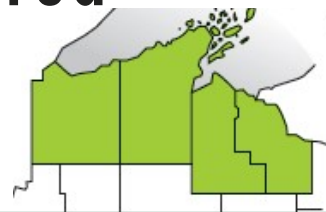




Northwoods Cooperative Weed Management Area

*Working Together to Protect Northern Wisconsin
from Invasive Species*

2021 Annual Report



The Northwoods Cooperative Weed Management Area (NCWMA) is a collaborative group of state, county, and federal agencies, tribes, municipalities, community organizations, non-profits and individuals who have come together to combat invasive species in northern Wisconsin (Douglas, Bayfield, Ashland, and Iron Counties). This report summarizes the accomplishments of the NCWMA in 2021.

Education and Prevention

Ramona Shackleford, the NCWMA Coordinator, assisted in organizing a day-long Invasive Plant Management Workshop on August 4th (Figure 1) at the Bayfield Lakeside Pavilion. The event focused on chemical treatments of wild parsnip along roadsides. Ramona reserved the venue, rented a bus for transporting people to the field site, ordered lunch, promoted the event, and managed registration. Fifty people attended (including speakers).

Ramona gave a presentation about woody invasive species to the Douglas County Master Gardeners in February. She gave a presentation on NCWMA's garlic mustard management at the Spring Statewide AIS meeting and on the NCWMA's boat wash program in the Fall Statewide AIS meeting.

Portable Boat Wash: The U.S. Forest Service provides funding to the NCWMA to maintain a portable high-pressure boat wash to decontaminate boats as they leave or enter water bodies. The NCWMA hired two Aquatic Invasive Species Interns to take the boat wash to landings from June through August (Figure 2). In addition to washing boats, the AIS interns completed Clean Boats Clean Waters (CBCW) surveys at boat landings. The AIS Interns took the boat wash to boat landings forty-eight times from June through August. During these days, they contacted 609 boaters and washed 236 boats.

Ramona facilitated four quarterly NCWMA partner meetings and two steering committee meetings in 2021. She also attended Bayfield County Land Conservation Committee (LCC) meetings in and a Bayfield County AIS Committee Meeting. Ramona attended two virtual Cisma Conferences (April 13-15th and December 13th) which were organized by the Wisconsin DNR and brought together the Cismas (Cooperative Invasive Species Associations) and CWMA's throughout Wisconsin to share and discuss their work. Ramona added updates, meeting minutes, and detailed information on invasive species to the NCWMA website. The number of visitors to the NCWMA website was 14,934 visits in 2021. Ramona sent eleven e-mail updates through MailChimp to the NCWMA e-mail list that includes 245 subscribers. Ramona and NCWMA staff posted on Facebook 47 times in 2021. Twenty-nine posts had a "reach" greater than 70. The NCWMA Facebook page had an increase of 179 new followers ("Likes"), and ended the year with a total of 450 followers.



Figure 1: Mark Renz, UW-Extension Madison, discusses wild parsnip treatments during the Plant Management Workshop.



Figure 2: Haley Heller, AIS Technician, washes a boat with the portable boat wash in Superior.

Control and Management

The NCWMA continues to provide a toolshed for the public to check out tools for treating invasive species. The NCWMA lent weed wrenches for digging up buckthorn to two landowners. The shed also stores gloves, a weed whacker, loppers, machetes, and shovels that were used by the weed crew for manual control efforts.

The NCWMA hired an invasive species crew leader who managed the invasive species crew and the boat wash crew from May through July. Stacey Dietrich and Logan Servinsky made up the two-person NCWMA weed crew (invasive species technicians). They began May 7th and worked to October 1st. They worked with GLIFWC and the Iron Co LWCD for some treatments. The NCWMA weed crew treated the only known site in the NCWMA region of **butterfly dock** (*Petasites hybridus*) (0.25 acre) that is located Superior. The weed crew treated eighteen acres of **wild parsnip** (manually and chemically) over seven days of field work in Ashland and Iron Counties. They dug up two sites (one acre) of **cut-leaf teasel** on two field days. The NCWMA weed crew dug up three sites of **garden valerian** in Ashland (0.25 acre). The NCWMA crew treated 4.5 acres of **dalmatian toadflax** over five days by hand-pulling plants south of Bayfield. Ramona treated three acres of **leafy spurge** in the Iron River and Washburn area with herbicide.

Buckthorn and Exotic Honeysuckle

The NCWMA weed crew treated about sixteen acres of common and glossy buckthorn. They treated buckthorn with herbicide (cut-stump treatments) along the Washburn Lakeshore Trail, the Ashland Lakeshore Trail, and Bass Lake (Delta). They treated buckthorn by pulling plants out with weed wrenches at the Washburn Elementary School, Bass Lake (Delta), and Clough Island (in the St Louis River). Ramona helped private landowners at three properties with buckthorn treatments. The Iron County LWCD, the Ottawa National Forest and the NCWMA worked together to treat about a half acre of exotic honeysuckle on Eagle Bluff near Hurley, Wisconsin.

Garlic Mustard

Sixty sites of garlic mustard are now documented in the NCWMA region (Table 1). Most of these are small and are treated by the NCWMA or partner groups such as GLIFWC, Ashland County Forestry, and the U.S. Forest Service. The largest sites of garlic mustard within the NCWMA are along the Montreal River in Hurley and the Bad River around Mellen. Ramona took data on plots at both of these sites in May to monitor changes in garlic mustard density compared to native plants. Thirteen new garlic mustard sites were found in 2021. The most problematic new sites were two sites found downstream of the large infestation along the Montreal River north of Hurley.

Ramona and/or the NCWMA weed crew attended events to hand-pull garlic mustard for 21 field days in May through mid June. They worked to hand pull at twenty-three different sites that cover over 88 acres. Ramona organized a series of events to hand-pulling garlic mustard along the Bad River Floodplain. The Great Lakes Indian Fish and Wildlife Commission (GLIFWC), the NCWMA crew, and the Bad River Band's Natural Resources Department assisted daily from May 10 through May 13. Ashland County Land and Water Conservation Department (LWCD) and two classes from Northland College assisted with hand-pulling also. Ramona organized an event on May 7th with a group of Enbridge workers who helped hand-pull garlic mustard on their property.

Ramona organized hand-pulling events along the Montreal River on May 17th and 18th with partners from Iron Co LWCD, GLIFWC, Bayfield Co LWCD, the Ottawa National Forest, and three volunteers (Figure 2). The NCWMA weed crew returned to hand pull garlic mustard along the Montreal River on June 11. Ramona helped organize small groups events with hand-pulling in Superior on May 28th, Bay City Creek in Ashland on May 26th, Cable on June 1st, and the Washburn Wastewater Treatment Plant on May 14.

Table 1: Garlic Mustard Sites in the NCWMA

	Total Number	New in 2021
Ashland County	23	0
Bayfield County	20	7
Douglas County	5	2
Iron County	12	4
Grand Total	60	13



Figure 3: The first day out hand-pulling garlic mustard along the Montreal River in Hurley.



Figure 4: Stacey Dietrich and Logan Servinsky, the NCWMA weed technicians, hand-pull Dalmatian toadflax.

Knotweed

The Wisconsin DNR has a GLRI grant through the EPA to fund the NCWMA's treatments of knotweed in the Lake Superior Basin. With this funding, the NCWMA crew worked on

knotweed surveys and treatments throughout the summer. Given that knotweed plants grow extremely fast and can reach over ten feet tall, the crew surveyed and cut plants in June and July. The crew then returned around four weeks later and treated the plants (which may be two to four feet tall) with herbicide (Figure 5a & b). In 2021, the NCWMA crew had 25 field days surveying and cutting 136 knotweed sites in June and July. The crew spent 22 field days treating knotweed with the herbicide Polaris AC in August and September.

Currently, the NCWMA has 289 documented knotweed sites. This includes nineteen new sites that were reported in 2021. Bayfield County has the most documented sites where giant knotweed is the dominant species (Table 2). Eighty-eight sites were treated with herbicide in 2021. Nineteen sites had been treated with herbicide in recent years, but were not found in 2021. Thirty sites were surveyed, but not treated this year. Most of the sites that were surveyed, but not treated, did not have permission for the treatment.

Success of 2020 Treatments. In 2020, the NCWMA treated 72 knotweed sites using the same treatment methods as in 2021. Sites treated in 2020 were surveyed and retreated in 2021 if plants were found. Thirteen sites had no plants return in 2021 after the 2020 treatment. Most of these sites had been small, but a few were large sites. Most of the knotweed sites treated in 2020 (82%) had some plants return in 2021. Overall, the treatment effectiveness was impressive with 63% of the sites ranked as having good or excellent results from treatments. Sites that were listed as "good" were obviously smaller than 2020 and impacted by the herbicide treatment. Sites ranked as "excellent" were typically large or medium sized sites in 2020 that had very few or no plants return in 2021 (Figure 6). Herbicide effectiveness ranked as "poor" showed little improvement in 2021. All three of the sites ranked as "poor" were large. Two had frost damage noted on the day of the treatment and one did not grow back well after being cut relatively late in August. Sites ranked with having "limited" effectiveness of herbicide showed some decrease in size and were generally stunted, but the effects were not too impressive.

Table 2: Total number of Known Knotweed Species in each NCWMA County in 2021. This includes sites that were not visited in 2021, but have been documented previously.

County	Bohemian	Dwarf Japanese	Giant	Japanese	Unknown	Total
Ashland	3		3	28	1	35
Bayfield	17	1	94	39	22	173
Douglas	13			28	13	54
Iron			6	19	2	27
Total	33	1	103	114	38	289



Figure 5a (top): The NCWMA weed crew cut giant knotweed in July. Figure 5b (bottom): Logan Servinsky treats knotweed with herbicide in August 2021.



Figure 6a (left): Giant Knotweed at the Washburn Skating Rink on the day of the herbicide treatment in 2020. The knotweed had been cut 4 weeks before the treatment. Figure 6b (right): The effects of treatment was ranked as "excellent." A few small sprouts grew in 2021 and were treated with herbicide in September.

The NCWMA 2021 Budget Summary

In the beginning of 2021, the NCWMA funding balance was \$96,782 and over \$86,000 was added over the course of the year (Table 3). Expenses for the year totaled \$108,344. The fund balance at the end of 2021 was \$74,504. Funding is at a good level going into 2022 as \$111,158 more in funding will be added to the NCWMA's agreements in early 2022. The U.S. Forest Service's Great Lakes Restoration Initiative-Cooperative Weed Management Area's grant (USFS-GLRI-CWMA) is the largest funding source for the NCWMA with a balance of \$74,587 at the start of 2021. The NCWMA was awarded a USFS-GLRI-CWMA grant for \$50,000 in March 2021 and an additional \$45,000 in October. The U.S. Forest Service is also creating a new agreement with the NCWMA that includes new funding of \$30,000 to hire staff to run the portable high-pressure boat wash.

The NCWMA was awarded a grant in 2021 through the Wisconsin DNR to treat knotweed in the Lake Superior Basin for \$124,901 over five years. This is a GLRI grant funded through the EPA. In 2021, the NCWMA spent \$21,167 of this grant for a large portion of the knotweed treatments. The NCWMA has \$31,163 of funding available from this grant in 2022.

The NCWMA started 2021 with two Weed Management Area-Private Forest Grants (WMA-PFGs) through the Wisconsin Department of Natural Resources (DNR) totaling over \$17,000. These grants fund work treating buckthorn, garlic mustard, and knotweed on private forested properties. Ramona sent in the final report and invoice for one of these grants that ended in June 2021. A new WMA-PFG through the Wisconsin DNR was awarded in July for \$14,900.

The NCWMA has annual funding through a mini-grant with the DNR to organize trips with volunteers to Clough Island to treat buckthorn. This is part of a large GLRI grant through the EPA to treat buckthorn on Clough Island. The work of this grant was completed by Douglas County Land and Water Conservation Department. The Douglas County LWCD will use this funding again to organize similar volunteer trips to the island in 2022.

Table 3: NCWMA Expenses for Each Grant and Fund Balance

Grant	Funds 1/1/2021	Funds added in 2021	Expenses 2021	Balance 12/31/2021	2022 Funding to be added
USFS GLRI CWMA & Boat Wash	74,586.66	50,000.00	71,200.25	53,386.41	45,000.00
Boat Wash (new agreement)					30,000.00
DNR-EPA-GLRI- Knotweed Control		21,167.00	21,167.00		31,163.00
DNR NCWMA WMA20-0002	7,262.71		7,262.71		
DNR WMA21-0006 Buckthorn	9,937.38		3,719.47	6,217.91	
DNR-WMA 22-0002 GM		14,900.00		14,900.00	
Clough Island Buckthorn Control	4,995.00		4994.65		4995.00
	96,781.75	86,067.00	108,344.08	74,504.32	111,158.00



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PARTNERS

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Conservation Dept.**

**Bad River Band of Lake Superior
Chippewa**

**Bayfield County Land and Water
Conservation Dept.**

**Douglas County Land and Water
Conservation Dept.**

**Iron County Land and Water
Conservation Dept.**

**Great Lakes Indian Fish & Wildlife
Commission**

**National Park Service Apostle
Islands National Lakeshore**

**National Park Service, St. Croix
National Scenic Riverway**

**Red Cliff Band of Lake Superior
Chippewa**

**USDA Forest Service, Chequamegon-
Nicolet National Forest**

**U.S. Fish and Wildlife Service,
Whittlesey Creek National Wildlife
Refuge**

**University of Wisconsin Extension -
Douglas County**

**Wisconsin Department of Natural
Resources**

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