



INSPIRE ♦ DISCOVER ♦ CONNECT

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RE: NLDC reporting for Wisconsin Department of Natural Resources, LPT-158-16 Healthy Lakes

Manitowish Waters Chain and Town Waters, Phase 1

Activities from April 15, 2016 through December 31, 2018

Overview

The Town Aquatic Invasive Species Partnership (TAISP), founded in 2010, consists of the North Lakeland Discovery Center (NLDC), the Towns of Manitowish Waters, Boulder Junction, and Winchester, the Manitowish Waters Lake Association (MWLA), and the Winchester Town Lakes Committee. The TAISP works together to prevent the introduction of and minimize the spread of aquatic invasive species (AIS) in the Manitowish Waters area and its associated surrounding wetlands and riverways. The TAISP partners with Onterra, LLC, to complete a phase-based management plan for the Manitowish Waters Chain of Lakes. Each phase covers 2-3 lakes within the Chain, where the lakes in current phases are studied extensively by the NLDC and Onterra. Results are compiled into individual management plans for each lake, and also contribute to a larger, overall management plan for the entire Chain.

Compiled into these management plans are suggested activities such as increasing available coarse woody habitat, and preserving natural shorelines. In an effort to spearhead these activities, NLDC applied for and was awarded a Healthy Lakes grant for two shoreline restoration gardens and several fish sticks installations in the Manitowish Waters Chain of Lakes, as well as on Statehouse Lake at the NLDC.

Due to staff turnover at the NLDC, this grant was extended twice, and some of the best practices included in the grant application were not completed due to landowner disinterest. We also had an unexpected increase in volunteer participation in some practices, and a decrease in others. Although we came across these challenges, NLDC was honored to participate in such a great program, and plans to continue to showcase the gardens and fish sticks to serve as examples to others hoping to implement these practices.

Activities and deliverables

1. Best practice location and design information

- a. Fish Sticks
 - i. All Fish sticks were implemented with volunteer assistance by Walleyes for Tomorrow. This group is very active in the community, and also has ongoing habitat projects in Minocqua, WI.
 - ii. Camp Jorn: Fox Island on Rest Lake implemented 3/17/18 – Red pines
 - iii. Camp Jorn: Mainland on Rest Lake implemented 3/17/18 – Red pine
 - iv. Vogel property on Spider Lake
 - 1. Two red pine trees were dropped and anchored to shore in 2016 on Bill Vogel’s property on Spider Lake. Fish sticks straightened from ice heave on 8/19/18
 - v. Discovery Center
 - 1. Two red pine trees were dropped and anchored to the shoreline of Statehouse Lake shortly after ice-out in 2018 on 5/1/18
 - vi. Fish sticks on Spider (Przlomski property) were not completed because the landowner moved to Florida.
 - vii. Fish sticks on the Joseph property on Rest Lake and the Johnson property on Clear Lake were not complete. The volunteer working on the fish sticks project did not have time to complete the Rest Lake projects within the project timeline, and the Clear Lake landowner was unreachable
- b. Shoreline gardens
 - i. The original grant application stated there would be shoreline gardens at a homeowner location on the Manitowish Chain of Lakes and at the Discovery Center. Due to staff turnover at NLDC and a prolonged amount of time between initial landowner contact and present day, the landowner planted her own shoreline garden (self-funded) to prevent her shoreline from eroding further. NLDC decided to plant two separately “themed” gardens on its own grounds to serve as examples to other riparians. We named these gardens the “Deer Browse Resistant” garden (hosting plants most resistant to deer browse) and the “Director’s House” garden (planted near a rental property onsite).
 - ii. Deer Browse Resistant Garden
 - 1. This garden was circular in design so that visitors could view a more “ornamental” design. The circle has a 12ft diameter, and so is about 450 square feet. Fencing for this garden was donated by a volunteer from another garden project, and fence posts were donated from another volunteer. Plant design was completed by NLDC’s Emily Heald with assistance from Quita Sheehan of Vilas County and Brett Hanson at Hanson’s Garden Village in Rhinelander (free of charge for both). Hanson’s provided plants at a discounted price. We planted prairie drop seed grass, bee balm, stiff goldenrod, little bluestem grass, barren strawberry, whorled loosestrife, pussy toes, pearl everlasting, prairie onions, large flowered beardtongue. Mulch was donated by Bartlings Cranberry Farm.
 - iii. Director’s House Garden
 - 1. This garden was a simple 35x10 foot garden, designed to be simple yet effective. It was planted in front of a home the Discovery Center rents to visitors. We planted this garden in a heavily shaded and red-pine rich area. Many folks think these areas are not suitable for plants, so we are

hoping this garden can show options for these difficult areas. Fencing for the garden was donated by a volunteer, and fence posts were purchased. Plant design was completed by NLDC's Emily Heald with assistance from Quita Sheehan of Vilas County and Brett Hanson at Hanson's Garden Village in Rhinelander (free of charge for both). Hanson's provided plants at a discounted price. We planted a snowberry bush, harebells, big leaf aster, smooth rose, june grass, and bottle brush grass. We purchased a small amount of lime to add to each plant hole to encourage growth in an acidic environment.

2. Signed 10-year landowner contracts
 - a. Please see attached document for signed landowner contracts.
3. Pre and post installation photographs
 - a. Please see photos and captions below.
4. Summary of education activities and publicity/promotion of Healthy Lakes initiative
 - a. Emily Heald, Water Program Coordinator at NLDC, developed and presented a program titled "Fish Sticks and Native Shoreline Gardens" as a part of NLDC's series "Humanity for Habitats." This program was advertised in local newspapers, social media, and NLDC promotional materials. 16 people attended, which was the classroom size limit. Program included Healthy Lakes funding options and best practices guides, as well as a tour of Discovery Center gardens.
 - b. NLDC wrote and submitted a press release in FYI Northwoods highlighting the fish stick project
 - c. NLDC Water Program Coordinator provided regular updates on the projects at lake association meetings
 - d. NLDC posted on Facebook after gardens were planted, highlighting assistance of Abor-Vitae Woodruff kindergartners in planting, as well as the Healthy Lakes program as a funding source
 - e. Developed a new sign on "deer browse resistant gardening"
 - f. Developed, printed, and built a kiosk highlighting native gardens (not funded by Healthy Lakes, but highlights Healthy Lakes gardens)

Reimbursements and rationale

- Reimbursed a volunteer for purchasing concrete blocks and cables to weigh down fish sticks
- Reimbursed a volunteer for use of a large barge to implement fish sticks during summer time
- Administration staff time at the Discovery Center
- Lime to improve soil pH in Director's House garden
- Zip ties for fencing
- Plants and shrubs
- Compost
- Fence posts
- Interpretive sign about deer browse resistant gardens



Fox Island



Spider Lake – Vogel



Statehouse Lake - NLDC



Deer browse garden prior to any work, flagged for fencing



Deer brose garden after grass removal



Deer browse garden after fencing with potted plants, prior to planting



Arbor Vitae Woodruff kindergartners planting the gardens



Arbor Vitae Woodruff kindergartners planting the gardens



Deer browse garden completed after planting and mulching



Director's House shoreline garden prior to any work



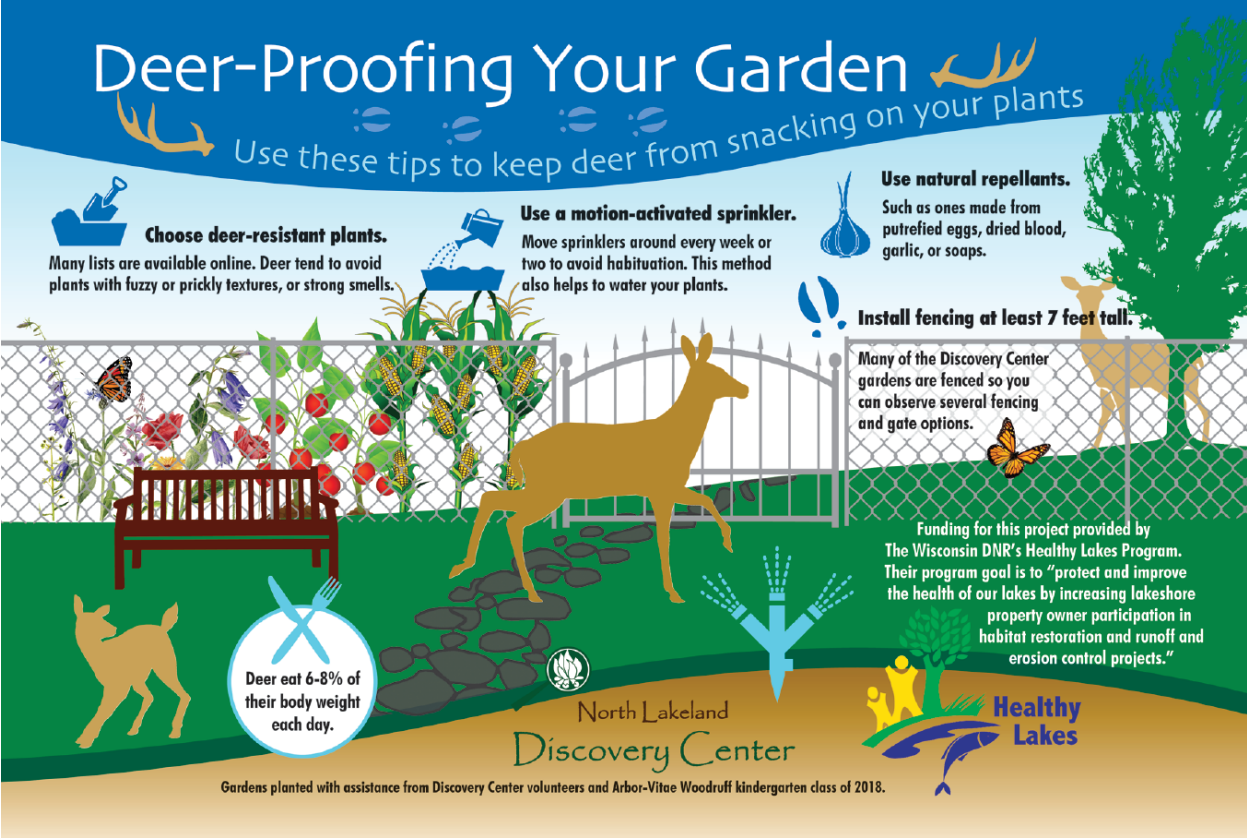
Director's House shoreline garden post fence installation, plant laid out but not planted



Another view of the Director's House garden prior to painting



Director's House garden completed



Sign developed for one of the gardens at the Discovery Center, funded by the Healthy Lakes program



Garden kiosk in front of the shoreline gardens at the Discovery Center



Closer look at the garden kiosk at the Discovery Center



Closer look at the garden kiosk at the Discovery Center

Discovery Center participates in DNR's Healthy Lakes Program – and you can, too!

MANITOWISH WATERS – What do fallen trees and healthy lakes have in common? More than you'd think! The North Lakeland Discovery Center in Manitowish Waters recently partnered with the Manitowish Waters Lakes Association and Walleyes for Tomorrow to increase the amount of habitat in lakes via "fish sticks."

Fish sticks are single trees or groups of trees harvested from upland areas that are brought to the lakefront, anchored to the shoreline, and partially or fully submerged near the shoreline. The trees provide habitat to panfish, game fish, birds, turtles, insects and more. Fish sticks can also assist with shoreline erosion by protecting the shore from wave action.

Fish sticks are needed in lakes as development on lakeshore properties eliminates the self-perpetuating benefits of fallen trees into lakes. When you clear the land to build a house or create a viewing corridor, those trees are no longer available to eventually fall into a lake for habitat.

Once a tree falls into a lake, it immediately provides habitat to fish, such as bluegills and other sunfish, to hide from predators. Other fish build nests near submerged trees to protect eggs from predators. Waterfowl and turtles use branches above the water to bask in the sun. Some bird species, such as loons, benefit from fish sticks because the trees provide habitat for their food. Over time, algae begins to grow on the tree, which provides food for smaller fish and insects. Fallen leaves and needles provide habitat for critters that live on lake bottoms, such as insects and snails, which in turn provide food for the fish.

This habitat restoration project was funded by the Wisconsin Department of Natural Resources' Healthy Lakes Program, which provides grant funding to lake groups for habitat restoration, and runoff and erosion control projects. Volunteer power for the project was provided by the Walleyes for Tomorrow group and Manitowish Waters Lakes Association, with project leadership provided by Tom Kramer.

If you are interested in learning more about how you can improve the health of your lake, visit www.healthylakeswi.com



North Lakeland Discovery Center



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Our newest shoreline gardens came together quickly! Fences were built 6/2 by our wonderful NLDC volunteers, and plants went in on Monday thanks to AVW kindergartners! Thanks also to the WDNR's Healthy Lakes grant for funding this project.



593 people reached

Boost Post

Facebook post about Healthy Lakes garden planting