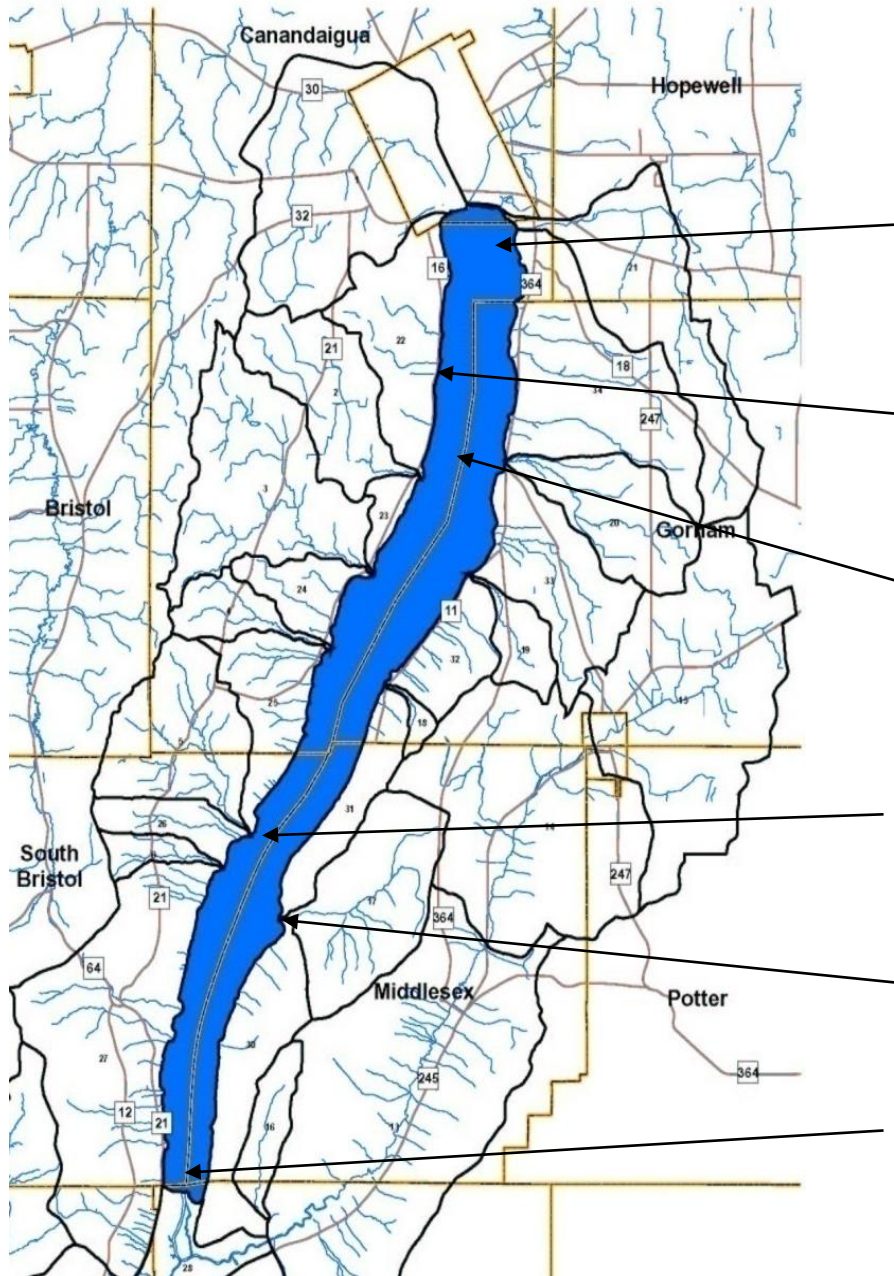
Program Background

- Program in it's 29th year (1996 – 2024)
- FLCC's role
- Lake attributes that are monitored each year since 1996:
 - Water clarity (secchi disk)
 - Lake algal productivity (chlorophyll-a)
 - Lake nutrients (Phosphorus)
 - Water quality profiles: temperature, dissolved oxygen, pH, conductivity

Program Notes



Study Sites



Fallbrook (FB)

Hope Point (HP)

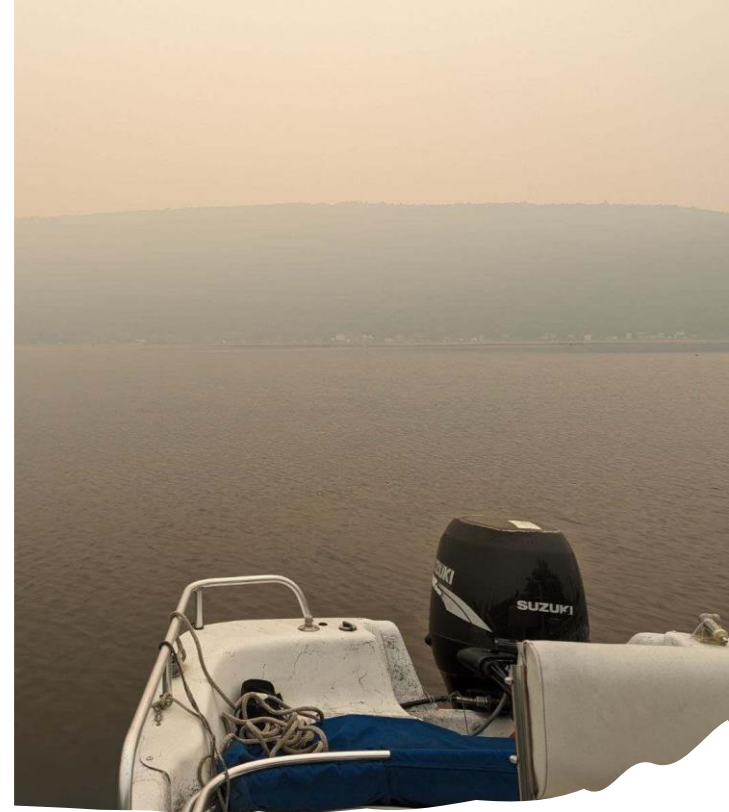
Deep Run (DR)

mid-lake locations

Seneca Point (SP)

Vine Valley (VV)

West River (WR)



**June 6, 2023 ...
Canadian Wildfires**

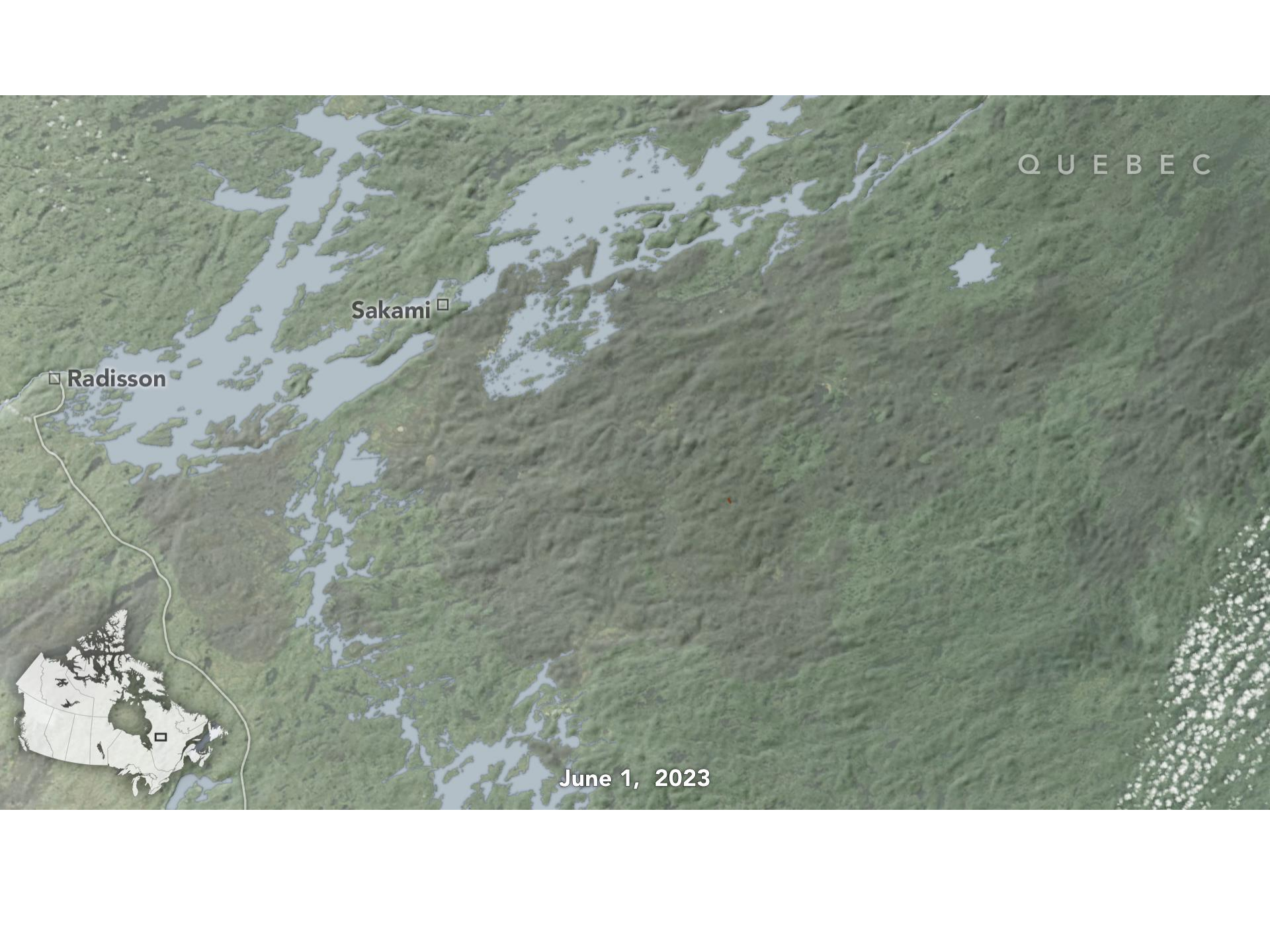


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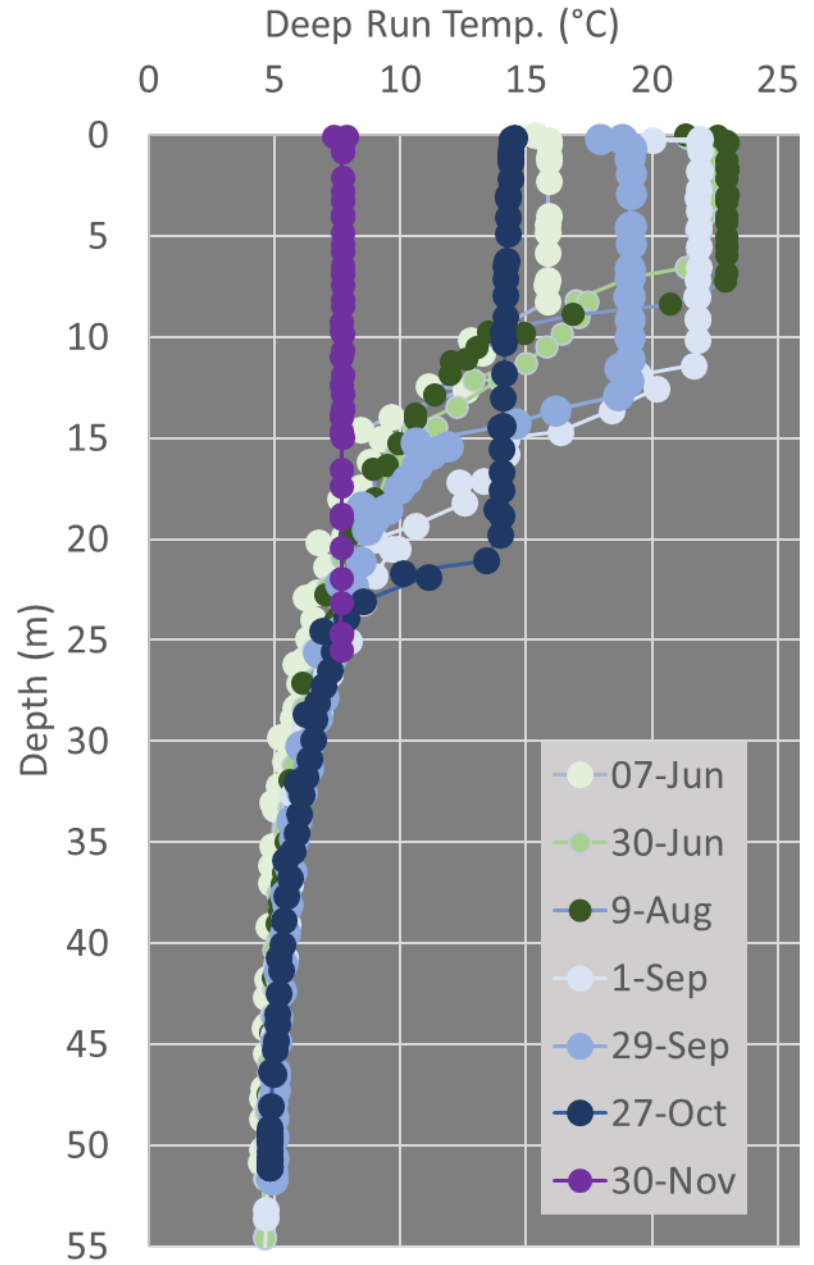
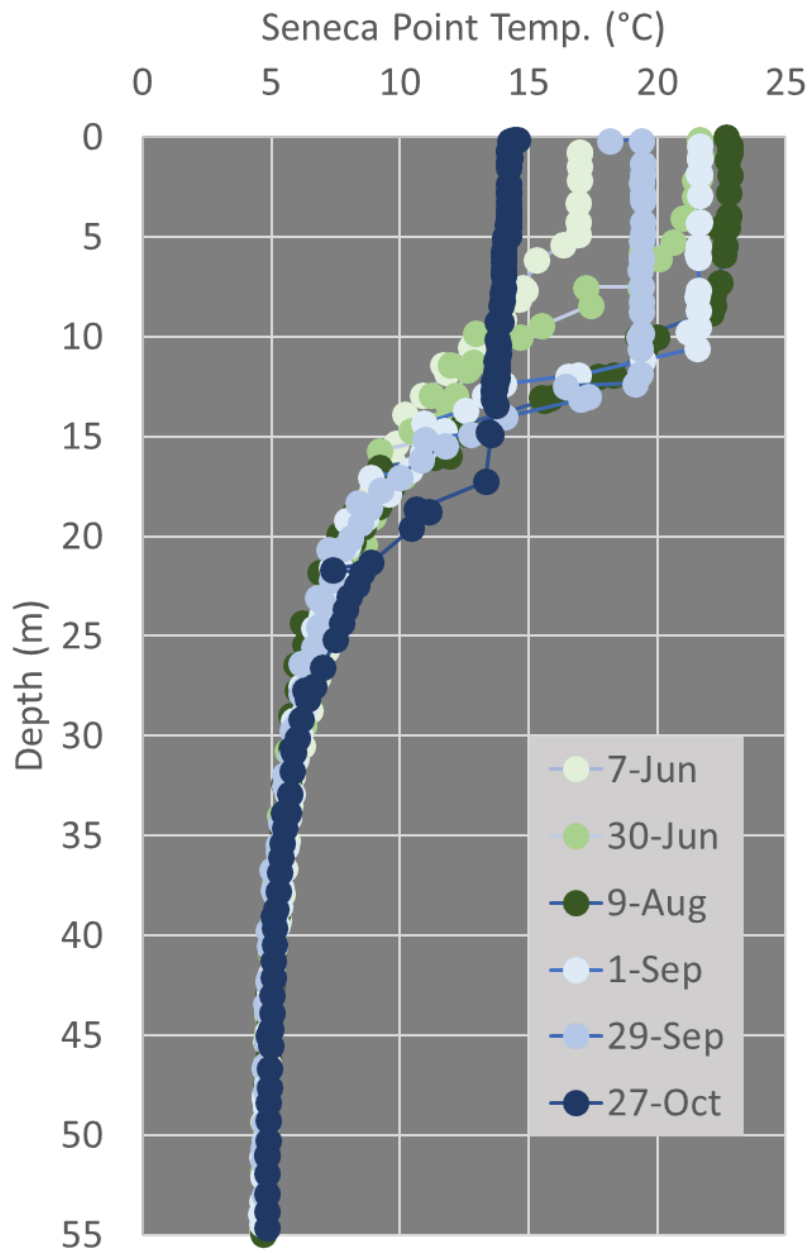
Sakami □

□ Radisson

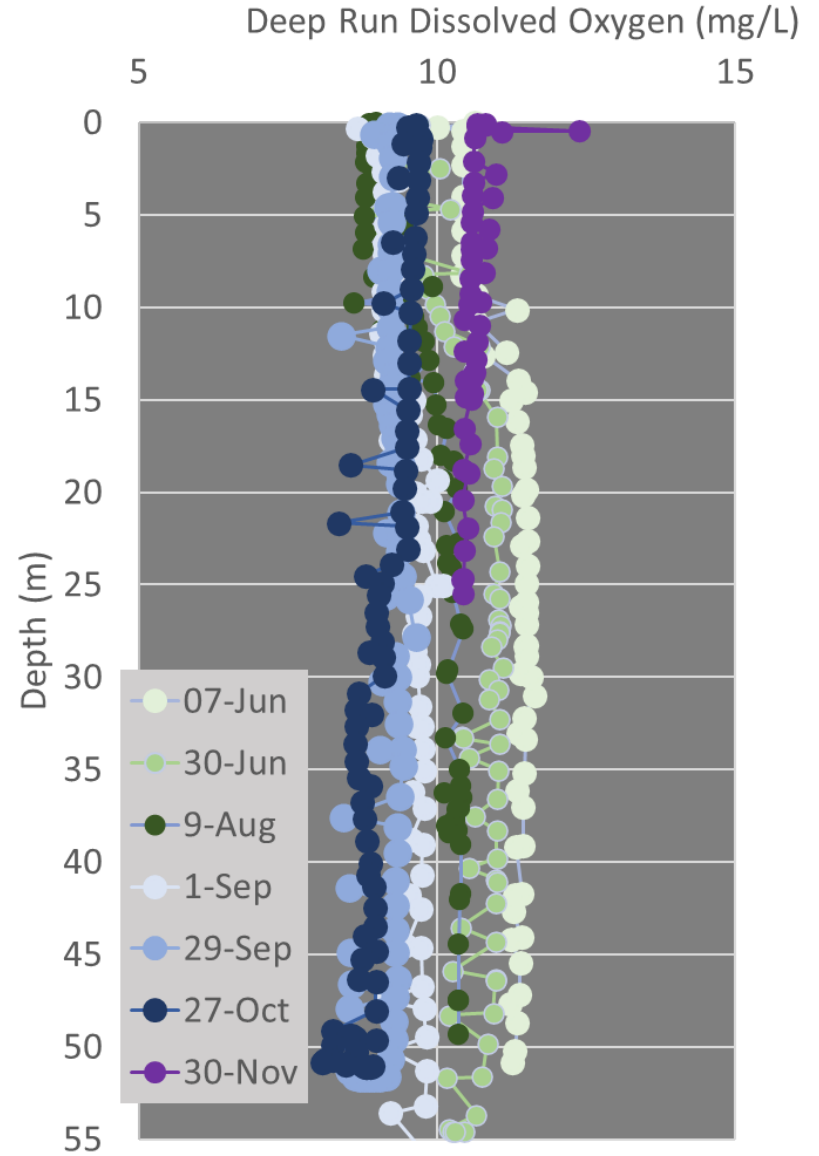
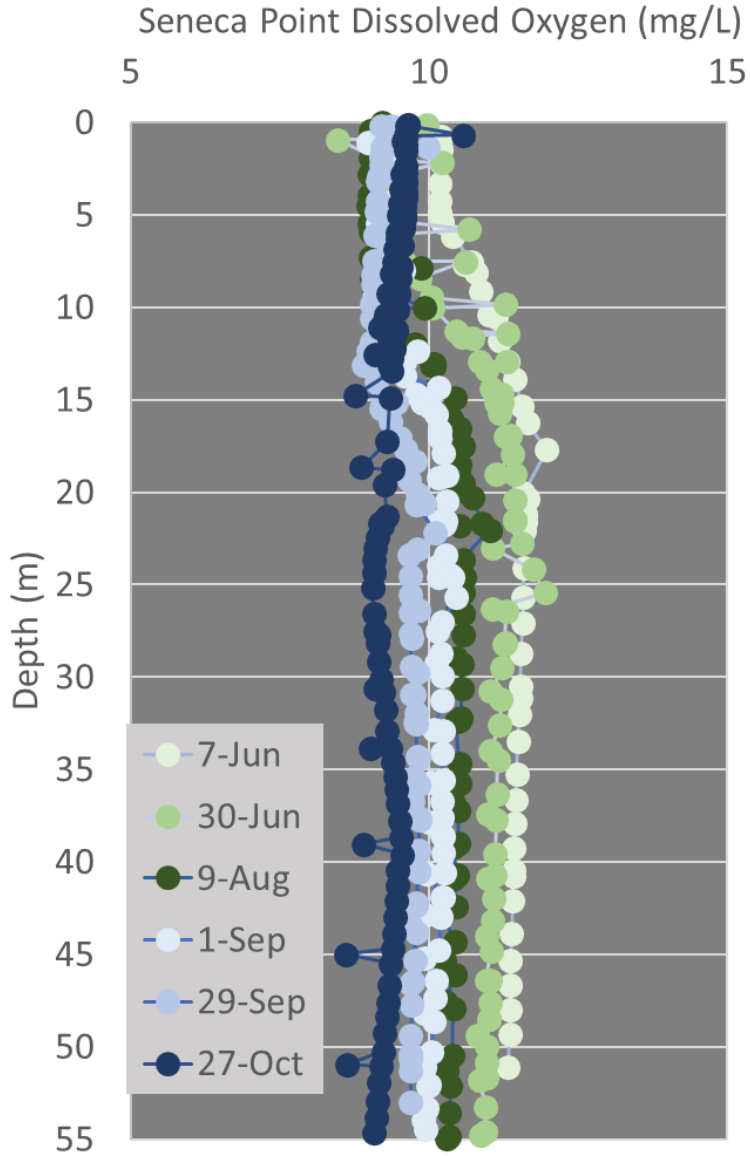
June 1, 2023



2023 Temperature profiles

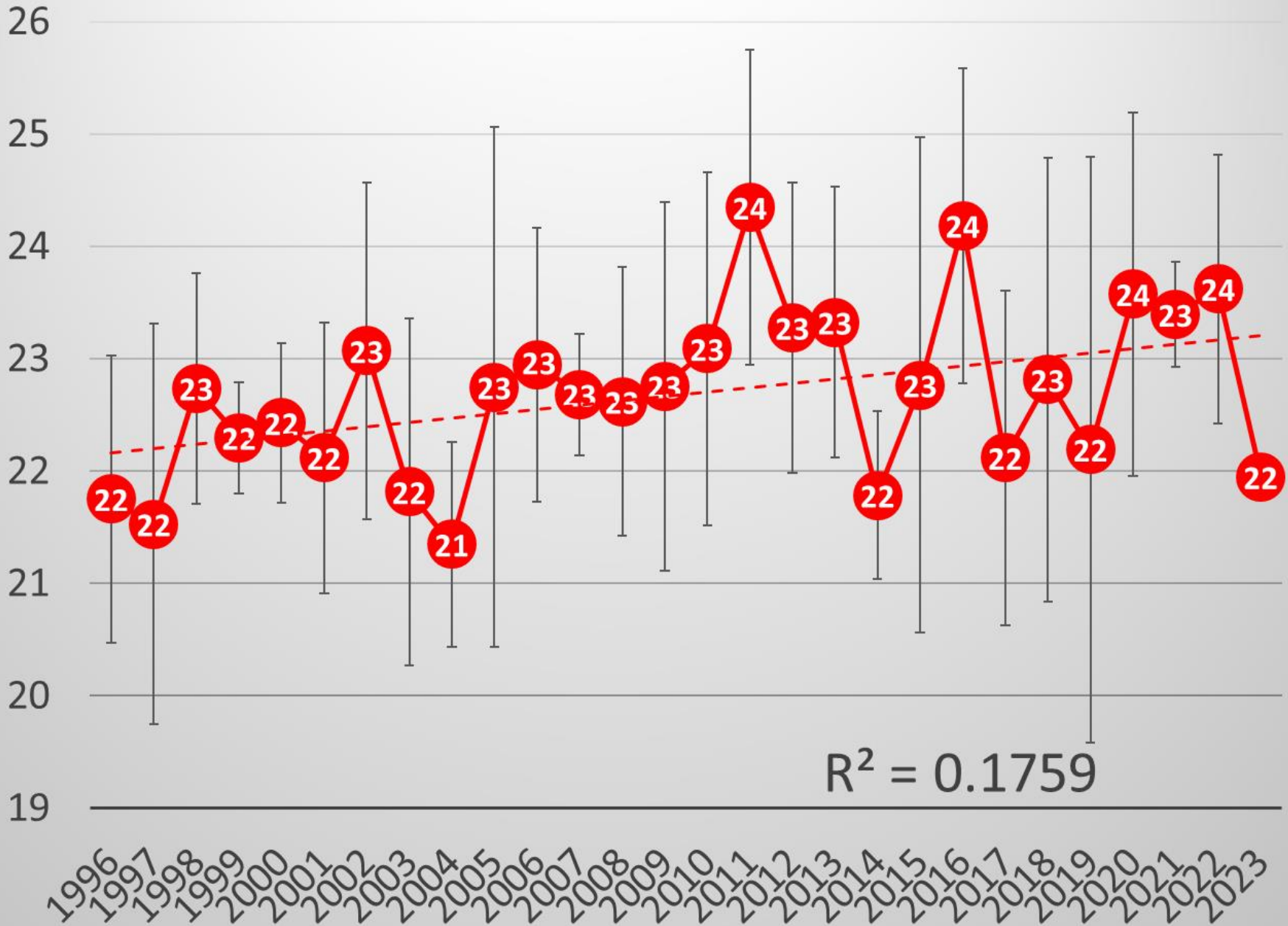


2023 Dissolved Oxygen profiles



Summer Surface Temperatures (1996 - 2023)

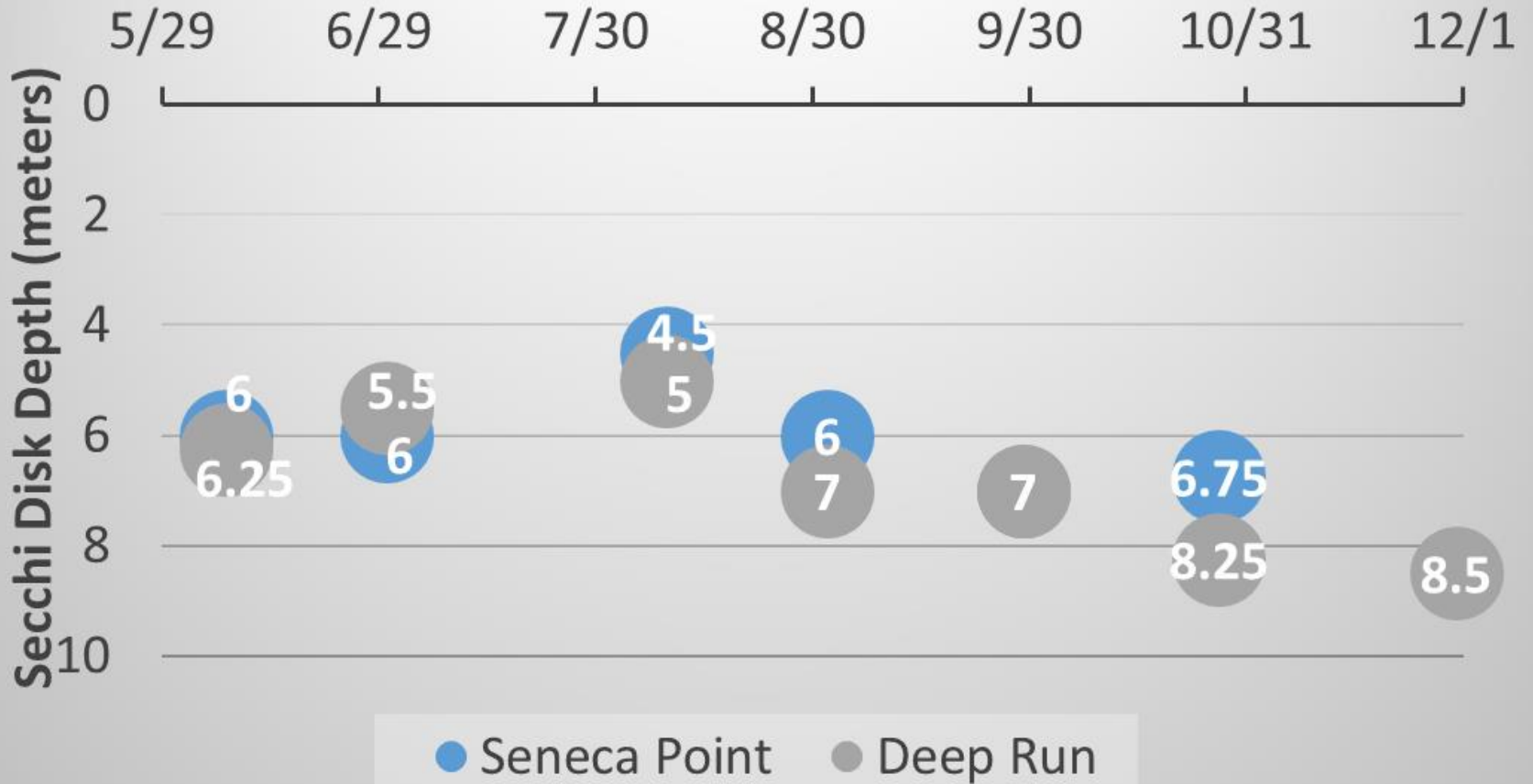
June, July, August Temperature (C°)



$R^2 = 0.1759$

Lake Clarity

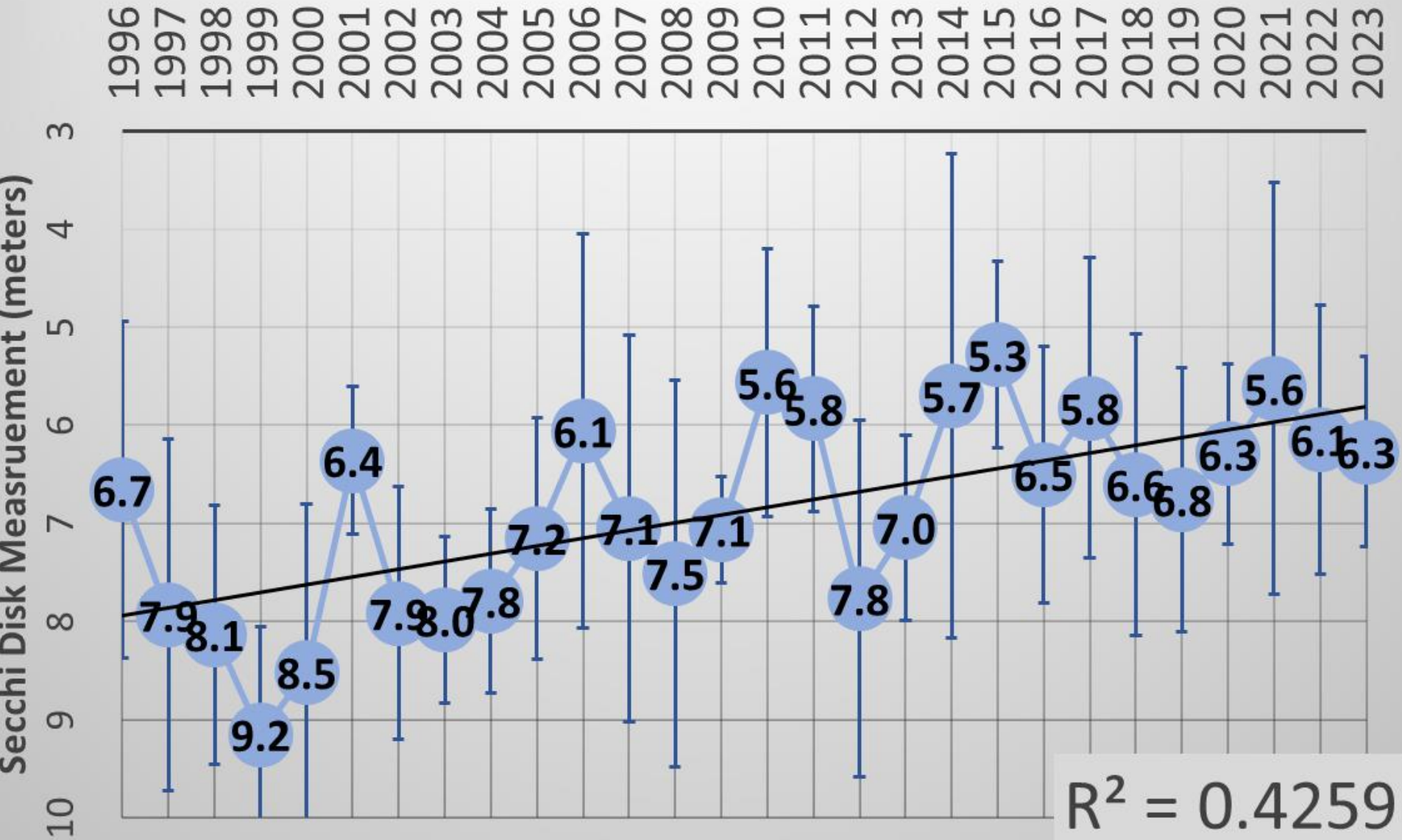
2023 Secchi Disk Measurements (meters)



Seasonal Mean Lake Clarity (1996-2023)



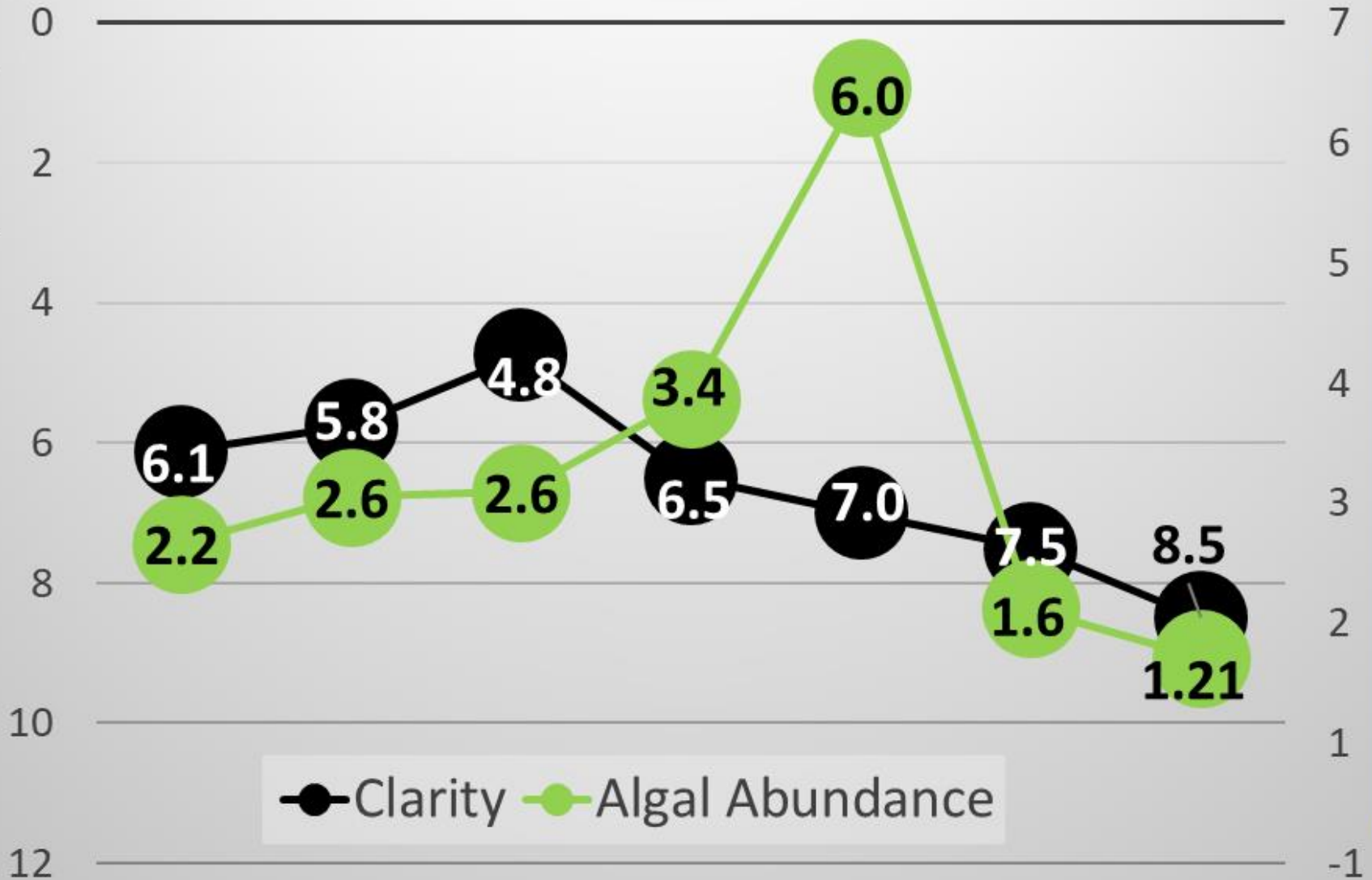
Summer Mean Lake Clarity (1996 - 2023)



Clarity versus Algal Abundance (2023)

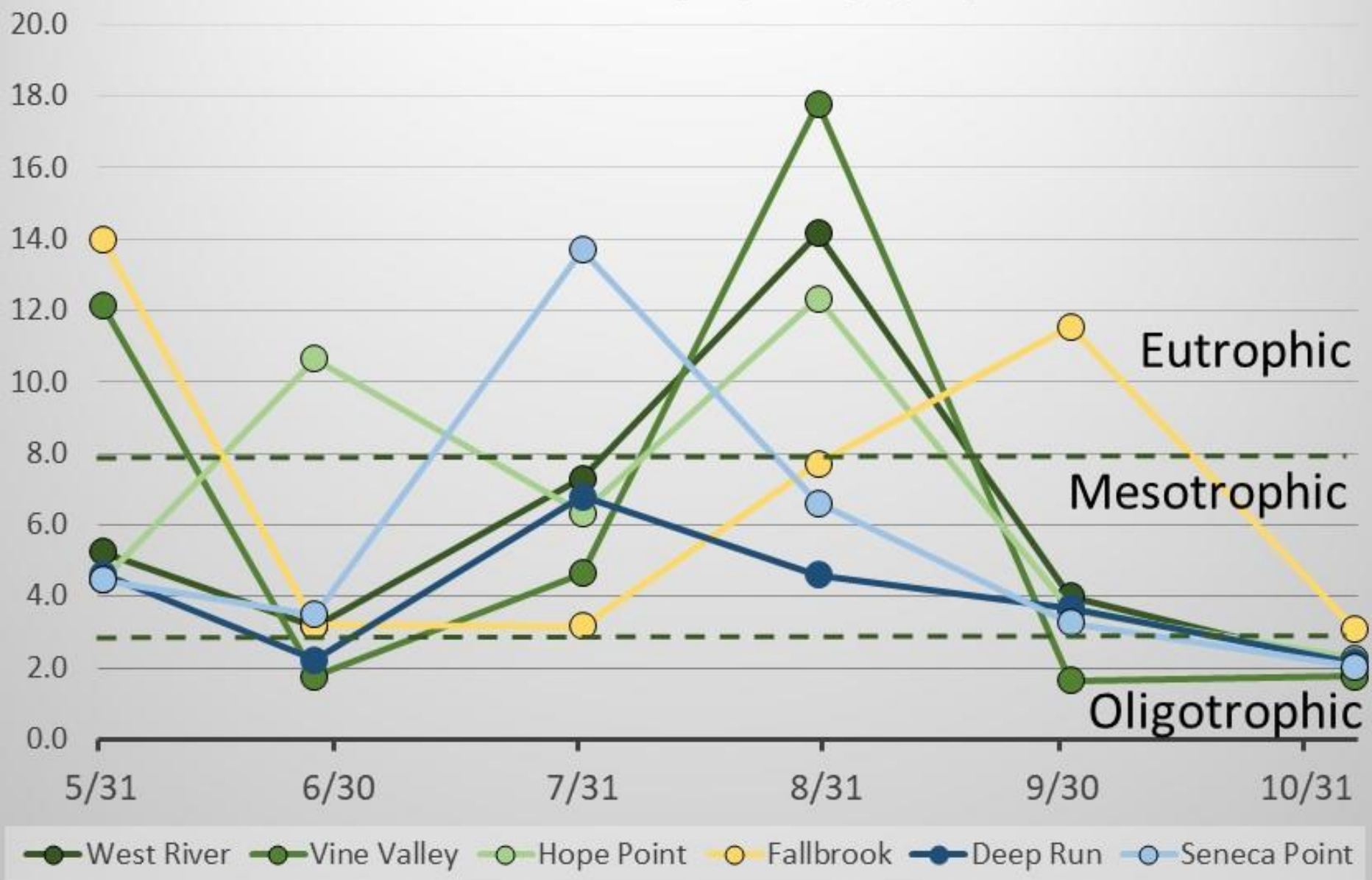
MAY JUN JUL AUG SEP OCT NOV

Secchi Disk Measurement (meters)

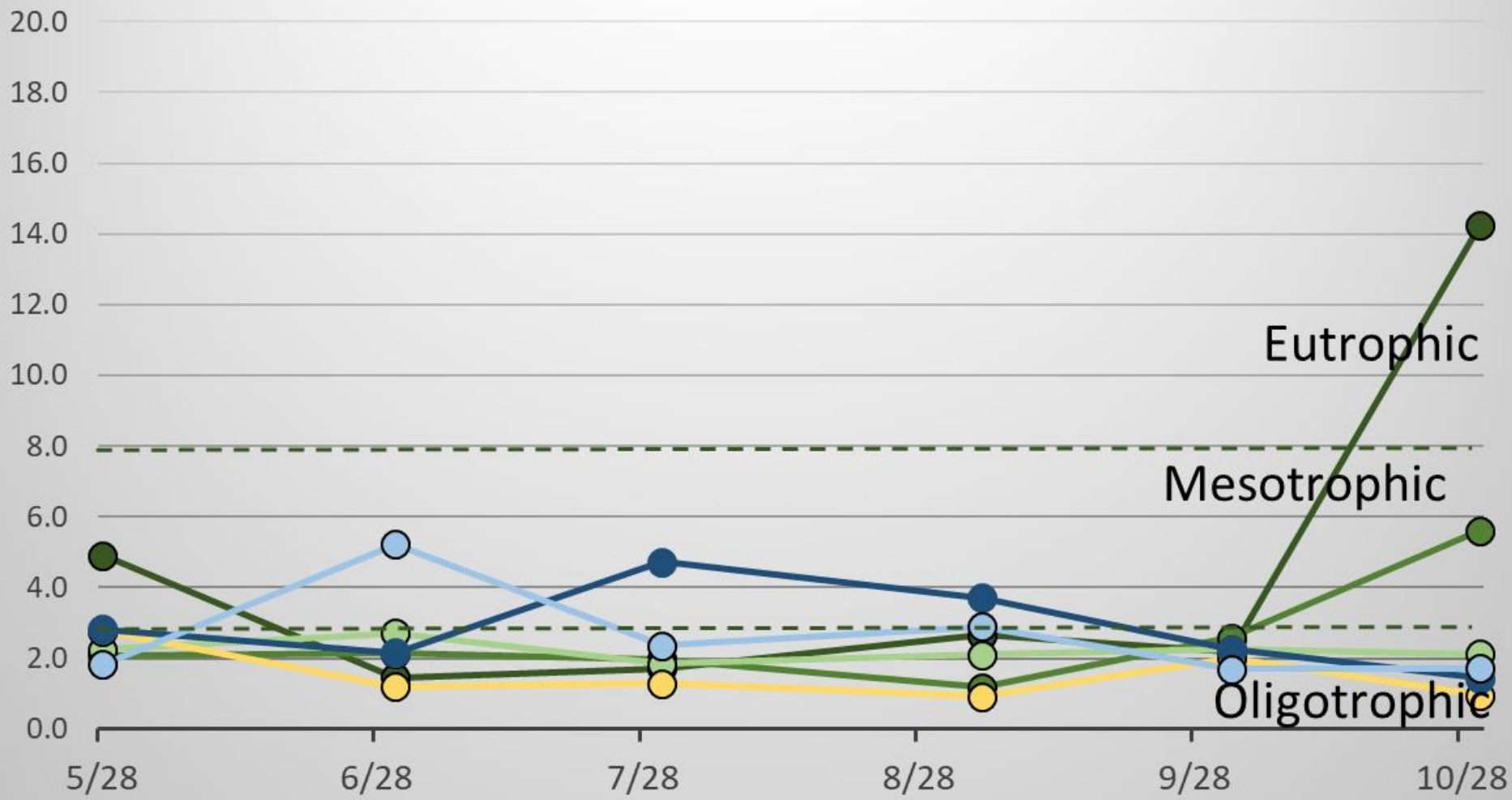


Chlorophyll-a Measurements (ug/L)

2019 Seasonal Algal Abundance Chlorophyll-a (ug/L)

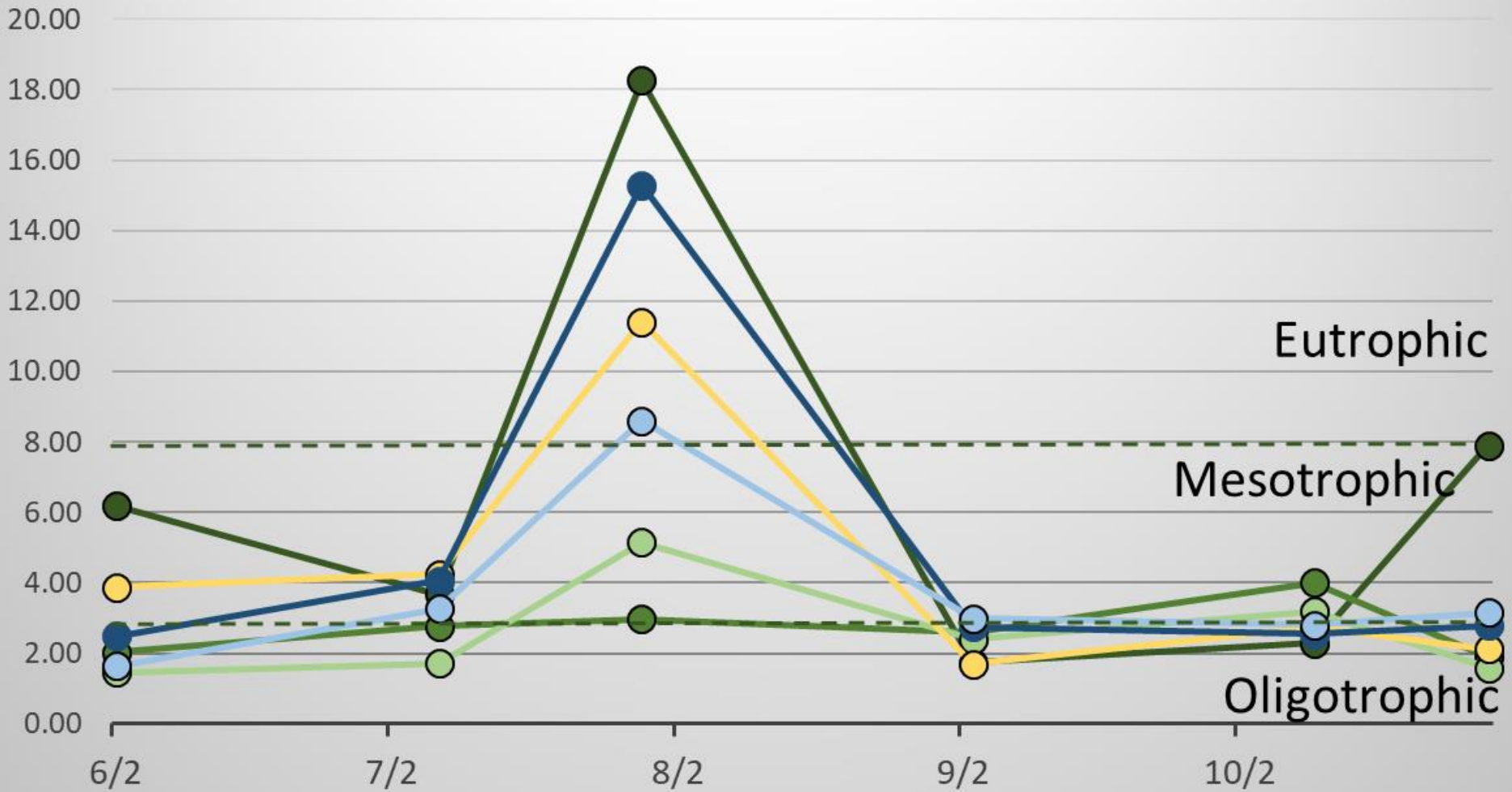


2020 Seasonal Algal Abundance Chlorophyll-a (ug/L)



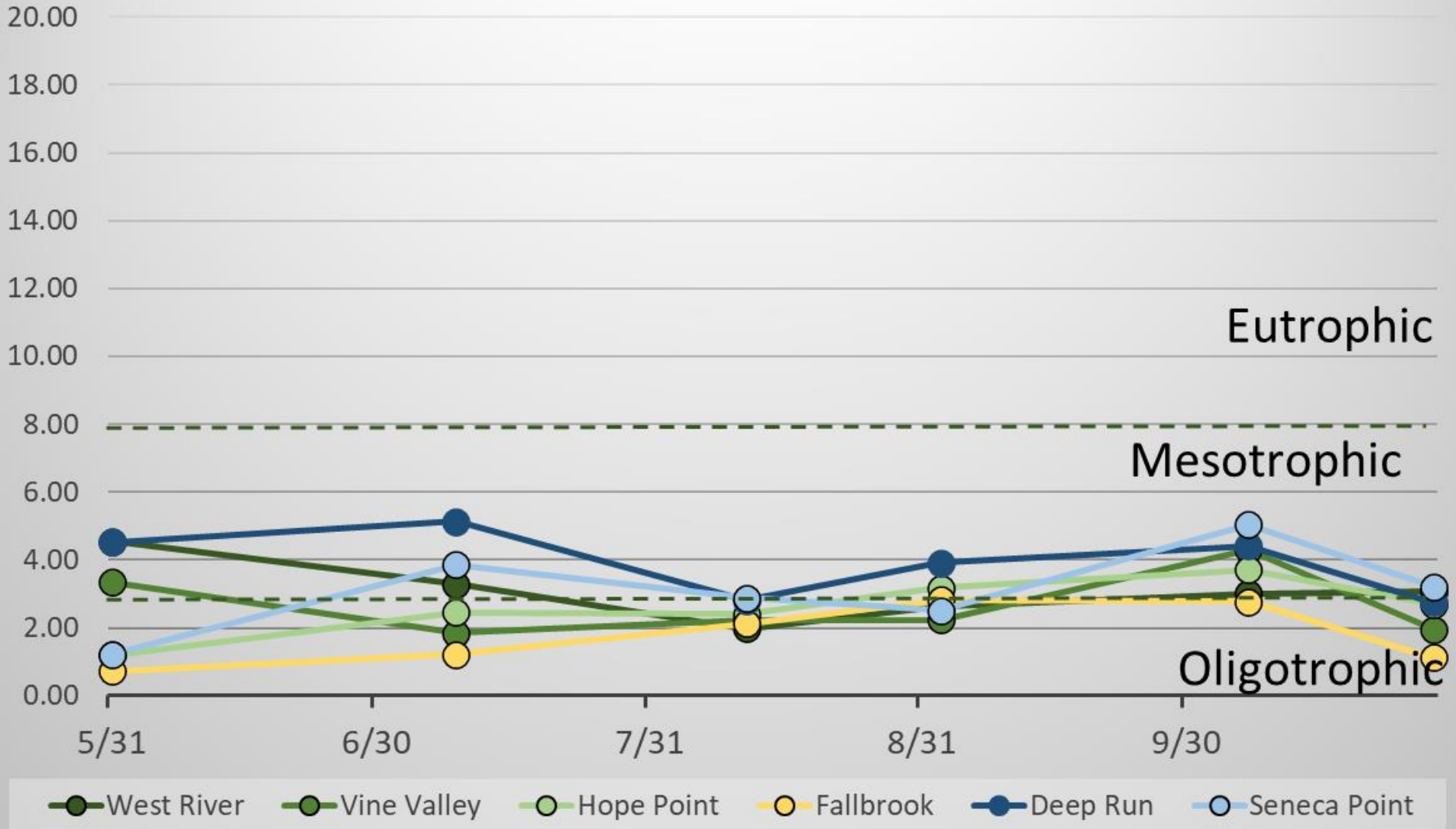
- West River
- Vine Valley
- Hope Point
- Fallbrook
- Deep Run
- Seneca Point

2021 Seasonal Algal Abundance Chlorophyll-a (ug/L)

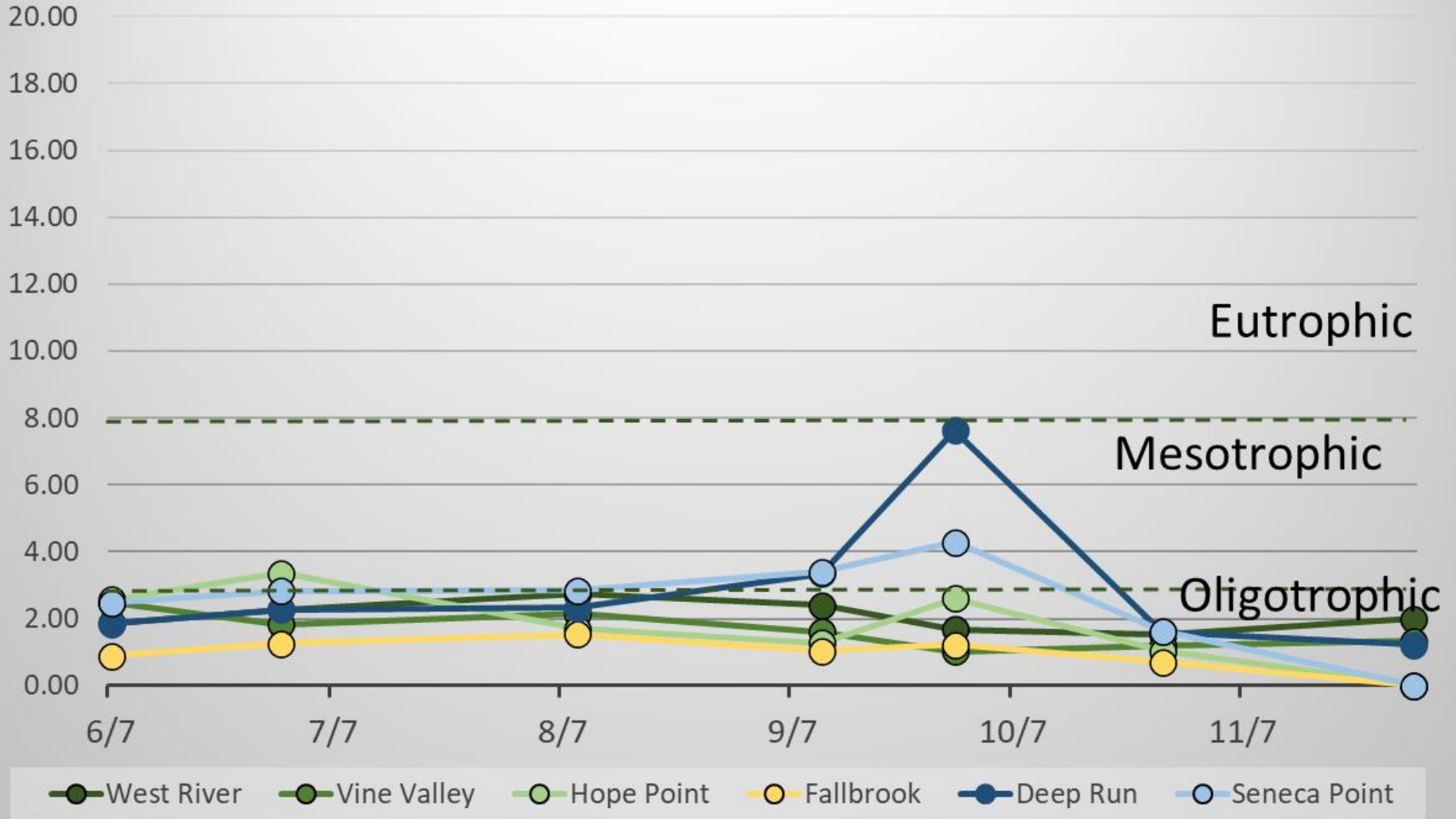


● West River ● Vine Valley ● Hope Point ● Fallbrook ● Deep Run ● Seneca Point

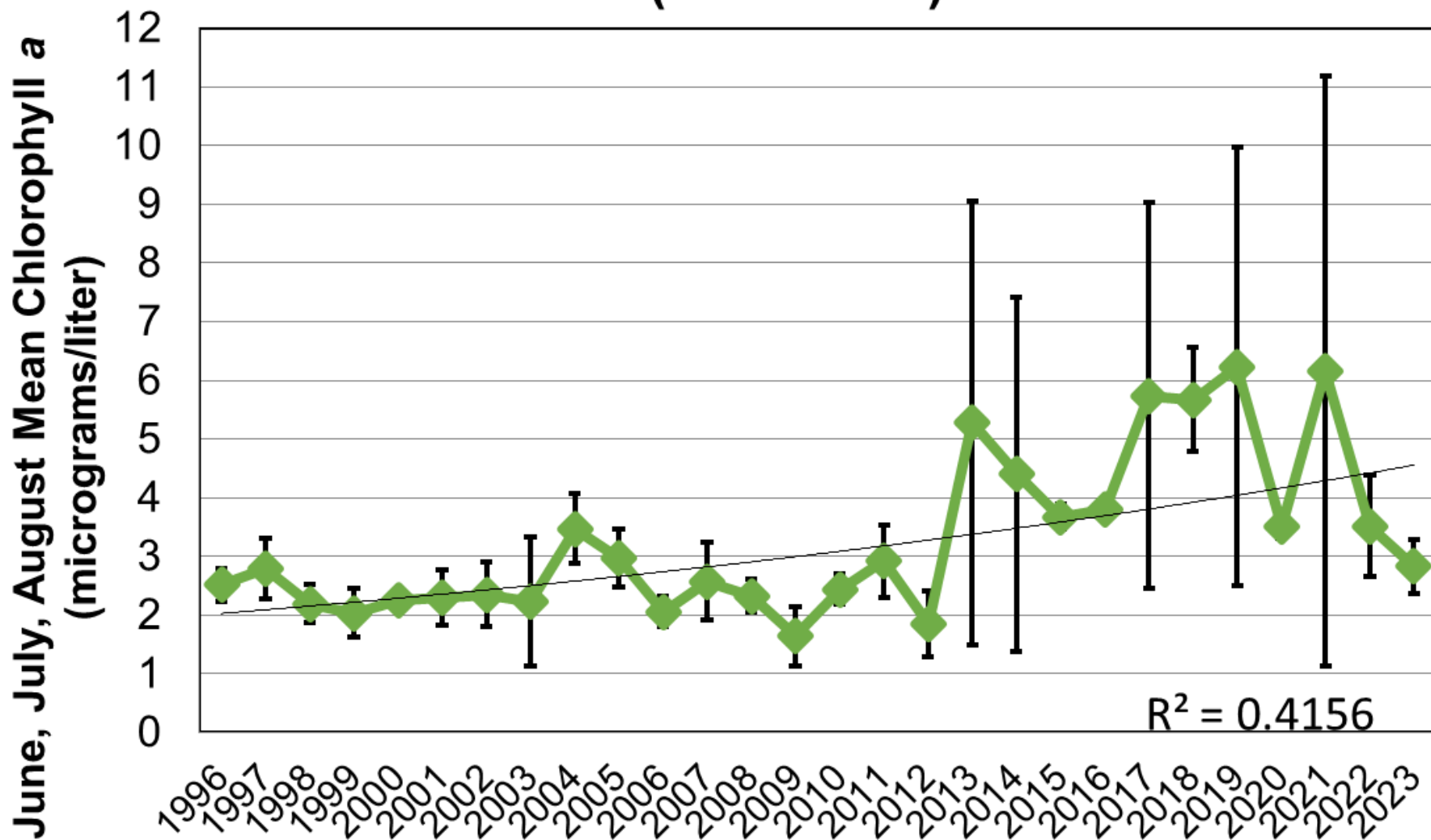
2022 Seasonal Algal Abundance Chlorophyll-a (ug/L)



2023 Seasonal Algal Abundance Chlorophyll-a (ug/L)



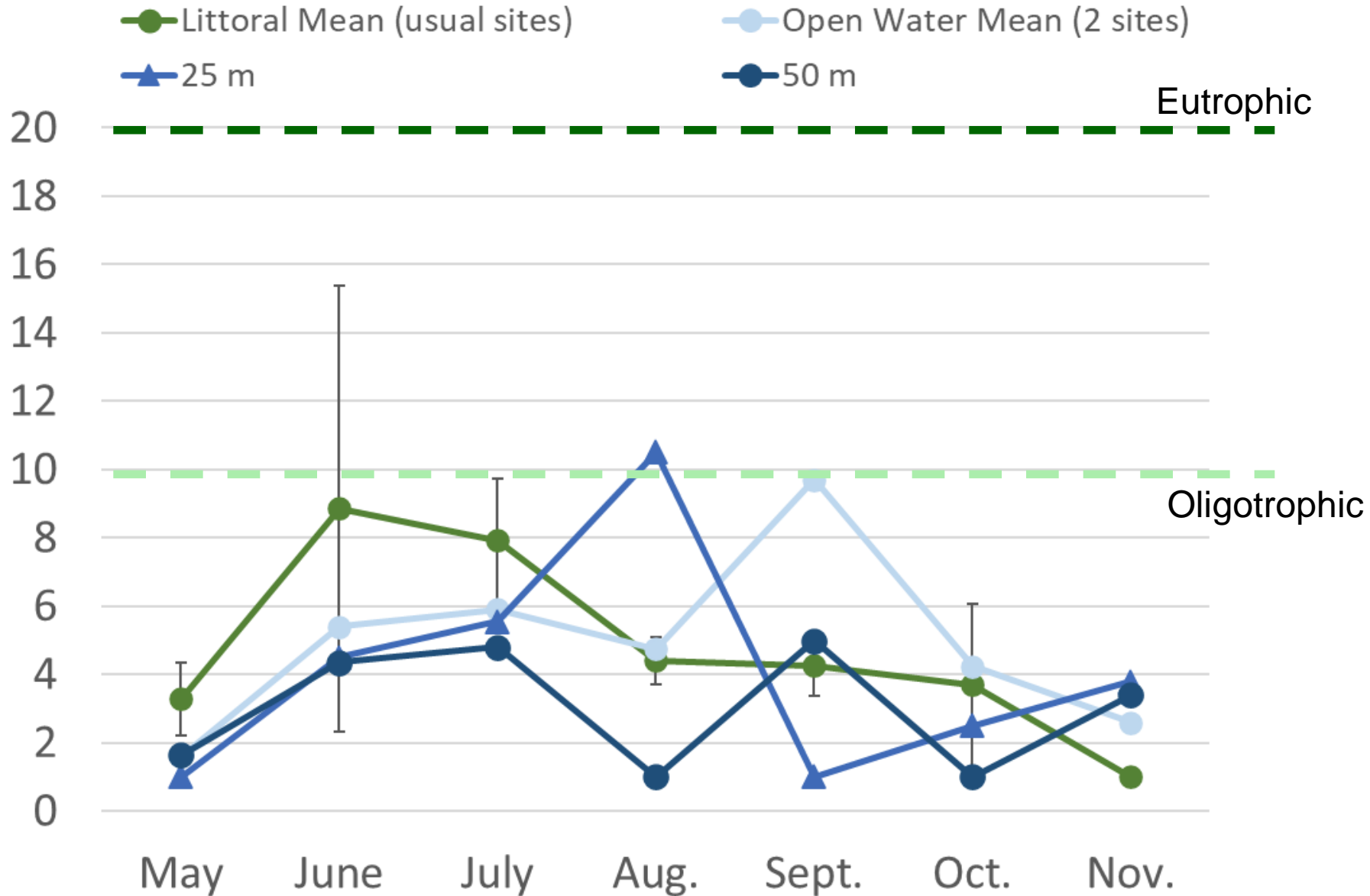
Long-term Summer Mean Algal Abundance (1996-2023)



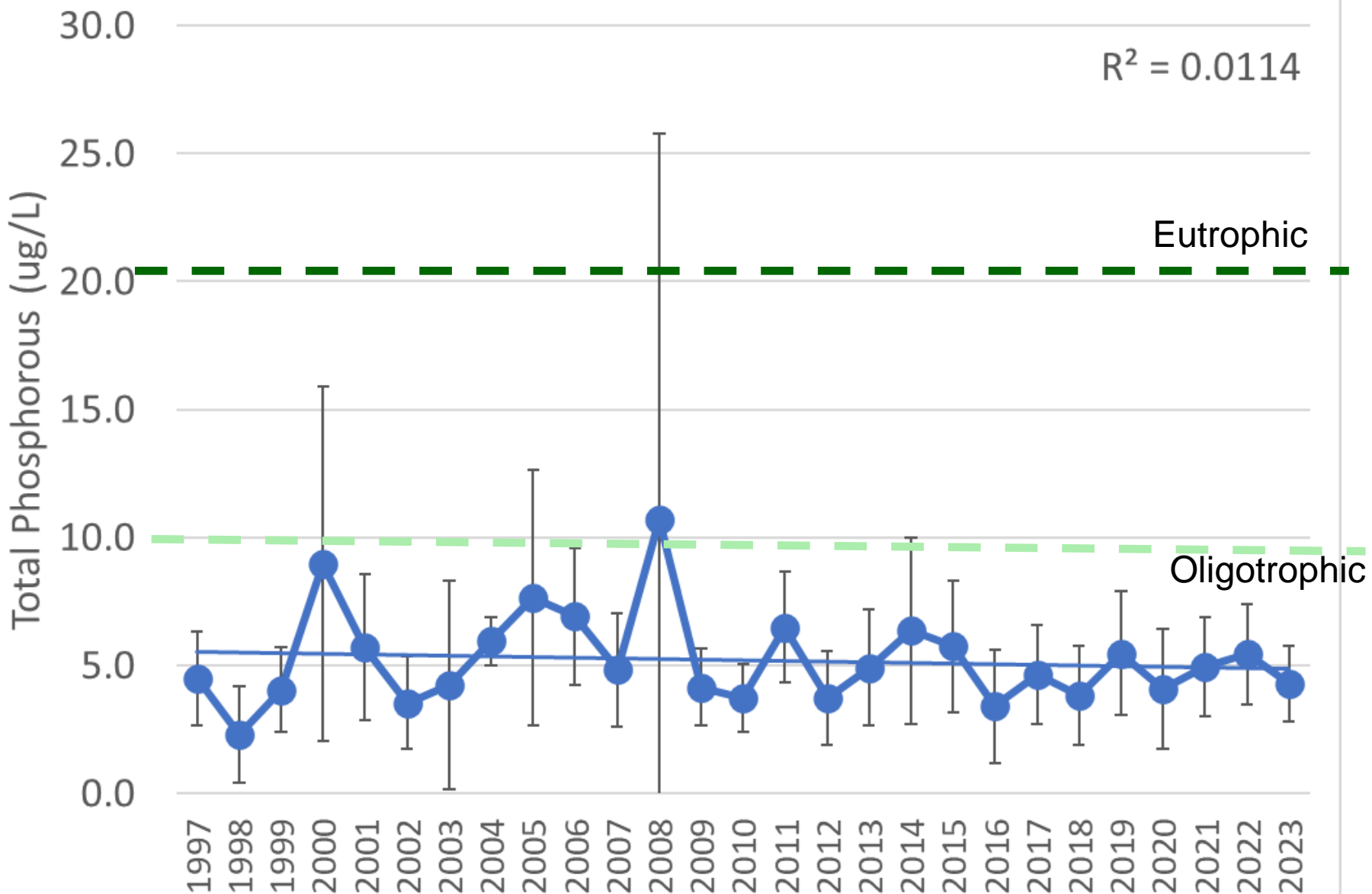
Total Phosphorous

- Includes ortho-phosphate and the phosphorus in suspended plant and animal fragments
- New York State's trophic assessments
 - Eutrophic: total phosphorus readings exceeded 20 ug/l
 - Mesotrophic: between the two categories
 - Oligotrophic: total phosphorus readings below 10 ug/l

2023 Total Phosphorus (ug/L)

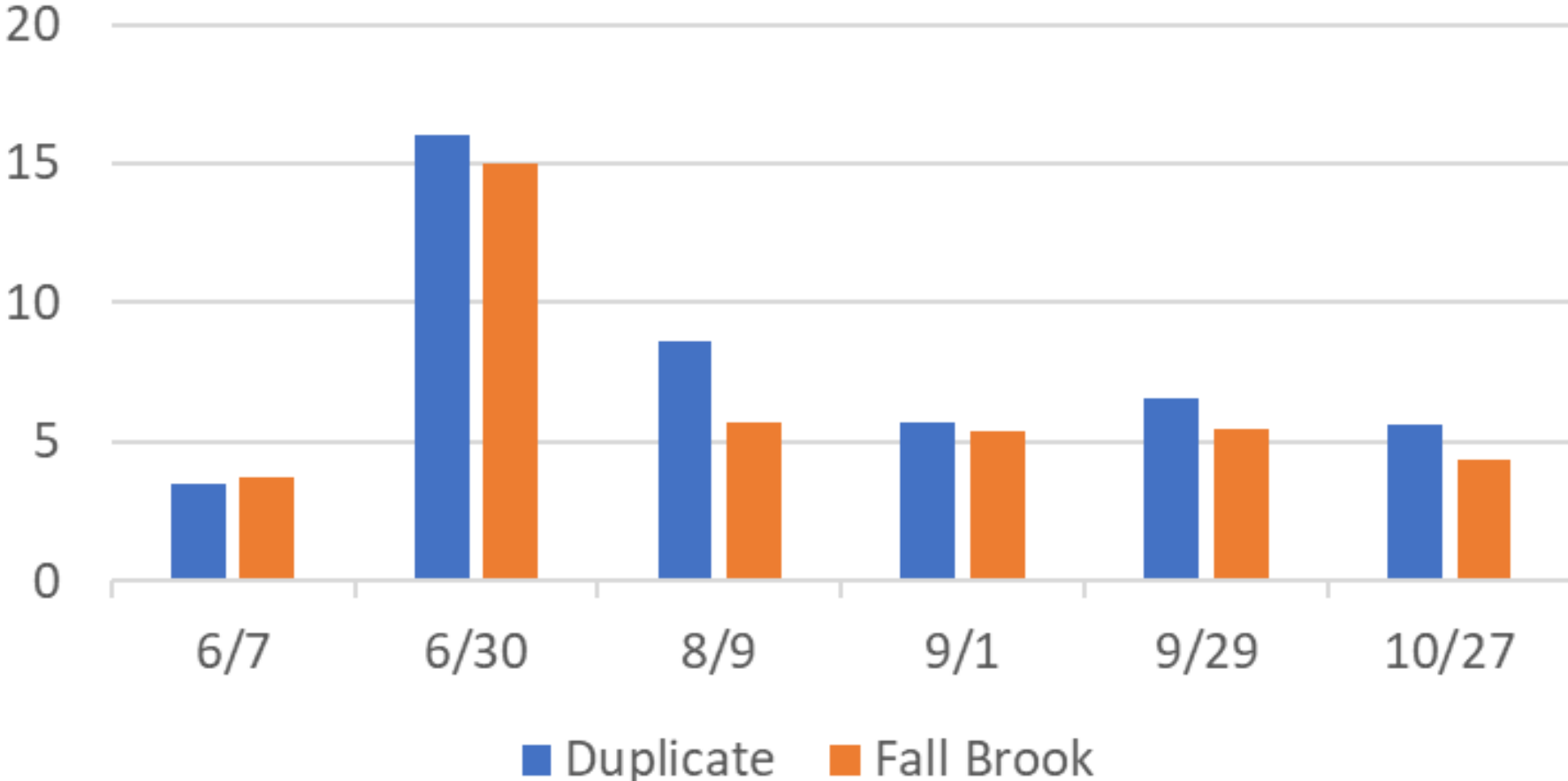


Mean TP (ug/L) May to October at Deep Run (2 m)



QAQC results

2023 Duplicates versus Site Samples



Thank you! Questions?

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