

Squaw Lake

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Clarity Report of August 5,
2015



Land & Water Conservation Department

*Jean Hansen, County Conservationist
Michele Sadauskas, AIS Coordinator
Jonna Stephens Jewell, Program Assistant*

Oneida County Courthouse
P O Box 400, Rhinelander, Wisconsin 54501
Phone (715) 369-7835 Fax (715) 369-6268

Squaw Lake AIS Monitoring and Water Clarity Report

WBIC: 2271600
Previous AIS Findings: Chinese Mystery Snail, Rusty Crayfish
New AIS Findings: Purple Loosestrife
Field Date: August 5, 2015
Field Crew: Stephanie Boismenu and Samantha Zommers, AIS Project Assistants, Oneida County Land and Water Conservation Department
Report By: Samantha Zommers

Stephanie and I monitored Squaw Lake on August 5, 2015. The weather today was sunny with low wind and a temperature of 73 degrees. This lake is 736 acres located in both Oneida and Vilas Counties (Figure 1). The north side of the lake is bordered by the Chequamegon-Nicolet National Forest. There is a maximum depth of 21 feet and a bottom that has 90% sand, 5% rock, and 5% muck. Squaw is a drainage lake. A drainage lake is characterized by getting its water from runoff such as groundwater runoff or river runoff. This lake is abundant with fish such as musky, panfish, largemouth bass, smallmouth bass, northern pike, and walleye. The water clarity on this lake is low due to the brown coloration, but there is still abundant plant life. Squaw Lake's trophic index is listed as eutrophic. Eutrophic lakes are characterized by an excessive amount of nutrients, allowing the lake to support an abundance of plants and algae.

We entered the lake via canoe from the public boat landing located off of West Squaw Lake Road (Figure 3). Using the bathymetric maps (Figures 2a and 2b) we were able to get close to the deep hole of the lake. Since the lake is large in acres, it was hard to find the exact deep hole using the canoe. After many attempts at finding a maximum depth, Stephanie and I used the depth at 14 feet to do our water quality monitoring. At this location Stephanie anchored us and used the depth finder to find our depth. I used the dissolved oxygen meter to take readings of dissolved oxygen and temperature (Table 1). I also used the Secchi disk to get a reading on the water clarity. While I took measurements, Stephanie recorded and used the GPS to record our location at the deep hole.

After data collection, we paddled to six locations of the lake shore to perform an AIS presence/absence check. The protocol for this process is to complete a visual inspection of the littoral zone along 100 feet of the shoreline in each area. We chose six areas around private landings, private docks with motorized watercrafts, and the public boat landing (Figure 3). For the six locations of AIS presence/absence checks, we meandered the shoreline via walking along the shoreline, looking through vegetation, and checking under and around solid surfaces. In addition to the six presence/absence checks, we also visually inspected from the canoe for the entire shoreline of the lake.

Findings:

Aquatic Invasive Species:

Unfortunately, during our monitoring we discovered purple loosestrife.

Dissolved Oxygen:

These measurements can be seen on Table 1.

Secchi:

The Secchi reading on this lake was 3.25 feet at a 14 foot depth.

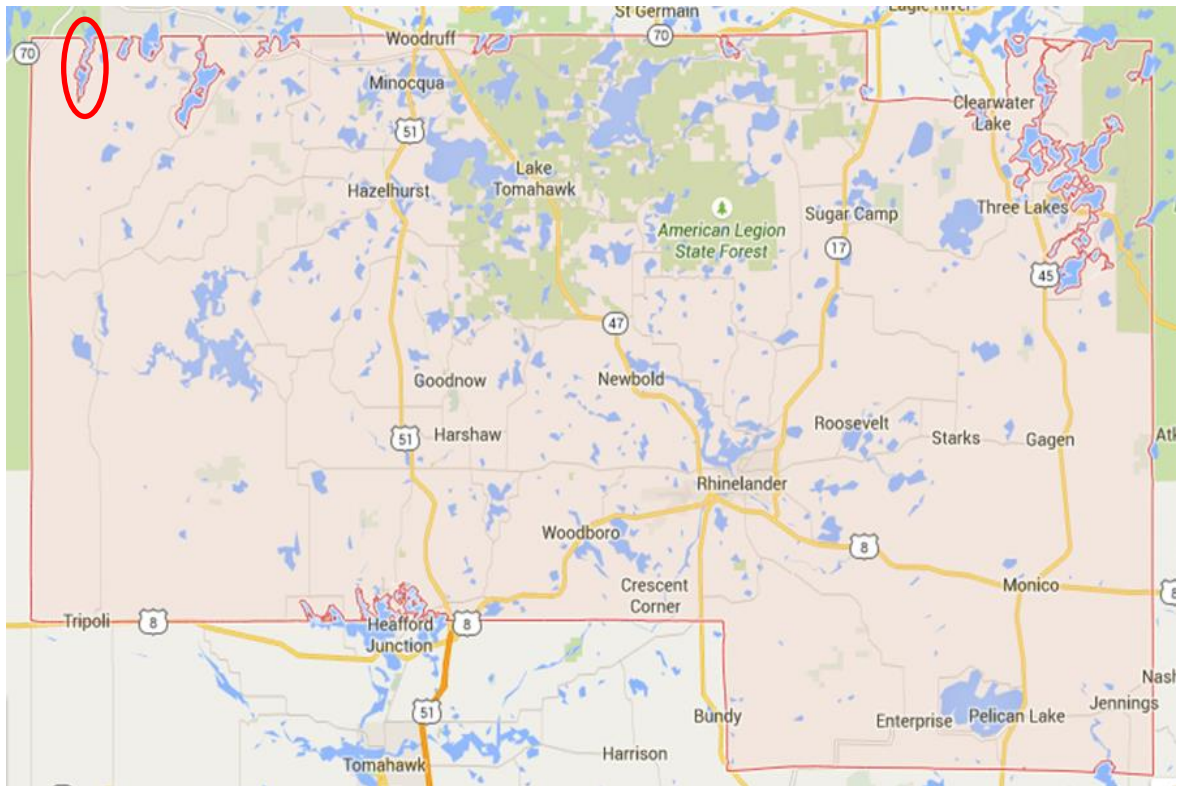


Figure 1. Map of Oneida County, WI with Squaw Lake circled.

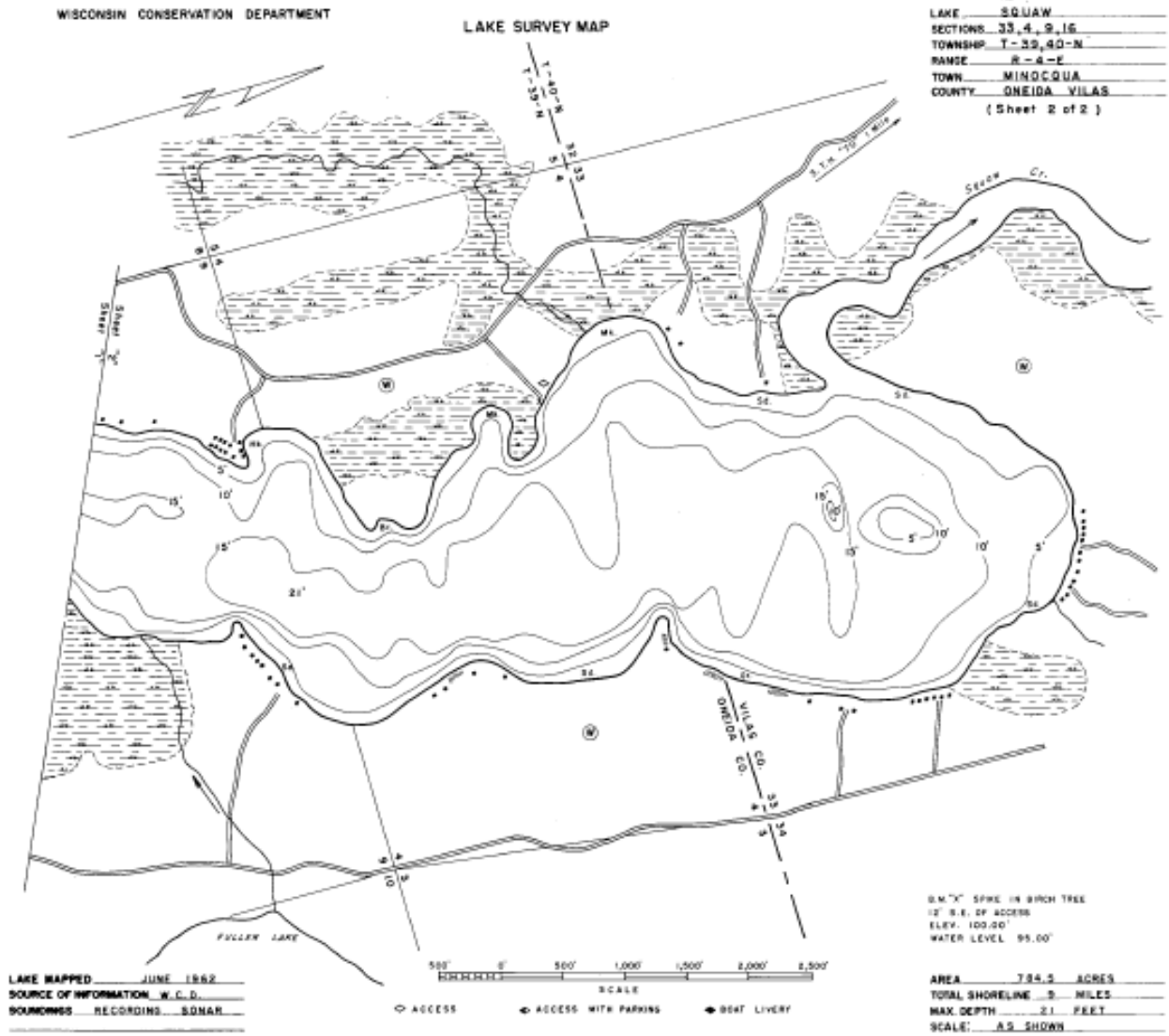


Figure 2a. Bathymetric map of the north side of Squaw Lake in Oneida/Vilas Counties, WI.

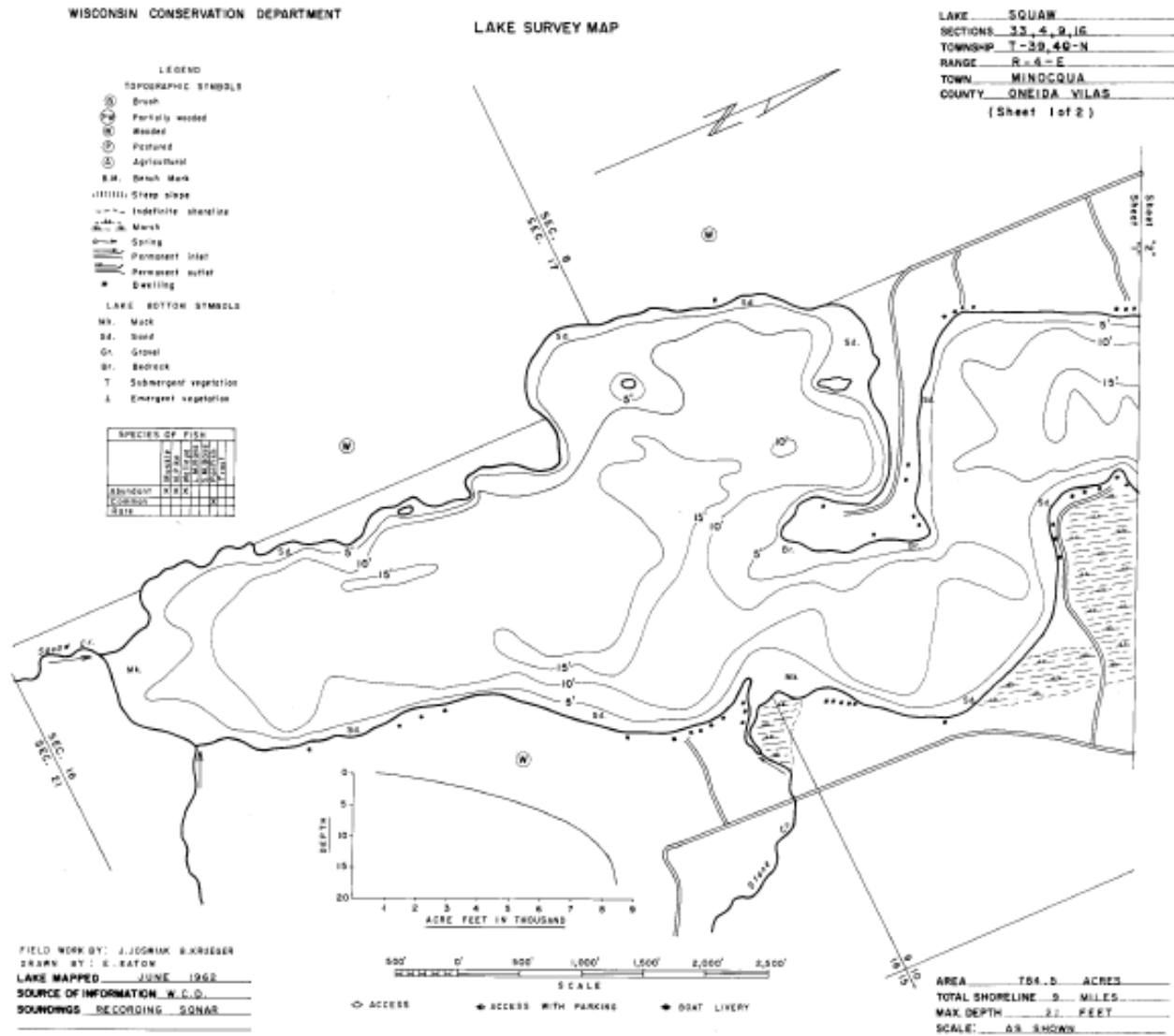


Figure 2b. Bathymetric map of the south side of Squaw Lake in Oneida/Vilas Counties, WI.

Map Source: Wisconsin Department of Natural Resources 608-266-2621, Squaw Lake – Oneida County, Wisconsin – DNR Lake Map, Date – June, 1962 – Historical Lake Map

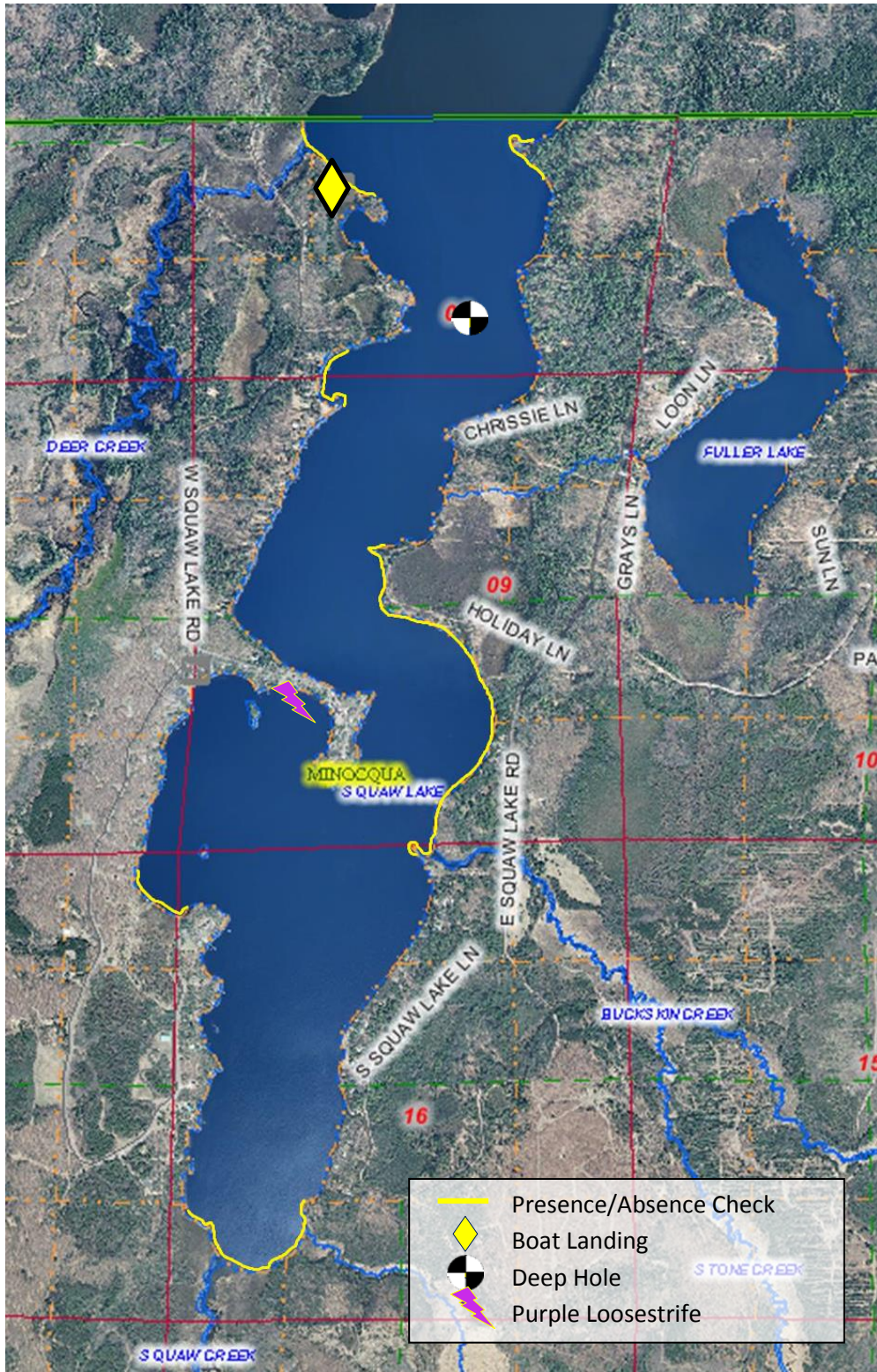


Figure 3. Map of Squaw Lake with the site of the deep hole, boat landing, and locations for monitoring of aquatic invasive species presence/absence checks.

Deep Hole GPS Coordinates: 45.893440, -89.990743

Table 1. Dissolved oxygen levels and temperatures at the deep hole.

Depth (Feet)	Dissolved Oxygen Levels (mg/L)	Temperature (°F)
2	7.36	74.9
4	6.85	73.2
6	6.59	72.7
8	6.59	72.5
10	6.59	72.3
12	6.45	72.1

Resources: <http://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=2271600&page=facts>