

KUSEL/WILSON/ROUND LAKES PROTECTION & REHABILITATION DISTRICT
MINUTES OF BOARD OF COMMISSIONERS MEETING
December 4, 2021

WHAT: Board of Commissioners Meeting of Kusel/Wilson/Round Lakes Protection & Rehabilitation District

WHEN: December 4, 2021 at 9:00 A.M.

WHERE: Springwater Town Hall, Wild Rose, Waushara County, Wisconsin

PRESENT: Jeremy Gaboury, Commissioner for Kusel Lake; Paul Zimmer, Commissioner for Wilson Lake, Dan Mingus, Commissioner for Round Lake

Zimmer called the meeting to order at 9:00 A.M. Zimmer called the roll, and Paul Zimmer, Dan Mingus, and Jeremy Gaboury answered, "Present."

A. FINANCIAL REPORT

Mingus presented a financial report for the District. Total district checking balance \$74,054.94.

B. UPDATE ON KUSEL LAKE

Gaboury reported that we are waiting on plans from Wisconsin Lake and Pond for Kusel for 2022. Water levels on Kusel are still high.

C. UPDATE ON WILSON LAKE

Zimmer reported Wilson has the "bad" curly leaf pondweed that will need to be treated. Treating for this is a 5 year process. Milfoil seems to be under control. Wilson water levels are low.

D. UPDATE ON ROUND LAKE

Mingus reported that the water level on Round Lake is higher than normal still.

E. ADJOURNMENT

The Board of Commissioners Meeting was adjourned at 9:15 A.M.

Respectfully submitted by:



Jeremy J. Gaboury
KWR-Lakes District Secretary

Lake Monitoring Report

Kusel Lake - Deep Hole (703103) - Waushara Co.

Fall 2021

The Water and Environmental Analysis Laboratory at the University of Wisconsin Stevens Point has provided lake monitoring reports to Wisconsin citizens and groups since the 1970s. Our new report allows us to combine results from some of your monitoring through our laboratory with results stored in the Wisconsin Department of Natural Resources Surface Water Integrated Monitoring System (SWIMS) database. In report that follows, we are showing results described as collected in the upper 6.5 feet (2 meters) of your lake and any concentrations reported as below the detection limit are plotted at one-half of the detection limit.

We are still improving this new report format and we encourage you to let us know if you believe something is missing, something is in error or the report could be improved. Your comments will be important to our ongoing efforts to develop new data presentation tools and for improving the report.

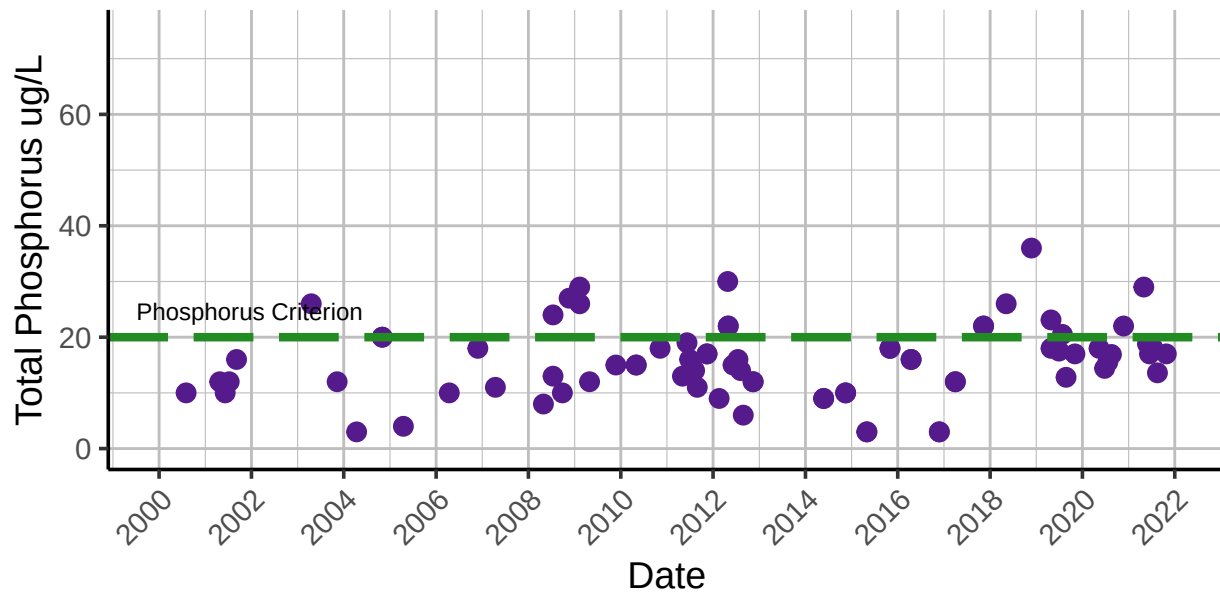
Please send your comments and questions to us at weal@uwsp.edu.

Thank you for your efforts to monitor and understand Wisconsin's water resources.

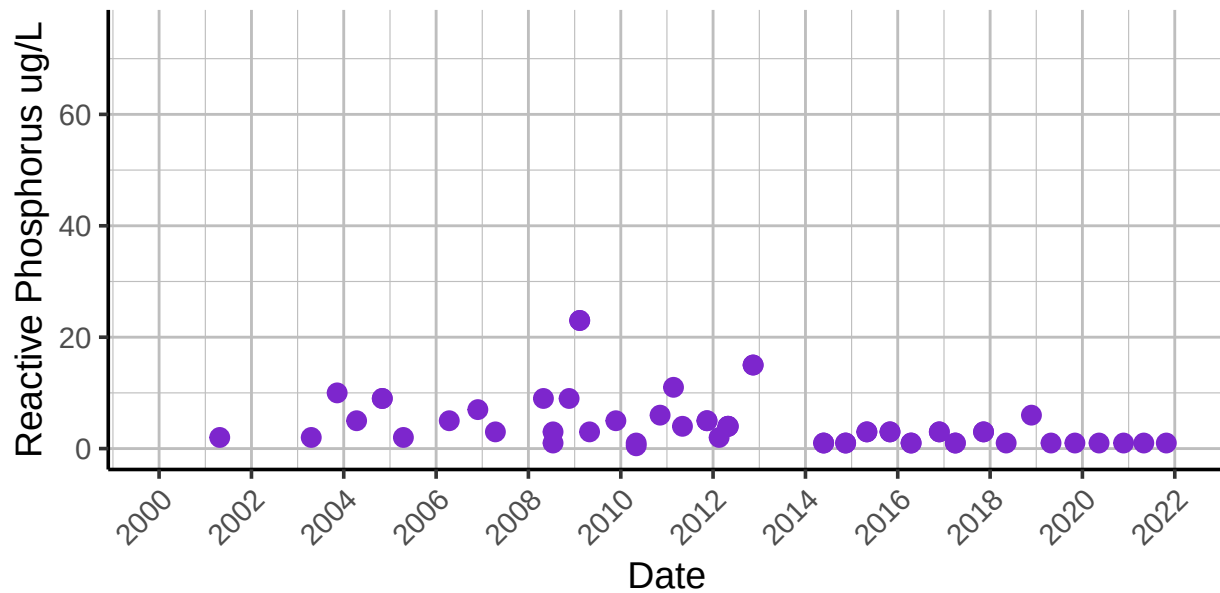


Total and Reactive Phosphorus

Kusel Lake – Deep Hole (703103) – Waushara Co.

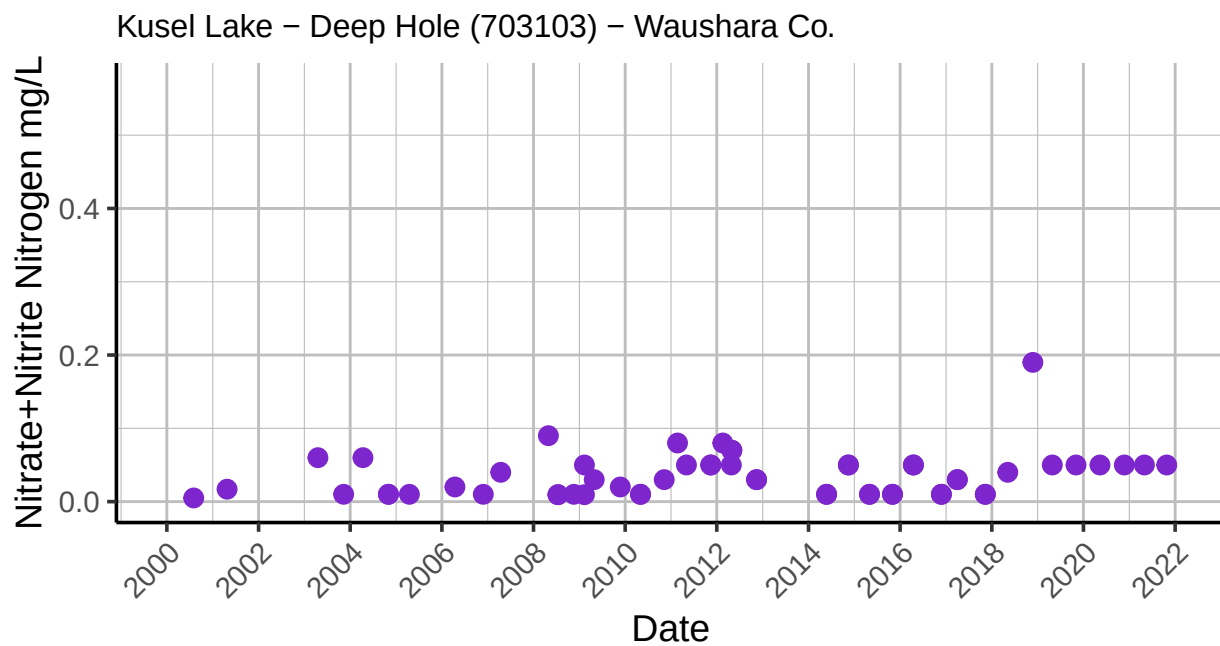
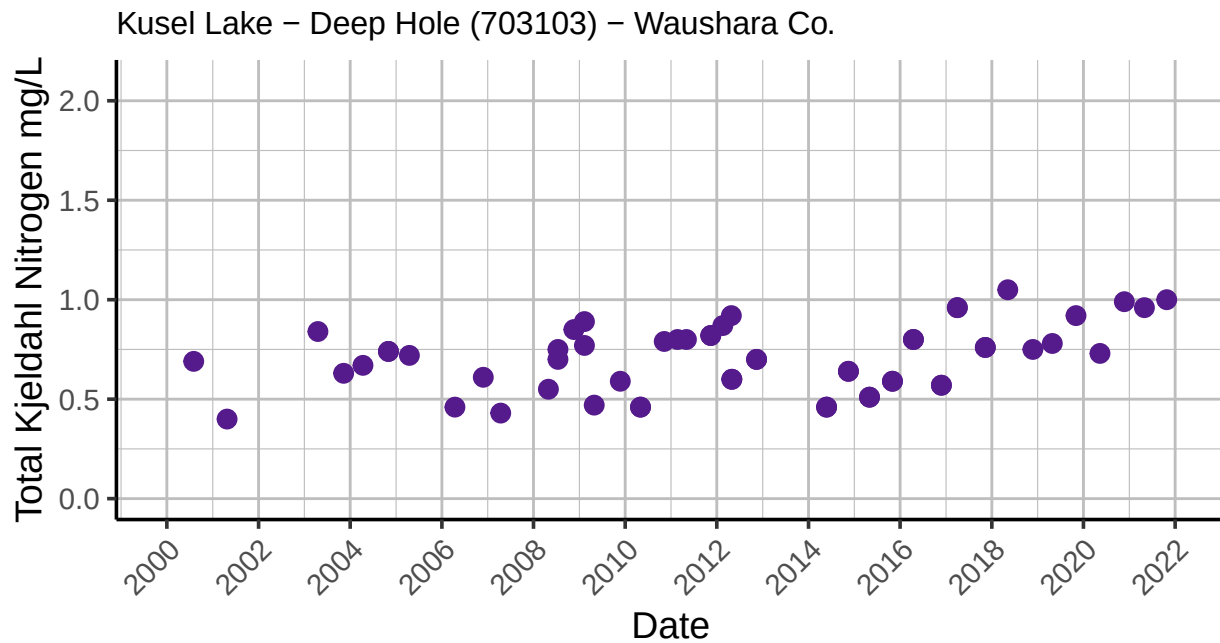


Kusel Lake – Deep Hole (703103) – Waushara Co.



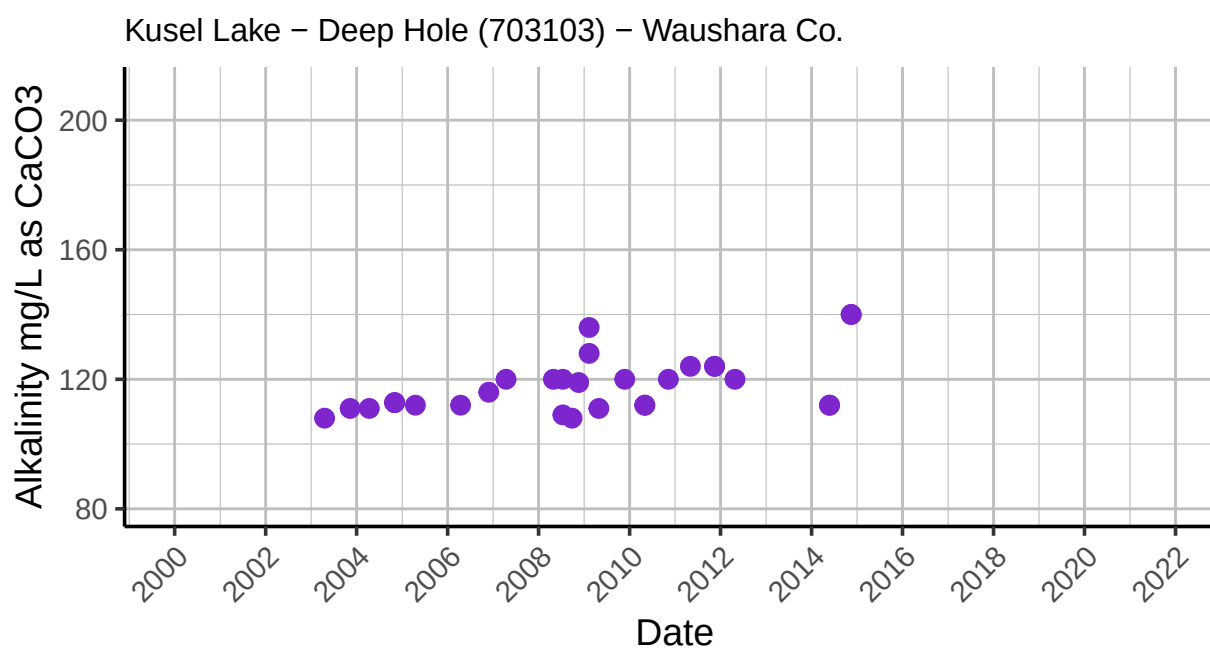
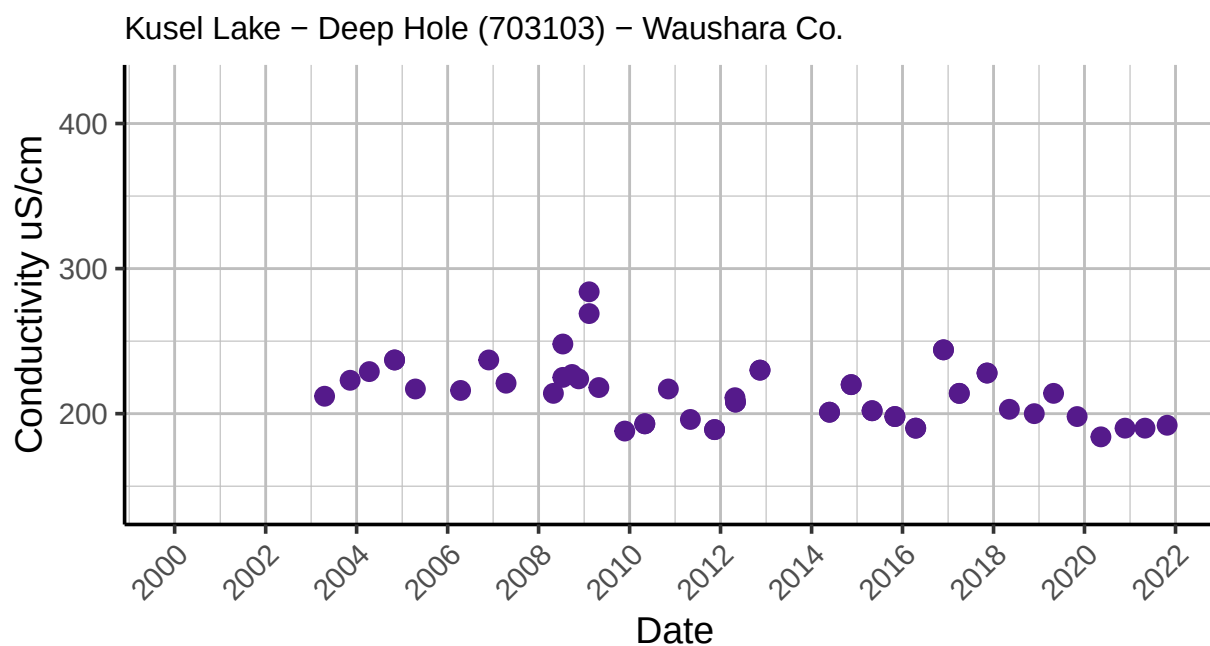
Phosphorus concentrations likely control the growth and amount of algae in your lake. A trend in phosphorus concentrations over time may indicate changes in the watershed that lead to more (or less) phosphorus entering the lake. The horizontal line shows the upper limit for maintaining a lower likelihood of nuisance algal blooms in your lake type.

Total Kjeldahl Nitrogen and Nitrate+Nitrite Nitrogen



Nitrogen is a critical element for the growth of algae and plants in a lake. Nitrogen concentrations are less likely to be controlling the overall biological productivity than phosphorus concentrations, but increasing nitrogen over time can lead to changes in amount and type of plant and algal communities.

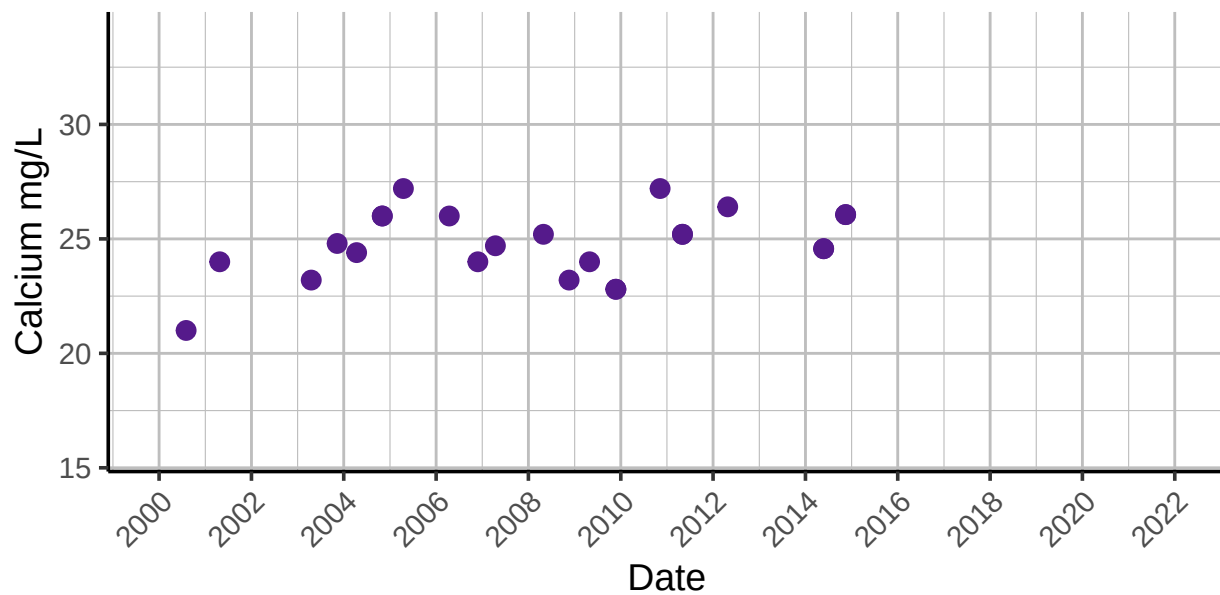
Conductivity and Total Alkalinity



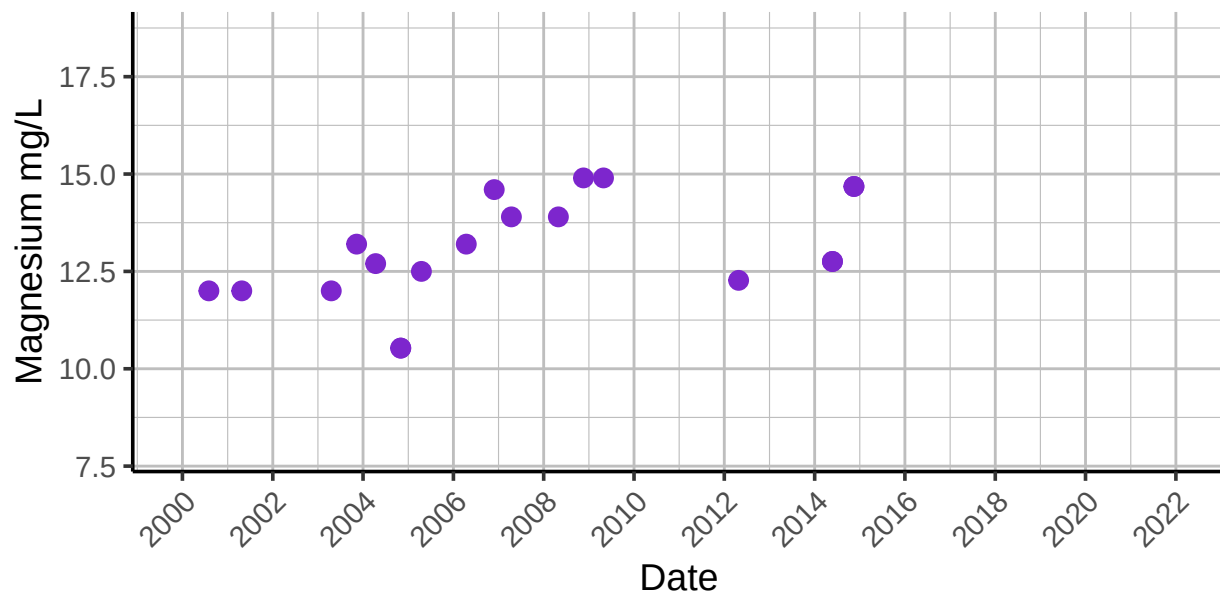
Conductivity is a measure of all the dissolved minerals and salts in your lake. Much of this results from groundwater slowly dissolving the local rocks and minerals as it moves towards your lake. Changes over time may reflect variations in water levels and the addition of salts from deicing and water softening. Alkalinity measures those forms of dissolved minerals that resist changes to pH in the lake.

Calcium and Magnesium

Kusel Lake – Deep Hole (703103) – Waushara Co.

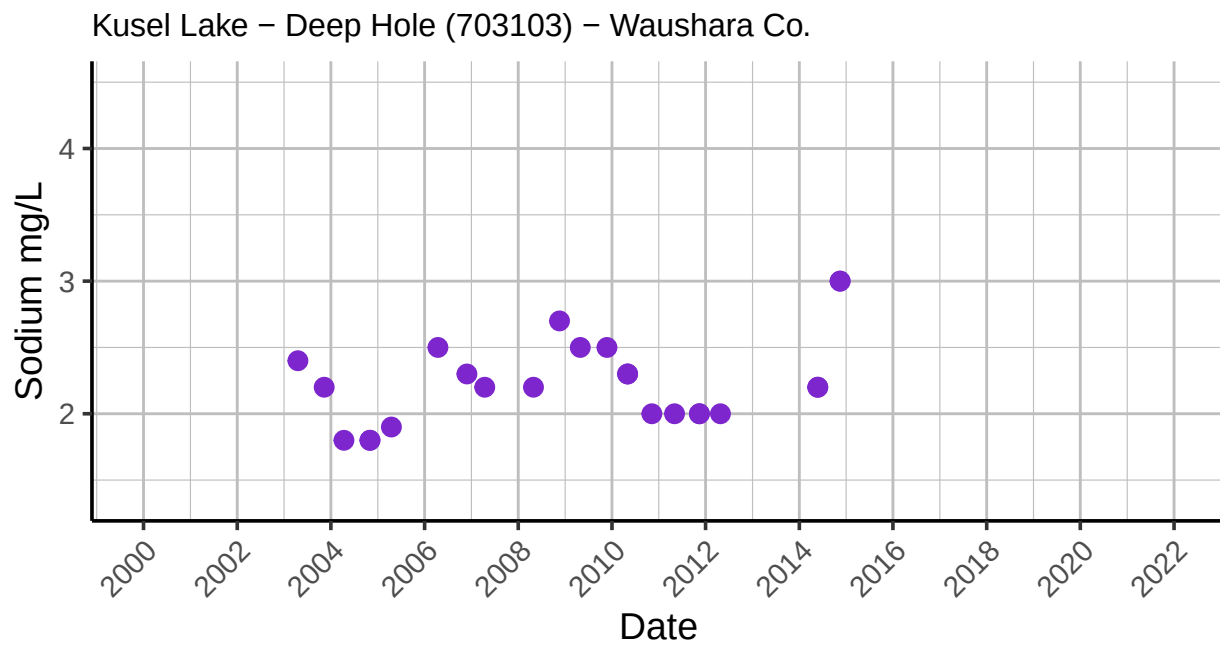
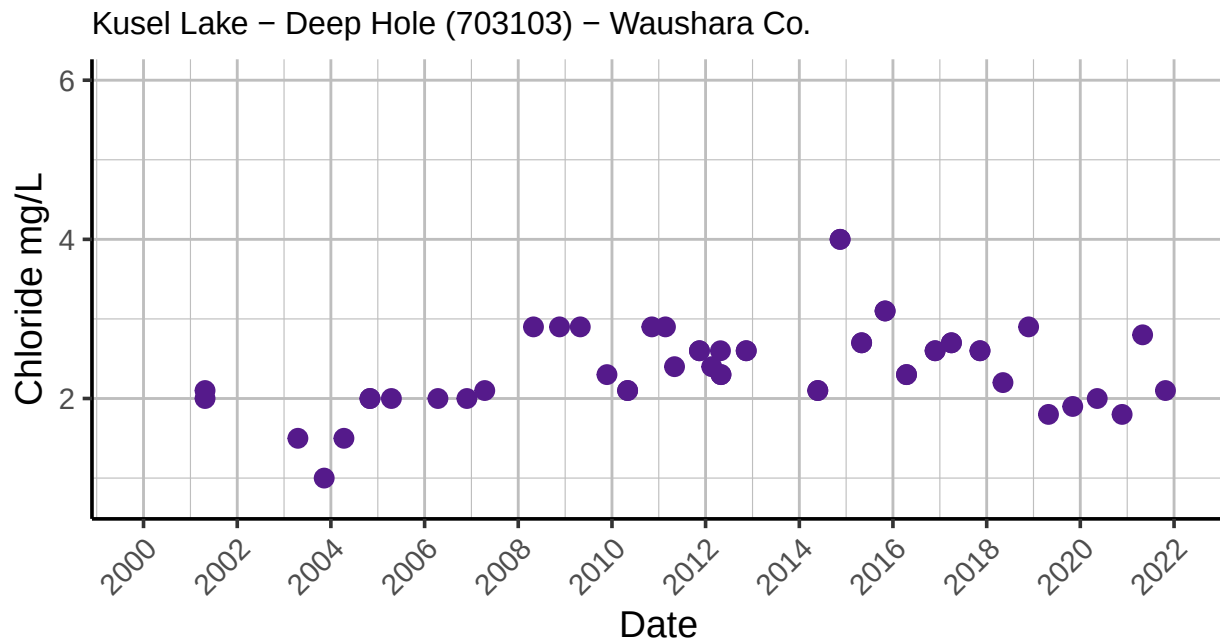


Kusel Lake – Deep Hole (703103) – Waushara Co.



Calcium and magnesium are two essential elements that enter your lake from the groundwater. Calcium is important for the formation of shells in mussels and snails. Lakes with more than 30 to 40 mg/l calcium are considered to be hardwater lakes while those with less than 10 mg/l are softwater.

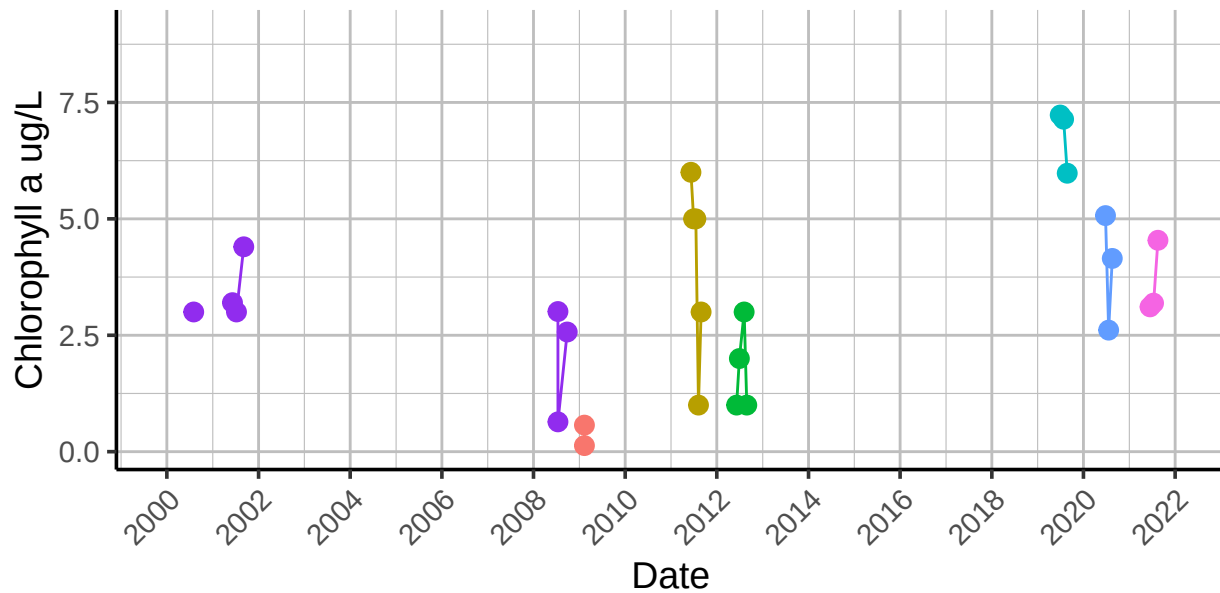
Chloride and Sodium



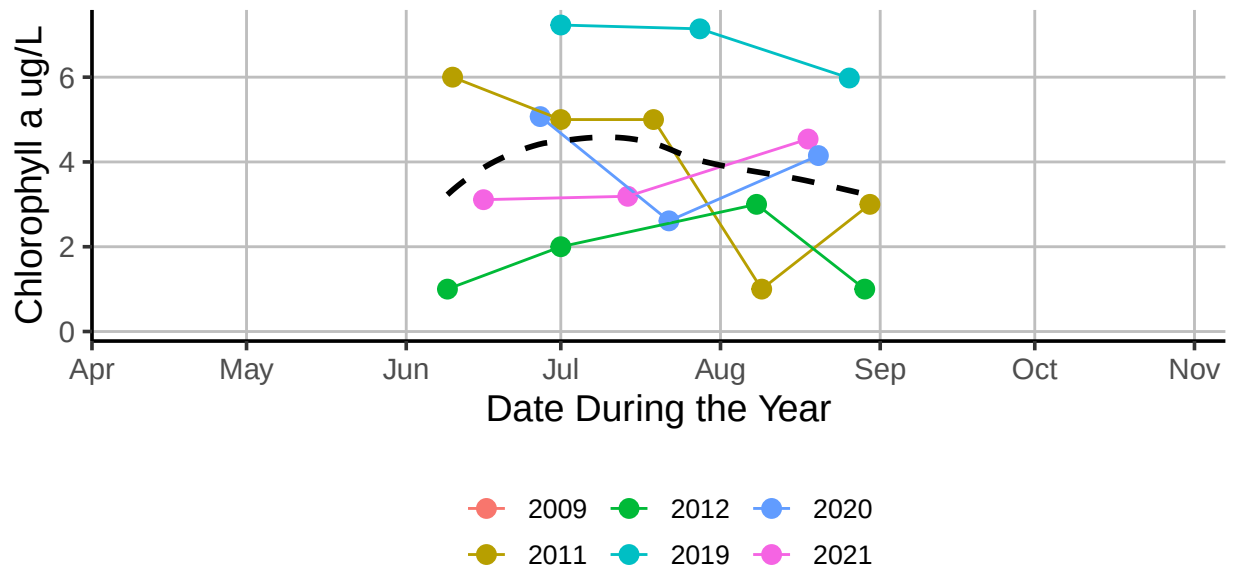
Chloride and sodium concentrations can be naturally occurring at 2 to 3 mg/l in Wisconsin but higher concentrations, especially where trends indicate the concentrations are increasing, usually represent additions of salt from road deicing compounds, water softening salts and fertilizers.

Chlorophyll over time and during the growing season

Kusel Lake – Deep Hole (703103) – Waushara Co.



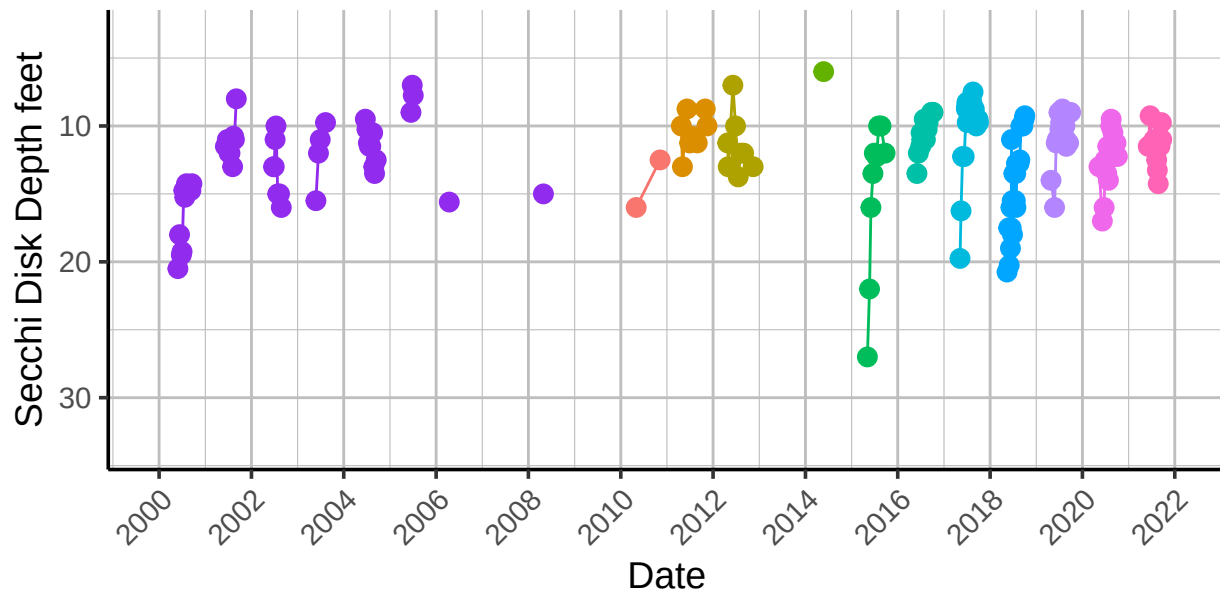
Plot below shows this during the year (only the last ten years shown):



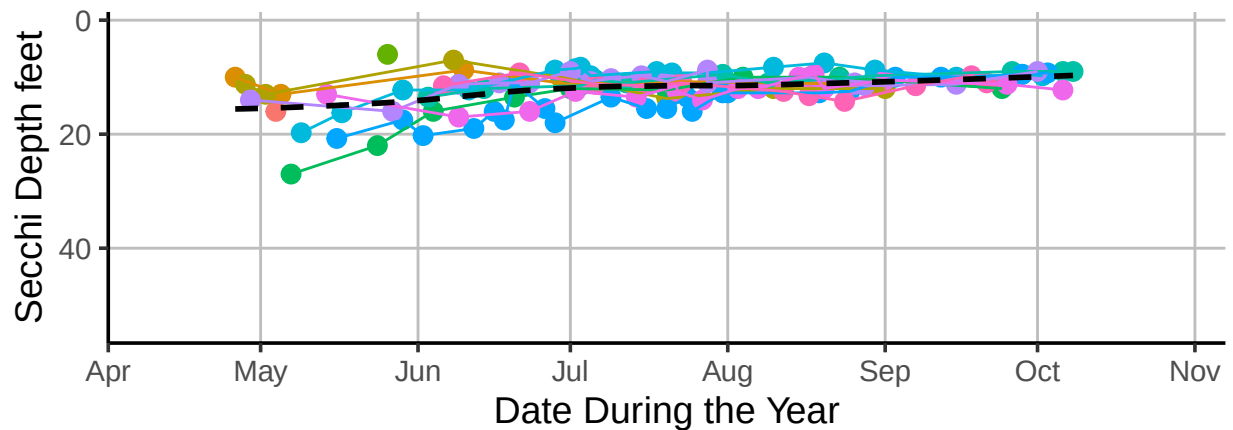
Chlorophyll is an algal pigment and its concentration is a measure of the amount of suspended algae in the lake. The upper figure shows how chlorophyll concentrations have varied over time. The lower figure shows how the concentrations have varied within the year. Seasonal variation reflects how phosphorus concentrations, mixing and warming influence algal concentrations.

Secchi Depth over time and during the growing season

Kusel Lake – Deep Hole (703103) – Waushara Co.



Plot below shows this during the year (only the last ten years shown):

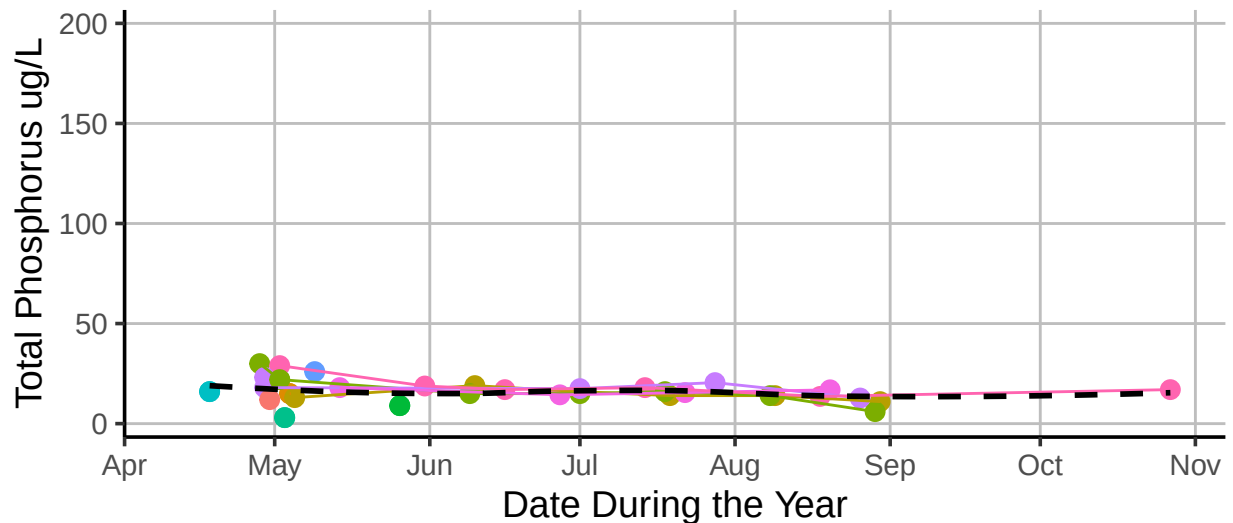


2010 2012 2015 2017 2019 2021
 2011 2014 2016 2018 2020

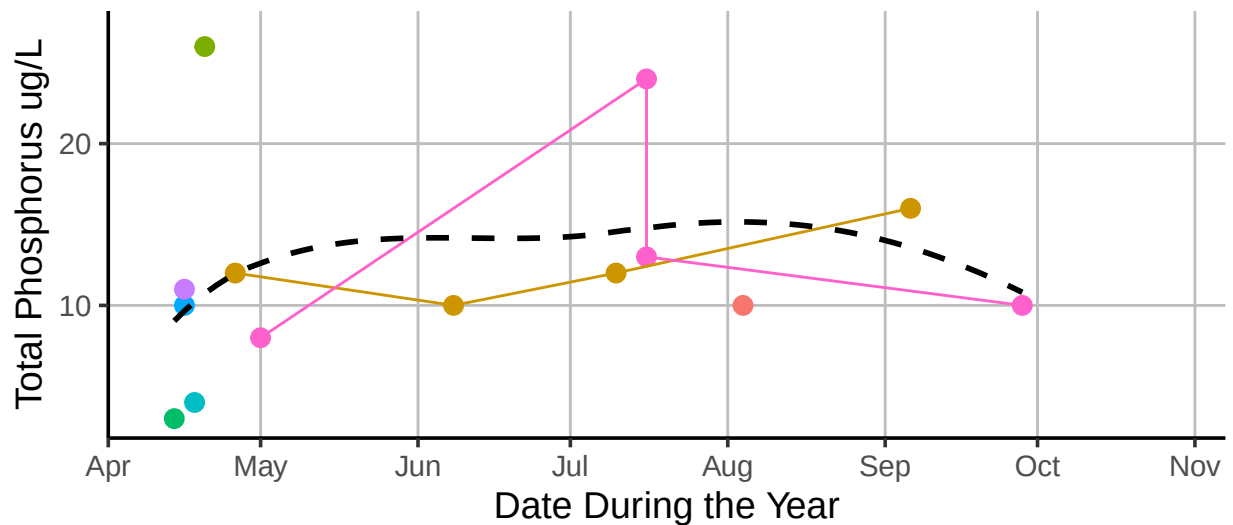
Secchi Disk depth measurements can vary over time with changes in the amount of algae and they also vary during the year as algae respond to phosphorus additions and recycling, and increasing temperature, in addition to variations in turbidity from lake mixing. If you do not see data plotted above, this means that no Secchi Disk data has been collected, or the data has not been entered into the WDNR SWIMS database.

Total Phosphorus over time and during the growing season

Plot below shows this during the year (only the last ten years shown):



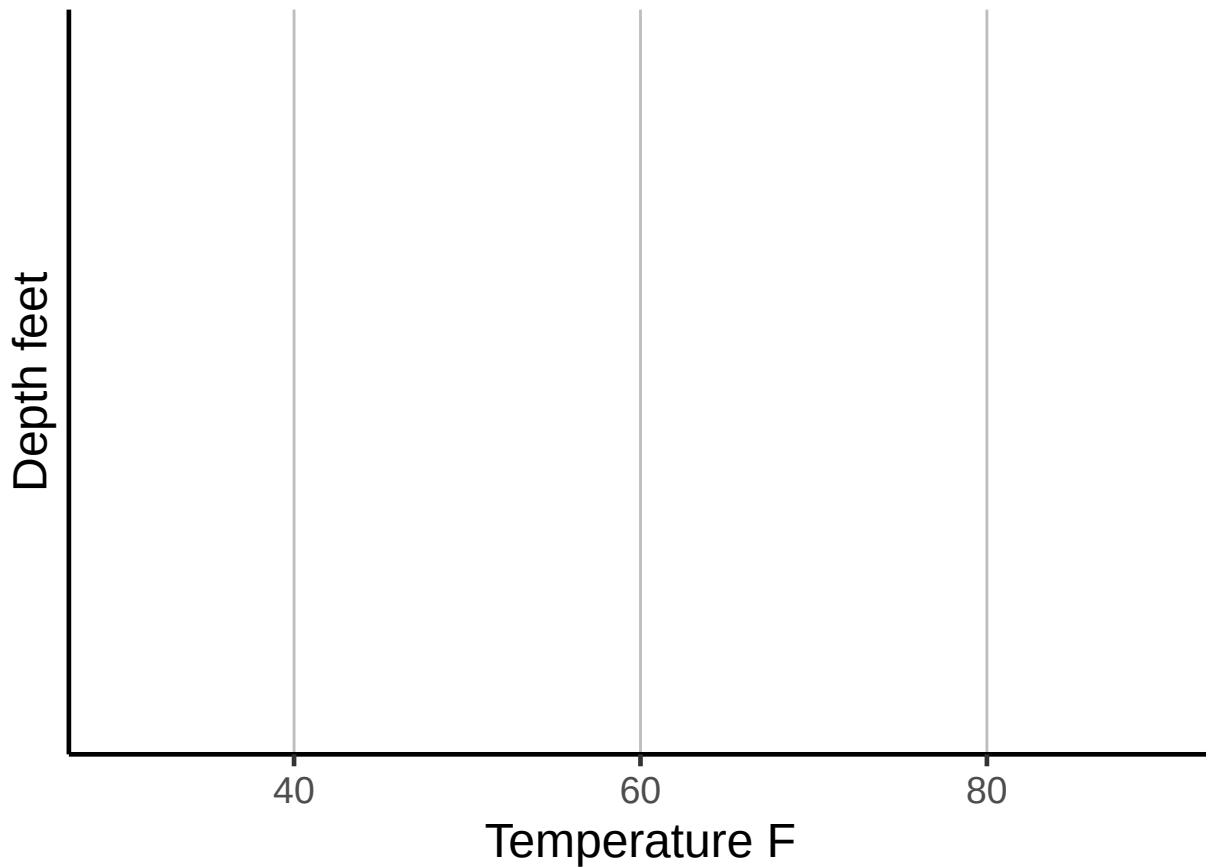
Plot below shows this during the year (prior to the last ten years shown):



Total phosphorus concentrations can vary during the year due to settling, release and runoff.

Temperature profiles during the year

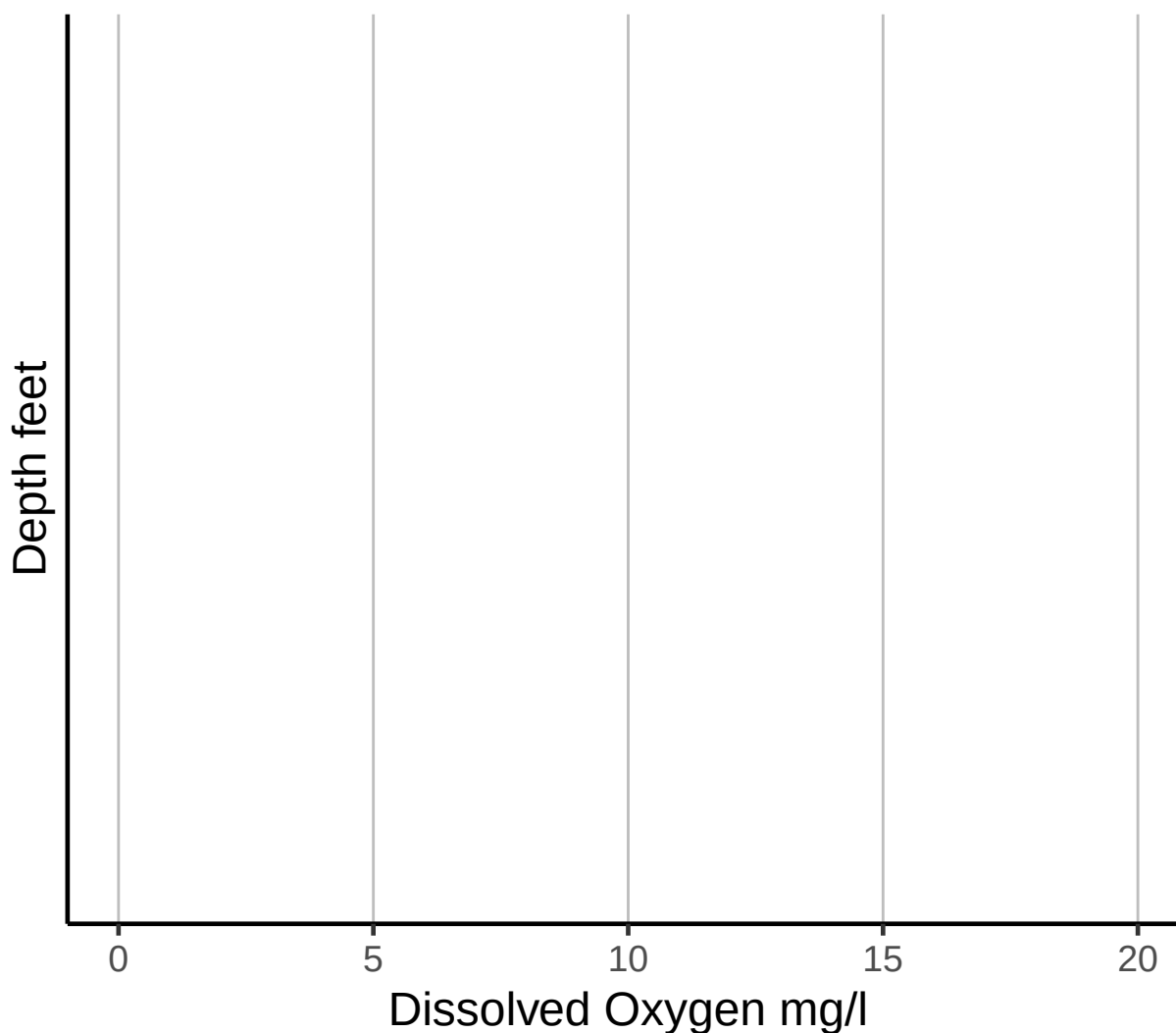
Kusel Lake – Deep Hole (703103) – Waushara Co.



Temperature profiles show the extent to which the lake stratifies as the lake warms in the summer and mixes as it cools in the fall. If you do not see data plotted above, this means that no temperature data has been collected, or the data has not been entered into the WDNR SWIMS database.

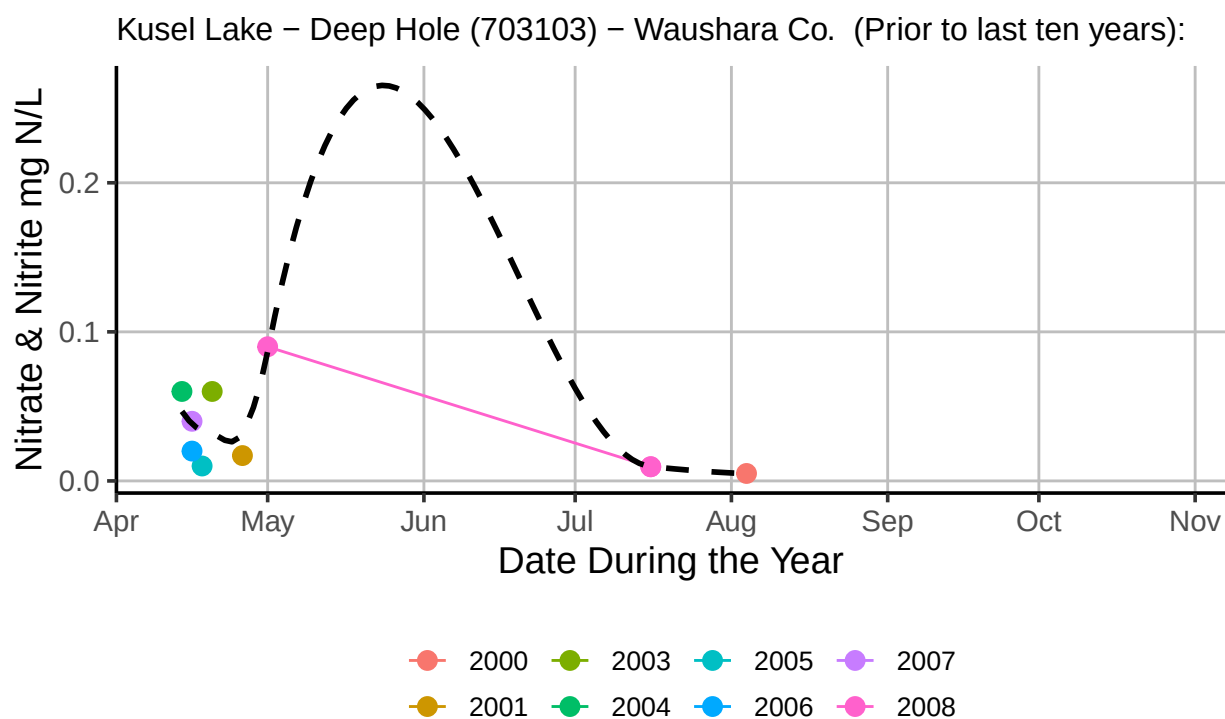
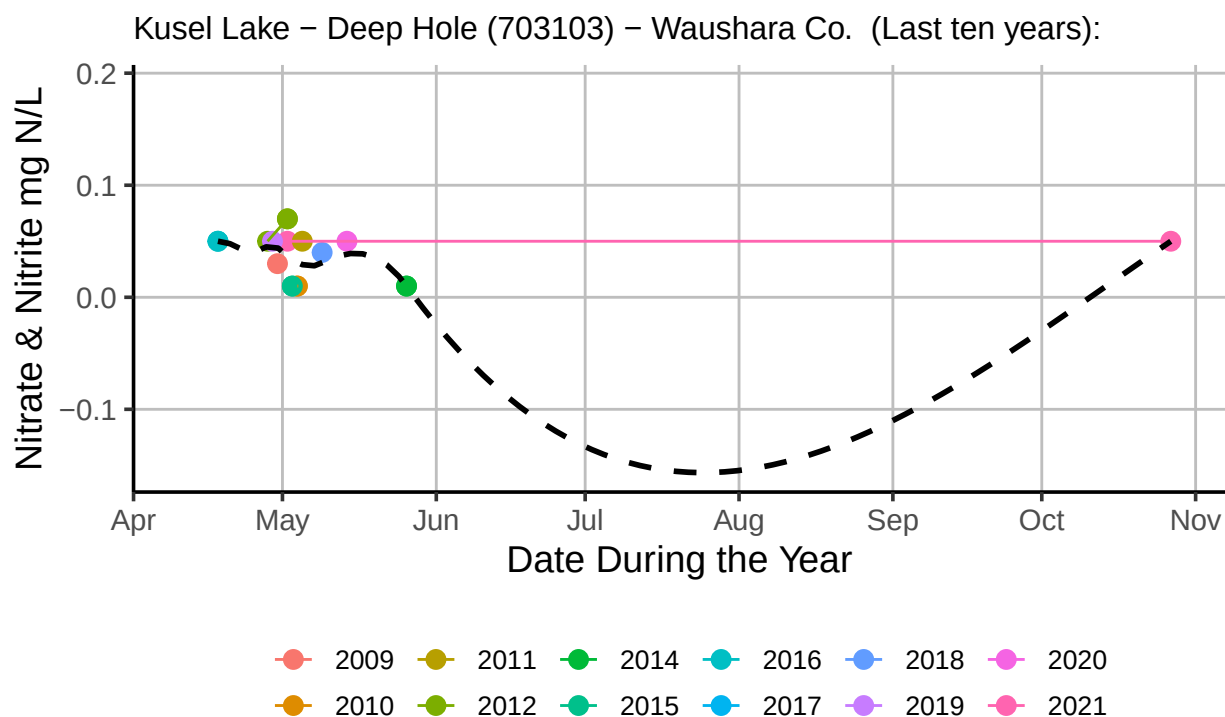
Dissolved oxygen profiles during the year

Kusel Lake – Deep Hole (703103) – Waushara Co.



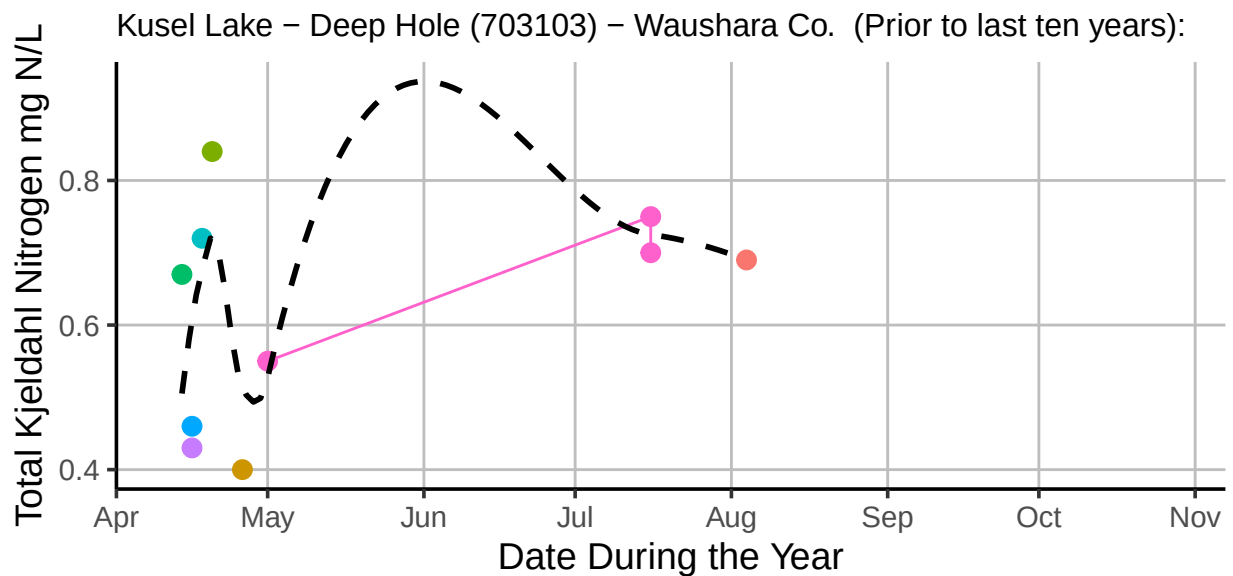
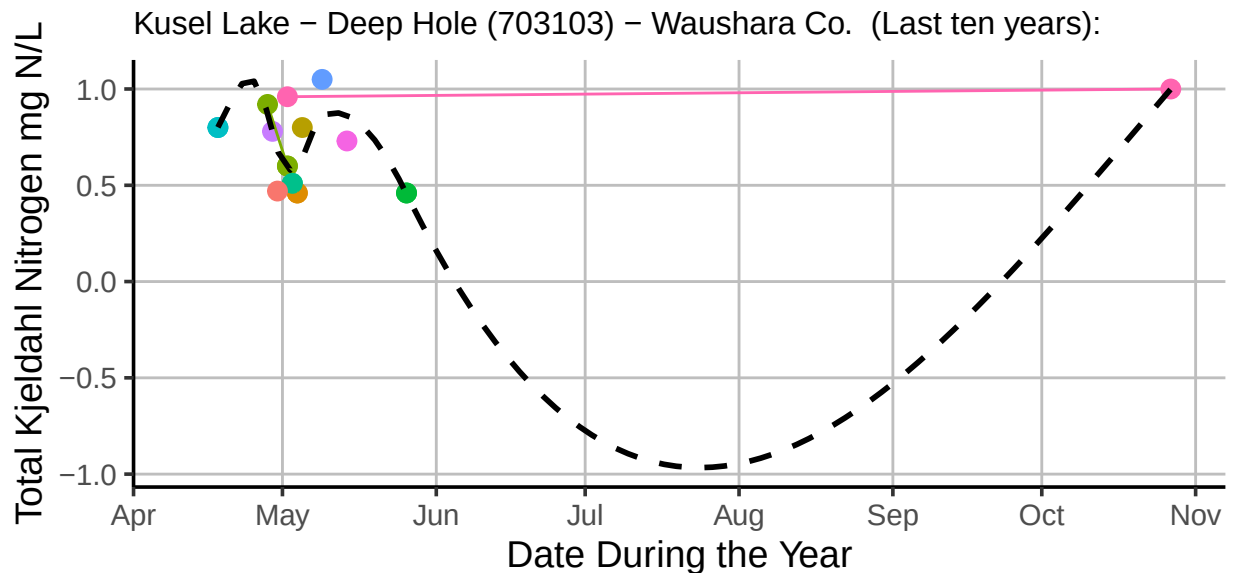
Dissolved oxygen profiles show how and where oxygen is consumed in the lake by microbial respiration and added to the lake by mixing with the atmosphere and photosynthesis at different depths. If you do not see data plotted above, this means that no dissolved oxygen data has been collected, or the data has not been entered into the WDNR SWIMS database.

Nitrate & Nitrite over time and during the growing season



Concentration of Nitrate + Nitrite varies during the year due to uptake by plants and algae and denitrification.

Total Kjeldahl Nitrogen over time and during the growing season



Total Kjeldahl Nitrogen concentration in the lake varies during the year due to growth of algae, release from aquatic plant and sediment decomposition, and settling.



Kusel Lake

W5684 Hiwela Drive

Wild Rose, WI 54984

Date Reported 12/02/21

Date Received 10/28/21

DNR State Cert. 750040280

2100638-01 Kusel Lake

Sampled: 10/26/2021 4:00PM	Result	Units	Dilution	LOD	LOQ	Analyzed	Method	Notes
Ammonium	0.17	mg/L	1	0.01	0.03	10/29/21	SM4500-NH3 H	
Chloride (FIA)	2.1	mg/L	1	0.5	1.5	11/02/21	SM4500-Cl- G	
Conductivity	192	µS	1	1	1	11/02/21	SM2510B	
NO3+NO2(N)	ND	mg/L	1	0.1	0.3	11/02/21	SM4500-NO3- F	
Soluble Reactive Phosphorus	ND	mg/L	1	0.002	0.006	10/29/21	SM4500-P G	
Total Kjeldahl Nitrogen	1.00	mg/L	1	0.05	0.15	11/03/21	EPA 351.2	
Total Phosphorus	0.017	mg/L	1	0.006	0.018	11/03/21	EPA 365.4	

NOTES/DEFINITIONS

H: Holding time exceeded

ND: Analyte not detected at or above the reporting limit

Q: Quality control failure

LOD: Limit of Detection

LOQ: Limit of Quantitation

INT : Interference in sample

E. coli count: ND means analyte not detected at or above the limit of detection (LOD), which is 1 organism/100mL

Authorized Signature:

Juli Bowling