

Pelican Lakes Property Owners Association 2006 Lake Study

In 2006 the lake association continued several projects started during 2004. These projects included:

- 1 Well Water Study
 - 2 Fecal Coliform Study
 - 3 Zebra Mussel and Pheriphyton Tile Study
 - 4 Trophic Status Index (TSI) Monitoring
- And added in 2006
5. Total Phosphorus & Ortho Phosphorus Study

The following presents a summary of results for projects 1-5 by PLPOA during the summer of 2006.

Well Water Study

Only two homeowners from the lake collected samples for the July 8, 2006 study. The samples were tested for coliform bacteria and nitrate nitrogen. Both samples showed no contamination. Because of the small participation in the study we will probably suspend the study in 2007 and resume again in 2008.

Fecal Study

Samples were collected at five locations around Pelican during the months of June, July and August. The only high fecal colony reading was on June 28th at the south end of Gooseberry Island. Follow-up readings during the summer at this location were within the acceptable range. Samples taken at the other four locations during the summer were well within or below anticipated ranges.

Zebra Mussel and Periphyton Tile Study

Two-inch square ceramic tiles were placed on docks at seven locations around Pelican and one location in Little Pelican. The purpose of the tiles was to again determine if any Zebra Mussels were detected in Pelican and Little Pelican Lakes. Zebra Mussels have invaded Lake Ossawinnamakee that is just north of Pelican Lake. Periphyton is a complex matrix of algae and heterotrophic microbes that attach to submerged substrata. The tiles were placed out in early June and removed in late August.

Visual analysis of the tiles determined that Zebra Mussels were not attached. To determine the biomass of Periphyton, the tiles were weight prior to placement and after. All the tiles bio-mass weight (in grams) were in the exceptable range as compared to previous years study.

Trophic Status Index Monitoring

The PLPOA continued TSI monitoring on Pelican and Little Pelican. Samples were collected and analyzed from May through September. TSI is an indicator of water quality. It reflects the lake's nutrient and clarity levels. Monitoring was done at three sites on Pelican and one on Little Pelican. The clarity of both lakes decreased as the summer progressed. Clarity comparison are measured against readings of previous years. Pelican and Little Pelican Lake are starting to experience drought conditions that haven't been experienced since the mid 1930's. Because of this drought condition the lakes are producing aquatic environments that have not been see before which in turn can affect water clarity.

To review the current and past results of the four sites go to the PLPOA website at www.mnlakes.org/PLPOA. At the website go to “Water Quality” and click on “TSI Data”.

Total Phosphorus & Ortho Phosphorus

2006 was the first year that the Association did total phosphorus and ortho phosphorus testing at each of the tile locations. This testing was done in June, July and August. The purpose of the testing is to see what the correlation is between the biomass on the tiles to the total phosphorus concentration in the water. We will use this data as a base for future testings.

The PLPOA Water Quality Program is our why of taking an annual physical of the Pelican Lakes to make sure they are maintained at optimum quality. That is being proactive!

In this report and on the website graphs you may find numerous words that need more explanation. Please go to the PLPOA website, go to “Water Quality” and click on the link, “helpful definitions” for assistance.

If you have questions or comments about the Water Quality Program please contact Glen Gustafson at 218-765-3796 or e-mail glengustafson@msn.com.