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RE: NLDC reporting for Wisconsin Department of Natural Resources, AEPP-550-18 Town of Winchester Lake Management Planning Project Phase 4: Circle Lily, Pardee, Helen, and Adelaide Lakes Activities from September 1, 2020 through December 31, 2020

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 Winchester area and its associated surrounding wetlands and riverways. The TAISP partners with Onterra, LLC, to complete a phase-based management plan for Winchester Lakes. Each phase covers 2-3 lakes within the Town of Winchester, where the NLDC and Onterra study the lakes in current phases extensively. Results are compiled into individual management plans for each lake, and contribute to a larger, overall management plan for the entire Town. A large, underlying issue of each grant is also the control and treatment of curly-leaf pondweed, and aquatic invasive plant. Each year NLDC monitors the Winchester Lakes with the goal of mapping current populations of AIS, and to look for any new infestations.

Curly-leaf pondweed (CLP) has been the main AIS of concern, as the Harris Lake Association (HLA) discovered it in Harris Lake in 2008, but NLDC also treats and maps purple loosestrife infestations, and monitors for other AIS such as Eurasian-water milfoil, spiny water flea, rusty crayfish, mystery snails, and yellow iris. At the moment, Harris Lake is the only known lake containing populations of CLP. The HLA contracted with Onterra in the fall of 2008 to develop a strategy for CLP management. After the monitoring and assessment surveys in 2009 and 2010, herbicide was applied on approximately 10.4 acres in the spring of 2011. CLP was treated again in 2012 (4.1 acres) and 2013 (2 acres). Smaller patches of CLP not treated with herbicide were hand pulled by HLA volunteers. No CLP was found in 2014. In 2015 Harris Lake joined Onterra and NLDC in the first phase of the Town of Winchester Lake Management Planning Project. No CLP was found in 2015. Onterra located and removed 3 small plants in 2016. In 2017, NLDC Water Program Coordinator located several more plants in the same area as 2016. NLDC staff and volunteers removed the plants. In 2018 NLDC located several CLP plants in the same area as 2017. NLDC staff removed the plants. In 2019, NLDC found only two small plants in the reoccurring area and hand removed them. However, we also found a new area of CLP in the bay just north of the 2017/2018 occurrences. 14 person-hours were spent removing the small patch. NLDC will continue to monitor these areas.

In 2020 we once again located CLP in the same areas as 2019. Please see map at the end of this document for reference points. The more northern of the northern locations had only a single plant. The southern of the northern points had more plants than 2019, but they were all very small. We also located a floating CLP fragment in June on the south end of Harris Lake. A volunteer found floating fragments at the end of August in the same location. NLDC scoured the area, snorkeling and with boat surveys, but could not find any rooted plants. We are considering doubling our survey efforts next year to include a survey by both NLDC and Onterra.

In 2020, we had to prioritize survey locations for purple loosestrife (PL) surveys amongst all the areas we serve. We coordinated volunteer efforts on each of the lakes. About 5 PL plants were found in a ditch near South Turtle Lake. We clipped the flower heads and removed the plants and roots. We also found 2 small PL plants on a wetland near the Birch Lake boat landing, which we removed. Later in the summer, 2 more PL plants bloomed and were removed by volunteers.

We used an Ekman dredge to collect sediment for spiny water flea analysis from North Turtle and Circle Lily Lakes. We delivered the samples to DNR to be sent to the State Lab of Hygiene.

This year, we prioritized the removal of yellow iris on the Turtle Chain (South Turtle, North Turtle, and Rock Lakes). There are extensive yellow iris populations, especially on Rock Lake. With the assistance of the Turtle Lakes Chain Association, we contacted cross referenced yellow iris maps to land ownership maps. We contacted land owners, educated them on yellow iris, and asked them to remove the iris. We gave the option of the owner doing it themselves, or request assistance from NLDC. 17 landowners requested assistance. Water Program Assistant, Jarod Scheff, led these efforts. He spent about 60 hours removing thousands of pounds of yellow iris from the Turtle Chain. We plan to revisit sites next year to remove and reemerging shoots.

NLDC and Onterra created a draft of the Townwide Management Plan (the ultimate end-goal of these phase-based projects) that was presented virtually to the Winchester Town Lakes Committee on August 6, 2020. This plan was approved by the Town Lakes Committee, and must be approved by the Town of Winchester at their October town board meeting, before being sent to DNR for final approval.

Please see Onterra reporting for additional information and maps of the Harris Lake CLP.

The lakes covered in each phase are as follows:

Phase I (2015): Harris and Hiawatha Lakes

Phase II (2016): Birch, Rainbow, and Tamarack Lakes

Phase III (2017): South Turtle, North Turtle, and Rock Lakes

Phase IV (2018): Pardee, Circle Lily, Adelaide, and Helen Lakes

Activities and Deliverables

1. Stakeholder participation: stakeholder survey, planning meetings, kick-off meeting, wrap-up meeting, news releases and newsletter articles.
 - a. Please see supporting document for copies of articles from newsletters and social media.
2. Water quality sampling and analysis
 - a. Please see Onterra reporting documents.
3. Watershed assessment and P load modeling
 - a. Please see Onterra reporting documents.
4. Fisheries assessment
 - a. Please see Onterra reporting documents.
5. Shoreline and coarse woody habitat assessment
 - a. Please see Onterra reporting documents.
6. Early-season AIS monitoring and professional Dreissena monitoring

- a. Onterra completes Dreissna monitoring as a donated service during field work.
 - b. We are planning for early season AIS surveys again on Winchester lakes for 2021, as well as SWF dredge sampling on Harris, Birch, and South Turtle.
7. Aquatic plant surveys
 - a. Please see Onterra reporting documents.
8. Volunteer AIS and lake level monitoring and water craft inspections
 - a. NLDC Water Program Coordinator monitors lake levels on 22 lakes in Vilas County, including Birch, Rainbow, Tamarack, Harris, Pardee, and Hiawatha in Winchester. This is an 8-year partnered effort between NLDC, Lac du Flambeau, and Trout Lake Research Center. NLDC Water Program Coordinator and a licensed volunteer surveyor install and remove each lake gauge. Volunteers read gauges once per week from ice out to ice on. Data are compiled into a long-term database, as well as entered into SWIMS each year. Data are shared with Trout Lake Station in Boulder Junction, WI to be analyzed for scientific research.
 - b. See list of programs and events for gauge removal information.
9. Data analysis
 - a. Please see Onterra reporting documents.
10. Develop lake management plan
 - a. Please see Onterra reporting documents.
11. Hire AIS Coordinator and Water Education Intern
 - a. Emily Heald, Water Program Coordinator at NLDC, continued to serve as project manager for this grant.
 - b. 3 summer seasonal interns hired as of March 2021
12. AIS educational activities
 - a. AIS Coordinator attends all lake association meetings for lakes involved in the phase-based lake management planning process, providing updates on projects, promoting the volunteer program, and teaching about issues significant to water resources.
 - b. AIS Coordinator provides articles to the Winchester lake association newsletters regarding project updates, AIS information, promotion of the volunteer program, and general lake ecology. In some cases, lake association board members prefer to write the articles, in which case the AIS Coordinator informs the member of the updates and the board member writes and publishes the articles.
 - c. See list below for NLDC aquatic educational programs and events.
 - d. Due to COVID-19, many of our programs were online on YouTube or Facebook, and included topics such as: swans, hidden lake creatures, ice out, fish, bogs, wetlands, beavers, secchi disk monitoring, dragonflies, otters, and watersheds.
 - e. Link to our YouTube channel:
https://www.youtube.com/channel/UCjSi1ss2L4lX0muAlIHtDew/videos?view_as=subscriber
 - f. Link to our Facebook: <https://www.facebook.com/NorthLakelandDiscoveryCenter>

List of project-related activities:

September 8, 2020

Created and sent fall AIS newsletter to AIS volunteers

September 14, 2020

VCLRA meeting

September 16-18, 2020

Attended online Michigan Inland Lakes Conference. Provided presentation on dragonflies, including discussion of natural shorelines.

September 18, 2020

Palmer Tenderfoot Canoe Trip, including discussions of AIS and natural shorelines, amongst many other aquatic topics.

September 21, 2020

Discover at Home: Lake Turnover

September 22-24, 2020

Attended online MAISRC research convention

September 24, 2020, January 27, 2021

WTLC meeting

October 1, 2020

Attended invasive fish ID workshop

October 5, 2020

Attended Winchester town meeting to provide 2020 update and request funding for 2021.

October 12, 2020

Wild Rice presentation for women's outdoor adventure group.

October 22, 2020

Attended Wisconsin AIS partnership meeting.

October 23, 2020

Attended Vilas County annual lakes partnership update meeting.

October 27-29, 2020

Removed lake level monitoring gauges.

November 10, 2020

Attended Manitowish Waters annual meeting of the electors to provide AIS program overview.

December 1, 2020
Discover on Demand: Wild Rice.

January 4, 2021
Assisting in judging the Northwoods invasive species poster contest for elementary students

January 11, February 2, 2021
Meeting for Northwoods Businesses for Clean Waters group

January 22, 2021
Attended webinar: Local Government Aquatic Invasive Species Toolkit

January 28, 2021
Attended webinar: Groundwater and Lakes

February 9, 10, 2021
Online career fair – UW Steven's Point

February 15, 2021
Attended webinar: Lakes Monitoring and Protection Network Orientation

February 16, 2021
Attended webinar: Paddling and AIS

February 17, 2021
Attended webinar: What's in your Bucket?

February 19, 2021
Interviewed with WXPR regarding lake level monitoring program

February 25, 2021
Attended online AIS partnership meeting

February 26, 2021
Attended online Winter Water Quality Symposium