Final Report for AEPP80424:

Vilas County 2024 Prohibited & Priority Species Prevention & Monitoring Project

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Hot Pressure Washer Boat Decontamination

A trailered hot pressure washer was used at Big Muskellunge Lake, Plum Lake, Star Lake, and Trout Lake boat landings to decontaminate boats. Vilas County Land & Water LTE staff spent 152 hours with the washer at boat landings and decontaminated 39 boats. Data were entered into SWIMS. See Appendix 1 for more in-depth report and analysis of the 2024 boat decontamination program.

Spiny Waterflea Monitoring

Based on a boater travel study done in 2018, several lakes were selected to be sampled based on the percentage of boaters coming from spiny waterflea verified lakes. Sediment samples were collected at the deep hole of each lake and sent to the State Lab of Hygiene for presence of their spine that persists over time. The results are in the table below.

Lake Name	WBIC	Date Sampled	Result	SWIMS Fieldwork Seq #
Razorback Lake	1013800	7/1/2024	Absent	357813896
Lake Laura	995200	7/1/2024	Absent	357813903
Big Muskellunge Lake	1835300	7/1/2024	Present	357813909
Little St. Germain Lake	1596300	7/17/2024	Absent	357814425
Ballard Lake	2340700	7/17/2024	Absent	357814107
Crab Lake	2953500	7/31/2024	Absent	357814547
High Lake	2344000	7/31/2024	Absent	357814531
Black Oak Lake	1630100	7/31/2024	Absent	357814526
Big St. Germain Lake	1591100	7/17/2024	Absent	357814101
Big Lake (Presque Isle/Boulder Junction)	2334700	8/12/2024	Absent	357814437
Big Arbor Vitae Lake	1545600	8/12/2024	Absent	358455513
Found Lake	1593800	8/12/2024	Absent	357814431

The only sample where spines were present was Big Muskellunge Lake. Note that spines being present does not necessarily mean that spiny waterfleas are established in that lake. Further sampling with plankton tow nets will be needed to see if live spiny waterflea can be verified in Big Muskellunge Lake. This work will be coordinated with Trout Lake Station in 2025.

Outreach Campaigns

Several outreach campaigns were held in 2024 to bring awareness to prohibited & priority invasive species:

- **Stop Spiny:** Using materials from Douglas County's Stop Spiny Campaign, Vilas County Land & Water handed out Swedish dish towels with AIS messaging. The weave (or more accurately, lack of weave) with these towels made spiny waterfleas less likely to become entangled and then transferred to other equipment or boats. They also dry quickly and are compostable.
- **Spiny Waterflea Presentations:** Four public presentations on spiny waterfleas were delivered for the public around Vilas County at the Plum Lake Library, Boulder Junction Library, Crystal Lake Campground, and Eagle River Library. Total attendance at all events was 13.
- **Children's Water Event:** An event called Wild Water Critters was held at the Olson Memorial Library. Many weird and fun water plants and macroinvertebrates were available for kids to see and touch, including spiny waterfleas and Eurasian watermilfoil. Eleven children attended.
- **YouTube Video & Social Media Posts:** LTE Jacob Worden created a YouTube video on spiny waterfleas in Vilas County. This video was shared on our department's Facebook page and on our monthly listserv. Comments were turned off to be compliant with the Freedom of Information Act. This video got 29 views and 2 likes as of January 29, 2025.

- **Northern Highlands American Legion State Forest Visitor Guide:** A brief essay about native waterfleas, invasive waterfleas, and AIS prevention was published in the Northern Highlands American Legion State Forest visitor guide.
- **Local Volunteer Outreach:** Two volunteers from the Town of Plum Lake, and one volunteer from Boulder Junction worked to post flyers about the decontamination program at grocery stores and pubs; update their respective lake organization membership by speaking at their annual meetings and writing articles for their lake organization newsletters. These flyers also contained the schedule of where the decontamination unit would be for the summer.
- **Billboard on Wetland AIS Prevention:** Wisconsin Headwaters Invasives Partnership (WHIP) partnered with us on this project, and posted a billboard on Hwy 17 coming into Eagle River using Play Clean Go messaging to prevent the spread of invasive species. This image targeted waterfowl hunters and fall recreators:

Monitor for Non-Native Phragmites, Knotweeds, Purple Loosestrife and Other Wetland Invasives

- **AIS Early Detection Surveys – Shorelines:** Because of the amount of Phragmites and giant knotweed verifications that occurred in Vilas County in 2021, an effort was made to monitor for specifically these two species in strategic areas. The following sites where monitored via shoreline meanders by boat as described in the DNR's AIS Early Detection Protocols:
    - Little Tamarack Flowage WBIC 1626200
    - Baker Lake WBIC 1626400
    - Razorback Lake WBIC 1013800
    - Aurora Lake WBIC 1592700
    - Little Star Lake WBIC 1593200
    - Lone Tree Lake WBIC 100400

  Of these locations, both the Little Tamarack Flowage and Razorback had non-native Phragmites previously verified. The 2024 monitoring events did not detect any further spread within those lakes of the existing non-native Phragmites sites. Both these sites are being actively managed: the Little Tamarack Flowage by herbicide applications; and Razorback Lake by repeated manual removal. Phragmites or knotweeds was not detected at any of the other lakes listed above. All monitoring data from this effort was entered into SWIMS.

  WHIP monitored Twin Island Lake, Little Presque Isle Lake, Cochran, and Tenderfoot Lake for purple loosestrife, via shoreline meanders by boat as described in the DNR's AIS Early Detection Protocols. Purple loosestrife beetles were also released on Little Presque Isle Lake. Data were entered into SWIMS.

  Thanks to a volunteer effort initiated by the Eagle River Chain of Lakes Association (ERCLA), lakes on the Eagle River Chain were monitored via shoreline meanders by boat as described in the DNR's AIS Early Detection Protocols. Ten ERCLA volunteers were trained for doing surveys and these were accomplished in late July-late August 2024. Where volunteers reported suspected wetland invasives, Vilas County Land & Water staff and/or WHIP either visited sites or verified ID through photos. In addition, WHIP and Land & Water staff were able to fill in a few gaps missed in monitoring by the volunteers. This combo of work ensured shoreline surveys for Phragmites, knotweeds, and purple loosestrife were accomplished on these lakes:
    - Scattering Rice Lake
    - Cranberry Lake
    - Catfish Lake
    - Voyageur Lake
    - Eagle Lake
    - Lynx Lake
    - Otter Lake
    - Duck Lake
    - Yellow Birch Lake
    - Watersmeet Lake

  On these lakes, two suspected sites will be contacted for possible further Phragmites work. It was not possible to access the plants without trespassing, and follow up work on identification will occur in 2025. In addition, all data was entered into SWIMS, and maps of purple loosestrife occurrences will be generated in collaboration with the Vilas County

Mapping Dept in spring 2025. Follow-up sites were identified to investigate further: 2 suspected Phragmites sites; 4 suspected knotweed sites; and 1 suspected yellow iris site.

- **AIS Early Detection Surveys – Wetlands:** The wetland downstream of the Little Tamarack Flowage Dam on Little Tamarack Creek was monitored where permission from landowners was granted. This wetland is southeast (downwind) of the existing non-native Phragmites site on the flowage, and if seed from it were wind-dispersed, they may find suitable habitat in this wetland. Monitoring efforts followed the DNR's Wetland Invasive Species Early Detection protocols. One patch of 2 non-native Phragmites stems was located in this wetland; and verified by the UWSP Herbarium. The Herbarium staff did not feel there was any ambiguity on the plant's ID. The two stems were dug out during the survey. This patch was about 0.25 miles from the verified patch of non-native Phragmites on the Little Tamarack Flowage. Data were entered into SWIMS. The landowner where the Phragmites was growing was called; and further outreach was done with the Conover Town Lakes Committee meeting in November on this site. Further monitoring on this wetland is planned for 2025.

New Phragmites site

- **Phragmites Genetic Testing:** In 2023, a citizen living on Boot Lake WBIC 1619100 was questioning if the Phragmites near his dock was native or non-native. Land & Water staff suspected native Phragmites; however, staff at the UWSP Herbarium suspected it was non-native Phragmites. So, in 2024, several plants were sampled for genetic testing with direction and financial assistance from DNR staff Matt Puz's Phragmites project. Five different Phragmites patches on Boot Lake were sampled, and all genetic testing results came back as the native *Phragmites australis americanus* with no evidence of hybridization. Genetic strains were listed as:
    - amer Phrag485A
    - amer Phrag485B
    - amer Phrag487B
    - amer Phrag487A
    - amer Phrag486A

Clean Boats Clean Waters Inspections on the Eagle River Chain: Vilas County Land & Water Conservation LTE's inspected boats between June 24-July 30 on the Eagle River Chain at Catfish Lake, Eagle Lake, and Yellow Birch Lake for a total of 36 hours under an agreement with the Eagle

River Chain of Lakes Association. Funding for this work came directly from the Eagle River Chain of Lake Association. Boater traffic during these times was quite high, and between all 3 landings averaged 3.5 boats per hour. Data were entered into SWIMS.

Appendix 1: Decontamination Program Analysis and Report

2024 Vilas County Boat Decontamination Program Data Analysis

Prepared by Cathy Higley
Vilas County Land & Water Conservation
12/30/2024

Decontamination Program Data: 2018-2024 Comparison Table

	2018	2019	2020	2021	2024
Number of Hours at Landings	400	400	400	400	152
Number of Boats Decontaminated	71	82	139	376	39
Number of events where lakes were potentially **protected** from spiny waterfleas or zebra mussels exposure due to boater **self-initiated** additional AIS prevention steps**	0*	0	1	0***	2
Number of events where lakes were potentially **protected** from spiny waterfleas or zebra mussels exposure due to **decontamination**	2*	7	16	10	7
Number of lakes potentially **exposed** to spiny waterfleas or zebra mussels due to not decontaminating/taking additional steps	2*	7	18	4***	20

*sourced from data with a very low number of survey respondents
**high or low pressure washing, chemical treatments, or wiping down
***includes data from only boaters accepting decontamination services upon entering or leaving the landing; boater travel data from boaters not accepting decontamination services are not included

Key Points and Recommendations from 2024

Figure 1. UW-Oshkosh Environmental Research & Innovation Lab's boat

- Carefully show staff data collection procedure so that the most data are recorded properly.
- 2024 documented spiny waterfleas potential exposure to Pewaukee Lake on 2 occasions. More AIS prevention campaigns may help boater awareness that "up north" lakes are not always free of AIS and can spread new AIS to WI's southern lakes.
- Track components of watercraft recommended for decontamination vs. components decontaminated. Are boaters hesitant to allow access to certain components?
- Track boater voluntary participation – 20% of all boaters seem to participate in this program. However, not all the "right" boaters are participating. Many participate that do not need it, and many do not participate that would benefit from it. A social campaign targeting transient boaters may be needed to gain acceptance of boat decontamination. Ordinance development may also be an option.
- Offer boat decontamination to *all* willing boaters to aid social acceptance if the landings are not too busy. Perhaps more boaters decontaminating in public view will help gain more social acceptance from transient boaters.
- Offer tools (like Swedish dish towels) to boaters when no decontamination unit is available.

Program Background

Figure 2. UW-Oshkosh Intern learning to use the boat decontamination unit.

Wisconsin laws that require all watercraft operators follow certain aquatic invasive species (AIS) prevention steps: inspect their boat, trailer, and equipment; remove aquatic plants and animals; drain all lake water (with a few exceptions); and to never move live fish (with a few exceptions); dispose of unwanted bait in the trash; and to buy minnows from a WI bait dealer. The "inspect and remove" steps are very effective at removing AIS that operators can visually detect. However, small-bodied AIS such spiny waterfleas (SWF) and the planktonic life stage of zebra mussels (ZM) called veligers could easily be overlooked if not drained along with the lake water. Removing these difficult-to-detect AIS is where boat decontamination improves AIS prevention efficacy. The goal of decontamination is to kill AIS rather than to remove them. The Vilas County Boat Decontamination program is focused on primarily spiny waterflea prevention and is situated near 3 lakes that have verified spiny waterfleas. To a lesser degree, this program also targets zebra mussel prevention. However, most of Vilas County's lakes do not provide suitable habitat for zebra mussels, but do provide ample suitable habitat for spiny waterfleas (Spear et. al.).

Vilas County had partnered with UW-Oshkosh to offer boat decontamination in Vilas County from 2018-2021 with a trailered hot pressure washer, which is one DNR recommended method of decontamination. The program dropped in 2022-2023 because there was a need to restructure to make it more financially sound. This was accomplished, and the boat decontamination program was reinstated in 2024. The number of hours dedicated to boat decontamination at landings was reduced from 400 in previous years to 152 due to scheduling and staffing constraints. Vilas County Land & Water Staff were stationed at four different boat launches between June-August 2024 to offer voluntary decontamination via hot pressure washing of boat & equipment to any willing boaters.

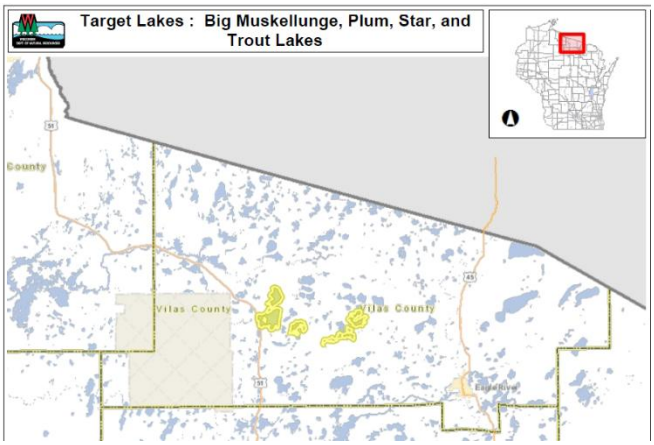

Figure 3. Boats were decontaminated at 4 boat landings on the Northern Highlands State Forest – 3 of the lakes have verified spiny waterfleas, and 1 does not.

The single axle hot pressure washer is a 200-gallon mobile unit on a trailer. Decontamination sites were predetermined from previous program years based on: proximity to other spiny waterflea infestations, location safety, ability for wash water to infiltrate vs. run off into surface waters, boater traffic rates, space available at the launch area, and willingness of launch owners to partner with the program. Target lakes in 2024 were Big Muskellunge Lake (3-12 miles away from the following

three spiny waterflea verified lake landings); Plum Lake (verified spiny waterflea in 2019); Star Lake (verified spiny waterflea in 2013); Trout Lake (verified spiny waterflea in 2014).

Boater Transiency

Boater transiency was measured on the "back-end" by asking only boaters if they had used their boat in a different waterbody in the last five days. It was also measured on the "front-end" by asking where they plan to use their boat in the next five days. Future transiency was not verified later, and this should be kept in mind when reviewing this report.

Overall, 32% of travel paths reported by boaters encountered had or were planning to visit another lake within 5 days. This level of transiency is expected based on the 2018 figure of boaters visiting other lakes within 5 days being at 32% for the Vilas, Oneida, and Lincoln county region from a 2019 University of Wisconsin-Madison Extension Report (Shaw et. al. 2019). Star Lake reported the highest percentage of transient boaters (49% of travel paths); while Trout Lake reported the lowest percentage of transiency (13% of travel paths).

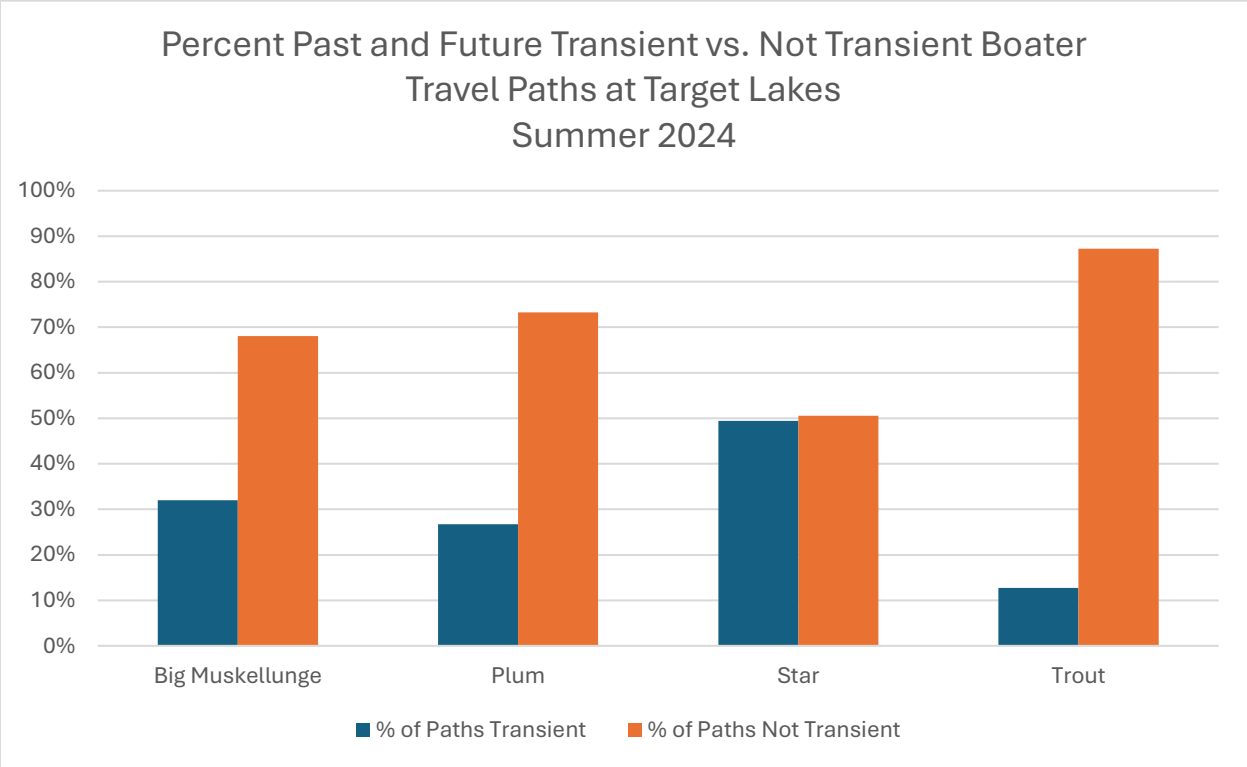

Figure 4. Boater transiency at target lakes. Transient is defined as having been in another waterbody or planning to go to another waterbody within 5 days.

Additional Self-Initiated Steps Boaters Took

In 2024, some boaters also reported taking extra steps beyond the "inspect, remove, and drain" required steps. Among those reported are low pressure washing (such as a garden hose), high pressure washing (car wash/pressure washer), and chemical treatments. Of the 185 boats

encountered, 28 boaters reported using one of these self-initiated steps. This represents 15% of boats in 2024 which was the highest percentage ever reported to this program. In 2021 5.2% of boaters reported doing extra steps, and in 2020 10% of boaters reported doing extra steps.

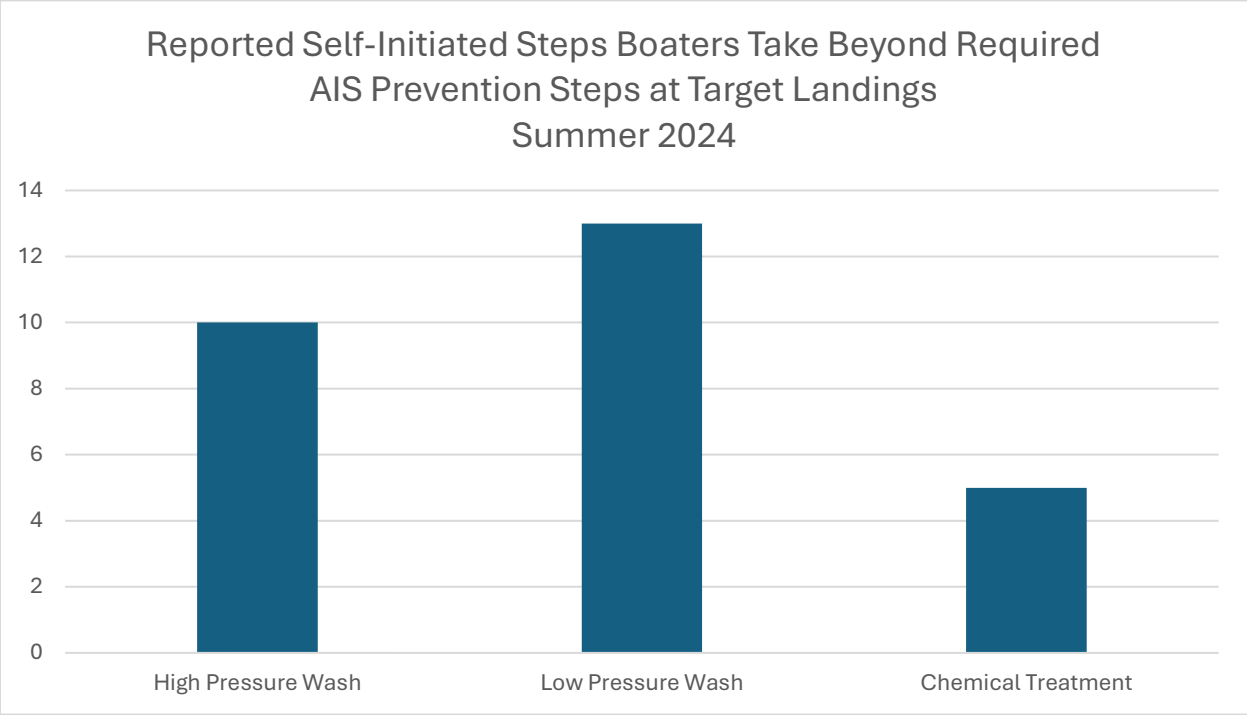

Figure 5. Number of boat travel paths where boaters reported taking extra steps to prevent the spread of AIS. Total boat travel paths documented in summer 2024 was 370.

Decontamination Program Efficacy

The decontamination program can be considered effective if it is preventing potential spiny waterflea and/or zebra mussel exposure in lakes. This analysis considers boater travel within 5 days previous and planned future 5 days to be considered "transient". It also considered what AIS are already verified in waterbodies according to Wisconsin DNR publicly available data (*Aquatic Invasive Species Locations*). This analysis does not consider habitat suitability; however, most lakes in Vilas County are considered suitable for spiny waterfleas. Most lakes are considered not suitable or borderline suitable for zebra mussels (Spear et. al).

If a boater reported taking any extra steps on their own (high pressure wash, low pressure wash, or chemical treatment), it was assumed that decontamination did nothing extra to remove AIS and was not counted as having an impact. This way the analysis takes into account self-initiated prevention steps targeting small-bodied AIS that might make the Vilas County Boat Decontamination Program not needed to effectively prevent their spread.

Each boat encounter was assigned two "travel paths" – travel from the previous lake up to 5 days prior to arriving at the point of contact; and planned travel to the next lake up to 5 days after arriving at the point of contact. Travel paths were categorized based on whether the boater decontaminated; reported doing extra steps on their own like wiping their boat down, doing a chemical treatment, high pressure wash, or low pressure wash; or if they did nothing beyond the

state required removing of aquatic plants & animals, draining lake water. The travel path data was then categorized a second time to see if:

- Spiny waterfleas or zebra mussels were verified in the prior waterbody and not the next waterbody
- Both prior and next waterbodies had verified spiny waterfleas or zebra mussels
- Spiny waterfleas or zebra mussels were not verified in the prior waterbody
- There was no boater transiency within the 5 day period
- There was not enough data to accurately determine any of the above

From there, it was determined if the decontamination or extra steps boaters took had an impact on potential AIS exposure. If a lake was potentially exposed to spiny waterfleas or zebra mussels, but that same species was already verified in the next lake, it was assumed that further exposure to that species would not have impact.

Table 1. Various impacts of decontamination at target lakes in 2024 based on whether boaters decontaminated, took extra steps to prevent AIS spread, and verified AIS at the waterbodies they report visiting.

Impacts of Decontamination at Target Lakes Summer 2024

		Count	% of travel paths
Watercraft Decontaminated by Vilas County Staff	**Prevented** spiny waterflea/zebra mussel potential exposure	7	1.89%
	Decontamination not needed to prevent potential spiny waterflea/zebra mussel exposure	31	8.38%
	Not enough data	1	0.27%
Self-initiated extra steps to prevent AIS spread: high pressure wash; low pressure wash; chemical treatment; or wiping down	**Prevented** spiny waterflea/zebra mussel potential exposure	2	0.54%
	Self-initiated extra steps not needed to prevent potential spiny waterflea/zebra mussel exposure	9	2.43%
	Not enough data	3	0.81%
No Decontamination or extra steps	Potential **exposure** to spiny waterflea/zebra mussel documented	20	5.41%
	Choosing to not decontaminate and/or take no extra steps was appropriate	252	68.11%
	Not enough data	45	12.16%
Total Travel Paths		**370**	

On 7 occasions, decontamination prevented spiny waterflea or zebra mussel spread – this accounts for 1.89% of the travel paths documented. On 31 occasions, boaters decontaminated but it would not have been necessary to do so to prevent AIS spread (8.38%). On 20 occasions (5.41%), the boater did not decontaminate or report any extra steps to prevent AIS spread and potential exposure to spiny waterflea or zebra mussels was documented. For 292 of the 370 boat travel paths, decontamination was determined to be not needed (78.92%). This was because: the boater was not transient; the previous waterbody did not have verified spiny waterfleas or zebra mussels; or both the previous waterbody and next waterbody had either spiny waterfleas or zebra mussels verified.

Conversely, 27 (7.30%) of boat travel paths would benefit from decontamination by further preventing potential exposure of spiny waterfleas or zebra mussels. The pie chart below shows how most travel paths would not require decontamination (gray), but there is also a significant percentage where decontamination would be best practice (blue colors).

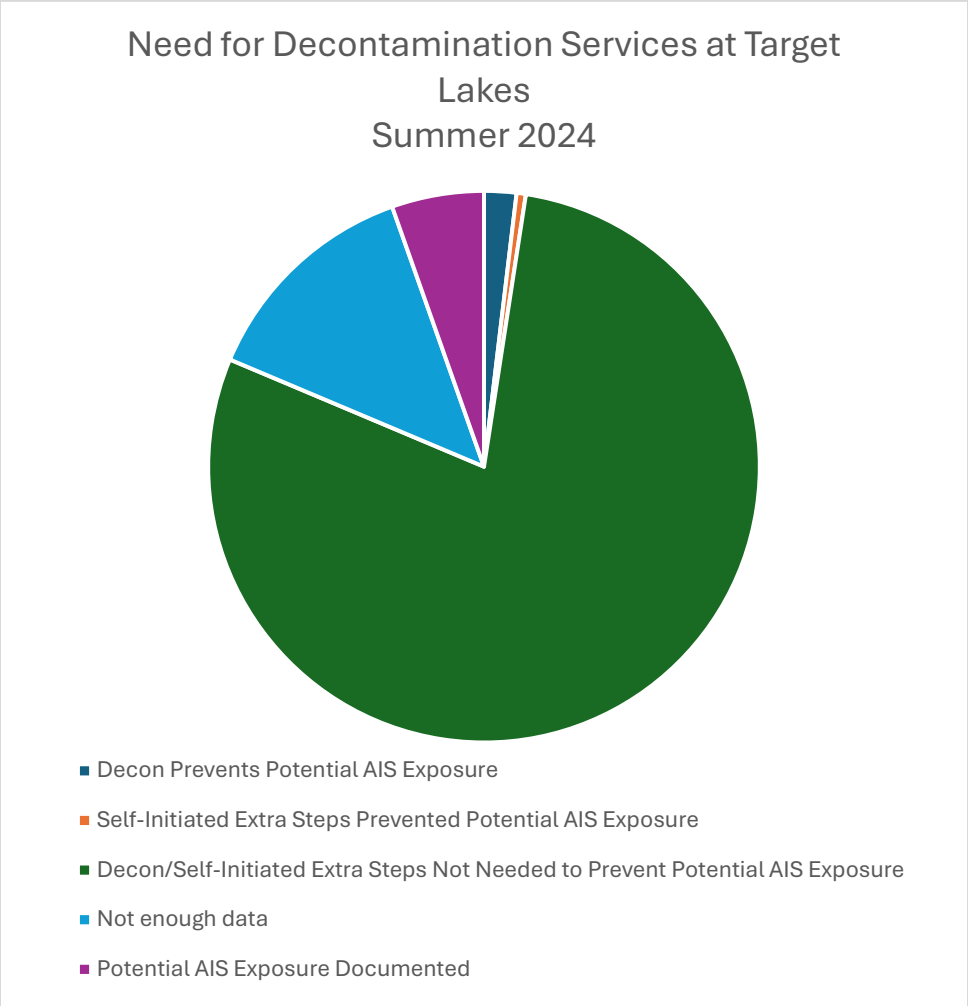

Figure 6. Most boater travel paths do not need decontamination. However, decontamination would be best practice for 7.3% of all travel paths in 2024, yet most of these boaters did not decontaminate.

Lakes Where Potential Exposure to Spiny Waterflea/Zebra Mussel Was Prevented

The decontamination program documented preventing 7 lakes from potential exposure to spiny waterfleas or zebra mussels. Boater self-initiated steps likely also helped prevent potential exposure to 2 additional lakes by low pressure washing (such as from a garden hose), although this is not officially considered decontamination since it will not kill AIS; rather, it aids in removing them.

Table 2. Waterbodies where potential zebra mussel or spiny waterflea exposure was prevented by either the decontamination program or boater self-initiated extra steps like chemical treatments, wiping down, pressure washing, or low pressure washing.

List of Lakes Where ZM/SWF Potential Exposure Was Prevented Summer 2024					
Lake Name Where Potential Exposure Was Prevented	**WBIC**	**County**	**ZM or SWF**	**Previously Visited ZM/SWF Verified Lake**	**Decon or Self-Initiated**
Nebish Lake	1869700	Vilas	SWF	Trout Lake	Decon
Ballard Lake	2340700	Vilas	SWF	Star Lake	Decon
Wisconsin River	1179900	Wood	SWF	Plum Lake	Decon
Lost Lake	1593400	Vilas	SWF	Plum Lake	Decon
Star Lake	1593100	Vilas	ZM	Caldron Falls Reservoir	Decon
Pike Lake	2268300	Price	SWF	Star Lake	Decon
Big Muskellunge	1835300	Vilas	SWF	Trout Lake	Decon
Big Muskellunge	1835300	Vilas	SWF	Trout Lake	Self-initiated
Big Muskellunge	1835300	Vilas	SWF	Trout Lake	Self-initiated

Waterbodies in Wood County and Price County were included in this potential AIS exposure prevention list. Zebra mussel exposure was potentially prevented into Star Lake, sourced from the Caldron Falls Reservoir near Crivitz.

Lakes Where Potential Exposure to Spiny Waterfleas or Zebra Mussels Was Not Prevented

Due to boaters not decontaminating or taking extra steps on their own, 20 waterbodies were documented to be potentially exposed to spiny waterfleas. No potential zebra mussel exposure events were documented. While often Vilas County is considered a place of “pristine” lakes, spiny waterflea potential exposure to Pewaukee Lake was documented on 2 separate boater travel paths.

More work may need to be done to encourage boaters to not trust up north lakes to be "safe" from AIS.

Table 3. Waterbodies where potential zebra mussel or spiny waterflea exposure was documented.

Lakes Where ZM/SWF Potential Exposure Was Documented					
Summer 2024					
Lake Name Where There Was Potential AIS Exposure	**WBIC**	**County**	**WBIC**	**ZM or SWF**	**Previously Visited ZM/SWF Verified Lake**
Big Muskellunge Lake	1835300	Vilas	2331600	SWF	Trout Lake
Big Muskellunge Lake	1835300	Vilas	1593100	SWF	Star Lake
Big Muskellunge Lake	1835300	Vilas	2331600	SWF	Trout Lake
Big Muskellunge Lake	1835300	Vilas	2331600	SWF	Trout Lake
Eagle River Chain		Vilas	1593100	SWF	Star Lake
Escanaba Lake	2339900	Vilas	2331600	SWF	Trout Lake
Escanaba Lake	2339900	Vilas	1592400	SWF	Plum Lake
Irving Lake	2340900	Vilas	1593100	SWF	Star Lake
Irving Lake	2340900	Vilas	1593100	SWF	Star Lake
Kentuck Lake	716800	Vilas	1592400	SWF	Plum Lake
Lake Tomahawk	1542700	Oneida	1593100	SWF	Star Lake
Little St. Germain Lake	1596300	Vilas	1593100	SWF	Star Lake
Lost Lake	1593400	Vilas	1593100	SWF	Star Lake
Lynx Lake	2954500	Vilas	2331600	SWF	Trout Lake
Muskellunge Lake	1596600	Vilas	1592400	SWF	Plum Lake
Muskellunge Lake	1596600	Vilas	1592400	SWF	Plum Lake
Pewaukee Lake	772000	Waukesha	1593100	SWF	Star Lake
Pewaukee Lake	772000	Waukesha	1593100	SWF	Star Lake
Razorback Lake	1013800	Vilas	1593100	SWF	Star Lake
Three Lakes Chain		Oneida	1592400	SWF	Plum Lake

Discussion and Future Planning

Impact of Decontamination: Even with the decreased hours staff were available to decontaminate boats (152 hours vs. 400 hours in past years), 7 potential exposure incidents were

documented to be prevented by the decontamination program. This is still more than were prevented by boaters' self-initiated steps. Thus, the program still holds value in preventing small-bodied AIS spread. While more hours to dedicate towards this program would be preferable, the 152 is still having an impact.

Targeting Transient Boaters: Boater transiency (traveling from or going to another waterbody within 5 days) was reported to be at 32% in 2024. Encouraging transient (vs. non-transient) boaters to decontamination may take additional efforts. Social campaigns to increase social acceptance of boat decontamination would be helpful to increase the percentage of transient boaters willing to decontaminate their boat and equipment.

The bulk (95%) of boaters who accepted decontamination services did not actually need decontamination services to improve rates of spiny waterflea or zebra mussel prevention – they may not be transient; the lake they were going to may already have the same invasive spiny waterflea or zebra mussels where decontamination would not impact potential exposure; or their prior and next lake both are not know to have invasive spiny waterfleas or zebra mussels. It is recommended to continue to offer decontamination to all boaters willing to accept it – doing this in a publicly visible space may space may help with social acceptance of boat decontamination. While the landings where decontamination services are used are not generally very busy, occasionally there are instances where it would be handy to triage which boats would benefit from decontamination services. On busier days, skipping decontamination requests from non-transient boaters to decontaminate transient watercraft would keep the program effective.

In 2024, 39 boats were decontaminated which is 21% of the boats encountered. The same percentage of boats was decontaminated in 2020, and perhaps a rough 20% of all boaters encountered can be expected to participate in a voluntary decontamination program in Vilas County. This percentage still "misses" a portion of the transient boater target group who would likely improve AIS prevention via decontamination. Currently there are no laws in Wisconsin or ordinances in Vilas County to mandate boat decontamination of recreational boaters. Ordinance development may be another option to increasing participation from boaters who would benefit from decontamination.

Boat components: Vilas County Land & Water staff were asked to record what boat components were decontaminated vs. what boat components should have been decontaminated based on each specific situation. For example, when encountering a fishing boat, it may not be necessary to decontamination a livewell if it was not filled with lake water in the last 5 days. Some adjustments to the data collection sheet and more directed staff training on completing datasheets will be needed in future years to ensure all data is collected in a manner that is usable for analysis.

Encourage Decontamination: Researchers agree there is a likely a significant lag time between spiny waterflea establishment and detection (Vander Zanden). This factor makes it even more important that the program not deny decontamination to a willing participant just because spiny waterfleas were not yet verified in their previous waterbody. This analysis on potential AIS exposure relies on verified data, and decontamination of boats coming from waters that do not have spiny waterfleas verified may actually be doing more for AIS prevention than is being detected.

Lines in the Water: Recent research from Donn Branstrator, a spiny waterflea researcher, has indicated that spiny waterfleas most often adhere to lines in the water – primarily fishing line and anchor line. Branstrator proposes these can be wiped off and suggests offering compostable Swedish dish towels to boaters for this purpose (Branstrator). This type of cloth will not tend to entangle the spiny waterfleas like other terry cloth weaves. The decontamination program offered these though a partnership with Douglas County Land & Water Conservation in 2024 and hopes to continue this in future years to promote tools for effective spiny waterflea removal when decontamination services are not available.

Outreach Product: Printed Swedish Dishcloth

Figure 7. Example of Swedish dishcloth design from the Minnesota AIS Research Center.

Program Continuation: Vilas County and its partners are poised to offer 100+ hours voluntary boat decontamination again in 2025, pending grant funding.

References

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