
Bear Lake (Oneida County, Wisconsin) Aquatic Invasive Species Monitoring Report

This is a product of annual monitoring conducted on behalf of:

Bear Lake Protection & Rehabilitation District
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INTRODUCTION

White Water Associates, Inc. has been retained by the Bear Lake Protection and Rehabilitation District to conduct annual aquatic invasive species (AIS) monitoring in Bear Lake (Oneida County, Wisconsin). White Water professional staff has had significant experience with the Bear Lake ecosystem having developed the 2018 Aquatic Plant Management Plan and Adaptive Lake Management Plan for Bear Lake and conducting annual AIS monitoring since 2018.

METHODS

For this survey, we conducted a thorough search of likely habitats for aquatic invasive species around the entire Bear Lake shoreline with special focus on the boat landings and other points of most likely introduction or colonization. The field work was conducted on August 24, 2020 by White Water aquatic biologist Angie Stine and field technician Sean Caron along with boat navigation assistance by Bear Lake steward Mic Austin.

The search was conducted from a pontoon boat and began from the Austin's home located next to the boat landing. Using the pontoon boat, we meandered searched around the entire lake and stopped at four target locations and snorkeled to look for AIS in the water and near shore. As part of the survey, a zooplankton tow net was used at three locations to monitor for spiny water fleas. The survey ended by wading and snorkeling at the boat landing area looking for AIS. The shoreline in the vicinity of the boat landing was also walked looking for anything out of the ordinary.



Angie Stine holding zooplankton net used to check for spiny water fleas (Photo by White Water Associates, Inc).

SURVEY RESULTS

Three established aquatic invasive species (two plant species and one animal species) were observed during this monitoring bout, including Yellow Iris, Purple Loosestrife, and Chinese Mystery Snail. At the time our 2020 survey, the Yellow Iris plant was not in flower, but plants observed along the north shore of the lake were likely of this species. Mic Austin confirmed that they have observed the Yellow Iris in bloom in these areas in the past (the geographic coordinates for one location were 45.77150; -89.80489). It would be important to document these plants in 2021 during the flowering season (June) by taking photographs and location coordinates and/or location descriptions. The location information and photos should be sent to White Water Associates for verification and conveyance to the WDNR.

Volunteers have been active for a number of year's hand pulling a few purple loosestrife plants each season at two locations (Site 1: 45.76414; -89.80900 and Site 2: 45.76964; -89.79953). During our 2020 meander search, the same two locations had Purple

Loosestrife. The plants were in bloom. We removed 10-11 plants heads (flowers) at Site 1 and pulled one entire plant (with 3 flowering heads) at Site 2 (Island). At some time in the future, the Site 1 plants should be dug up by the roots and completely removed.

The aquatic invasive animal that is established in Bear Lake is the Chinese mystery snail. Chinese mystery snail empty shells were found at four of the target locations around the lake and at the boat landing. There was one live Chinese mystery snail found at the boat landing but it was on shore a foot from the water.

Spiny water fleas are an aquatic invasive zooplankton that is found in a few lakes in Wisconsin. A way to determine if they are present in a lake is to conduct a vertical zooplankton tow at various locations in the lake and looking at the sample to see if the tiny spiny water fleas are present. Table 1 describes the locations and depths of the sites chosen. Samples were examined under magnification in the lab and there were no invasive zooplankton in the samples collected.

| Table 1. Zooplankton Samples from Bear Lake | | | |
|--|-----------------|------------|---------------------------------|
| Date: 8/24/2020 | GPS Coordinates | | Depth of plankton sample (feet) |
| Site 1 | 45.76768 | -089.80016 | 17 |
| Site 2 | 45.76562 | -089.79921 | 19 |
| Site 3 | 45.76405 | -089.80254 | 15 |

We appreciate the opportunity to serve the Bear Lake Protection and Rehabilitation District. If there are any questions about this report or special need of services, please contact us at your convenience.


(Signature)

August 26, 2020
(Date)

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