



Attention: Pete Wedegartner & Bill Reed
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December 21, 2016

Subject: 2016 Monitoring Report for Hagerman Lake

White Water Associates, Inc. is retained to conduct aquatic invasive species (AIS) monitoring in Hagerman Lake (Iron County, Michigan) for the Hagerman Lake Property Owners Association and also was asked to give a presentation at the Spring Association meeting. As part of this work, we conducted a thorough search of likely habitats for aquatic invasive species around the entire lakeshore with special focus on the boat landing and other points of most likely introduction or colonization twice in 2016. Monitoring also involved obtaining a Secchi transparency in the field. A zooplankton tow was used at three locations to monitor for spiny water flea. Angie Stine (White Water Associates, Aquatic Biologist) with an assistant from White Water Associates conducted these surveys. No aquatic invasive plants or animals were observed during these monitoring bouts. One aquatic plant that tends to be invasive on some lake shores is the Yellow Iris. At the time the survey was conducted this plant was not in flower. There are areas that were noted that could be the invasive Yellow Iris or it could be the native Iris plant. Please keep an eye out the end of June when this plant will possibly be in bloom and look to see if there are indeed yellow.



Clean Boats/Clean Waters Presentation:

Angie Stine from White Water Associates was asked by Bill Reed to give a presentation on Aquatic Invasive Species and the importance of cleaning your boat and equipment at the Hagerman Lake Property Owners Association meeting May 28, 2016. Stine gave a Power Point presentation and talked about the various AIS in Hagerman Lake area and how important using the boat wash is to protecting Hagerman Lake from AIS. The audience was very receptive. A few of us then went over to the boat landing area where the boat wash was located and Angie Stine gave a presentation on Clean Boats, Clean Waters and how to use the boat sprayer effectively.

AIS Survey Results:

On June 9, 2016, Angie Stine and a co-worker conducted an Aquatic Invasive Survey (AIS) on Hagerman Lake. The search began from the boat landing in a boat. They meandered around the entire lake and randomly stopped at four locations to snorkel to look for AIS in the water. Each site was searched for 10 minutes. She ended by snorkeling the boat landing area and beach area for 20 minutes looking for AIS. She also walked the shoreline looking for anything out of the ordinary.

Spiny water fleas are an aquatic invasive zooplankton that is found in Lake Gogebic. 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 and 2 describe the locations and depths of the sites chosen and also the Secchi depth if it was taken. At two different dates a spiny water flea tow was conducted on Hagerman Lake, June 9 and August 22 of 2016. Samples were looked at under magnification in the lab and there were no invasive zooplankton in the samples collected on either date.



Zooplankton net used to check for Spiny Water Fleas in Hagerman Lake (Photo by Steve Haag).

Table 1. Hagerman Lake Spiny Water Flea Tows				
Date: 6/9/2016	GPS Coordinates		Depth of plankton sample (Feet)	Secchi Depth (Feet)
Site 1	46.05362	088.99966	25	36.6
Site 2	46.05859	088.77876	48	
Site 3	46.06265	088.78051	33	

Table 2. Hagerman Lake Spiny Water Flea Tows				
Date: 8/22/2016	GPS Coordinates		Depth of plankton sample (Feet)	Secchi Depth (Feet)
Site 1	46.04966	088.78168	37	21.2
Site 2	46.05489	088.77963	45	19.3
Site 3	46.05804	088.77635	58	22.6

A meander search from a boat was conducted on the August 22, 2016 survey and the boat landing was searched by walking the shoreline for AIS.

We appreciate the opportunity to serve the Hagerman Lake Property Owners Association. If there are any questions about this report or special need of services, please contact us at your convenience.

WHITE WATER ASSOCIATES, INC.



(Signature)

December 21, 2016

(Date)

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