# Three Lakes Chain of Lakes
# Management Planning Project

Update: December 2015

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The Three Lakes Waterfront Association (TLWA) and Town of Three Lakes are involved in several grant-funded projects that aim to protect and preserve the Three Lakes Chain of Lakes as well as create a comprehensive plan that outlines strategies for long-term management. The TLWA and Town are working closely with Onterra, LLC, a lake management planning firm, on these projects.

Since 2006, this partnership has successfully obtained numerous grants through the Wisconsin Department of Natural Resources state-wide lake management grant program to partially fund studies related to aquatic invasive species (AIS) monitoring and control, comprehensive lake management planning for the chain as well as chain-wide property owner education and involvement. Hundreds of hours of in-kind, donated labor have been invested by TLWA and town volunteers. A chain-wide management plan has been developed through a multi-year phased process, in which annual reviews of the chain-wide plan and development of individual lake management plans have occurred. Known areas of AIS have been monitored extensively, and held under control through use of a variety of strategic plans which have included AIS plant removal by snorkelers / SCUBA divers, Diver Assisted Suction Harvest (DASH) aquatic plant removal, and regulated aquatic plant herbicide applications. The monitoring of Eurasian water milfoil, an AIS plant known to occur in three areas of the Three Lakes Chain, has been overseen through the coordinated efforts of TLWA volunteers, WDNR staff, Oneida County AIS staff, and Onterra ecologists. Currently, all known areas of Eurasian water milfoil in the Three Lakes Chain are under control and plans for continued monitoring well outlined.

These projects and the partners leading them have resulted in a wealth of information being collected on the chain lakes. This update intends to bring the reader up-to-date on the activities completed in 2015, as well as provide an overview of what is in store for continued efforts in 2016.

*Management Planning Process*

In 2009, a multi-phased project began which aimed to create a full chain-wide management plan as well as individual plans for each lake in the Three Lakes Chain. Lake management planning is a process that begins with a full examination of a lake's ecological components, including a lake's water quality, watershed, aquatic plants, shoreland areas, fishery, and habitat condition. Next, the perceptions, needs and concerns of the lake's stakeholders inventoried and described through anonymous surveys and public meetings. These elements are combined in a holistic package that attempts to describe the conditions of the lake, document challenges (ecological impairments, stakeholder concerns, etc.) and produce goals and actions which guide managers in preserving lake conditions and protecting it from future threats.

Currently, Phase V and Phase VI of this project are operating simultaneously. During Phase V, field studies were completed on Little Fork and Medicine Lakes during spring, summer and fall of 2014. On July 29 of 2015, Onterra staff met with representatives of these lakes to present the results of the 2014 studies and discuss matters pertaining to the lake's ecology and recreational use. Many topics were explored, including recreational use by personal watercraft and larger boats, AIS monitoring, and appropriate lawn fertilizer use on shorelands along with alternatives to using fertilizer altogether.

Field studies on ecological components of the Phase VI lakes (Round Lake, Island Lake and Townline Lake & Townline Creek) began in 2015. Much of the data that was collected during 2015 have yet to be analyzed; however, an initial look into one aspect of the lakes' ecology, the development of the shoreland, is included below. While Townline Creek held much natural shoreland, the three lake's included in the Phase VI studies held larger percentages of semi to completely developed shorelands. During the planning meetings that will take place in summer 2016 for this phase of the project, Onterra staff will discuss the importance of natural shorelands and how Three Lakes Chain waterfront property owners may protect natural shorelands and also restore developed shorelands.

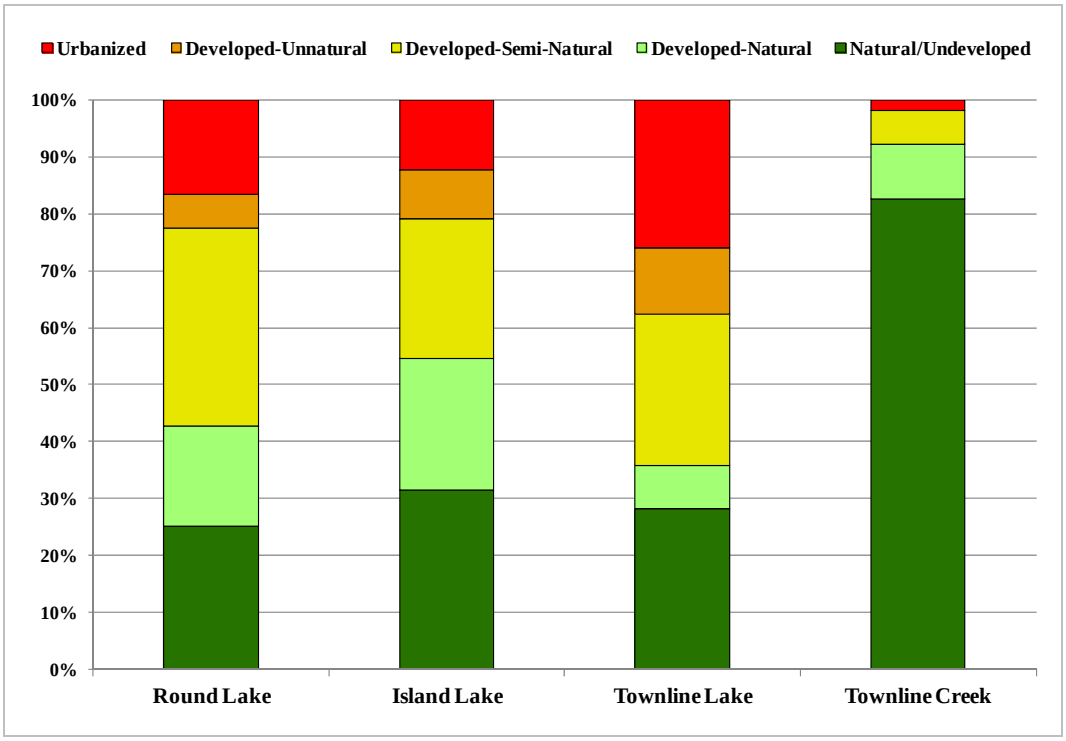


**Figure 1. Three Lakes Chain Phase VI lakes shoreland assessment results.** Created using data from a fall 2015 shoreland assessment survey.

One matter of significance was the discovery of EWM on Townline Lake. The initial discovery came through a June 18th AIS survey by Onterra staff. A single EWM plant was observed along the north-eastern shoreline of the lake, in roughly 4.5 ft of water. The plant's location was identified through collection of a waypoint on a GPS unit with sub-meter accuracy, and part of the plant was removed for verification and vouchering purposes. On July 3rd, an Onterra staff member visited the location with TLWA board members Norris Ross and Ed Jacobson. Following a snorkeling survey, a single EWM plant was removed though concerns were expressed due to the low-light conditions that day. A follow-up survey was completed on July 8th, with two Onterra staff members donning snorkeling gear and surveying the location. A single EWM plant, believed to be in the same location as the previous one, was removed during this time with the roots included. During 30 minutes of swim time, no further EWM plants were observed. However, on August 25th, a WDNR AIS survey crew found a single EWM plant in this same location. This plant may have been hiding amongst native plants and escaped detection during early season snorkel surveys, or may be a spawn from the original plant's fragment. Either way, it can be concluded that the EWM in Townline Lake is in an extremely early stage and with continued monitoring and control, eradication is certainly a possibility.

*Burnt Rollways Dam and Virgin Lake EWM Monitoring*

EWM monitoring has been conducted on the Burnt Rollways Dam channel since the discovery of the AIS in 2006. In Virgin Lake, EWM was discovered during Phase I of the management planning project (2010) and monitoring has occurred several times each summer since this time. During a late-season 2014 survey, very little EWM was observed within the Burnt Rollways Channel. As in 2014, the entire channel was surveyed by both TLWA volunteers and Onterra staff to determine if EWM regrowth had occurred. Several EWM plants were observed within three locations of the channel – a slight increase in what was observed in 2014, but still considered to be at a low-level.

**Photograph 2. Virgin Lake, Three Lakes Chain, Oneida County.**

During 2014, the EWM population was observed to expand in Virgin Lake. Low occurrences of EWM were mapped in several areas of the lake, while a colony just south of the lake's island was monitored continuously during the summer. A DASH unit was used in an attempt to bring this colony to a lower infestation level; however, these efforts managed only to maintain the colony's density during the course of the summer. In early 2015, a 8.9-acre aquatic herbicide treatment was completed to target this colony and numerous scattered EWM occurrences to the south of it. The TLWA contracted with Aquatic Plant Management, an AIS hand-removal firm, to remove EWM from other areas of the lake. A late season 2015 survey by Onterra staff indicated that the herbicide treatment and hand-pulling locations appeared to hold an abundance of native aquatic plants, and a very minimal amount of EWM. In 2016, Onterra will likely be recommending to the TLWA that these remaining EWM occurrences be targeted for removal through hand-pulling by a contracted firm or volunteers.

*Three Lakes Chain Grant Submission*

The TLWA and Town of Three Lakes have been highly successful in securing state grants in a variety of categories, including Lake Management Planning, AIS Early Detection and Response and Lake Management Protection. The latest grant, awarded in May of 2013, included 75% project cost assistance for Phase V and VI comprehensive lake management studies, Burnt Rollways and Virgin Lake AIS management as well as AIS education activities on the chain through 2015.

With the conclusion of Phase VI approaching, the TLWA is now seeking additional funding sources to continue the management planning process. Phase VII (Planting Ground and Rangeline Lake) is scheduled to occur in 2016-2017, and the final phase, Phase VIII (an update of Long Lake's Management Plan) is slated to occur in 2017-2018. The TLWA will be submitting a grant application to the WDNR's Aquatic Invasive Species – Education, Prevention and Planning (AIS-EPP) grant category in order to fund the next phase in this process. This grant has a deadline of December 10, and offers up to a 75% match from the State of Wisconsin. The proposed project would include ecological studies upon the Phase VII lakes, planning meetings with Phase VII lakes' representatives, and continue the TLWA and Town's educational initiatives. These educational initiatives continue to evolve as more knowledge is gained upon AIS management and the program as a whole has become a model for other Wisconsin lake groups to follow. Of course, this program's success would not be possible without the extended efforts of the TLWA Board of Directors, diligence of the program's volunteers, and continued vital support from the Town of Three Lakes.