

Wisconsin Department of Natural Resources  
Aquatic Invasive Species Grant Program  
Grant # AIRR23519

## **West Bay Lake AIS Monitoring & Control Project**

West Bay Lake – Cisco Chain of Lakes

Vilas County, WI & Gogebic County, MI

### Annual Reporting

2019

Submitted To:

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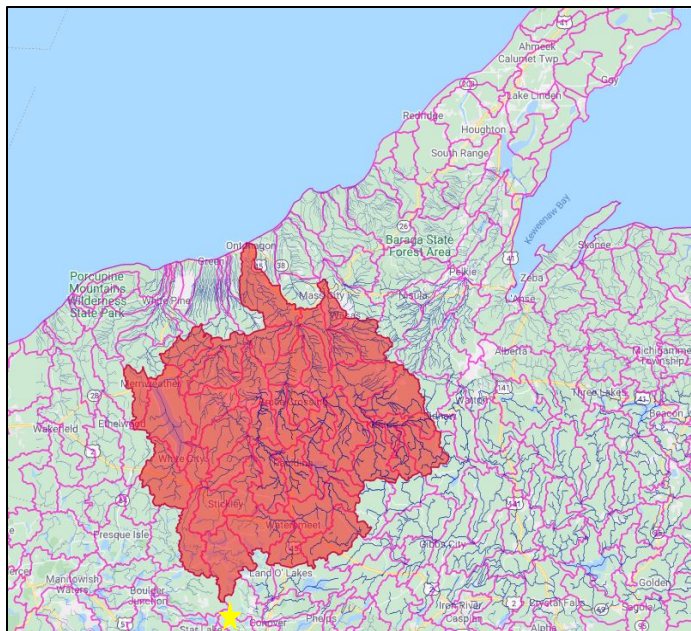
## PROJECT OVERVIEW

West Bay Lake, located in Vilas County, WI and Gogebic County, MI is a 417-acre deep lowland lake with a max depth of 31 ft. West Bay Lake is one of fifteen named lakes that make up the Cisco Chain of Lakes ("Chain"), with a total surface water area of approximately 4,025 acres. Access to West Bay Lake is from a channel either to the west from Big Lake or to the east from East Bay Lake. A total of five public and one private-pay access sites are located across the Chain. West Bay Lake riparian ownership includes Michigan and Wisconsin riparians. Several lakes on the chain border USFS Ottawa National Forest and Upper Peninsula Power Company (UPPCO) owns/operates a water level control structure at the far northern end of Cisco Lake, the headwaters to the Cisco Branch of the Ontonagon River.

Located in the southern reaches of the Ontonagon River watershed (HUC 8), this watershed is primarily forests (71%), water/wetlands (22%), and a mix of open residential/commercial, grassland and agricultural uses (~7%).<sup>1</sup> Based on the most recent plant survey (2018), West Bay has a FQI of 27.07.

This report is a summary 2019 activities completed under the West Bay WDNR Aquatic Invasive Species Grant # AIRR23519 including (1) seasonal aquatic invasive species monitoring, (2) Eurasian watermilfoil (EWM) management, and (3) discussion of project highlights.

### Ontonagon River Watershed



<sup>1</sup> Map and data taken from <http://lthia.agriculture.purdue.edu/> (Accessed 3.10.20)

## **AQUATIC INVASIVE SPECIES MONITORING**

Aquatic invasive species (AIS) monitoring targets Eurasian watermilfoil but includes other aquatic and wetland invasive plant species. The first survey, timed during the first half of the growing season, reconfirms previous EWM locations to refine management strategies and monitors for EWM, mainly in shallow waters. The second survey, timed to capture EWM plants at or near their greatest annual growth potential occurs during the second half of the growing season and includes deeper waters and off shore locations where vegetation grows.

Monitoring efforts are qualitative in nature, meaning information collected describes the condition or population of the target AIS rather than relying on measured or quantitatively collected and calculated values. Smaller sites are geo-referenced with a GPS point and extent is determined by visually estimating coverage in foot-circumference. This is an observed estimate of exact extent, not footprint. On average, these sites are less than a 0.10 of an acre in size. Larger sites, typically greater than a 0.10 of an acre in size, are circumnavigated and extent in acres is calculated and represented on a map with a polygon.

Early season EWM “spot checks” began on the Cisco Chain the week of June 17. These preliminary checks help gauge the growth of plants, refine survey timing, and place EWM buoys in high traffic areas. No established locations of EWM on West Bay were detected at this time. Since these surveys are technically suppose to be completed during the first part of the growing season, delaying surveys base on the June 17 observations, would push the survey into more of the mid season survey window. A decision was made to monitor plant growth and complete a whole lake mid/late season survey earlier than planned to finalize management actions.

A whole-lake survey took place on July 24 & August 1, 2019. Surface water temperatures ranged from 73.3°F on July 24 to 70.1°F on August 1. Wind and sun conditions were excellent, however water clarity was fair. This survey detected multiple locations of EWM across along the southeast corner and southwest shoreline just north of the channel connecting West Bay to Big Lake.

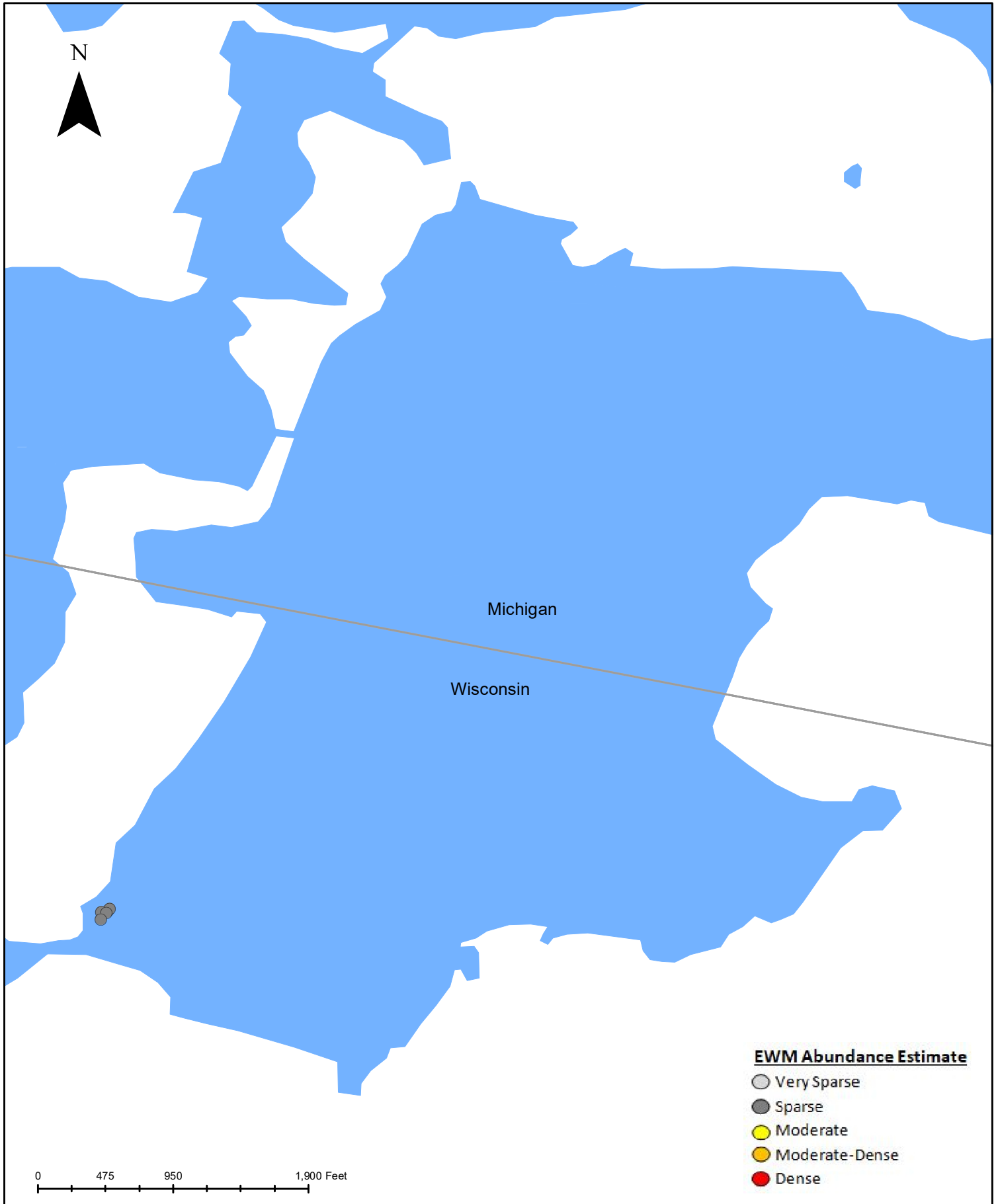


Lake: West Bay Lake - Vilas Co, WI & Gogebic Co, MI  
 Date & Creator: 3.12.20 Many Water, LLC  
 Survey Date: 7.24.2019  
 Source: EWM Survey - Many Waters, MiGDL Lake\_polygons\_200403, ESRI Base Map  
 File: WestBay\_MLSS\_2019

**West Bay Lake - Cisco Chain  
 Vilas Co, WI & Gogebic Co, MI  
 Mid/Late Season EWM Survey  
 2019**

## **EWM MANAGEMENT & EVALUATION**

On August 15 2019, hand removal focused on the west shore sites working from the far northern location heading south. A total of 37 plants weighing 5 pounds was removed. The diver noted that the remaining cluster of sites, just north of the Big Lake channel would be more efficiently removed with either another team of divers or DASH. These sites were not dove on that day. On September 24 2019, the remaining known sites at the far southeast corner of the lake were dove. A total of 21 plants weighing 2.5 pounds was removed. The single location located centrally along the south shore, was not found. Diving conditions on both days were fair, with limited visibility, slowing diver efficiency. After the September 24 dive, the dive sites dove in August were checked for remaining plants, and a second visit to the cluster of plants just north of the Big Lake channel determined that the best strategy would be to use DASH at this location in 2020.



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 Date & Creator: 3.12.20 Many Water, LLC  
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 MiGDL Lake\_polygons\_200403, ESRI Base Map  
 File: WestBay\_EOY\_2019

**West Bay Lake - Cisco Chain**  
**Vilas Co, WI & Gogebic Co, MI**  
**End of the Year EWM Locations**  
**2019**

## **FUTURE MANAGEMENT OF EWM**

Eurasian watermilfoil can potentially alter native aquatic plant ecosystems and cause recreational use and impairment issues. Conversely, not all lakes may experience high populations of EWM, particularly in Northern Wisconsin.<sup>2</sup> Recent WDNR research suggests that across the State of Wisconsin, many lakes do not reach lake-wide high densities, as previously once thought. Nonetheless, it is important to recognize that aquatic ecosystems are dynamic and a lake may have a “low” lake-wide population of EWM, but still cause site-specific recreational impairment. Annual variations in both native and invasive plants occur and further research is needed to understand how lake ecology and climate may play a role in population variability.

Currently EWM makes up a very small portion of the aquatic plant community on West Bay Lake. Based on the 2018 lake-wide vegetation assessment EWM occurrences represent 0% frequency of occurrence of West Bay’s littoral area. Eurasian watermilfoil management in 2020 will continue with seasonal monitoring and hand pulling with the use of divers. Depending on what is found during survey efforts, the intent will be to use DASH on the cluster of EWM located just north of the Big Lake channel and hand removal as many if not all locations of EWM on West Bay Lake. Additional EWM checks in the vicinity of the channel that connects Big Lake would benefit. Big Lake’s EWM population is the most abundant and wide-spread compared to the remaining lakes on the Chain, making it the greatest potential source water for EWM spread to other lakes on the Chain at this time.

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<sup>2</sup> Nault, M. 2016. The science behind the “so-called” super weed. Wisconsin Natural Resources 2016: 10-12