

Alva Lake

Page 1: AIS Monitoring and Water
Clarity Report of September 9,
2015



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Alva Lake AIS Monitoring and Water Clarity Report

WBIC: 968100
Previous AIS Findings: None
New AIS Findings: Banded Mystery Snail, Chinese Mystery Snail
Field Date: September 9, 2015
Field Crew: Stephanie Boismenu and Sara Mills, AIS Project Assistants,
Oneida County Land and Water Conservation Department
Report by: Sara Mills

Stephanie and I monitored Alva Lake on September 9, 2015. It is a 199 acre lake located in the towns of Cassian and Lake Tomahawk (Figure 1). It is a seepage lake with a maximum depth of 43 feet. There is one public boat landing. Most of the shoreline is developed with many private boat landings. The WDNR lists Alva Lake's trophic state as oligotrophic and substrates as 65% sand, 20% gravel, 10% rock, and 5% muck. Oligotrophic lakes are characterized by a low amount of nutrients, limiting amount of plants and algae, and often have increased dissolved oxygen levels. Alva Lake did not have a lot of plants or algae.

The conditions for lake monitoring were partly cloudy with wind at 12-13 mph. We entered the lake from a public boat landing (Figure 3). Using the bathymetric map (Figure 2) and the depth finder, Stephanie and I navigated as close as we could to the deep hole of the lake. Due to the high wind speeds, we could not find the deep hole of 43 feet. We dropped anchor to keep the canoe from drifting while taking the measurements. I collected a GPS location for our measurements, a Secchi disk reading for water clarity, and dissolved oxygen and temperatures for water quality (Table 1).

After data collection, we paddled to five 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 five areas around private landings, private docks with motorized watercrafts, and the public boat landing (Figure 3). For the five 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 five presence/absence checks, we also visually inspected from the canoe for the entire shoreline of the lake.

Findings

Aquatic Invasive Species:

We discovered both Chinese mystery snails and banded mystery snails and brought them to the DNR station for identification confirmation. The new discoveries can be seen in Figure 4.

Secchi Disk Reading:

Alva Lake had very clear water with no algae present which resulted in a Secchi disk reading of 22 feet at a depth of 33 feet.

Dissolved Oxygen and Temperature:

See Table 1.

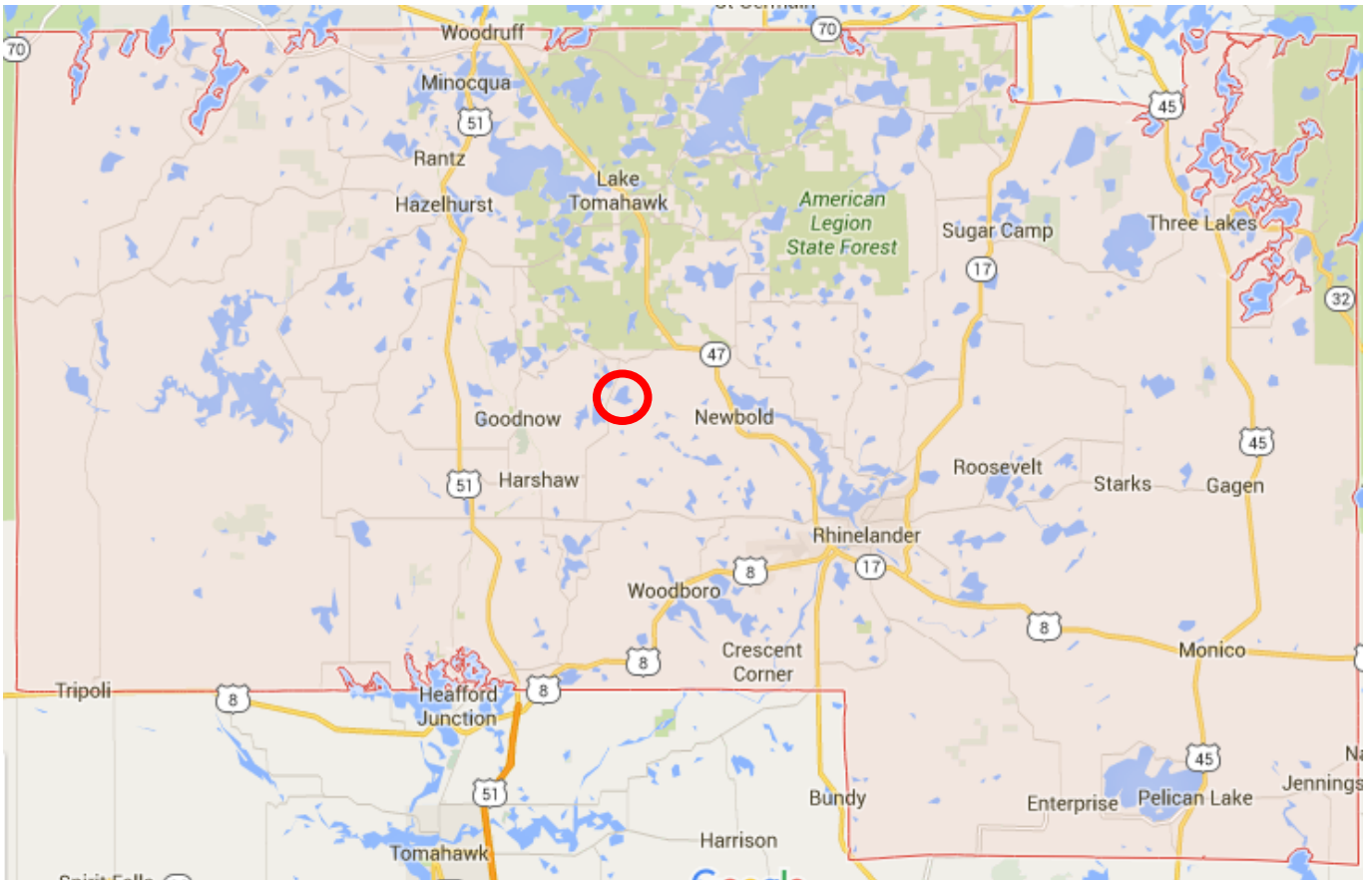


Figure 1. Map of Oneida County, WI with Alva Lake circled.



Figure 2. Bathymetric map of Alva Lake.

Map Source: Wisconsin Department of Natural Resources (608) 266-2621, Alva Lake – Oneida County, Wisconsin – DNR Lake Map, Date – March 27, 1941 – Historical Lake Map.

<http://dnr.wi.gov/lakes/maps/DNR/0968100a.pdf>



Figure 3. Map of Alva Lake with the deep hole, AIS checks, and public boat landing labeled.

Deep Hole GPS Coordinates: 45.71029644, -89.59135756

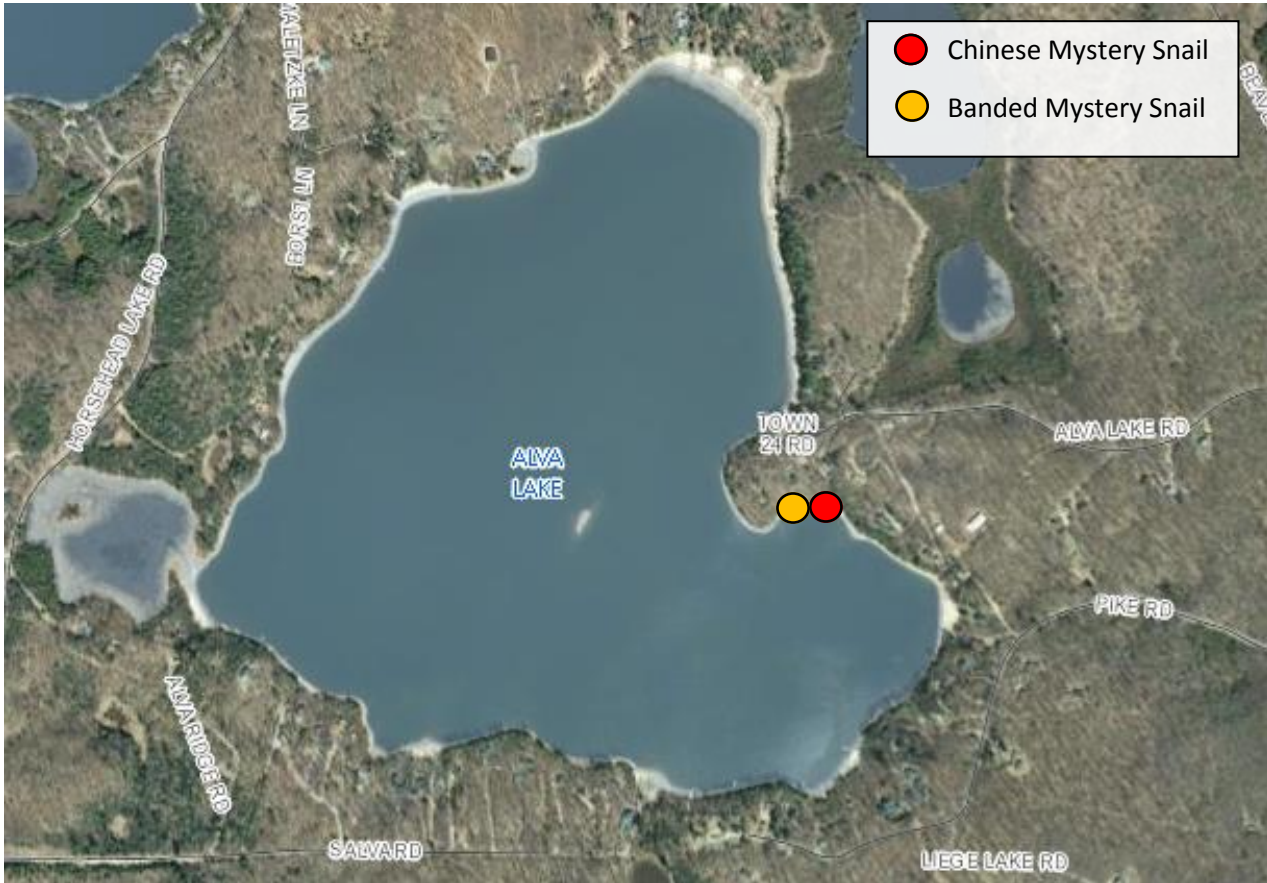


Figure 4. Map of Alva Lake with new AIS discoveries.

Chinese Mystery Snail GPS Coordinates: 45.70771954, -89.58718850

Banded Mystery Snail GPS Coordinates: 45.70771954, -89.58718850

Table 1. Dissolved oxygen levels and temperature readings at the deep hole site.

Depth	Temperature	Dissolved Oxygen Level
1'	70.9°F	8.70 mg/L
4'	71.5°F	8.60 mg/L
7'	71.7°F	8.56 mg/L
10'	71.7°F	8.53 mg/L
13'	71.8°F	8.49 mg/L
16'	71.8°F	8.44 mg/L
19'	69.8°F	8.68 mg/L
22'	68.8°F	8.11 mg/L
25'	67.4°F	6.73 mg/L

References: <http://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=968100&page=facts>