

Statement of Activities for WI DNR Surface Water Grant AAIRR-244-19 and AAIRR-245-19, for the dredging of Trinke Lagoon, Geneva Lake WI, to Eradicate Starry Stonewort.

GLEA/twp/070521

2018

In the fall of 2018 the aquatic invasive plant, starry stonewort's, SSW (*Nitellopsis obtusa*) was confirmed as being present in Trinke Lagoon within the Trinke Estates on Geneva Lake. To identify if SSW existed in any other areas of Geneva Lake, a modified aquatic plant survey was conducted late that fall at the boat access sites to Geneva Lake. The WI Department of Natural Resources Standard Operating Procedures as set forth in their September 4, 2018, document titled "*Nitellopsis obtusa* Early Detection Monitoring in Geneva Lake" were followed and is included with this report as Appendix A. The survey did not find any other SSW populations in the lake.

2019

To warn boaters of the presence of SSW in the lagoon, a floating buoy was placed at the entrance to the lagoon in spring 2019. Later in 2019, four other buoys were placed within the lagoon.

As the population of SSW in Trinke Lagoon was new and thought to be limited in distribution, it was decided to attempt to eradicate the SSW in Trinke Lagoon by dredging. The removal of the sediment would also remove the rhizoids and bulbils, which would greatly decrease the chance of the starry stonewort reestablishing. Originally, dredging was to take place in the spring of 2019 but logistics for the dredging did not come together quick enough for it to happen. Thus dredging was planned to take place in the fall of 2019.

With preliminary dredging and dewatering cost estimated to be over \$200,000 it was realized that a funding effort was needed. A GoFundMe site was started in February 2019 and raised over \$50,000.

Education and outreach are and will be on-going, using the GLEA's web site, Facebook page and the GoFundMe page. In addition local media, including papers in Walworth, Lake Geneva and Janesville were kept informed of the SSW management efforts and ran periodic articles on the effort. Newsletters of local associations, municipalities and organizations were also used to get the word out to the general public as well as their members. The Milwaukee TV station, Spectrum 1 aired two stories on Geneva Lake's SSW efforts on their news.

The dredging process would involve dredging approximately 0.6 acres to a depth of two feet. Hydraulic dredging would be used to remove approximately 1936 cu yds. A curtain would be installed to contain suspended material. Dredging would take place in the first bay of the lagoon.

Several locations were considered for the de-watering site. Initially it was hoped to dewater the dredged spoils on the open area just south of the lagoon referred to as the air strip. It became evident that site was not going to be used for several reasons. Alternative sites were investigated. A final resolution to the dewatering site found at an unused platted town road located on the south end of the Trinke Estates. The Town of Linn, owners of the property, allowed this site to be used for the dewatering site.

Spoils were to be pumped up to the south end of Trinke Subdivision to the de-watering site. Large de-watering bags that allow for the water to drain out while trapping the sediment and organic matter in the bag, would be established, and fenced. De-watering would take place for several months. The decant water would be returned to a nearby creek that eventually drains back into the lagoon. The sediment and organic matter would then need to be hauled away and disposed of in a contained area. Much of the preliminary organization, Request for Proposals, bidding documents, developing of engineering specs for the dredging, the dewatering, hauling, and disposal were prepared by a consulting engineer were completed.

Requests for proposal for dredging and dewatering were prepared and sent out in April of 2019. Dredging was scheduled to start after Labor Day 2019. Dewatering was to be conducted immediately by pumping the dredge spoils to the south dewatering site. The dewatering site was to be evacuated with reclamation before Memorial Day 2020. Several bids came in with different timelines. The earlier the project would get started the more costly the dredging. It was recommended by the consulting engineers to accept a bid of \$174,000 for the dredging and \$35,800 for the dewatering.

Two chemical applications were conducted during the summer of 2019, June 18, and September 24. To assist in reaching the target concentration for the June treatment, curtains were installed at both the inlet and outlet of the first bay in Trinke Lagoon, where the SSW was located. Unfortunately, the curtains for the first treatment were vandalized and did not remain attached, thus allowing for the applied chemicals to move out of the lagoon and into the lake. The target concentration of the algaecide was never reached.

Using a plant hook, a review of the impact of the June treatment on the aquatic plant community was conducted following the June treatment. SSW showed signs of dieback with a darkening of the top portions of the plant. Other vascular plants and filamentous algae, showed minor impact from the chemical application.

A second chemical treatment was conducted in September 2019. This application used a chemical formula recommended by the WI DNR, different from the first treatment. Curtains were not used in the lagoon. Again, the impact on the aquatic plants and algae were minimal.

A Point-Intersect aquatic plant survey was conducted on the whole lake during July of 2019. Simultaneously, a lake-wide meander survey was conducted in the shallow areas of the lake. This was to inventory areas more closely between the points in the PI survey.

During the lake-wide 2019 PI survey a new population of SSW was identified in the lake about a quarter of a mile east of Trinke Lagoon (42.559945 N, -88.45631 W). The shoreline meander survey also found a small population of SSW mixed with native plants just outside the entrance to Trinke Lagoon.

With the discovery of SSW outside of the lagoon, the eradication strategy was reconsidered. It was concluded that the cost of dredging did not warrant dredging in the lagoon when two other populations existed in the lake. The SSW management strategy changed from eradication to containment and control. All populations of known SSW will be monitored for size and density for consideration of future management

The population of SSW located outside of the lagoon was mixed with native species, mostly *Ceratophyllum sp.*. The in-lake SSW population located east of Trinke Lagoon was a mono-culture population located in approximately 14 ft. of water and was about a 0.6 ac. in size

Other management strategies to control SSW were consider including, DASH, more chemical treatments, benthic barriers, hand pulling and outreach to boaters with the Clean Boats Clean Waters program. Based upon success or lack of success in controlling SSW in other lakes, hand pulling and education /outreach to boaters was chosen for 2020 SSW management.

2020

Early rake tows in Trinke Lagoon found the SSW growing in the first bay of the lagoon in May. All five buoys were put back in the lagoon after being removed for winter. For the year 2020, the Trinke Lagoon was chemically treated at the end of July but not for SSW. It was treated for navigation. The SSW population within the lagoon was not the target of any special treatment. It should be noted that the Lagoon is treated annually during the summer for navigation and not SSW control.

With the assistance of a WI DNR Clean Boats, Clean Waters grant, four inspectors were hired to work the launches between June 1 and August 30th. Combined these inspectors logged 884 hrs. at the launches during which they inspected 2,181 boats and interacted with 5,599 boaters.

A lake-wide Point-Intersect aquatic plant survey was conducted in July of 2020. The survey survey did not find any new population in the lake, but it did find the SSW was present at 24 of the 28 points sampled. A map of SSW locations found in the Trinke Lagoon's first bay is attached as Appendix A.

Hand pulling of the SSW population located at the mouth of Trinke Lagoon was conducted during the first week of August 2020. Hand pulling of the large in-lake population east of Trinke, was conducted during the first week of September 2020. A detail evaluation of the hand pulling success is attached to this report as Appendix B, An Evaluation of Starry Stonewort (*Nitellopsis obstusa*) Management on Geneva Lake, Summer of 2020.

2021

During early 2021, the Geneva Lake Environmental Agency prepared a recommendation for starry stonewort management on Geneva Lake. Adopted in January and amended April 2021, to include dredging of Trinke Lagoon, the recommendations set forth a plan for SSW management for the next few years. (Appendix C, Recommendations for Starry Stonewort (*Nitellopsis obstusa*) management in 2021.) A component of that plan was to monitor all known populations of SSW. Depending upon what is found with the known populations that plan may be amended.

A sub P-I aquatic plant survey is scheduled to be conducted during the last week of July in 2021. This aquatic plant survey will focus on boat access sites to Geneva Lake, looking for new populations of SSW. Hand pulling is schedule to take place at the Lagoon outlet the last week of July. The hand-pulling crew will also be available to hand pull any new populations of SSW found in the sub PI survey.

Two Clean Boats Clean Waters inspectors were hired for the summer of 2021. In addition, the GLEA's summer intern will be putting in occasional hours inspecting boats at the launches. Inspectors will be moved around the lake to cover all municipal launches.

A portable solar powered CD3 Boat Cleaning station was purchased in the spring of 2021 and will be moved around the public launches during the boating season. Each launch will have the cleaning station for a two week period, twice during the summer. Efforts will be made to schedule Clean Boats Clean Waters inspector at whatever launch the CD3 cleaning station is at to encourage and monitor its use.

Plans are being made to conduct the Trinke Lagoon dredging sometime during the fall of 2021. Although many of the plans and documents from the previous planned dredging in 2019 will be used, much of the work will need to be repeated as the whole lagoon will be dredged compared to only the first bay being dredged in the proposed 2019 dredging. Due to the time needed to prepare the proper documents and plans, dredging may not take place until the spring of 2022.