

2016 AIS GRANT ACEI 185 16

FINAL GRANT REPORT

The 2016 AIS Grant # ACEI 185-16 contained 4 targeted initiatives in the 2016 Tomahawk Lake Association's AIS control effort :

Monitoring

- Sentinels (training materials plus 2 surveys)

In early June the Sentinels training manual was updated and distributed to all 16 Sentinel Sector leaders. Along with the new training manual, also included was each sectors GPS data collector, which had been readied for 2016 Sentinels data collection.

In late June, and again in early August, each Sentinel sector was surveyed for Eurasian Water Milfoil. The EWM sites were recorded onto the GPS data collectors, and the data collectors were sent to TLA's GIS mapper, for inclusion in the Sentinels annual EWM Site map. The completed map was then given to TLA's Executive Director for use as a guide in executing the first Pre-Treatment AIS aquatic plant point intercept survey for use in 2017.

- Professional Surveys (3)

Over the course of this grant, a total of three professional surveys were completed to document the progression of EWM growth over time, and the effects of the spring chemical herbicide treatment upon the EWM present as well as upon the native plant community present in each polygon treated. The tree surveys were:

1. First Pre-treatment Point Intercept Aquatic Plant Survey, taken in September of 2015.
2. Second Pre-treatment Aquatic Plant "confirming" Survey, taken in early May of 2016.
3. Post treatment Point Intercept Aquatic Plant Survey, taken in late July of 2016.

All three of these surveys were taken utilizing protocols outlined in the UW/ExLakes publication "Aquatic Plant Management in Wisconsin. The results and analysis generated in these surveys were reported to the WDNR in the Tomahawk Lake Aquatic Plant Management Report for 2016, submitted to the WDNR at the Woodruff Service Center.

- Citizens Lake Monitoring Network

Tomahawk Lake - Deep Hole was sampled 18 different days during the 2016 season. Parameters sampled included:

- water clarity

- temperature
- total phosphorus
- chlorophyll

The average summer (July-Aug) secchi disk reading for Tomahawk Lake - Deep Hole (Oneida County, WBIC: 1542700) was 19.2 feet. The average for the Northeast Geo-region was 9.7 feet. Typically, the summer (July-Aug) water was reported as **CLEAR** and **BLUE**.

Chemistry data was collected on Tomahawk Lake - Deep Hole. The average summer Chlorophyll was 1.9 µg/l (compared to a Northeast Geo-region summer average of 8.4 µg/l). The summer Total Phosphorus average was 13 µg/l. Lakes that have more than 20 µg/l and impoundments that have more than 30 µg/l of total phosphorus may experience noticeable algae blooms.

The overall Trophic State Index (based on chlorophyll) for Tomahawk Lake - Deep Hole was 40. The TSI suggests that Tomahawk Lake - Deep Hole was **oligotrophic**. This TSI suggests deeper lakes still oligotrophic, but bottom water of some shallower lakes will become oxygen-depleted during the summer.

- Aquatic Plant Management Report

AIS Treatments

- Chemical Treatment

The 2016 chemical treatment on Tomahawk Lake did have a positive effect in reducing the levels EWM infestation within the treated areas. The "Frequency of Occurrence" for EWM was reduced by 65.13% within the treated polygons, and the remaining EWM plant density within all treated polygons was reduced by .3878 of one rating point. The effects of the treatment within the native plant community, as measured by the noted comparative tests were all neutral to slightly positive in nature.

- Hydraulic Conveyor Treatments (DASH)

The following results were obtained during the 2016 harvesting season:

Number of sites:	102 sites
Seasonal drained weight:	26,653# (record)
Approximate Area Searched (in sq. ft.):	84,040 Sq. Ft.
EWM selectivity (bi-catch):	94.04 %

The Tomahawk Lake Association believes that the 2016 HCS harvesting season was successful in the control and reduction of new EWM outbreaks within the watershed. Over time the goal of the HCS is to reduce both the number and size of new EWM sites within the lake system. If we operated in a small watershed with limited access, our ability to meet these goals would be greatly enhanced. However, Tomahawk Lake's large sizes, diversity of the character of the lakebed, and the high degree of public usage of the resource all have a negative effect on attainment of these goals.

- Purple Loosestrife Bio-Controls

The TLA Purple Loosestrife program was initiated in Late April of 2016, with the collection of Purple Loosestrife plants in the Rhinelander area. The plants were potted and given time to grow out to sufficient size to support Loosestrife beetle reproduction. Beetles were obtained from WDNR Purple Loosestrife specialist Brock Woods and the plants were stocked and netted.

At the end of July, just prior to placement of the Loosestrife into the infested sites, a extremely heavy wind and rain storm hit the Minocqua area. 70 to 80 mile per hour winds toppled thousands of mature trees in the Lakeland area. At the beetle propagation site, several large oak trees were blown over, with one scoring a direct hit on the grow out facility.

All of the potted and netted PLS plants were destroyed in the storm, effectively ending TLA's Purple Loosestrife program for 2016.

- Clean Boats Clean Waters

The Clean Boats Clean Waters program for 2016 began on Memorial Day weekend, and continued through mid- September. CBCW coverage was provided at the Indian Mound State Park Ramp and the Town of Lake Tomahawk boat ramps. Coverage was provided on each Friday afternoon, and all day each Saturday and Sunday. In addition, each of the three major summer holidays were covered as well.

All of the CBCW Ramp Reports were entered into the Swims program per CBCW grant guidelines, generating the following results:

2,871 boats inspected (3 landings)
8538 people contacted (3 landings)
563 inspection hours (3 landings)

All things considered, the 2016 Clean Boats Clean Waters program was very successful.

Respectfully submitted,

Edward Greedy
The Tomahawk Lake Association, Inc.

August 28th, 2017

Jane C. Malischke
Environmental Grants Specialist
810 Maple Street
Spooner, WI 54801

RE: Tomahawk Lake Association, Inc.
AIS Grant # ACEI-185-16 Final Grant Report

Dear Jane,

Enclosed in this packet please find the Final Grant Report for Tomahawk Lake AIS Control Grant for 2016" (AIS Grant # ACEI – 185 – 16).

All of the grant spending and grant activities were completed by the end of the 3rd grant quarter (October 1st, 2016 through December 31st, 2016) and were reported in the 3rd quarter grant report. As is required in the grant, all that remains is the submission of the grants final report. This report is included in this packet.

As always Jane, thank you for your help with processing our grant requests. If you have any questions concerning this final report, please contact me at your first convenience.

Edward "Ned" Greedy
Executive Director
The Tomahawk Lake Association, Inc.

