



Three Lakes Development Association

Water Sampling Results

July 28, 2023

We sampled our lakes again this year, on July 15th and 16th. Thanks again to Bill Kubiak, Bill Lowry, Elizabeth Simonson, and Jim Burho for doing the collecting and/or allowing the use of their pontoons and boats.

Pace Analytical Laboratories, at 4730 Oneota Street in West Duluth, is the lab we contract to both analyze the samples *and* report results directly to the Minnesota Pollution Control Agency (MPCA).

We have good data going back to the first sampling of the Three Lakes Water Quality Committee in 1995. Some of those sampling campaigns were done in cooperation with the North St Louis County Soil and Water Conservation District office in Virginia. We sample the *top-2-meters-depth* for nutrient levels (phosphorus and chlorophyll) today. There were several years prior to 2011 where sampling was done monthly on all of the lakes. The data displayed on the graphs below are using average values for those years where multiple samples were taken per lake. Since 2011, one sample has been taken per lake, per year.

The MPCA is the keeper of these data, and their complete information that they have accumulated can be accessed thru the Minnesota Department of Natural Resources (MNDNR) **LakeFinder** webpage. Links to these pages for our lakes can be found on our **Three Lakes website**, under the [Government Links](#) tab - [MNDNR](#) page, then click on the water quality tab in the left margin of that page.

All our lakes have unique identifier numbers that are used by the MPCA and the MNDNR (and everyone else who collects information from these lakes). They are listed below, in numerical order, for handy reference in case you want to look for the lake data elsewhere:

69-0521 – Lake Elora

69-0522 – Winkle Lake

69-0523 – Dodo Lake

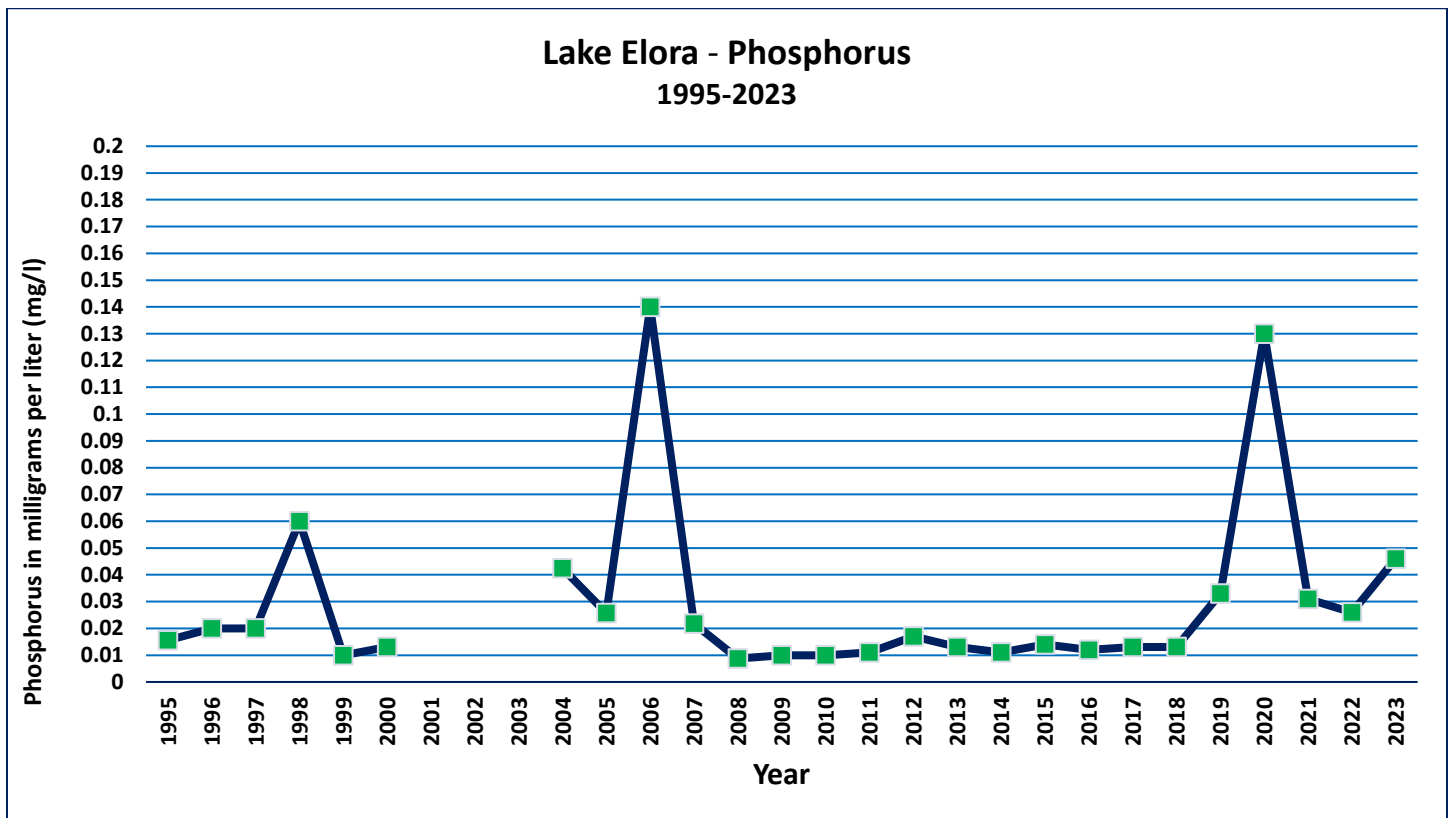
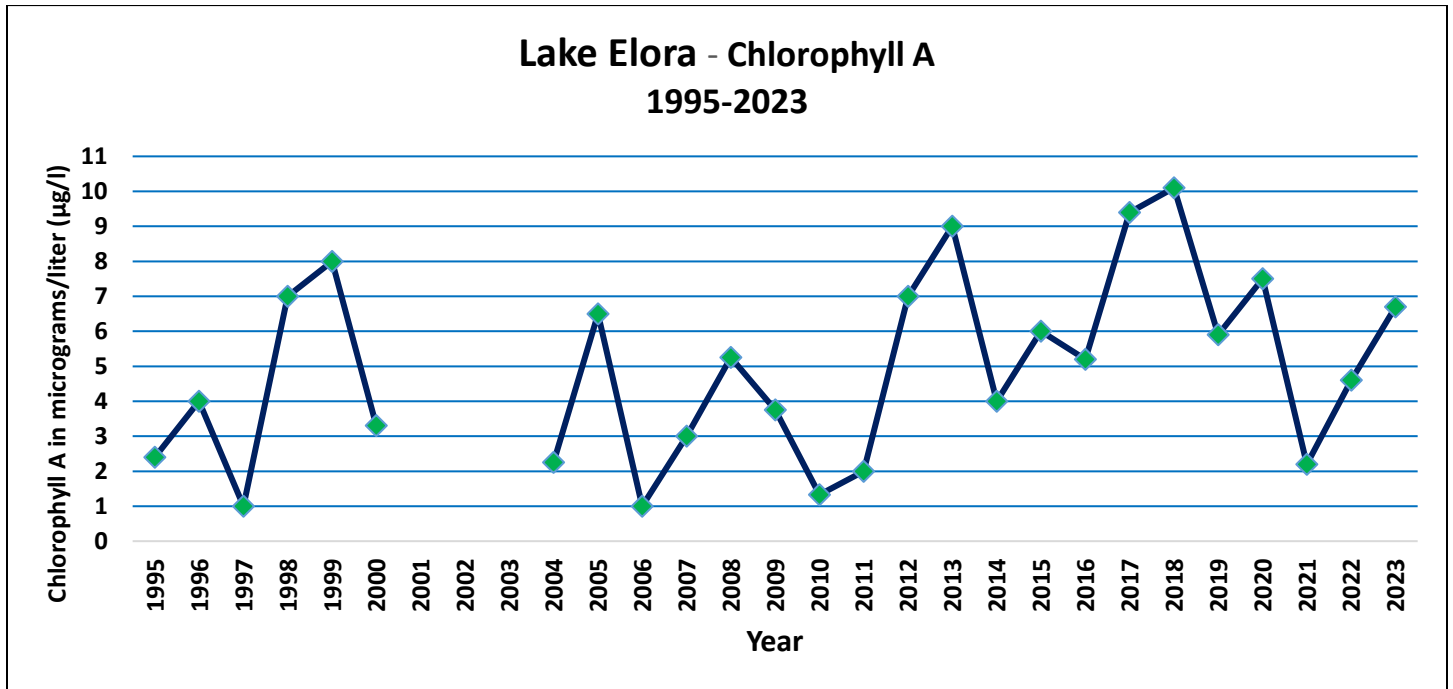
69-0525 – Rose Lake

69-0529 – Strand Lake

Below find the graphs per lake with the data we have collected, since 1995, for the two principal nutrient variables, **Chlorophyll A** and **Phosphorus**. Sampling takes place in the same location each year, parked above the deepest point known in each lake.

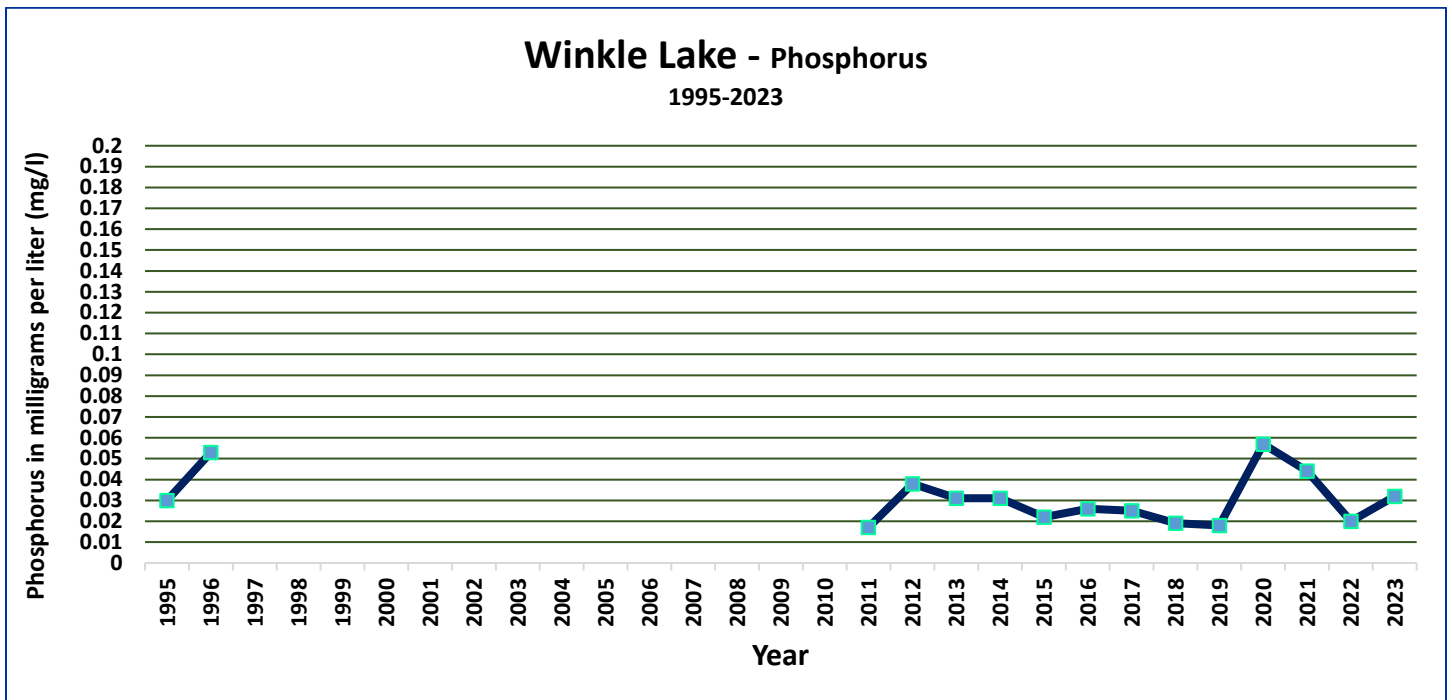
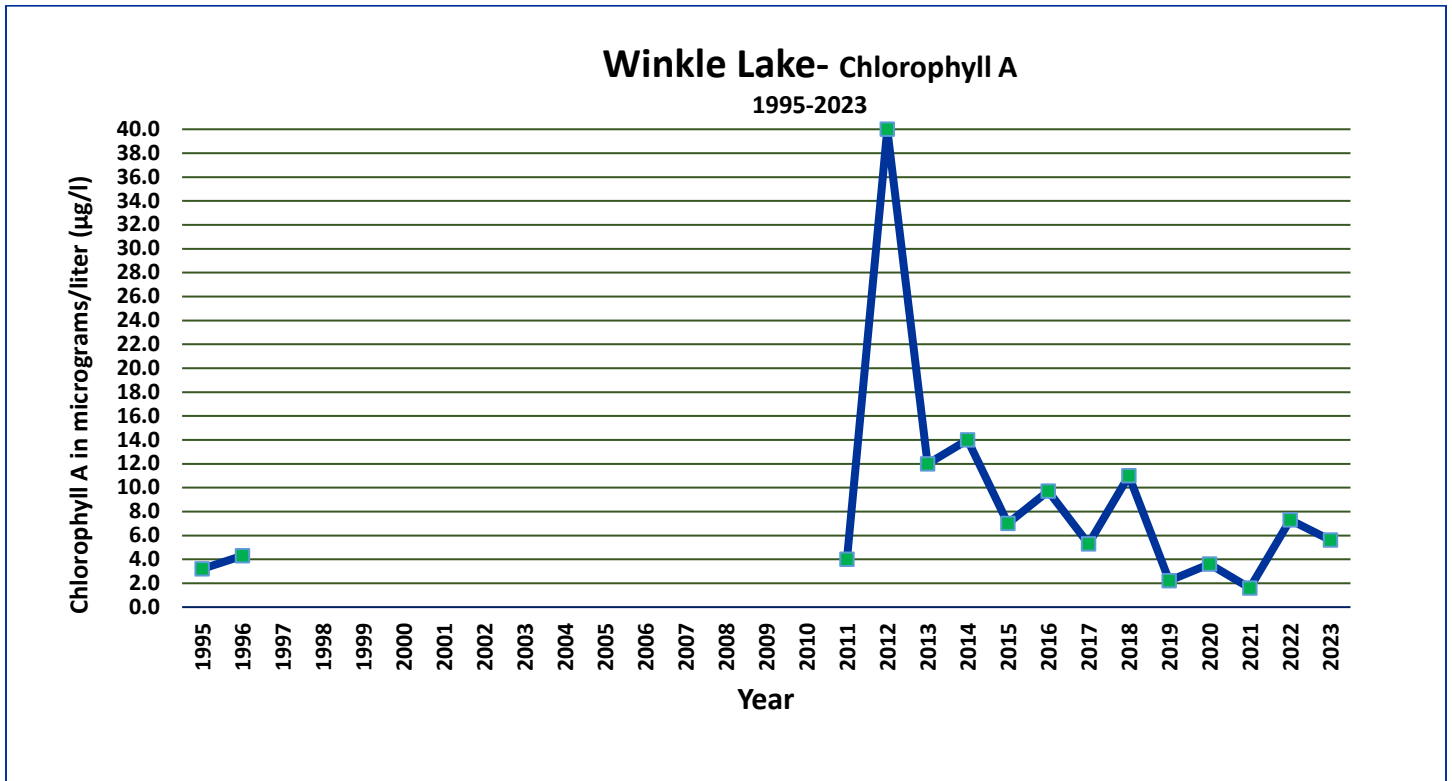
Lake Elora – 69-0521

This year the samples from Lake Elora were again well within what we have seen in the past. Sampling takes place about where the ice-fishing houses appear every winter, where maximum depth is ~35'. Surface area is 276 acres.



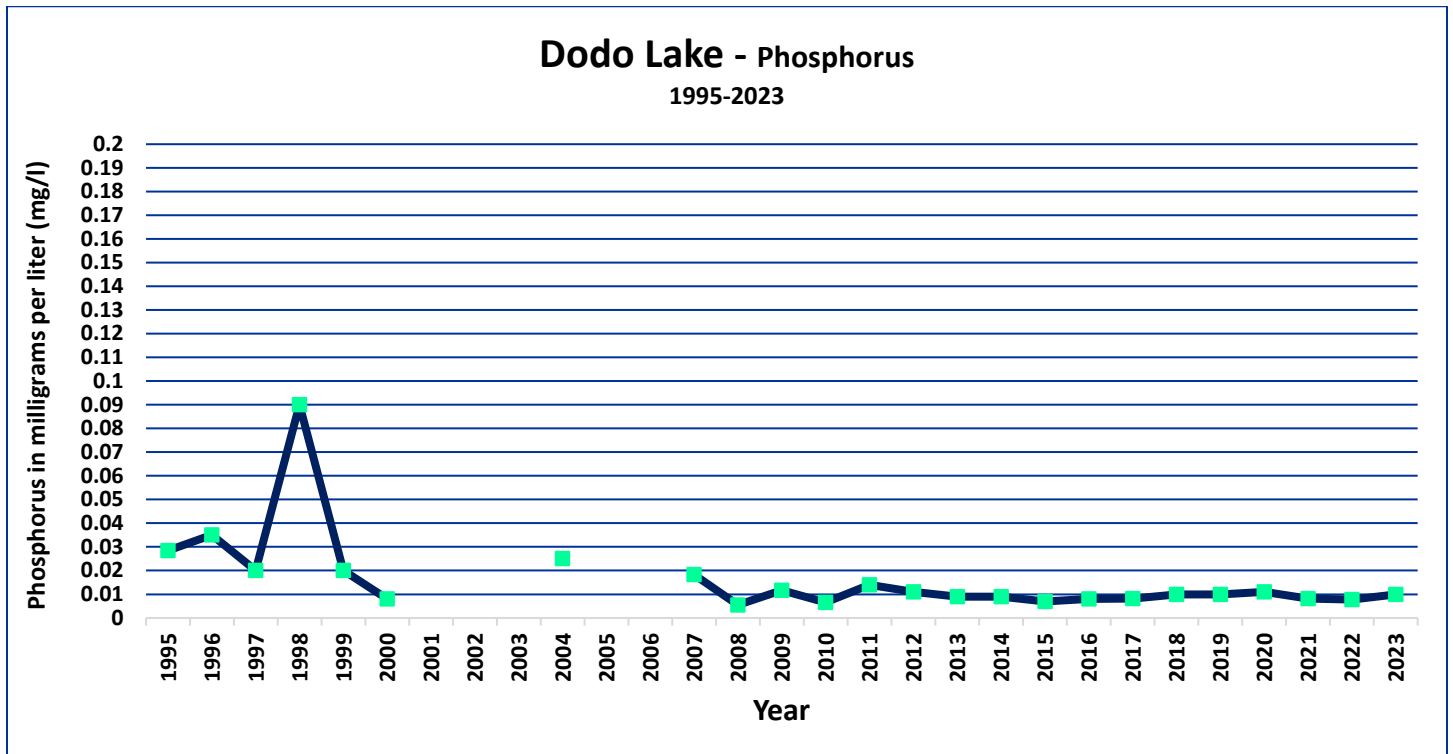
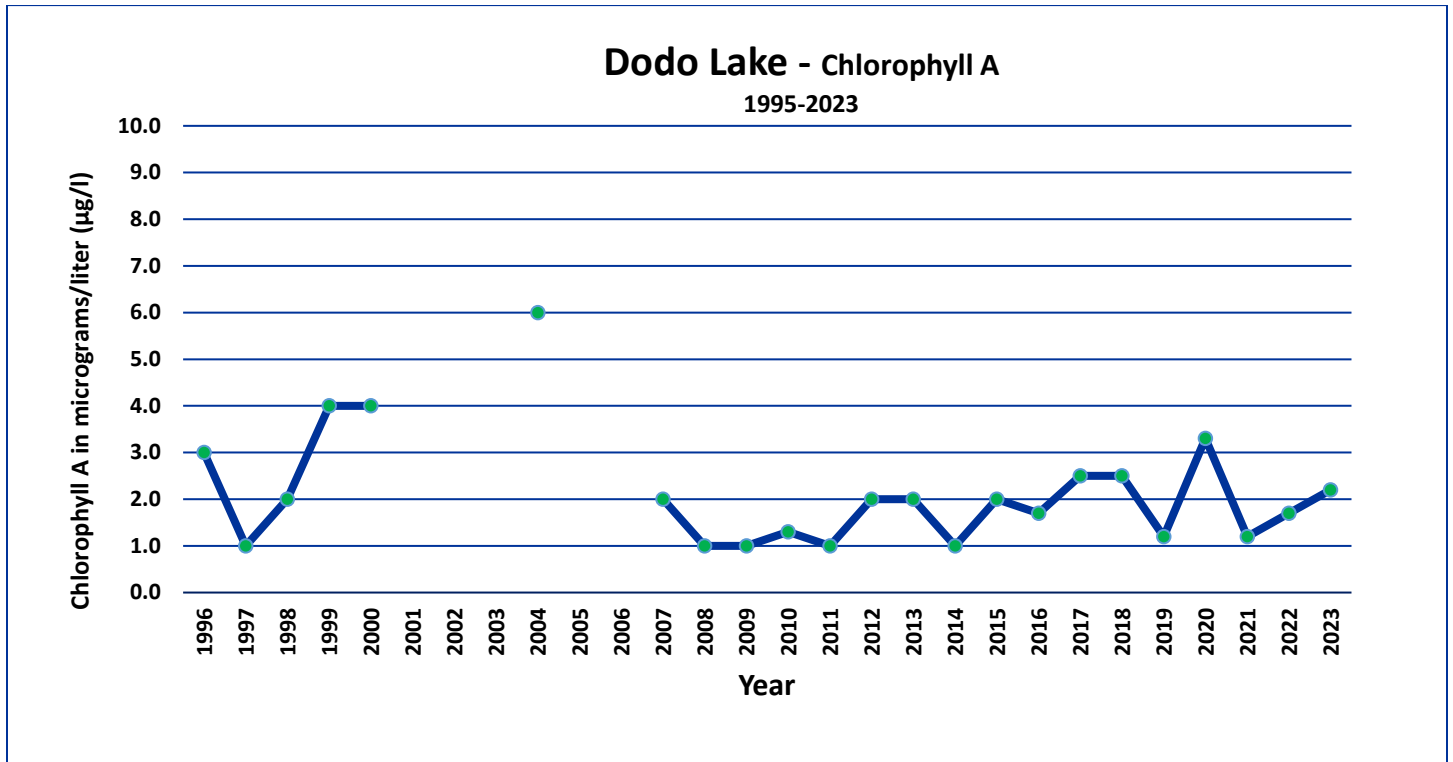
Winkle Lake – 69-0522

Winkle Lake phosphorus and chlorophyll sampled well within expected range. Winkle Lake is the shallowest lake we sample, maximum depth is 14 feet, with smallest surface area of 27+ acres.



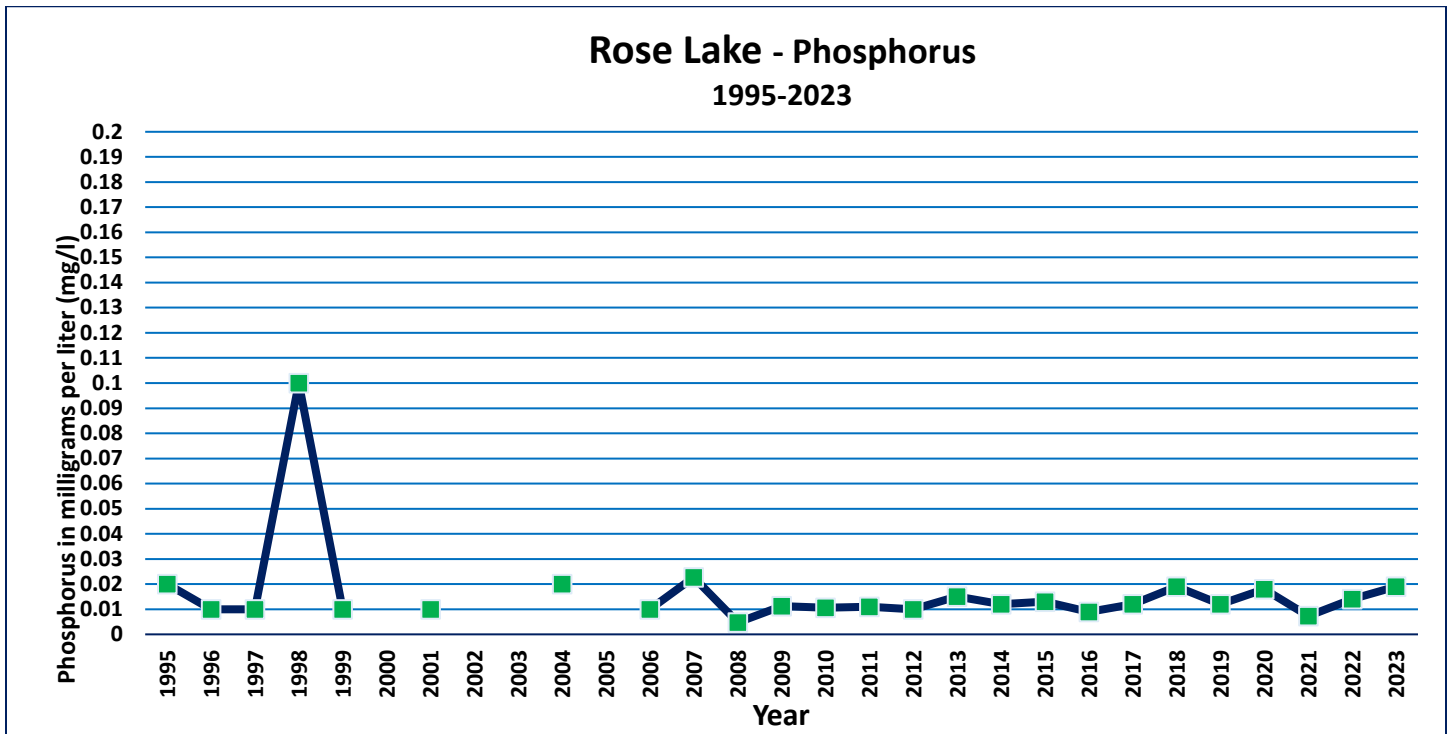
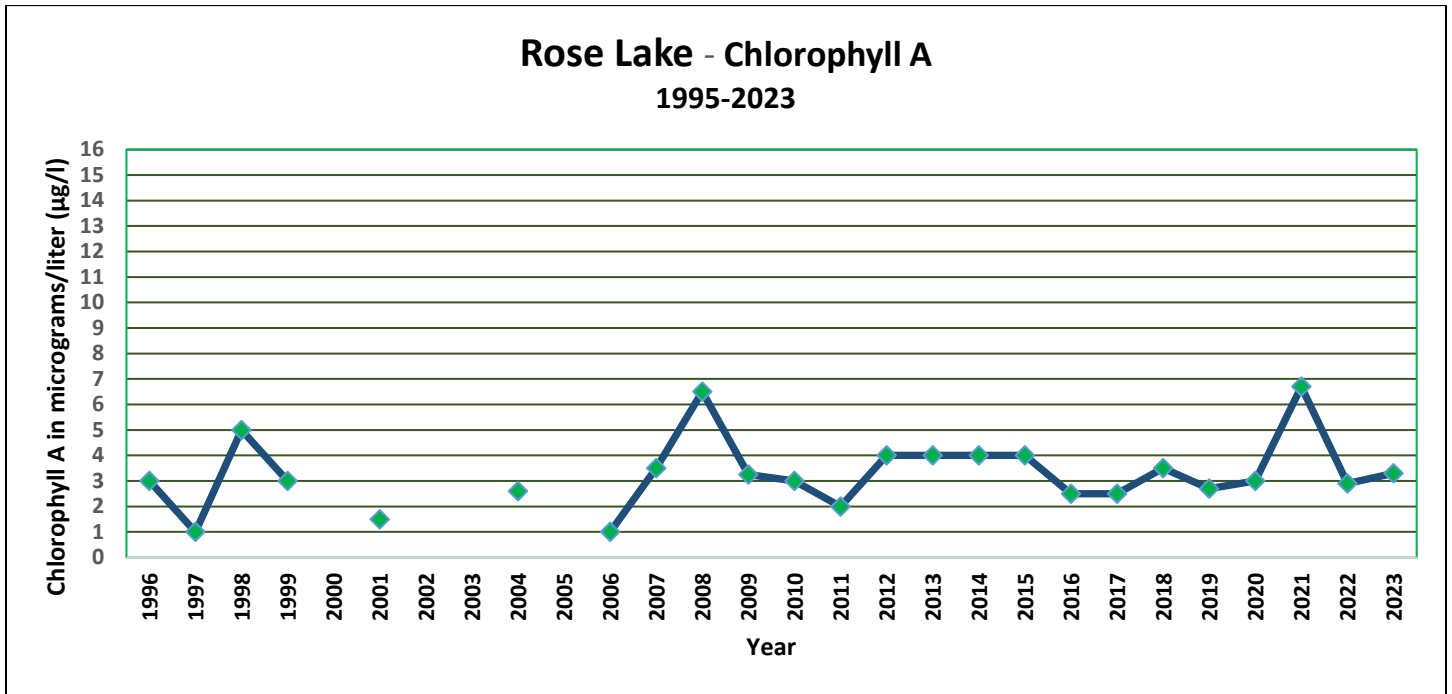
Dodo Lake – 69-0523

Dodo Lake is the deepest lake we sample, listed at 53' on the DNR lake-bottom-contour map. Surface area is approx. 90 acres. Low levels of chlorophyll and very low phosphorus levels continue.



Rose Lake – 69-0525

Rose Lake's deepest spot is between 35'-40', with a total surface area of about 60 acres. Chlorophyll and phosphorus again returned low values.



Strand Lake – 69-0529

Strand Lake is the largest in surface area (334 acres) and has a max depth of 16'. The large surface area and shallow depth allow for storm disturbance of sediments, which is reflected in high variability in the results (normal). Chlorophyll values are showing an upward trend. Phosphorus levels dropped back to what we've seen in the past as normal.

