Non-native Phragmites Project at Chequamegon Bay Wastewater Treatment Plants a Success

by Gabrielle Van Bergen, Project Coordinator with Red Cliff Band of Lake Superior Chippewa.

In 2018, the Red Cliff Band of Lake Superior Chippewa’s Treaty Natural Resources Division led a project in cooperation with Strand Associates, the Greater Bayfield area, and the City of Washburn to eliminate three large seed sources of non-native Phragmites (common reed) in Bayfield County, Wisconsin. The Bureau of Indian Affairs (BIA) and the Environmental Protection Agency (EPA) funded the project with grants from the Great Lakes Restoration Initiative (GLRI).

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and Red Cliff staff began finding small populations of non-native Phragmites in 2013, primarily within one mile of each of the three Bayfield Peninsula’s Wastewater Treatment Plants (WWTPs, see map). At the time, these WWTPs were utilizing non-native Phragmites reed beds to dewater biosolids as part of the wastewater treatment process. An additional outbreak of the invasive plant was found across the Chequamegon Bay near the Kakagon Sloughs in 2015, which has since been treated by the Bad River Tribe and GLIFWC.

A 2016 genetic study led by Red Cliff confirmed the external populations originated from seed and showed some genetic similarity to the non-native Phragmites in the reed beds of the three WWTPs. When these reed bed installations occurred during the late 1990’s and early 2000’s, there was a widespread belief that non-native Phragmites would only spread by rhizomes (roots) and not by seed, so the plants were expected to have been contained by the concrete walls of the reed beds.

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The Wisconsin Invasive Species Council honored the Red Cliff Band of Lake Superior Chippewa with an “Invader Crusader Award” for the work described in this article!

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Phragmites (Continued from page 1)

The work in 2018 included removal of the non-native Phragmites plants and all other material (biosolids, soil, bed liner, etc.) from the reed beds at the three WWTPs. To prevent any further spread of the invasive plant, all material that was removed from the reed beds was landfilled. In addition, every truck and piece of equipment that operated onsite was washed and inspected through each phase of the project.

The existing reed bed infrastructure continues to be utilized, now with the non-invasive, native Phragmites subspecies which was planted after invasive plants were removed. The new plants were sourced from within Bayfield County and genetic testing confirmed that they are indeed the native subspecies of Phragmites.

GLIFWC and Red Cliff staff will continue to monitor throughout the region for non-native Phragmites and treat new populations as necessary. Red Cliff staff will also work closely with the WWTP operators to monitor within the newly established reed beds and around each facility to ensure long term project success.

By removing the previous reed bed populations, the only known Chequamegon Bay local seed source of non-native Phragmites has been eradicated, and over 14,000 acres of coastal wetlands among countless inland wetlands have been protected from this highly invasive plant!

Red Cliff Band Receives 2019 Invader Crusader Award for Phragmites Project

The Wisconsin Invasive Species Council recognizes important efforts of volunteers and organizations in preventing, controlling and eradicating invasive species within the State each year. The Red Cliff Band of Lake Superior Chippewa, an NCWMA partner, was selected as “Invader Crusaders” for their project to eradicate non-native Phragmites from wastewater treatment plants and then replace them with native Phragmites plants (See article on page 1).

Chad Abel and Gabrielle Van Bergen (right), the project’s leaders and within the Treaty Natural Resources Department, were specifically recognized for their work on the project. They “secured funding in the multi-million-dollar range and worked with diverse partners across jurisdictional and tribal boundaries.” The awards ceremony was in Olbrich Gardens in Madison on June 5th, 2019.
Garlic mustard is a biennial plant that invades forested habitats and can push out native species. This species has small seeds that can be spread by the soles of shoes and tires. Hand-pulling garlic mustard in May and early June is an important part of treatment to prevent seed dispersal. The NCWMA organizes hand-pulling events each spring.

The largest sites of garlic mustard within the NCWMA are along the Bad River around Mellen and along the Montreal River in Hurley. During four days of hand-pulling in Mellen (May 13 to 16), 25 people helped remove plants across 70 acres. On May 14th, the NCWMA and partners had a cookout for those who attended, including the Spring Flora Class from Northland College, at Copper Falls State Park. Fortunately, for the last few years, the garlic mustard is not dense across much of those 70 acres along the Bad River. Unfortunately, garlic mustard is very dense in areas along the Montreal River. Eleven adults and 45 seventh graders helped hand-pull in Hurley on May 23rd. In two-hours, this group hand-pulled over 40 garbage bags of garlic mustard which weighed 740 pounds! Eleven people returned to Hurley on May 30th for a day of hand-pulling. Students from the WATERS after-school group from Ashland High School helped hand-pull at an event along Bay City Creek in Ashland on May 28th. Other smaller events were organized in Washburn, Bayfield, and Superior.
In March through May 2019, the NCWMA put on four free invasive species workshops for Right-Of-Way managers in Hurley, Ashland, and Solon Springs. The workshops focused on educating municipal and county employees about the highest priority invasive plants in the region and what they can do to help eradicate, control, report, and slow the spread of invasive plants.

Overall, 91 people attended the events. Presenters included Colleen Matula from the Wisconsin DNR, Steven Spickerman from the U.S. Forest Service, Isaiah Messerly of the National Park Service, Lee Shambeau from 4 Control Inc., Zach Wilson from the Iron County Land and Water Conservation Department, and Ramona Shackleford of the NCWMA.

Invasive Species Management Workshop for Right-Of-Way Managers

Be on the lookout for seasonal employees performing Clean Boats, Clean Waters surveys and providing free boat washes at local boat landings! Remember to always “Inspect, Remove, and Drain!”

Isaiah Messerly of the National Park Service presents at the Right-Of-Way Management Workshop at the Norther Great Lakes Visitor Center on April 24.
Watch Out for Wild Parsnip!

Wild Parsnip (*Pastinaca sativa*) was brought to the United States as an edible root. It has since escaped cultivation and spread into disturbed open areas, especially along trails and roadsides. It can grow in a wide variety of moisture levels from wet to dry soils. Despite control efforts, it has been spreading quickly in the NCWMA region in recent years.

Controlling wild parsnip is a high priority for the NCWMA due to its human health risks. When its sap touches human skin followed by exposure to sunlight, the chemicals of the sap cause a painful rash or burn that may blister. This type of skin damage induced by sunlight is called phytophotodermatitis. The skin damage does not develop until a few days after exposure, so people may expose themselves repeatedly over a long period of time without realizing it. Severe blistering burns can last for months and has resulted in hospitalizations.

Wild parsnip has numerous small five-petaled, pale-yellow flowers that are organized in umbels on top and upper branches. Flowering plants can reach five feet tall and have vertical grooves along the stem. The leaves are alternate along the stem and have five to fifteen toothed-leaflets that are pinnate (organized in pairs). It blooms from late June to mid-July. Typically plants flower during their second or third year. Non-flowering plants produce a low rosette of pinnate leaves (bottom-right photo). Plants flower once and then die after producing seeds. Seeds are viable in the soil for up to four years.

Wild parsnip typically spreads by seeds. To slow the spread of wild parsnip along roads and powerlines, plants should not be mowed after the seeds develop, which is typically after mid-July in northern Wisconsin. Small populations of wild parsnip can be controlled by hand-pulling or cutting through the root (1 or 2 inches below the ground). Large populations can be treated with herbicide such as metsulfuron or glyphosate. People working with wild parsnip or mowing areas that may have wild parsnip should wear long sleeves, long pants, and gloves to prevent skin exposure.

**Sources:**
Events

NCWMA Meetings

July NCWMA Meeting
July 10th, 9:30 am in Washburn
Bayfield County’s Annex Building, 117 E 6th Street in Washburn (across from the Bayfield County Courthouse). EOC Meeting Room. Everyone is welcome to attend!

Annual Field Season Wrap Up Meeting
September 20, 9:30. Potluck to follow!
Northern Great Lakes Visitor Center, 29270 County Highway G, Ashland, Wisconsin.
Invasive Species Identification Day with Mary Barkowiak starts at 1 p.m. See below!

Invasive Species I.D. Days!
Once each month throughout the summer, the Northern Great Lakes Visitor Center puts on an Invasive Species Identification Day which includes a speaker at 1 to 2 pm. Each event includes educational booths from 2 to 4 pm on invasive species. People are encouraged to bring in their samples of unknown, problematic plants for identification and treatment advice.

- June 7th: “Top Invasive Plants of the Northwoods,” Speaker: Ramona Shackleford, NCWMA Coordinator.
- August 16: “Northern Wisconsin Aquatic Invasive Species Identification and Management Options” Speaker: Jeremy Bates, Wisconsin DNR.
- September 20: “Jumping Worms,” Speaker: Mary Barkowiak, Wisconsin DNR.

National Public Lands Day, September 28th
8:30 am to 12 pm. Northern Great Lakes Visitor Center, 29270 County Highway G, Ashland, Wisconsin.
Volunteers will help plant and reseed an area damaged by flooding in 2018. Call Susan Nelson (715) 685-2644 to register. Volunteers receive a coupon to visit many National Parks and other federal lands for free.

Student Science Research Symposium, October 11th
Special presentation: Raptor Education Group, Inc (REGI) will teach students about raptors with live rescued animals.

Seventh grade students from regional schools come to the Northern Great Lakes Visitor Center for day of science investigation. Students cycle through ten stations, including one from the NCWMA. Each station has a different organization teach about a science-related topic with a hands-on activity. Topics range from invasive species, water cycling, chemistry water sampling techniques, and other environmental related topics. In the afternoon, students will get to meet and learn about raptors such as owls, hawks, and falcons.

Report Invasive Species On Your Cell Phone!
- Your phone can record the location when you are at the site.
- Go to the "Report an Invasive Species" link on the NCWMA website: http://www.northwoodscwma.org/
- Use this link to go directly to the form: https://ee.kobotoolbox.org/x/#Y5NO

Contact Us!
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Bayfield County Land and Water Conservation Dept.
Dept. Land & Water Conservation Department
615 - 2nd Avenue East
P.O. Box 126
Washburn WI 54891

Check out the NCWMA website:
www.northwoodscwma.org