

WBIC
5551736

Lake Solitude, Waupaca County

STORET NUMBER 693198

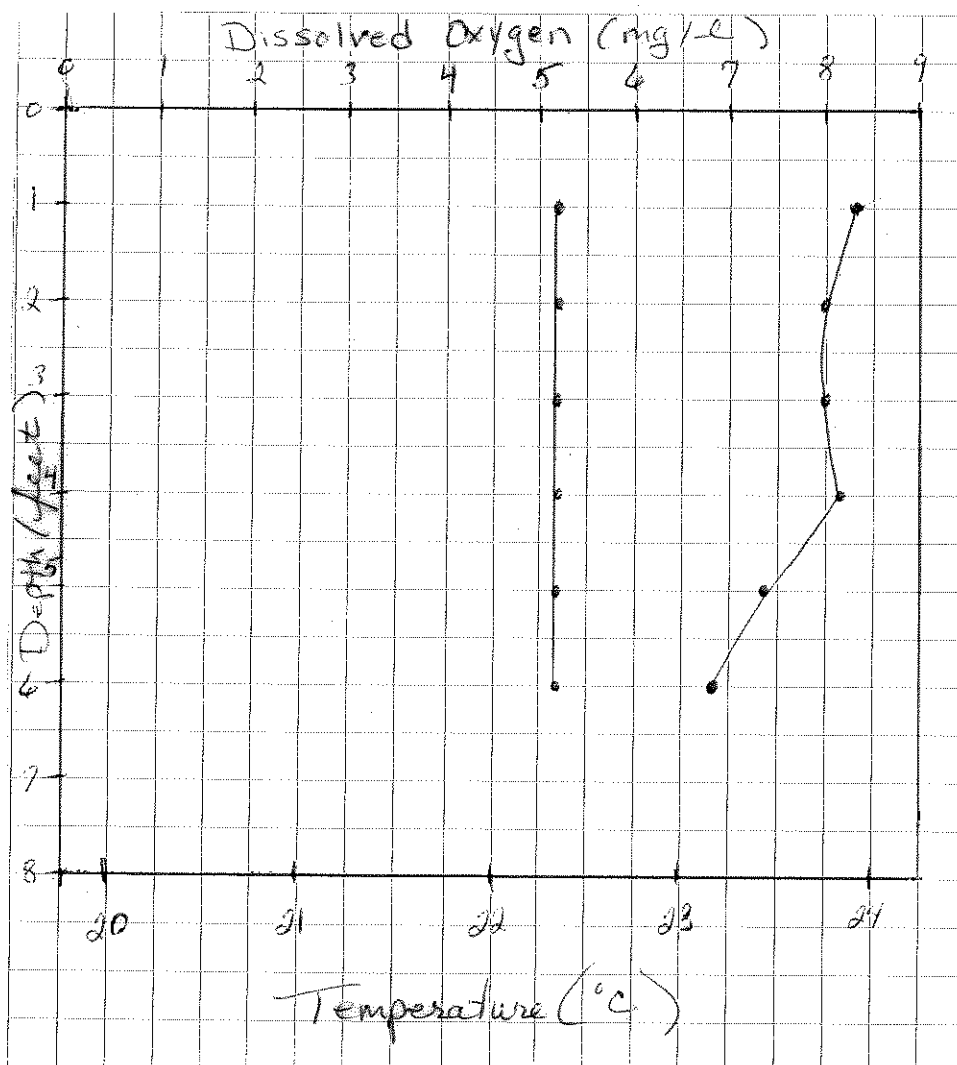
Submitted by Mary Gansberg

November, 2000

Lake Solitude is a small man-made lake located in the Town of Dayton (T21N, R11E, NE1/4 of Sec.12) in Waupaca County. It is a clear water seepage lake. The maximum depth that we could find was 7 feet in the back bay spring area.

A dissolved oxygen and temperature profile take on August 23, 2000 shows that the lake is mixed and does not stratify in the summer. Oxygen concentrations decreased slightly near the lake bottom, but are adequate throughout the water column. Water temperature was 22.3 degrees C (72 degrees F) top to bottom.

Dissolved oxygen / Temperature profile



Based on water samples collected on August 23, 2000, Lake Solitude has good water clarity (secchi disc hit the bottom), low chlorophyll a concentrations (1.2 ug/l), and low dissolved phosphorus concentrations (0.011 mg/l). Chlorophyll a levels indicate the lake is oligotrophic. In general, an oligotrophic lake has low nutrient levels. Dissolved phosphorus concentrations should be 0.01 mg/l or less to prevent summer algae blooms. Algae blooms do not appear to be a problem on Lake Solitude.

The clear water and shallow lake depth allows sunlight to penetrate to the bottom of the entire lake. This, along with a soft organic lake bed, promotes abundant rooted aquatic plant growth throughout the lake. A quick survey found a nice variety of native aquatic plants present in Lake Solitude. Species observed include:

Bushy pondweed	(<i>Najas flexilis</i>)
Spiny Naiad	(<i>Najas marina</i>)
Floating-leaf pondweed	(<i>Potamogeton natans</i>)
Sago pondweed	(<i>Potamogeton pectinatus</i>)
Flatstem pondweed	(<i>Potamogeton zosteriformis</i>)
Variable pondweed	(<i>Potamogeton gramineus</i>)
Illinois pondweed	(<i>Potamogeton illinoensis</i>)
Chara	(<i>Chara</i> Spp.)

Purple loosestrife has been reported on the shores. Lake residents should try to control the purple loosestrife colonies before it becomes a nuisance.

Overall, Lake Solitude has good water quality and a diverse aquatic plant community. Lake residents should continue to protect, preserve, and enhance the water quality, shoreline habitat, and aquatic life of Lake Solitude.