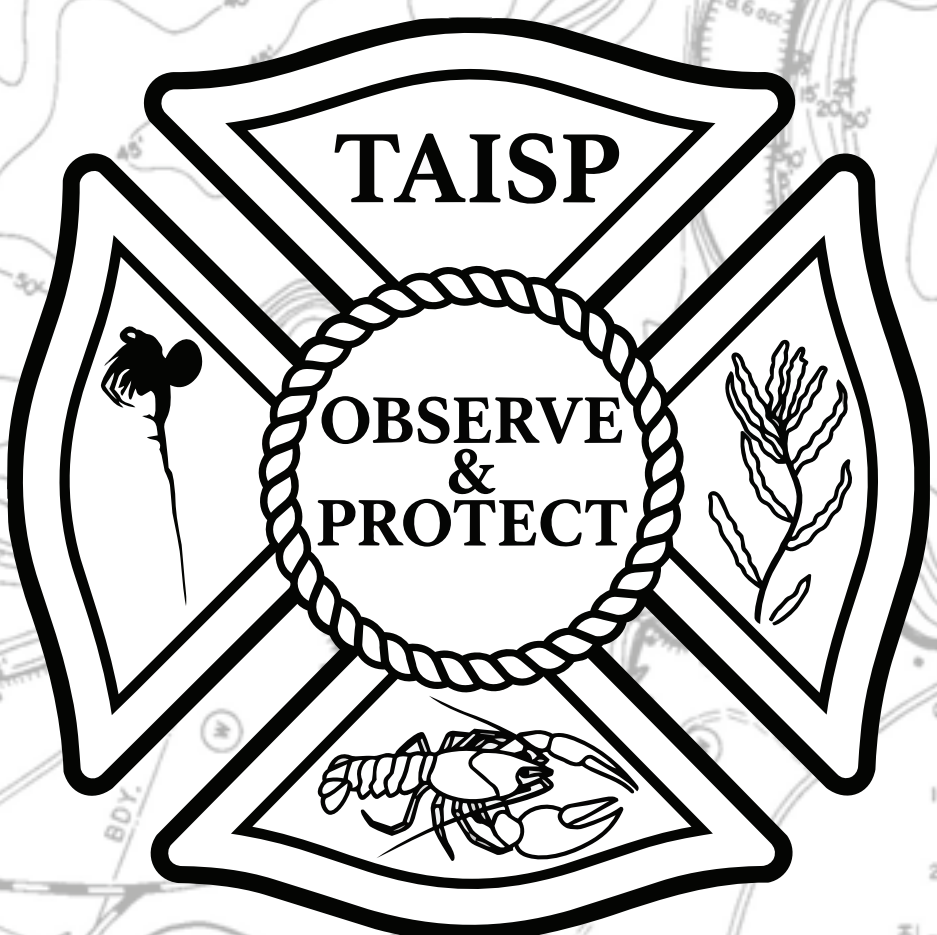
2026 Town Aquatic Invasive Species Partnership Report

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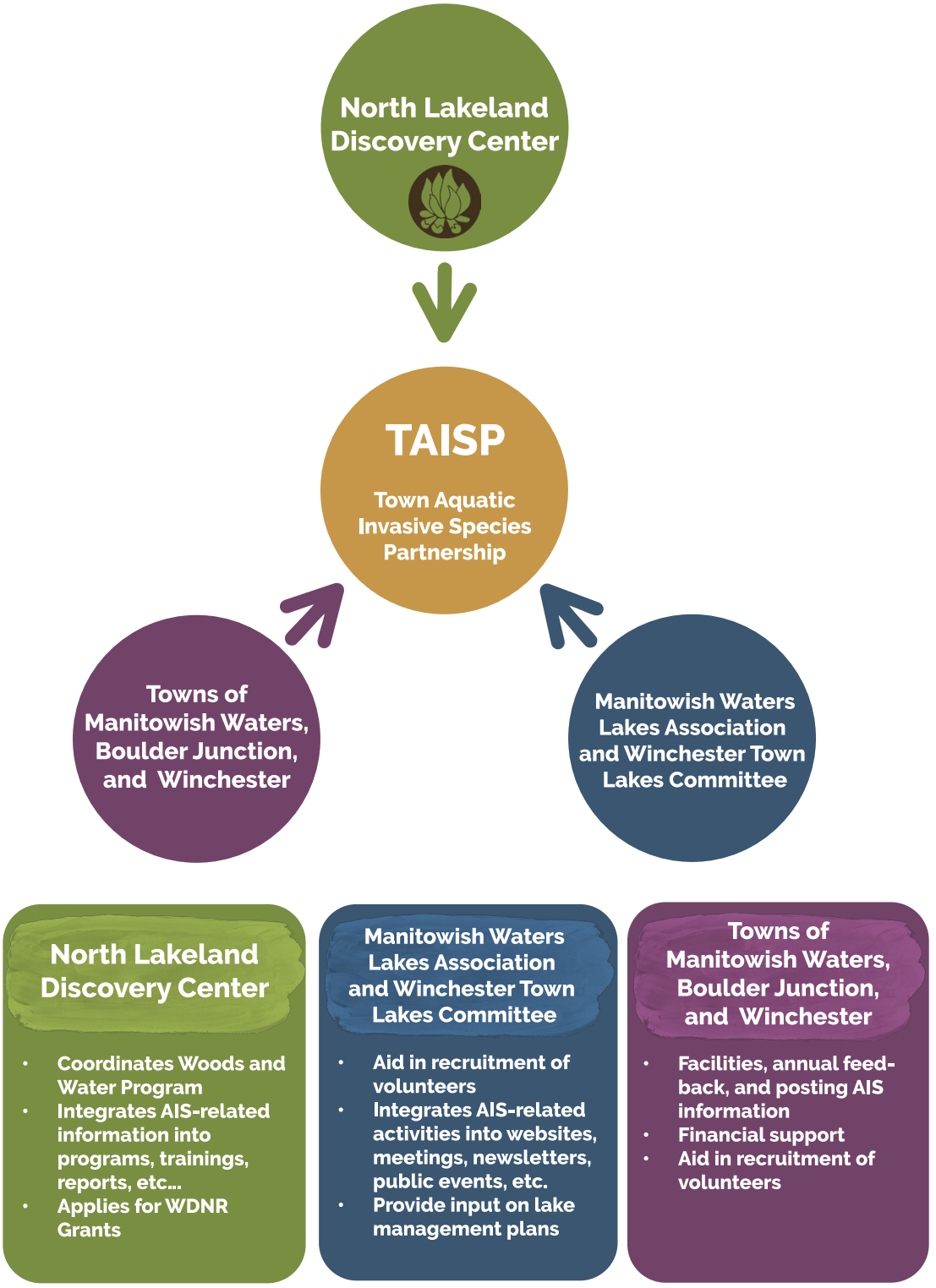


Figure 1. Model of the Town Aquatic Invasive Species Partnership (TAISP), consisting of the North Lakeland Discovery Center, Manitowish Waters Lakes Association, Winchester Town Lakes Committee, and the Towns of Manitowish Waters, Boulder Junction, and Winchester.

INTRODUCTION

The Town Aquatic Invasive Species Partnership (TAISP, Figure 1), consists of the North Lakeland Discovery Center (NLDC), the Manitowish Waters Lakes Association (MWLA), the Winchester Town Lakes Committee (WTLC), and the Towns of Manitowish Waters, Boulder Junction, and Winchester. The TAISP undertook efforts in 2026 to prevent introduction, minimize spread, and manage existing populations of aquatic invasive species (AIS) in local waterbodies and wetlands. This was a year of learning as new projects were initiated, and innovative and adaptive management became even more essential to approach changing environments. It was a successful year, with the goals and objectives of Town Agreements and grants being met or exceeded.

NLDC integrated AIS related activities into programming, website content, social media, and though other appropriate activities and venues. The Towns provided various forms of support such as facilities, feedback to partners regarding management plans, and disseminated information at appropriate venues. MWLA and WTLC (and associated lake associations) aided in the recruitment of volunteers and integrated AIS-related activities into their newsletters, websites, meetings, and public announcements.

WOODS AND WATER PROGRAM STAFF

As NLDC's Woods and Waters Program continues to grow, so does the Emerging Professionals Program. In past years, staff positions have ranged from 3 to 5 seasonal staff and various full-time positions. In 2026, NLDC WW operated with 6 seasonal staff (two 6-month and four 3-month positions) and a full-time AIS Coordinator and a full-time Woods and Water Director.

The Emerging Professionals Program offers a well-rounded experience, equipping seasonal staff with essential skills in plant identification, conservation practices, field equipment operations, and effective communication. Technicians engage with diverse individuals across various educational backgrounds, ages, and interests, participating in both formal and informal educational gatherings. Their hands-on experiences range from operating and trailering watercrafts to understanding the inner workings of an environmental nonprofit, all while participating in a dynamic field season. These positions serve as a valuable foundation for those preparing to launch careers in natural resources.

The 2026 Terrestrial Ecology Technician, Steven Ballard led our NLDC campus gardens projects. He worked on weeding, replanting, and collecting seeds in our gardens while also assisting in native planting projects around the community. Halle Boldt, the Aquatic Ecology Technician, managed data, led aquatic plant surveys, and assisted in educational outreach. Gabby Thelen, Nicole Kelley, Alexis Wynn, and Sam Mergen filled our four Conservation Technician positions. These staff completed lake surveys and restoration projects, native aquatic plant surveys, AIS surveys, Clean Boats Clean Waters, and decontamination while representing NLDC's Emerging Professionals Program through public education and outreach events.



Figure 2. Seasonal Employees at NLDC pictured from left to right: Nicole Kelley, Alexis Wynn, Sam Mergen, Gabby Thelen, Steven Ballard, Halle Boldt, Hannah Menzia (Northwoods Forest History Experience Assistant), and Hjelle Personius (Nature Center Assistant)

During the growing season, NLDC staff monitored aquatic and shoreline emergent plant distribution and density of the Manitowish Chain of Lakes and its associated inflowing and outflowing rivers. Similarly, staff surveyed lakes in the Town of Winchester with the goal of mapping and managing current populations of priority AIS and native plant communities while also identifying any new populations. Curly-leaf pondweed *(Potamogeton crispus)*, Eurasian watermilfoil *(Myriophyllum spicatum)*, yellow iris (*Iris pseudacorus)*, and purple loosestrife *(Lythrum salicaria*), have been the main AIS of concern. NLDC staff also monitor other AIS including non-native phragmites (*Phragmites australis)*, Japanese knotweed (*Fallopia japonica*), spiny waterflea *(Bythotrephes longimanus)*, rusty crayfish *(Orconectes rusticus)*, and mystery snails (*Viviparidae* family).

This report summarizes all TAISP field work, education, and outreach completed in 2026.

WDNR SURFACE WATER GRANTS

Wisconsin Department of Natural Resources (WDNR) has provided invaluable partnership through resource and monetary support for the work completed through the TAISP. In 2026, field work was completed under 16 of the 19 open WDNR surface water grants (Figure 3). 14 of these grants were new as of 2026 including grants that supported large scale AIS management, early detection and rapid response, lake planning, Clean Boats Clean Waters, and watercraft decontamination. These activities, that extend beyond grant funding, are guided by comprehensive plans, like that of Town of Winchester Lakes Comprehensive Management Plan (TWLCMP) of October 2022 and the Manitowish Waters Chain of Lakes Comprehensive Management Plan (MWCLCMP) of December 2019.

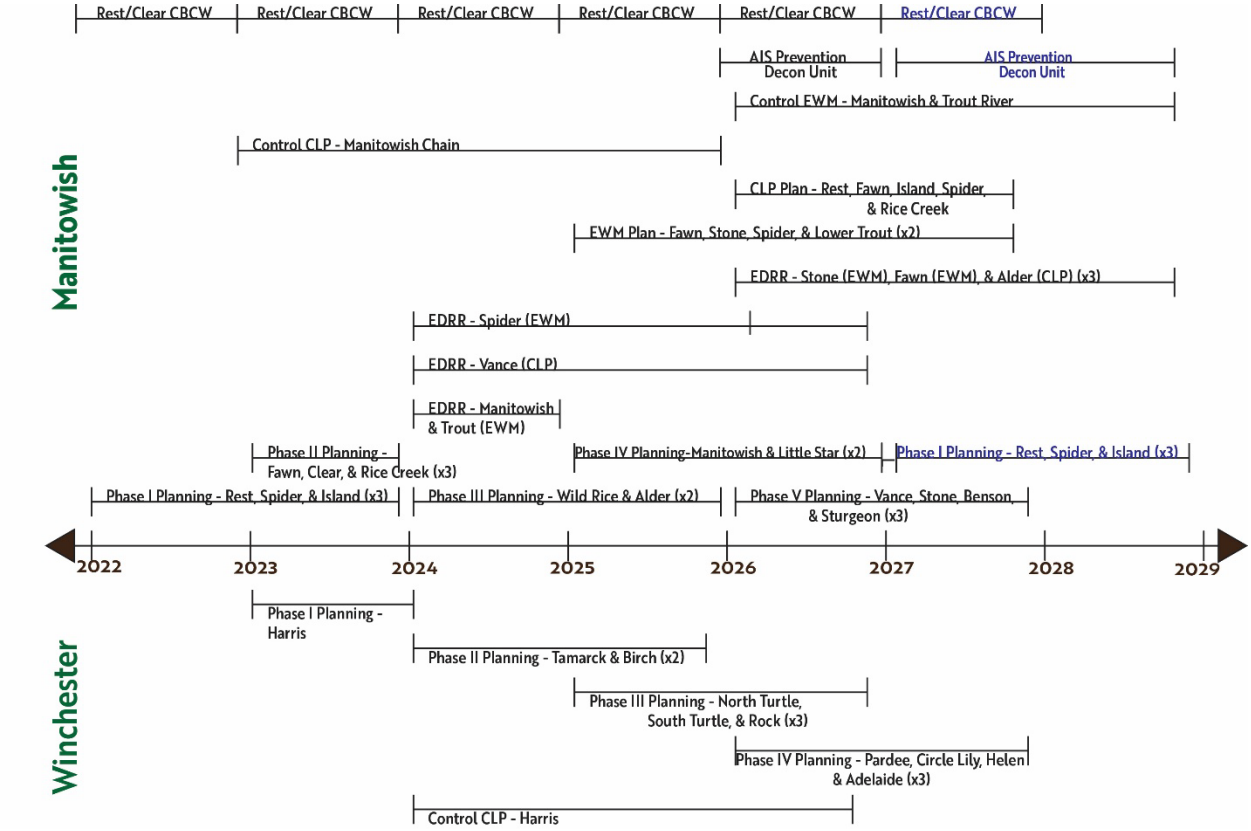


Figure 3. Timeline of Town Aquatic Invasive Species related Wisconsin Department of Resources surface water grants applied by North Lakeland Discovery Center from 2022 through 2029. Note: This includes grants applied for and not yet awarded for 2027 (distinguished in blue text).

Manitowish Waters Chain of Lakes

For 2026 season, 4 planning grants were applied and awarded following guidelines of the Comprehensive Management Plan goals: Goal 3, expand awareness and education of lake management and stewardship matters; Goal 4, control existing and prevent further aquatic invasive species establishment within the Manitowish Waters Chain of Lakes; and Goal 6, continue to understand, protect, and enhance the ecology of the Manitowish Waters Chain of Lakes through stakeholder stewardship and science-based studies. These grants, applied through the Manitowish Waters Lake Association (MWLA), provided funding to conduct periodic quantitative vegetation monitoring on Phase V Lakes: Stone[1], Vance[2], Sturgeon and Benson[3], and a Chainwide Plan for Curly Leaf Pondweed (CLP)[4]. Activities included point intercept surveys, floating-leaf and emergent community mapping, CLP surveys, early detection surveys, and purple loosestrife monitoring, as well as the development of the CLP Aquatic Plant Management Plan. In 2027, similar activities will restart with Phase 1 waterbodies: Rest Lake and Papoose Bay, Spider Lake, and Island Lake.

[1] WDNR Grant #AEPP95926
[2] WDNR Grant #AEPP95726
[3] WDNR Grant #AEPP95826
[4] WDNR Grant #AEPP95626

In 2026, four Early Detection Rapid Response (EDRR) Grants were awarded across Spider (EWM) [5], Alder (CLP) [6], Fawn (EWM) [7], and Stone (EWM) [8] lakes. These grants can be applied for retroactive treatment to cover work that was completed to ensure quick and adaptive response to new invasive species. This work includes targeted AIS surveys, education, and removal through Diver assisted suction harvest (DASH) and hand pulling.

In 2026, a large-scale Eurasian watermilfoil (EWM) control grant[9] was applied for and awarded to conduct monitoring and management for three years. This funding supported early-season AIS (ESAIS) surveys, point intercept surveys on Lower Trout River, hand-pulling, and DASH on Manitowish Lake, Upper and Lower Trout River. The EWM control grant is supported in the EWM Aquatic Plant Management Plan through management Goal 3, expand awareness and education of lake management and stewardship matters, and Goal 4, control existing and preventing further aquatic invasive species establishment within the Manitowish Waters Chain of Lakes. Likewise, this EWM Management plan was adopted in January of 2026 under the 2025 EWM Planning Grant[10].

In 2026, a Clean Boats Clean Waters (CBCW) grant[11] was also funded by WDNR to provide AIS inspection and outreach at both Rest and Clear Lake boat landings, completing 120 hours of staff time inspecting at boat the two boat landings. Since 2015, NLDC has orchestrated CBCW at these landings and will continue to do so.

Lastly, NLDC began a new venture in high pressure, hot water watercraft decontamination with the assistance of an AIS prevention grant[12]. This grant funded the staffing and use of a mobile decontamination unit stationed on Rest Lake to provide courtesy washings to watercraft and equipment being put into or coming out of the lake. NLDC will continue this endeavor in upcoming years with the emphasis on ease of accessibility and public receptiveness.

Unfortunately, North Lakeland Discovery Center did not sponsor or conduct any work related to Healthy Lakes and Rivers grants on the Manitowish Chain. These grants provide funding assistance on various restoration projects such as rain gardens, fish sticks, native plantings, and diversions. These are critical natural resource management practices that help the health of our waters.

[5] WDNR Grant #AIRR31726
[6] WDNR Grant #AIRR31526
[7] WDNR Grant #AIRR31626
[8] WDNR Grant #AIRR31826
[9] WDNR Grant #ACEI37626
[10] CBCW Grant #AEPP86425
[11] CBCW Grant #169026
[12] WDNR Grant #AEPP97826

Town of Winchester

Two planning grants were applied for and awarded following guidelines of the Town of Winchester Lakes Comprehensive Management Plan goals: Goal 1; protect the current high-quality ecological health of town of Winchester lakes, and Goal 4; prevent new aquatic invasive species introductions. These grants, applied by North Lakeland Discovery Center, provided funding to conduct periodic quantitative vegetation monitoring on Phase IV Lakes: Circle Lily[13], and Helen and Adelaide[14] lakes in 2026. Vegetation monitoring includes a lake point-intercept survey, as well as floating-leaf and emergent community mapping survey on each lake. There are no planning grants that will be applied for in 2027 as there is a year gap before the Phase 1 waterbodies restart.

In 2026, work was completed on Harris Lake's small-scale CLP control grant[15] through completion of the final surveys and one hand pulling day. The curly-leaf pondweed control grant is supported in the TWLCMP: Goal 1, protect the current high-quality ecological health of town of Winchester lakes; and specifically for Harris Lake in Goal 4, control existing aquatic invasive species and prevent new introductions to Harris Lake.

North Lakeland Discovery Center also aided in education and boat inspection activities for the of the Turtle Lakes Chain Association Clean Boats Clean Waters grant in 2026 and will continue these efforts in 2027.

North Lakeland Discovery Center also administered and conducted work related to Healthy Lakes and Rivers grants on South Turtle and North Turtle Lakes. These grants assist funding on various restoration projects such as rain gardens, fish sticks, native plantings, and diversions. These are critical natural resource management practices that help the health of our waters.

PRIORITY AIS: CURLY-LEAF PONDWEED (CLP)

Curly-leaf pondweed *(Potamogeton crispus)* is an aquatic plant native to Eurasia, Africa, and Australia. It was introduced into North America and quickly established itself as a predominant plant in most aquatic environments. This plant can grow in the colder months, even under ice, allowing it to outcompete native plants. During the warmer months, curly-leaf pondweed goes through a mid-summer die-off where the parent plant can produce many small stem-like projections called turions. These turions are compact storages of energy, or vegetative buds that break off the parent plant and float away. Curly-leaf pondweed turions can be spread in a variety of ways, primarily through watercraft and disturbances. Turions will sink, embed into the sediment, and quickly take root. This plant is difficult to manage because of its ability to spread, reproduce through fragmentation, and indefinite dormancy period of the turions in the sediment.

[13] WDNR Grant #LPL193826
[14] WDNR Grant #LPL193726
[15] WDNR Grant #ACEI34924

Manitowish Waters Chain of Lakes

Since curly-leaf pondweeds first detection in the Manitowish Lakes Chain in 2010, various surveys, treatments, management efforts, and related grants have occurred. In 2026, NLDC conducted Early Season Surveys for CLP on Alder, Clear, Fawn, Island, Manitowish, Rest, Rice Creek, Spider, Stone, Vance, and Wild Rice Lakes (Map 1). Follow-up late season surveys were also conducted on Alder and Vance Lakes. CLP, though not officially surveyed, was found in Upper and Lower Trout River. CLP survey also did not occur on Little Star, Benson, and Sturgeon Lakes. CLP was redetected on Clear Lake after being discovered in 2024. Still, no CLP has been detected on Wild Rice Lake and no recent redetection on Manitowish Lake.

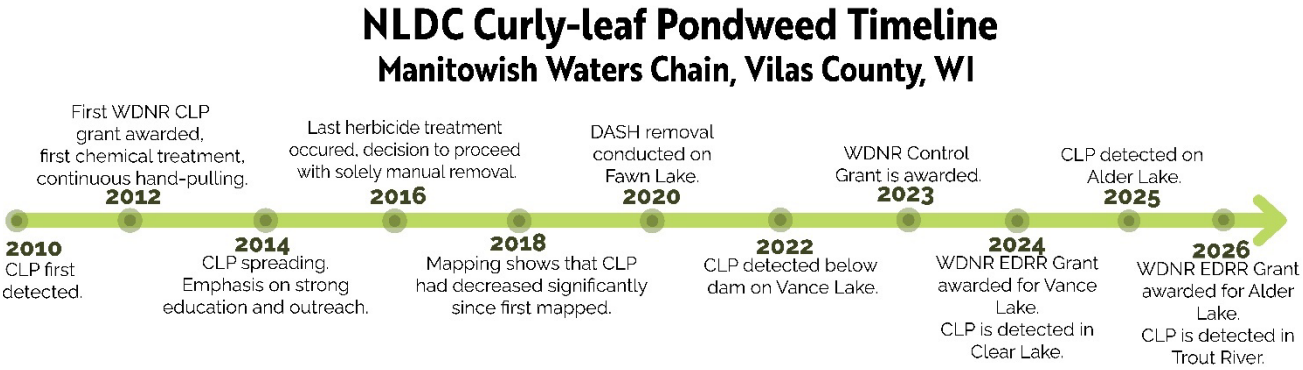


Figure 4. A timeline of significant curly-leaf pondweed detection and treatment events in the Manitowish Waters Chain of Lakes.

Removal efforts were implemented on Alder, Fawn, Island, Rest, Stone and Vance Lakes in 2026 using both hand harvest and Diver Assisted Suction (DASH) by NLDC and Aquatic Plant Management Inc (APM) (Table 1). APM was contracted on Fawn for 2 days of DASH in which they removed 93.6 cubic feet of CLP. APM hand harvested on Vance Lake for 1 day, removing 18 cubic feet. NLDC conducted DASH efforts for 1 day on Alder Lake removing 8.5 cubic feet and 2 days on Rest Lake removing 3.6 cubic feet. Hand harvesting efforts also occurred on Alder Lake (2 days, 3.5 cubic feet), Island Lake (1 day, 0.3 cubic feet), Vance Lake (3 days, 3.4 cubic feet), and Stone Lake (1 day, 0.3 cubic feet).

Table 1. Summary of 2026 Curly-leaf Pondweed removal efforts by NLDC.

Water Body	Hand harvest (ft^3)	DASH (ft^3)
Vance	3.4	
Alder	3.5	3.5
Island	0.3	
Stone	0.3	
Mani River	1	
Rest		8.5
Totals	8.5	12



Figure 5. Conservation Technicians, Sam Mergen and Alexis Wynn, present CLP removed from Vance Lake.

Town of Winchester

In June 2026, North Lakeland Discovery Center conducted early-season AIS surveys focused on detecting curly-leaf pondweed in Birch, Harris, North Turtle, Rock, and South Turtle Lakes. Curly-leaf pondweed was found only in Harris Lake, where it has been previously documented.

Harris Lake

Harris Lake remains the only known lake in the town of Winchester with established curly-leaf pondweed populations. The Harris Lake Association (HLA) first partnered with Onterra in 2008 to develop a management strategy for curly-leaf pondweed. In 2022, NLDC staff conducted an early-season curly-leaf pondweed survey, confirming several large populations in previously identified locations. In 2023, these sites were resurveyed and detected plants were removed with rakes and snorkel hand pulling. This area covered 1.73 acres. Upon working that year, it was concluded that due to Harris Lake's wind and wave conditions, bowl-shaped basin, water clarity, and deep-growing vegetation, surveys and removal of CLP are particularly challenging. Therefore, in 2024, a small-scale control grant

was awarded to remove populations of CLP on Harris Lake. Aquatic Plant Management was contracted to DASH larger colonies while NLDC focused on hand pulling smaller populations. Several educational events occurred in 2024 as a supplement to the significantly expanded CLP population. Despite the efforts, DASH and hand pulling did not significantly reduce curly-leaf pondweed in Harris Lake in 2024. In 2025, CLP populations decreased to previous years' levels and NLDC spent 3 days of hand removal efforts in the northern 'arrowhead' section.

In 2026, curly-leaf pondweed populations decreased further than previously observed levels in 2025 and prior. An ESAIS survey was completed on June 2nd (Map 2). To close out the grant (ACEI34924), Aquatic Plant Management hand pulled 1 cubic foot on June 10th. They reported, "Dive Highlights and Recommendations: During the dive operations at Harris Lake, plant density varied significantly across the three sites. In the North Bay (N Bay), divers observed a high native plant density primarily consisting of pondweeds, while the CLP density was concentrated and recorded as "Clumps". The Eastern Bay (E Bay) similarly supported a high native density of pondweeds, though the CLP distribution in this area was much more diffuse, noted as "Scattered". Overall plant density dropped dramatically along the West Shoreline (W Shoreline); divers encountered no CLP and reported a low native density with no significant plant life found. Overall, Harris Lake should continue to take an Integrated Pest Management (IPM) approach and evaluate different strategies to manage the CLP population on the lake. Continued monitoring and management efforts are important to prevent the spread of CLP throughout Harris Lake."

Following the removal, Onterra, as in previous years, completed a Late Season AIS survey on July 22nd and found no remaining CLP populations. They did not charge for the map creation of this survey due to no populations being found.

PRIORITY AIS: EURASIAN WATERMILFOIL (EWM)

Eurasian watermilfoil *(Myriophyllum spicatum)* is an aquatic plant that is native to Europe and western Asia. Eurasian watermilfoil is most common in the southern half of Wisconsin on more trafficked and developed lakes but has slowly been spreading northward due to lake development and increased traffic on Northern lakes.

Manitowish Waters Chain of Lakes

In July 2023, Eurasian watermilfoil was reported and suspected of being on Alder Lake, marking the first known presence in the Manitowish Chain of Lakes. While WDNR surveys on Wild Rice and Alder Lake did not confirm its presence, NLDC surveys in the Lower Trout River between Manitowish Lake and Alder Lake identified established colonies and numerous single rooted plants. Further surveys in Manitowish Lake found sparse populations but no dense colonies.

During the 2024 season, a WDNR Early Detection and Response Grant supported extensive surveying and management of EWM across the Chain, where increased expansion, potentially driven by mild winter conditions and early ice-off**,** exceeded expectations. New detections occurred in Little Star, Stone, and Fawn, with significant population increases in

Manitowish, Spider, and the Lower Trout River. This prompted expanded DASH and hand-removal efforts. Aquatic Plant Management Inc. completed 18 days of DASH and 9 days of hand harvesting, removing 1,224 cubic feet of EWM, primarily from the Lower Trout River. NLDC conducted surveys and hand harvest in smaller or outlying populations. In response to the scale of spread, stakeholder meeting took place to highlight the need for sustained funding, leading to the launch of the "Save the Chain" initiative to support ongoing EWM management and protect the region's lakes.

In 2025, work began under two WDNR planning grants to develop a Eurasian Watermilfoil Aquatic Plant Management Plan, which includes full-lake surveys, public engagement and education, development of long-term control strategies, and creation of an integrated mapping tool; this plan is necessary as the previous comprehensive plan was made before EWM was reported in the Chain. During the 2025 field season, various surveys were conducted by NLDC and Onterra on Fawn, Spider, Stone, Manitowish, Alder, Little Star, Manitowish, Spider, Stone, and Wild Rice Lakes and Trout River, with no EWM detected in Little Star, Alder, or Wild Rice Lakes. During an Early Detection and Rapid Response survey on Sturgeon Lake, EWM was detected and immediately removed by NLDC. Removal efforts occurred on Fawn, Spider, Stone, Manitowish, and the Trout River. Aquatic Plant Management (APM) Inc. conducted hand harvesting on Stone Lake removing 1.1 cubic feet, DASH on Spider Lake removing 19.6 cubic feet, and intensive efforts on Manitowish Lake and the Lower Trout River removing 136 cubic feet, and 2,396.3 cubic feet, respectively. Additionally, NLDC spent 12 field days hand-pulling EWM across the Upper Trout River, Manitowish Channel, Spider, Stone, Manitowish, and Fawn Lakes, removing over 23 cubic feet.

In 2026, through a variety of monitoring and management work, EWM was detected on Vance, Rest, Manitowish Channel, Stone, Fawn, Spider, Little Star, Manitowish, Sturgeon, Alder, Wild Rice, and Upper and Lower Trout (Map 3). Of these waterbodies, new populations were on Rest, Wild Rice and Alder Lakes. Island Lake was not surveyed for EWM.

Genetic samples were collected across Spider Lake to assess strains and hybridization of EWM to guide management. The DNA results from Montana State University Thum Lab reports that all 20 sample in Spider Lake were of the most widespread strain of EWM, E_MISGP_186.



Figure 6. NLDC's new DASH boat in operation on Spider Lake.

A point intercept survey was conducted in 2026 to assess aquatic plant communities within the Lower Trout River to better understand species composition, distribution, and the relative abundance of Eurasian watermilfoil in relation to native plants. This is to develop a baseline of aquatic plant communities, identifying sensitive or high-quality habitats, and supporting data-driven integrated pest management decisions. This survey will be repeated in 2028 to document changes over time and evaluate the effectiveness of management efforts.

In 2026, removal efforts were conducted by NLDC and APM using hand harvesting and DASH techniques (Table 2). NLDC hand harvested 79.1 cubic feet and DASHed 185.5 cubic feet of EWM throughout the Manitowish Chain including Fawn Lake, Stone Lake, Vance Lake, Spider Lake, Upper Trout River, and Manitowish Lake. Likewise, APM, using hand harvest and DASH, removed 201 cubic feet on Spider Lake, 338 cubic feet on Manitowish Lake, 558 cubic feet in Lower Trout River, and 21.4 cubic feet in Upper Trout River.

Table 2. Summary of 2026 Eurasian Watermilfoil removal efforts by NLDC.

Water Body	Hand harvest (ft^3)	DASH (ft^3)
Vance	1.8	
Wild Rice	0.2	
Manitowish	35.7	100
Stone	14.85	12
Upper Trout	3.55	9
Fawn	11.8	5
Spider	11.3	59.5
Totals	79.2	185.5

Active management efforts and collaborative discussions are ongoing to identify effective paths forward for Eurasian watermilfoil management across the Manitowish Chain. An integrated pest management (IPM) approach remains central to these efforts, recognizing

that no single strategy will provide a universal solution. Management of Eurasian watermilfoil is an iterative process rooted in continued learning, research, and adaptive decision-making, as eradication of established invasive species is not feasible. Instead, sustained monitoring, targeted control, and informed collaboration will guide long-term, realistic management goals.

Winchester Lakes

Through various surveys such as Early Detection Rapid Response, meander surveys, Point Intercept, and targeted EWM AIS surveys, no populations of Eurasian watermilfoil were found in Winchester lakes. EWM AIS surveys were completed on Birch, Harris, North Turtle, Rock, and South Turtle Lakes. A Meader Survey was conducted on Papoose. Point intercept surveys were completed on Adelaide and Helen by NLDC.

PRIORITY AIS: PURPLE LOOSESTRIFE (PL)

Purple loosestrife *(Lythrum salicaria)* is a resilient and fast-spreading wetland invasive species native to Europe and Asia. This species reduces biodiversity and can disrupt water flow in rivers and waterways. A single purple loosestrife plant can produce up to 2.7 million tiny seeds, which are easily dispersed by wind, water, wildlife, and human activity. North Lakeland Discovery Center's ongoing project focuses on combating purple loosestrife using natural biocontrol methods rather than non-selective herbicides, which could harm native plants and organisms. This approach involves the use of *Galerucella* sp. (Cella for short) beetles, which are reared at NLDC and released into purple loosestrife populations across our management areas. Biocontrol is particularly effective in marshland environments where physical removal through cutting or digging is impractical. Each spring, NLDC partners with the 7th grade class from North Lakeland School (NLS) to help jumpstart the biocontrol beetle-rearing project. In 2026, students learned about invasive species, biocontrol techniques, and assisted in harvesting purple loosestrife plants. Plant collection occurred on Big Lake this year. Historically, *Galerucella* beetles were raised in small, individual netted purple loosestrife plants, limiting NLDC's capacity to approximately 30 purple loosestrife pots. However, starting in 2023, the project expanded with the installation of a 12x12-foot screen cage, significantly increasing beetle production. The mass beetle rearing cage was provided by the University of Wisconsin–Madison Division of Extension. With this larger system in place, NLDC staff monitored and tended to purple loosestrife plants throughout the season, allowing for the successful rearing and release of thousands of *Galerucella* beetles into our management areas over the years.



Figure 7. 7th Graders from North Lakeland School help to set up NLDC's biocontrol cage.

Towns of Manitowish Waters and Boulder Junction

In 2026, North Lakeland Discovery Center continued its purple loosestrife surveys on the Manitowish Waters Chain of Lakes. We continued to monitor and manage previously known areas of concern and identified some new areas. Starting in July, purple loosestrife populations were identified and marked on GPS with density code and seed heads were clipped to mitigate spread. In addition to seed head clipping, *Galurecella* beetles were released in select locations determined by density of purple loosestrife, beetle establishment and impact, and projected success of beetle population (Map 11). In the locations beetles were released this year, NLDC will return next year to assess the success of establishment of the beetle population.

Rice Creek flowing into Island Lake was also a previously known area of concern, however, to not disturb wild rice populations, surveys and management were not conducted in this area

New or expanded populations of purple loosestrife were identified on Wild Rice, Sturgeon, Little Star, Spider, and Manitowish Lakes. With Wild Rice Lake being mostly within the Lac du Flambeau (LDF) reservation, NLDC and LDF Natural Resource Department collaborated on monitoring and management of purple loosestrife.



Figure 8. NLDC partnered with Lac Du Flambeau's Natural Resource Department for monitoring and management of Purple Loosestrife on Wild Rice Lake.

Town of Winchester

Winchester Lakes: Adelaide, Birch, Circle Lily, Harris, Helen, Hiawatha, Little Papoose, Mary, North Turtle, Noseeum, Pardee, Papoose, Rainbow, Rock, South Turtle, Tamarack, and Yolanda were all surveyed for purple loosestrife in 2026 with collaborative effort from NLDC staff and lake resident volunteers. Pardee Lake's previously known population on the east shore was not redetected this year. However, Adelaide Lake's population was again detected and managed this year through seedhead clippings as this population could not currently sustain biocontrol beetle populations (Map 12). The remaining lakes listed did not have purple loosestrife detected in our survey. NLDC will continue to monitor and manage purple loosestrife in the same lakes and conduct an integrated pest management approach to any detected populations.

PRIORITY AIS: YELLOW IRIS (YI)

Yellow Iris *(Iris pseudacorus)* is a nonnative species established in Wisconsin but native to Europe, western Asia, and North Africa. It was once popularly sold as an ornamental plant for gardens. Commonly found on lake shores, this plant can grow unrestricted and has the potential to crowd out shoreline and riparian edges, creating a strongly rooted monoculture. This plant spreads through extensive underground tubers that are firmly rooted yet can break apart easily.

Town of Winchester

Turtle Chain

Yellow iris has been a persistent invasive species along the shorelines of the Turtle Chain (South Turtle, North Turtle, and Rock Lake), prompting long-term management efforts led by NLDC in partnership with the Turtle Lakes Chain Association (TLCA) (Table 3).

In 2026, NLDC continued efforts based on newly updated and approved 2024 survey and landowner approvals to remove yellow iris late into the summer and early fall (Map 13). 16 populations of yellow iris, that had landowner approval, were removed over 2 days. A total of 88 pounds of yellow iris plant matter was removed and disposed of. The weight of this year's removal reflects an accurate measurement as precise weighing techniques were utilized compared to previous years. NLDC plans to continue removal efforts in 2027 with increased approval from landowners to allow more comprehensive and seamless management efforts.

Pardee Lake

After resurveying Pardee Lake in late June 2026, the Woods and Water team returned to Pardee Lake to remove 13 of the 21 populations of yellow iris, a total of 351.64 pounds of plant material (Map 14). A full report of this work will be provided to Pardee Lake Association.

These yellow iris projects highlight the effectiveness of long-term invasive species management through community collaboration, manual removal, and native community restoration. Ongoing efforts will be crucial in preventing the re-establishment of yellow iris and ensuring the continued health of Winchester's pristine waters. Landowner approval and/or participation is critical in this management effort to ensure thorough and up to date field work removal efforts.

Table 3. Timeline of past yellow iris management by NLDC on the Turtle Chain.

Year	Activity
2015	Yellow iris first officially documented on Turtle Lakes Chain
2017-2018	First mapping by Onterra on PI survey, some monitor and management with outreach to landowners
2019	NLDC mapped 35 individuals for removal
2020	TLCA mailed letters to shoreline property owners that had yellow iris, including a post card to indicate removal plans whether on their own or assistance from NLDC. The response rate was over 80%, with 19 property owners asking for removal assistance.
2021	Turtle Chain was resurveyed to track progress on removal. There continued to be a large amount of YI throughout the Chain, especially on Rock Lake. 133 total populations across 45 properties. NLDC staff removed yellow iris from the sites owned by WDNR.
2022	NLDC prioritized removal of yellow iris waypoints containing sparse or few plants and removed another 43 populations, or approximately 1,680 pounds of yellow iris.
2023	NLDC conducted follow up survey and observed reduced regrowth was observed at the 2022 managed sites. Removal efforts targeted northern half of Rock Lake, an estimated 1,500 pounds removed. A shoreline restoration project was completed on private property on Rock Lake to remove a dense population of yellow iris and restore it to a native, biodiverse, and stable shoreline, funded by a WDNR Healthy Lakes & Rivers Grant.
2024	Turtle Chain shoreline was resurveyed with an update to population density. 100 remaining yellow iris populations, with 70 concentrated on Rock Lake were

	identified. Removal efforts again were focused on high density areas on the northern half of Rock Lake, removing around 1,780 pounds of yellow iris. A follow up to the restoration project was found to be largely free of yellow iris, with native vegetation beginning to establish successfully.
2025	2021 survey and landowner removals were utilized to remove 1,015 pounds of yellow iris over 4 days at 44 of the surveyed populations.

PRIORITY AIS: SPINY WATER FLEA (SWF)

Spiny waterflea *(Bythotrephes longimanus)* has been recorded in 26 Wisconsin waters, 6 of which are in Vilas County: Plum (2019), Trout (2014), Star (2013), Stormy (2007), Ike Walton (2015), Spider (NLDC 2025). Spiny waterfleas prey on native zooplankton that graze on algae and can therefore shift food web dynamics in lakes. If the algae-eaters decline, algal populations increase. Lake Mendota in Madison has seen a loss of nearly 3 feet in water clarity that has been attributed to spiny waterflea. There is currently no known method to control spiny waterflea. Education is the key to prevention of this species in a waterbody. As part of WDNR Early Detection survey, North Lakeland Discovery Center conducts plankton net tows that consist of three vertical or oblique tows of a half-meter diameter, 250-micron plankton net in lake deep-holes. Samples are then processed into ethanol and put under a microscope to search for spiny waterfleas.

Towns of Manitowish Waters and Boulder Junction

In 2026, NLDC conducted zooplankton tows on Rest, Fawn, Stone, Wild Rice, Alder, Vance and Spider Lakes in late summer. All samples were thoroughly inspected under a microscope, and no spiny waterflea was found in any sample, including Spider Lake which was resampled to follow 2025's singular detection of SWF. NLDC will monitor the next round of lakes in 2027 mirroring Early Detection and Rapid Response Surveys (Table 4).



Figure 9. Aquatic Ecology Technician, Halle Boldt, prepares to toss zooplankton tow net on Fawn Lake.

Town of Winchester

In 2026 NLDC collected samples from North Turtle, Rock, and Circle Lily Lakes. All samples were thoroughly inspected under a microscope, and no spiny waterflea was found in any sample.

PRIORITY AIS: ZEBRA MUSSELS (ZM)

Zebra mussels (*Dreissena polymorpha*) are native to the Caspian Sea in Europe. They came to North America as veligers through the ballast water of ships. They spread inland as veligers in recreational boats, and as adults stuck to watercraft and equipment. Zebra mussels can remain alive out of water for up to two weeks. They reproduce rapidly, with each female zebra mussel producing up to 500,000 eggs per year. They create deep mats on any hard surface within a lake, including on docks, in pipes, and around native mussels, ultimately smothering and killing the native mussel. ZM are voracious filter feeders. They filter tiny food particles out of the water, which reduces food availability for other lake critters

Towns of Manitowish Waters and Boulder Junction

Beginning in 2025, NLDC established monitoring efforts for zebra mussels across the Manitowish Chain. Volunteers monitor a brick hanging in the water below their dock. NLDC and 10 volunteers monitored all but 3 lakes in the Manitowish Chain. NLDC hopes to expand monitoring efforts in 2027 to include Benson, Vance, and Sturgeon Lakes to complete the Chain. No establishment of zebra mussels were detected with these methods in 2026.

EARLY DETECTION AND RAPID RESPONSE SURVEYS

AIS Early Detection surveys are designed to increase the likelihood of finding any aquatic invasive species if present on a waterbody, especially when no extensive or multiple targeted surveys are occurring that year on the lake. Standardized WDNR protocol instructs the surveyors to choose multiple relevant locations on the waterbody that seem likely for invasives, as well as to search likely areas such as boat launches, public piers, and inlets/outlets. The number of locations is determined by kilometers of shoreline. Timed snorkel and shoreline surveys are then conducted, and the presence of any exotic species found is recorded.



Figure 10. Terrestrial Ecology Technician, Steven Ballard, holds up newly detected Eurasian Watermilfoil during EDRR survey on Rest Lake.

In 2026, AIS early detection surveys were conducted on Rest, Fawn, Stone, Wild Rice, Alder, and Vance Lakes in Manitowish Waters. During this survey, significant new populations of EWM were found on Rest Lake. EWM was also redetected during these EDRR surveys, after being found for the first time this year in other NLDC monitoring efforts, on Alder, Wild Rice and Vance Lakes. Within Winchester, North Turtle, Circle Lily, and Rock Lakes were surveyed. No new AIS was detected in these three lakes with this survey. The following year will be repeated with the biannual survey cycle (Table 4).

Table 4. Spiny waterflea and AIS Early Detection surveying timeline for Manitowish Waters Chain of Lakes and Town of Winchester Lakes.

	Spiny Waterflea Survey				AIS Early Detection Survey			
Lake	**2024**	**2025**	**2026**	**2027**	**2024**	**2025**	**2026**	**2027**
Manitowish		X		X		X		X
Clear		X		X		X		X
Rest	X		X		X		X	
Fawn	X		X		X		X	
Little Star		X		X		X		X
Stone	X		X		X		X	
Island		X		X		X		X
Spider		X	X	X		X		X
Wild Rice	X		X		X		X	
Alder	X		X		X		X	

Vance	X		X		X		X	
Sturgeon		X		X		X		X
Benson		X		X		X		X
Harris		X		X		X		X
North Turtle	X		X		X		X	
South Turtle		X		X		X		X
Rock	X		X		X		X	
Circle Lily	X		X		X		X	
Birch		X		X		X		X

AIS MEANDER SURVEYS

AIS Meander surveys are a protocol developed by NLDC that does not target a specific aquatic invasive species and is done mid-summer in hopes to identify any new aquatic invasive species. This survey was completed on Benson, Clear, Little Star, and Sturgeon Lakes within the Manitowish Chain. Within Winchester, this survey was conducted on Papoose. No new invasive species were found in 2026 through these surveys.

POINT INTERCEPT SURVEYS

Nine point-intercept surveys were conducted this year amongst the three towns. Onterra surveyed three: Circle Lily, Pardee, and Stone Lakes. NLDC surveyed six: Helen, Adelaide, Lower Trout River, Vance, Benson, and Sturgeon Lakes. Conclusions of these surveys will be in separate reports later when data is processed.



Figure 11. AIS Coordinator, Lydia Dobberstein, pulls up PI rake full of Fern Pondweed on Lower Trout River.

NORTHWOODS BUSINESSES FOR CLEAN WATERS

After hearing concerns from community members about the spread of AIS by lake business owners, NLDC has partnered with Vilas County, Vilas County Lakes and Rivers Association,

the Lac du Flambeau Tribe, Oneida County, and Oneida County Lakes and Rivers Association on a business outreach initiative. Each AIS Coordinator (from NLDC, Vilas County, Oneida County, and Lac du Flambeau) will work with up to three businesses each year. Eligible businesses are those that utilize lakes and rivers, including but not limited to bait shops, fishing guides, rental companies, dock installers/removers, boat dealers, etc. Partners will work with each business to teach them best practices to avoid spreading AIS, specific to their business. In 2023, NLDC worked with River's Edge Outfitters to create a kiosk at their establishment that will serve to inform their clientele on invasive species to be aware of while spending time out on the water. We also partnered with a private shoreland property owner who owns lakefront rentals on Rock Lake to install native plants following yellow iris removal.

In 2024, a private cabin rental business owner began working with NLDC to establish a new conservation plan for a 6-lot cabin rental on South Turtle Lake. Additional work on this project, including a native shoreline planting, occurred in 2026 with support from a Healthy Lakes and Rivers Grant.

In 2027, the continued development of this conservation plan will take place to determine what other practices can be put in place to promote healthy lakes and conservation practices. As these projects are completed, they will be highlighted in the Vilas County Lakes and Rivers Association newsletter and website. NLDC will be reaching out to additional businesses to gain their interest in participating in Northwoods Businesses for Clean Waters.

EDUCATION and VOLUNTEERING

NLDC participated in a variety of towns-wide and regional events during the 2026 field season to promote aquatic invasive species (AIS) awareness, environmental stewardship, and community engagement. Outreach included the Wings, Wheels, and Watercraft Show, The Manitowish Waters Fourth of July Parade and Community Event, Harvest Festival, and the Trout Lake Station Open House. NLDC WW also hosted the third annual Woods and Water Conference. Educational and hands-on programming was provided through an Environmental Education field day with the North Lakeland 7th graders to learn about and dig purple loosestrife, and a four-week R3 angler learn to fish for local elementary school children. NLDC hosted the Summer Family Play Day featuring fishing and canoe paddles. NLDC also supported field-based learning through the Natural Resources Foundation mussel surveys, snorkel and paddle trips, the statewide AIS Snapshot Day. Lastly NLDC WW was engaged in stakeholder meetings through regional, town, and lake association meetings.



Figure 14. Woods and Water Director, Abby Vogt, leads a Clean Boats, Clean Waters volunteer inspector training at Papoose Boat Launch.



Figure 15. Halle Boldt inspects invasive mystery snails found during AIS Snapshot Day.

Town of Manitowish Waters and Boulder Junction

Through WI DNR Surface Water Grants, NLDC and MWLA provided AIS education to the community. On June 12th, NLDC hosted a CLP identification workshop hosting 9 individuals at the Wild Rice Boat Landing, focusing on Alder Lake. On July 9th, NLDC hosted a Clean Boats Clean Waters training for three individuals at the Rest Lake Boat Landing. On July 16th, NLDC hosted an EWM identification workshop on the NLDC campus, highlighting EWM on Fawn Lake but also throughout the chain with three people in attendance. NLDC hosted an EWM Pontoon Ride on Spider Lake for five individuals, highlighting the EWM on Spider Lake. Participants learned how to identify EWM from a boat, understand the populations throughout Spider Lake, and learn how to properly monitor for the species.

Volunteer engagement remained a key part of project success in 2026, with 191.75 volunteer hours contributed overall. Volunteer efforts focused on aquatic invasive species surveying, including the new zebra and quagga mussel bricks.



Figure 16. NLDC Woods and Water Team installed a Healthy Lakes and Rivers Diversion Project on a North Turtle Lake property.

Town of Winchester

NLDC and the Winchester Library hosted a presentation highlighting Shoreline Restoration. This presentation was funded through a WI DNR Surface Water Grant for Helen and Adelaide Lakes. Two people were in attendance, and they learned the importance of shoreline habitat and restoration, as well as options for landowners to improve their shoreline habitat.

Likewise, 172.1 volunteer hours were reported from the Turtle Chain, with 100 hours dedicated to North Turtle's Clean Boats Clean Waters initiative. NLDC hosted a CBCW training on June 13th on Rock Lake; over 10 participants were in attendance.

LAND PROJECTS

In 2026, North Lakeland Discovery Center was involved in four native planting projects within the three towns. These projects ranged from native shoreline plantings in Boulder Junction, native gardens in Winchester, and terrestrial invasive species removal of wild parsnip along Hwy 51. Two properties participated in the Healthy Lakes and Rivers Grant Program, including installing three diversions and a native shoreline planting in Winchester. Site visits occurred on four properties this year to plan for native planting projects or develop conservation plans in the future.

CLEAN BOATS CLEAN WATERS

NLDC applied for and obtained funding through the WDNR Clean Boats Clean Waters (CBCW) Program for Rest and Clear Lakes in Manitowish Waters and contracted with additional lake associations for CBCW inspections. In 2026, NLDC contributed 537 hours to the CBCW program throughout five lakes (Table 3).

Table 3. Data from CBCW inspection hours completed by NLDC staff in 2026

LAKE	NLDC INSPECTION HOURS	Volunteer Hours	BOATS INSPECTED	PEOPLE CONTACTED	% OF BOATSON ANOTHER WATERBODY IN PAST 5 DAYS (2019-2026)
Rest	112	0	292	687	19%
Clear	104	0	188	383	36%
Big	151	0	248	498	70%
Presque Isle	50	0	34	64	42%
South Turtle	120	72.1	203	405	45%

DECONTAMINATION

In 2026, NLDC debuted its new high pressure, hot water decontamination system. This trailer mounted system allows for mobile decontamination throughout the area. The system has two tanks, one that contains fresh water and the other contains reclaimed contaminated water. This system allows NLDC to decontaminate watercraft and equipment before entering a waterbody and before leaving. Watercraft decontamination takes between 5-15 minutes to complete; areas that can be decontaminated are the hull, bilge, motor, ballast, trailer, etc. In 2026, NLDC had some positive response to the decontamination system; however, more education and engagement is needed to gain more societal support and investment in voluntary decontamination.

With the support of the WDNR AIS Prevention Grant, 100 hours were spent at the Rest Lake Boat Landing decontaminating boats as they entered and left in 2026. In total, 8 boats were decontaminated throughout the summer. This program is completely voluntary, and many people opted out of participating in the service, citing reasons such as not having time, the boat's first time on the water that year, a brand-new boat, and that the boat is only used on that waterbody. Of the 228 boats contacted, 80 of them said that they took extra steps to clean their boat since the last waterbody, including wiping dry, leaving out for 5 days, low pressure washing, and high pressure washing.

In 2027, there are plans to adjust the decontamination program to a new location by the Town Hall to reach more boaters as they travel highway 51 and before entering the water. Additional plans include expanding this program into Iron County. Development of education will occur with rental boat companies and recreational boaters about the

importance of decontamination. Work completed in 2027 is conditional on receiving grant funding.



Figure 17. Conservation Technician, Sam Mergen, decontaminates a boat at Rest Lake Boat Landing with the new decontamination trailer.

LAKE LEVEL MONITORING PROGRAM

Sparked by record low lake levels, in 2008, NLDC partnered with local concerned citizens and area scientists to form a citizen science-based lake level monitoring project. This project partners with UW-Madison Trout Lake Research Station, Vilas County Land and Water, individual lake associations, many dedicated volunteers, and other organizations throughout the nearly two decades of this project. NLDC has continued managing this project and its vast dataset to continue ensuring



Figure 18. Halle Boldt and volunteer, Paul Lewandoski, triangulate the elevation of a lake level monitoring gauge.

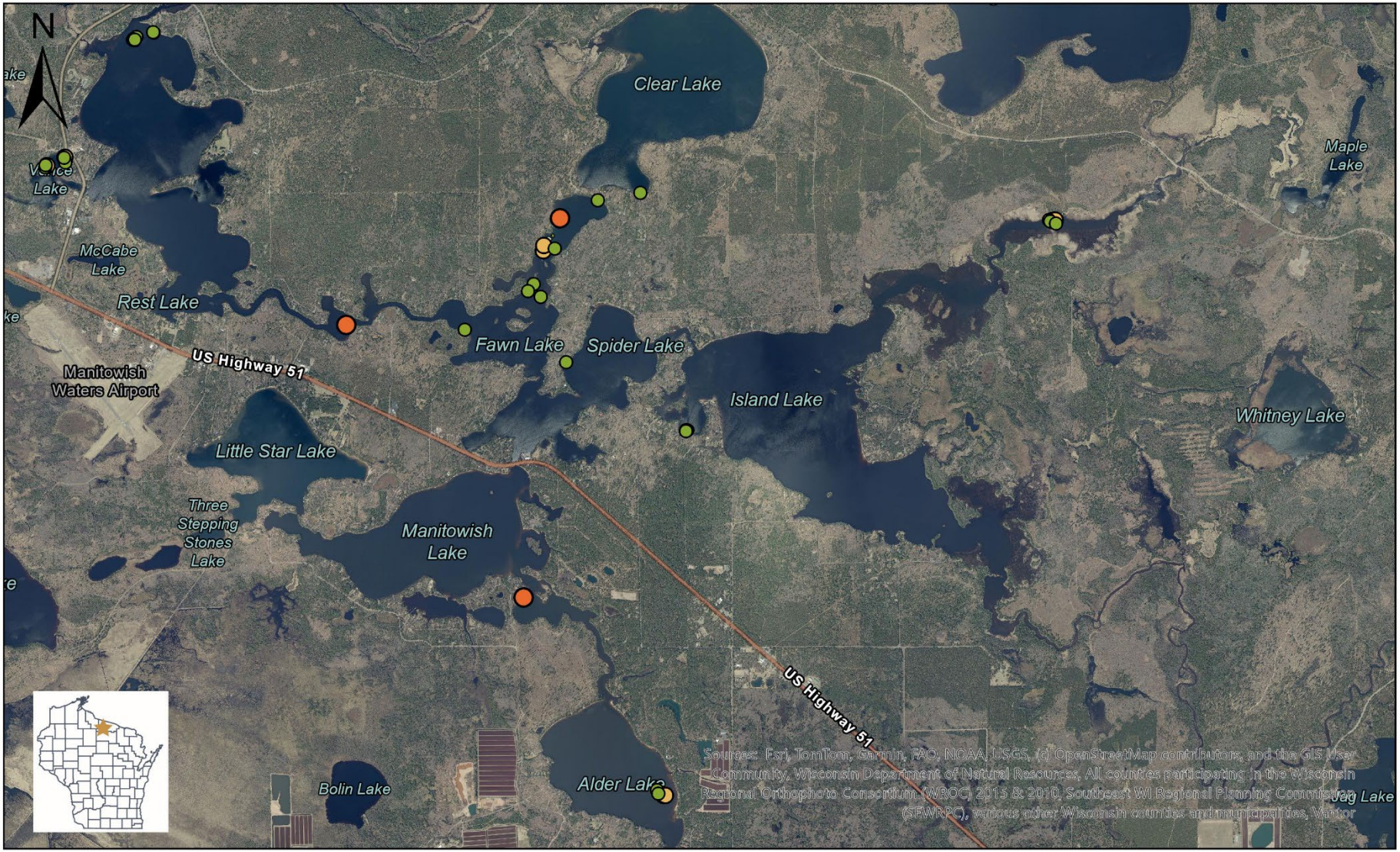
At the 2026 Woods and Water Conference, NLDC presented this project showcasing local lake level monitoring efforts, including volunteer-collected data, and explored what these trends mean for long-term lake ecology. Attendees learned why consistent monitoring matters, how citizen scientists contribute, and how observed changes inform lake stewardship. For the 2026 field season, NLDC installed or calibrated 24 lake gauges that were monitored by lake resident volunteers throughout the Northwoods. In fall, the lake gauges were removed before ice formed and data was collected from volunteers. Data was entered into NLDC's long-term database, reports were created for individual lakes, and data was shared to Trout Lake Station.

CONCLUSION

The 2026 field season marked a year of impactful progress and learning for the Town Aquatic Invasive Species Partnership. Through collaborative stewardship and strong community engagement, our team managed priority aquatic invasive species, strengthened early detection efforts, collaborated on AIS prevention, and delivered innovative education and outreach across the region. From DASH removal of Eurasian watermilfoil to debuting watercraft decontamination unit, every effort contributed to the protection and resilience of our Northwoods lakes and wetlands. As we look ahead to 2027, we remain committed to science-based management, long-term monitoring, and empowering local stakeholders to engage as stewards of the land and water. Together, we are protecting clean waters for generations to come.

Map 1. Manitowish Chain's 2026 Curly-leaf Pondweed survey results by NLDC

Manitowish Waters Chain of Lakes
2026 Curly Leaf Pondweed



0 0.5 1 2 Miles

Town of Manitowish Waters
Vilas County, Wisconsin
2026

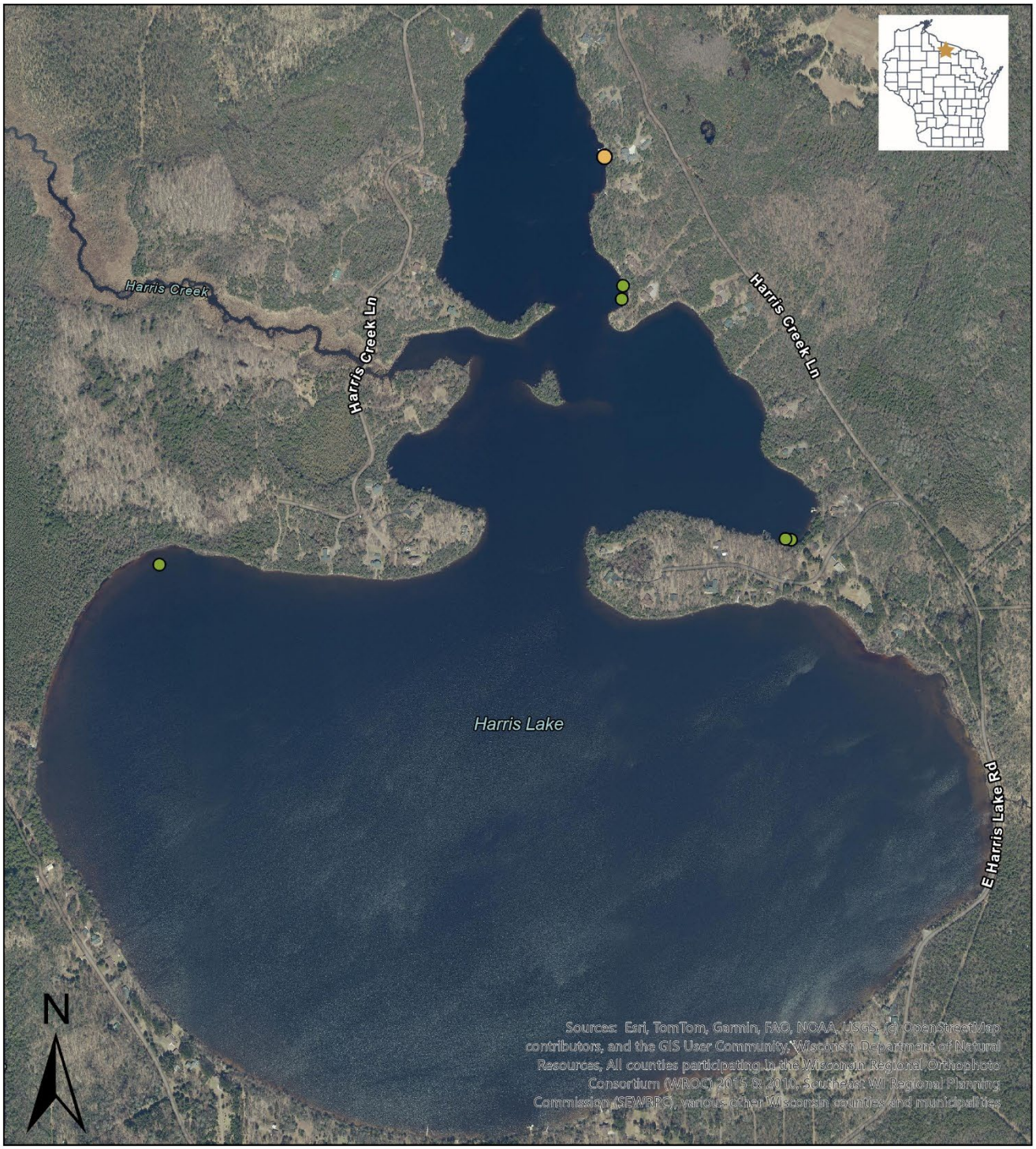
Legend

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clumps of Plants
- Small Plant Colony

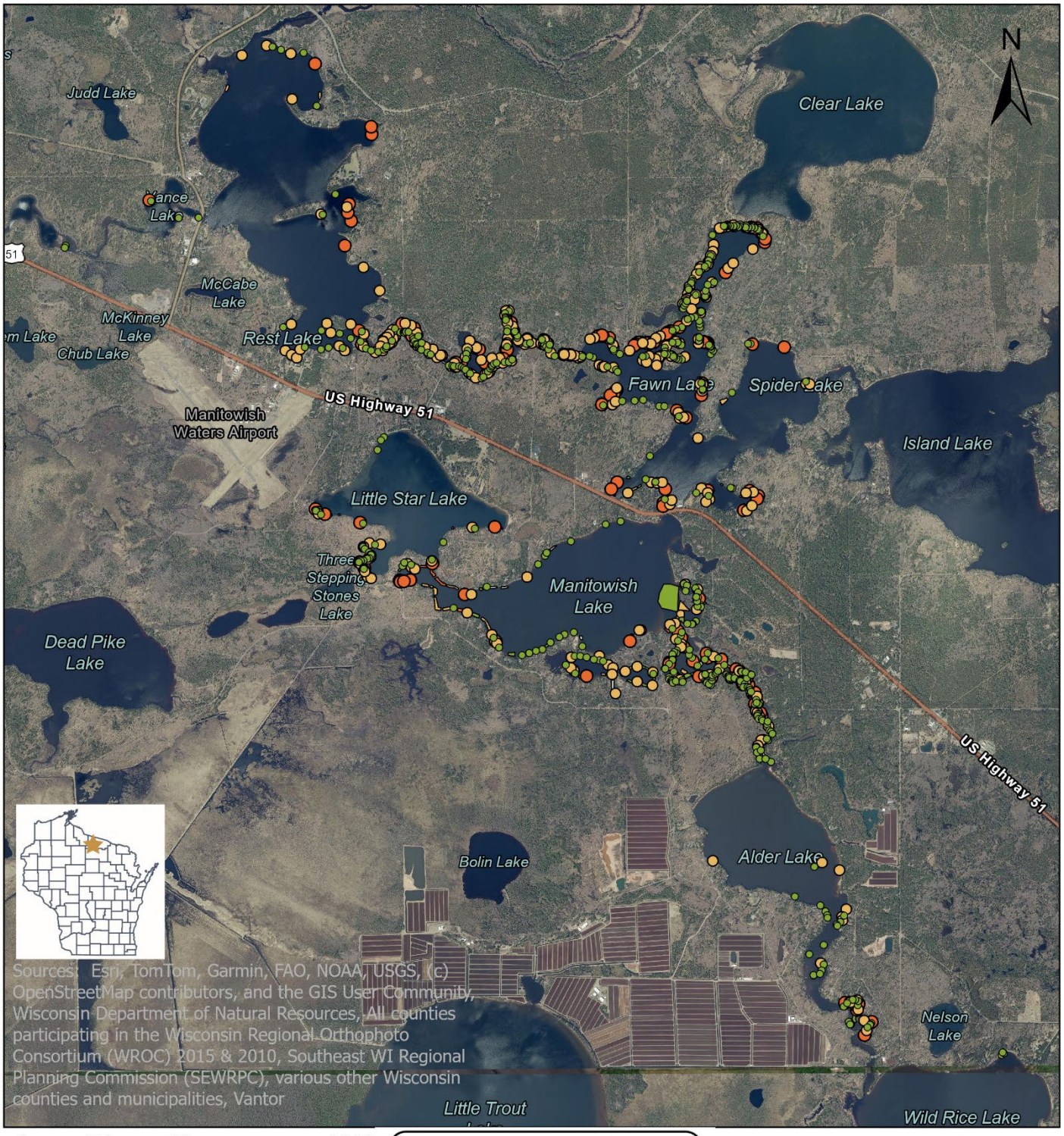
Not officially surveyed- Little Star, Benson, Sturgeon Lakes, and Manitowish and Trout Rivers

NORTH LAKELAND DISCOVERY CENTER
WOODS AND WATER
(715) 543 - 2085
14006 Discovery Lane
Manitowish Waters, WI
www.DiscoveryCenter.net

Map 2. Harris Lake's 2026 Curly-leaf Pondweed survey results by NLDC



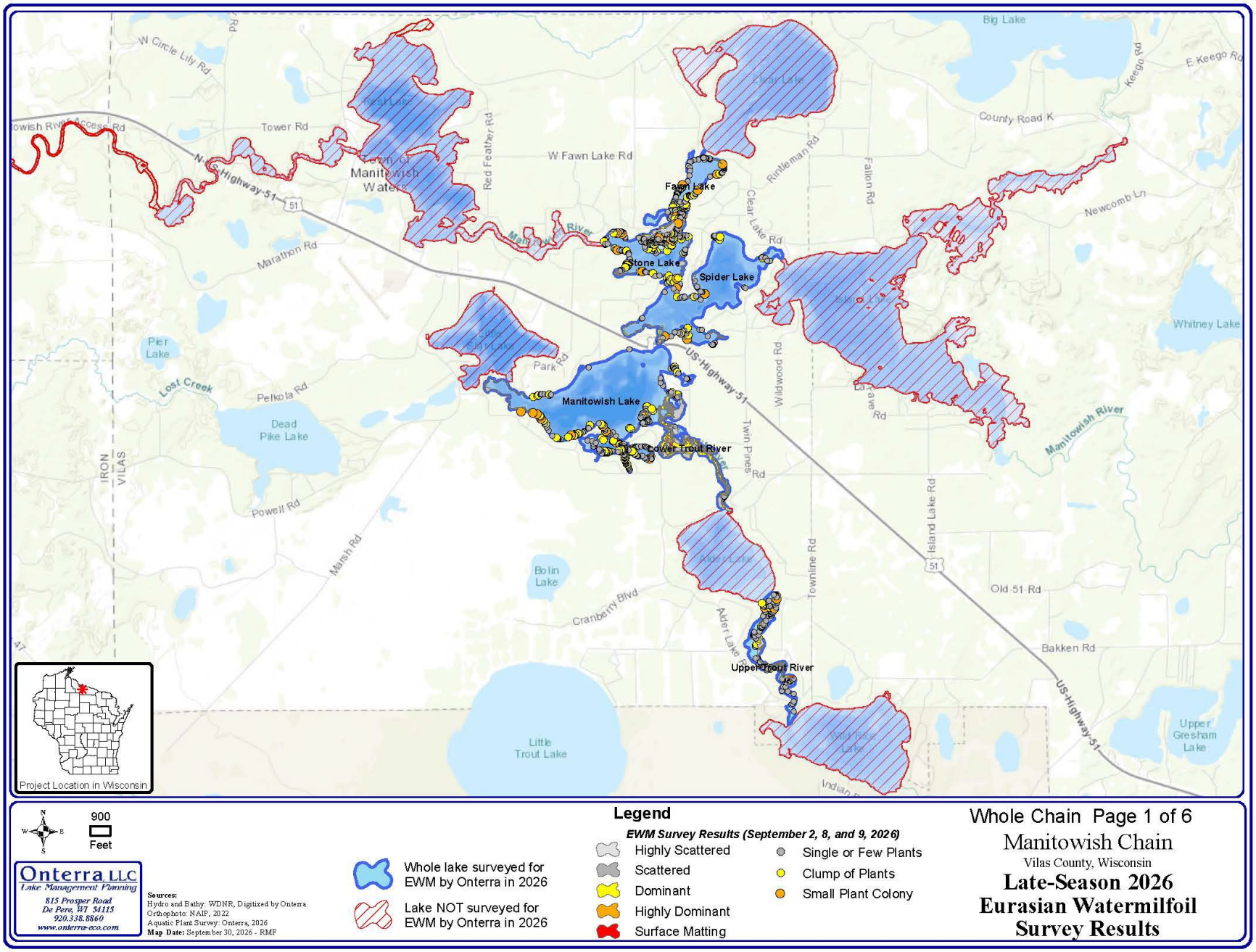
Map 3. Manitowish Chain's 2026 Eurasian Watermilfoil survey results by NLDC



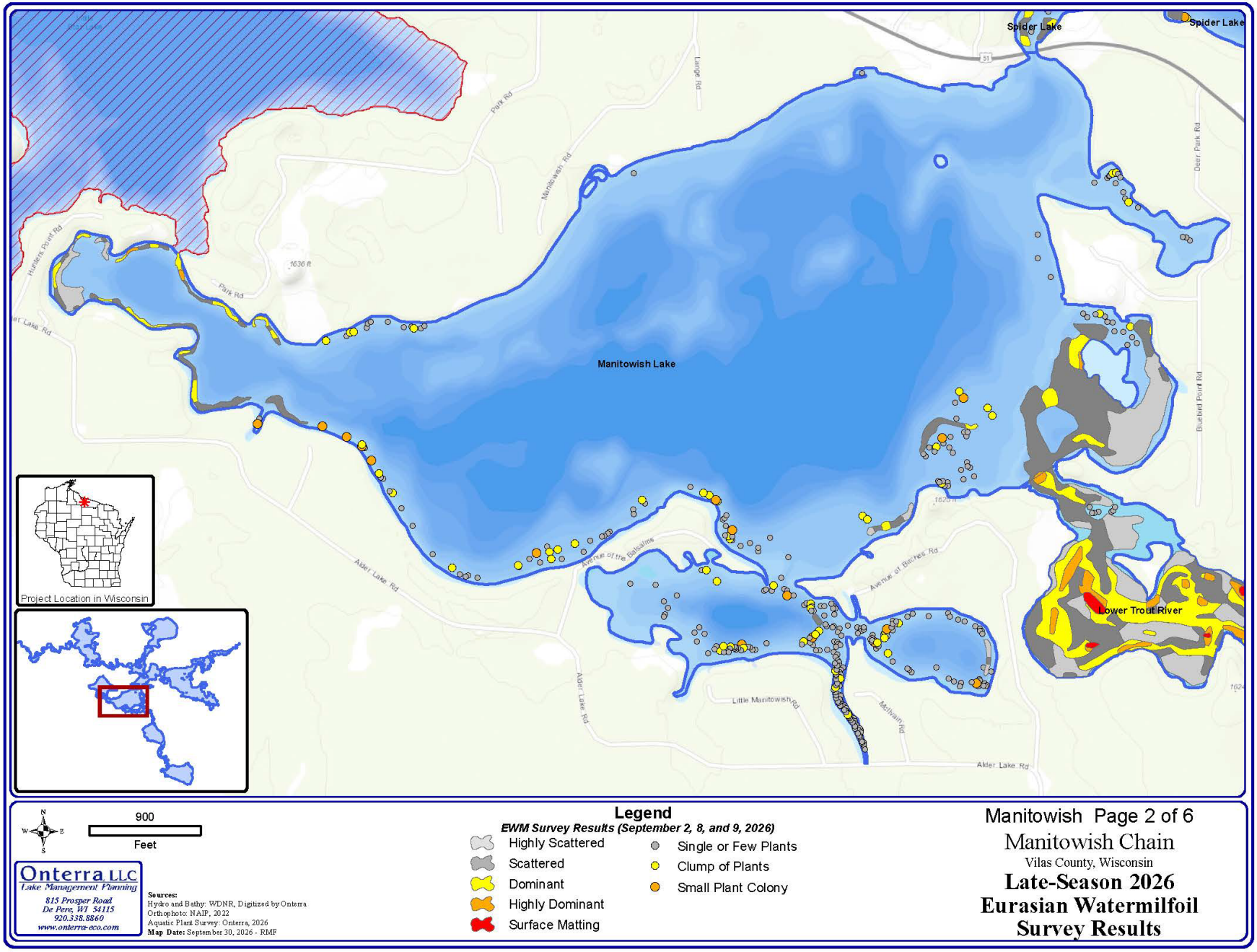
Town of Manitowish Waters
Vilas County, Wisconsin
2026
*Island Lake not officially surveyed

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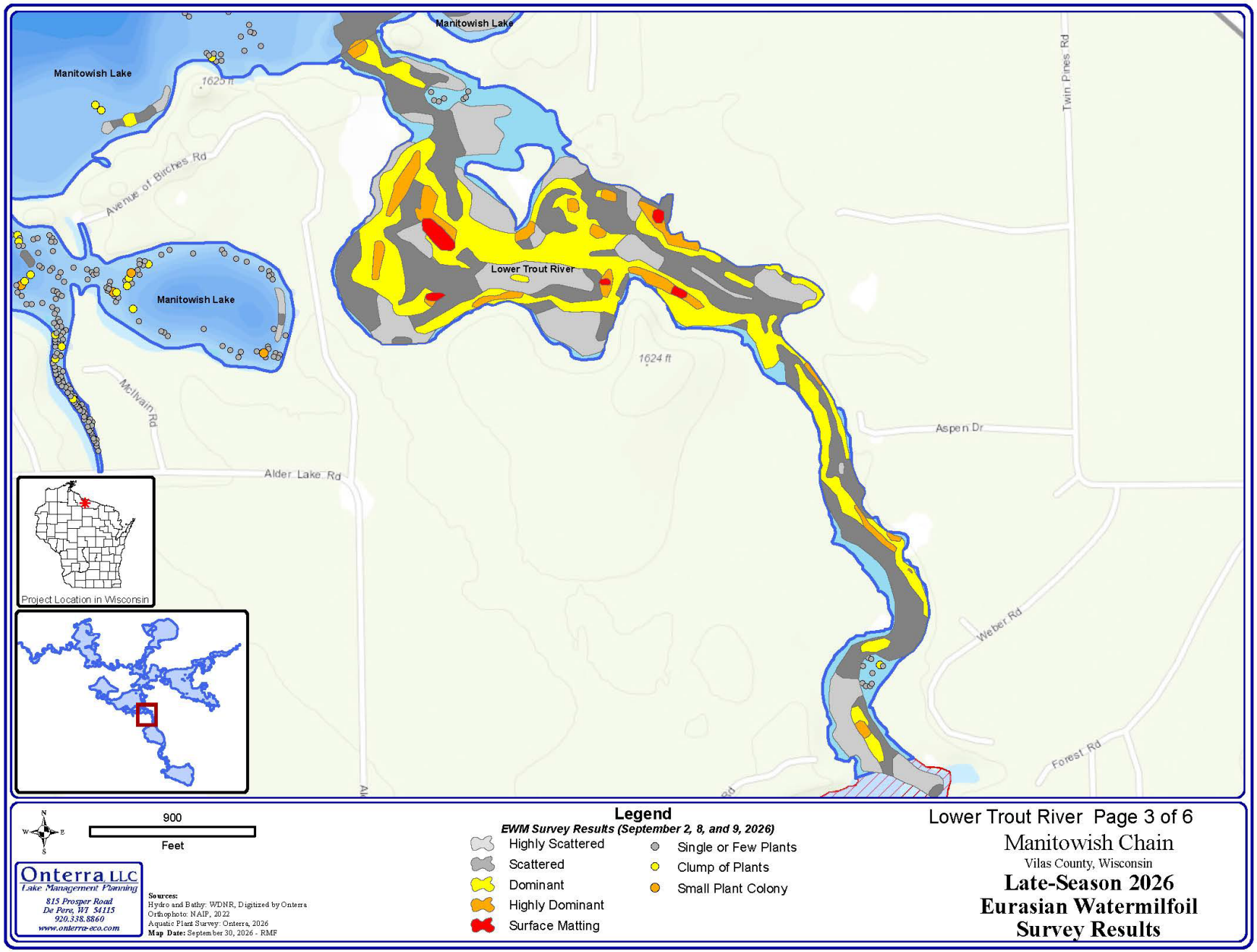
Map 4. Manitowish Lakes Chain Eurasian Watermilfoil survey results by Onterra



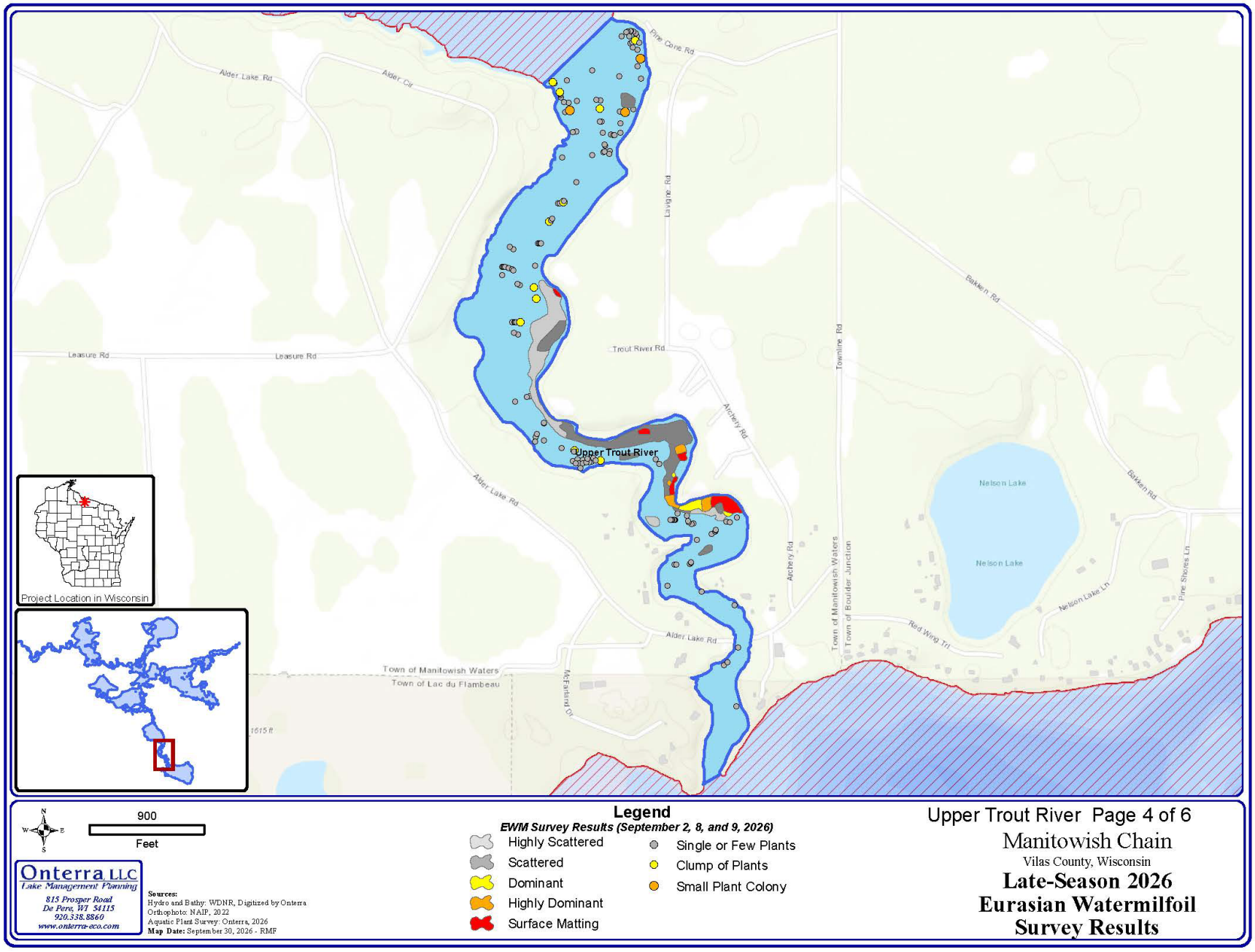
Map 5. Manitowish Lake's Eurasian Watermilfoil survey results by Onterra



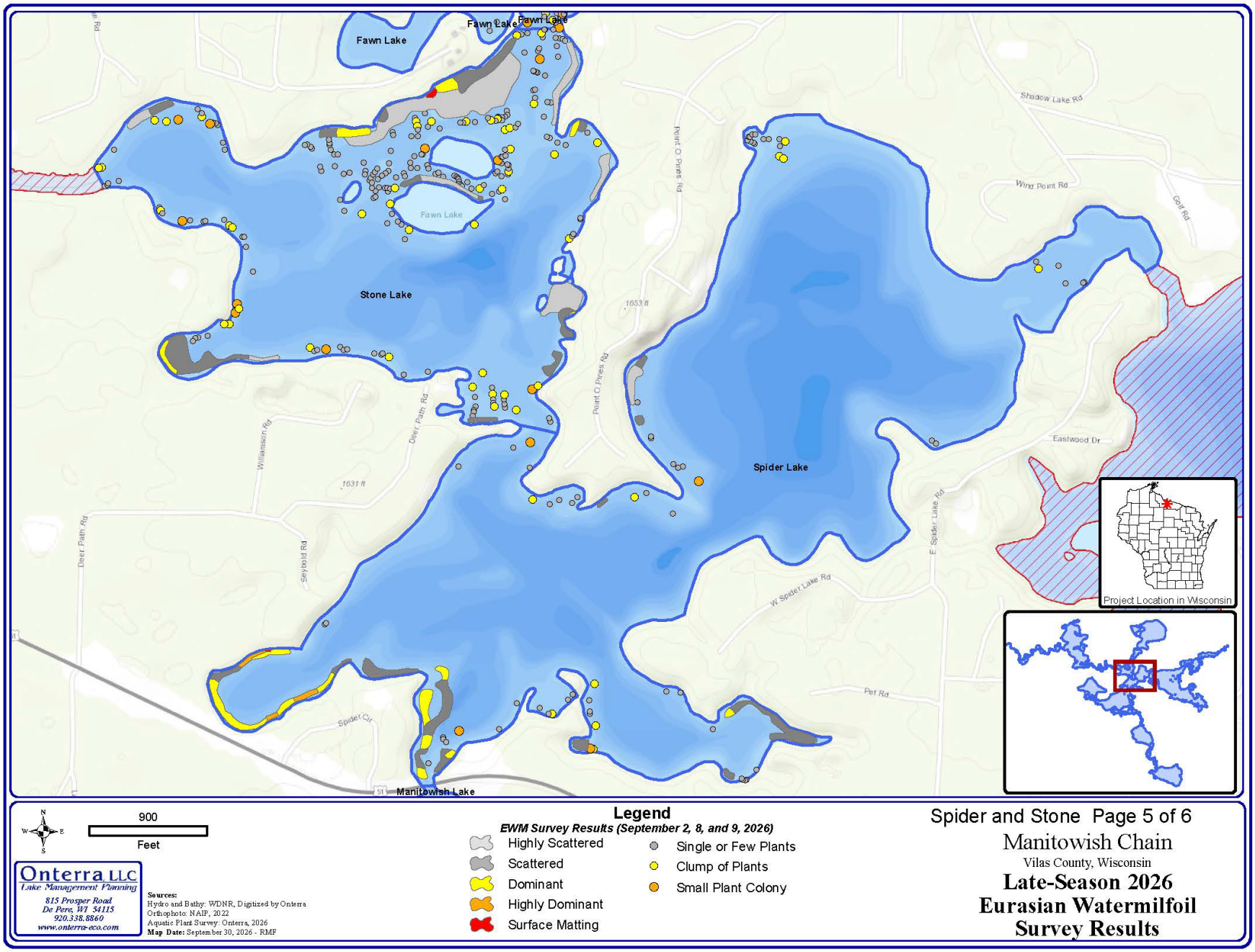
Map 6. Lower Trout River's Eurasian Watermilfoil survey results by Onterra



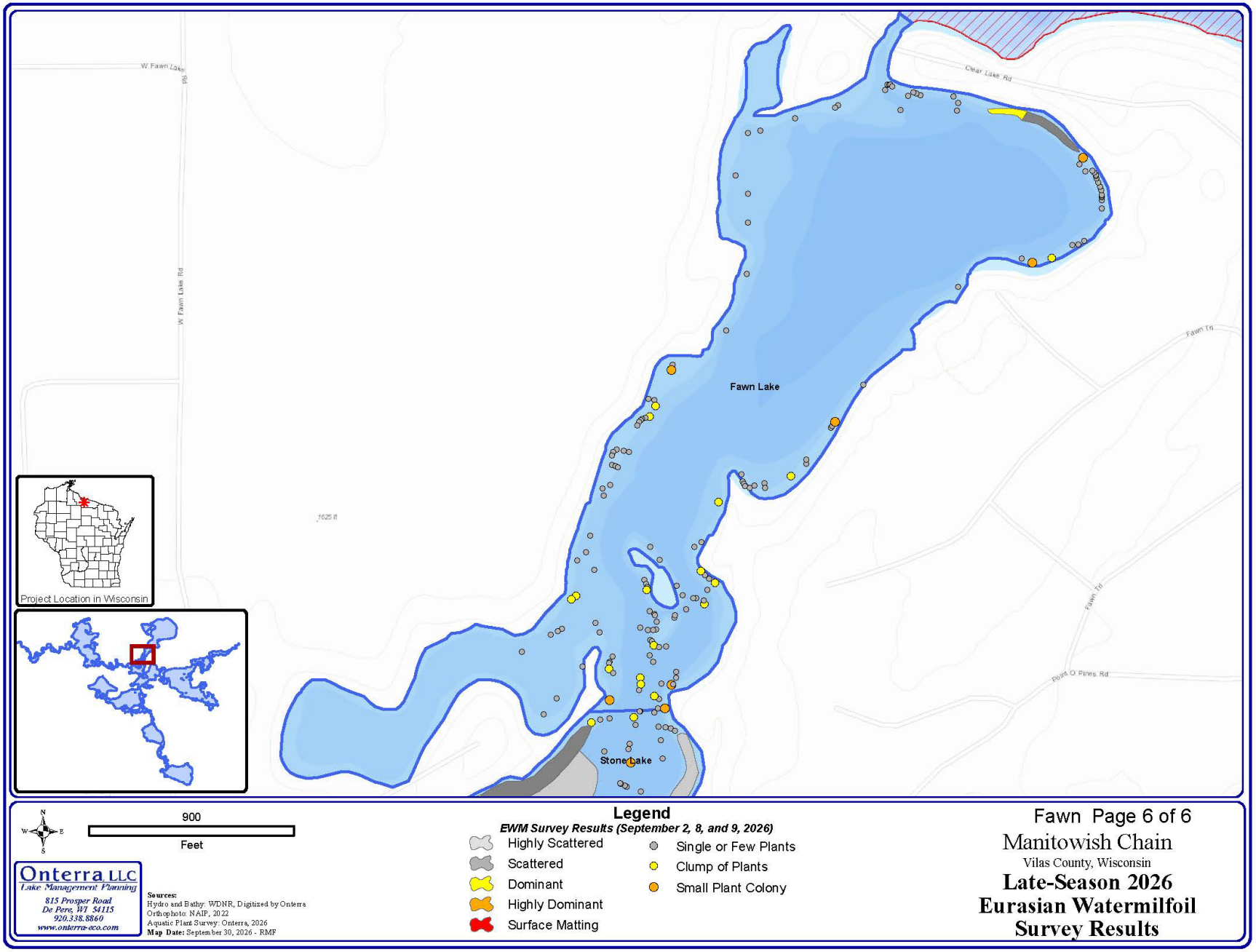
Map 7. Upper Trout River's Eurasian Watermilfoil survey results by Onterra



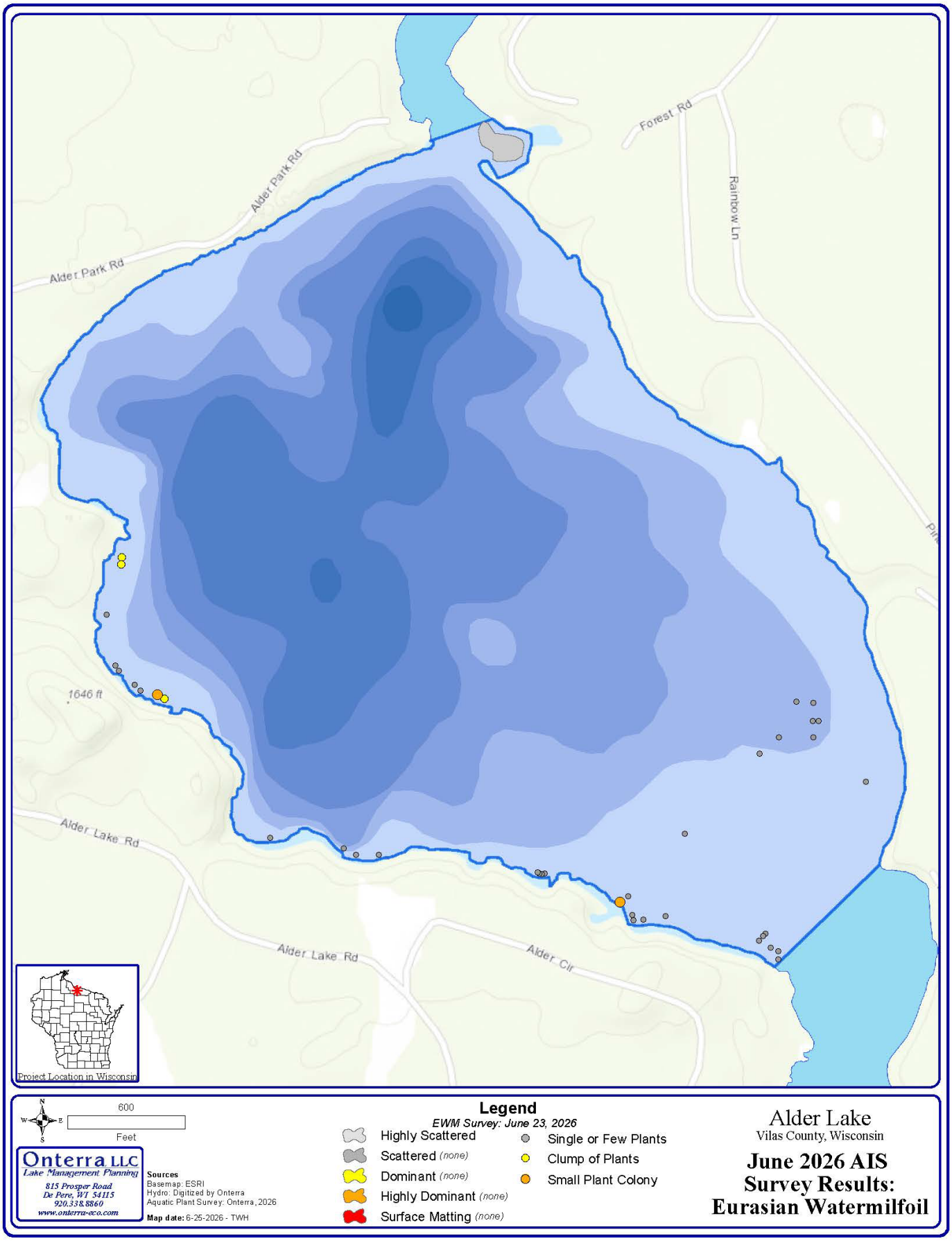
Map 8. Stone and Spider Lake's Eurasian Watermilfoil survey results by Onterra



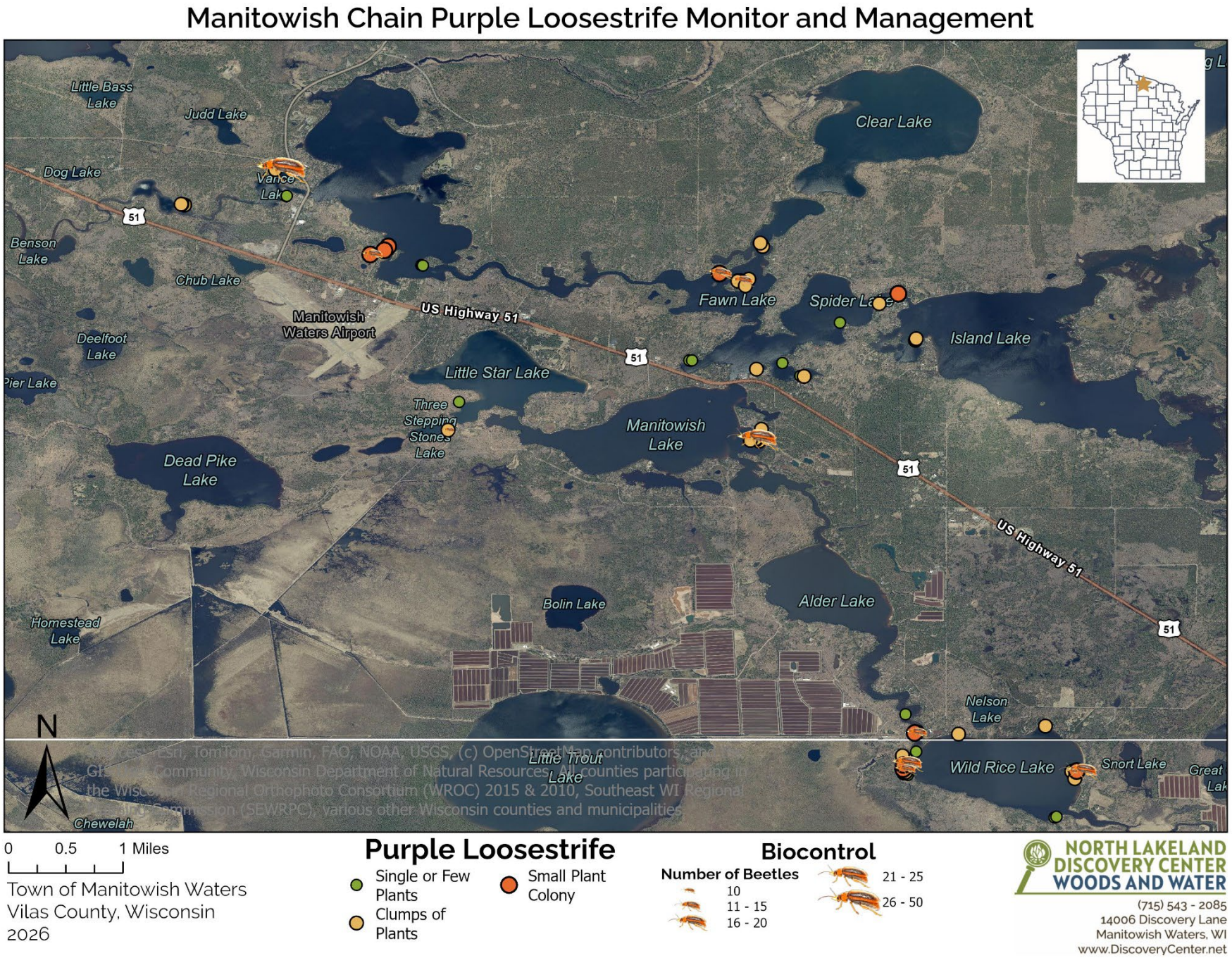
Map 9. Fawn Lake's Eurasian Watermilfoil survey results by Onterra



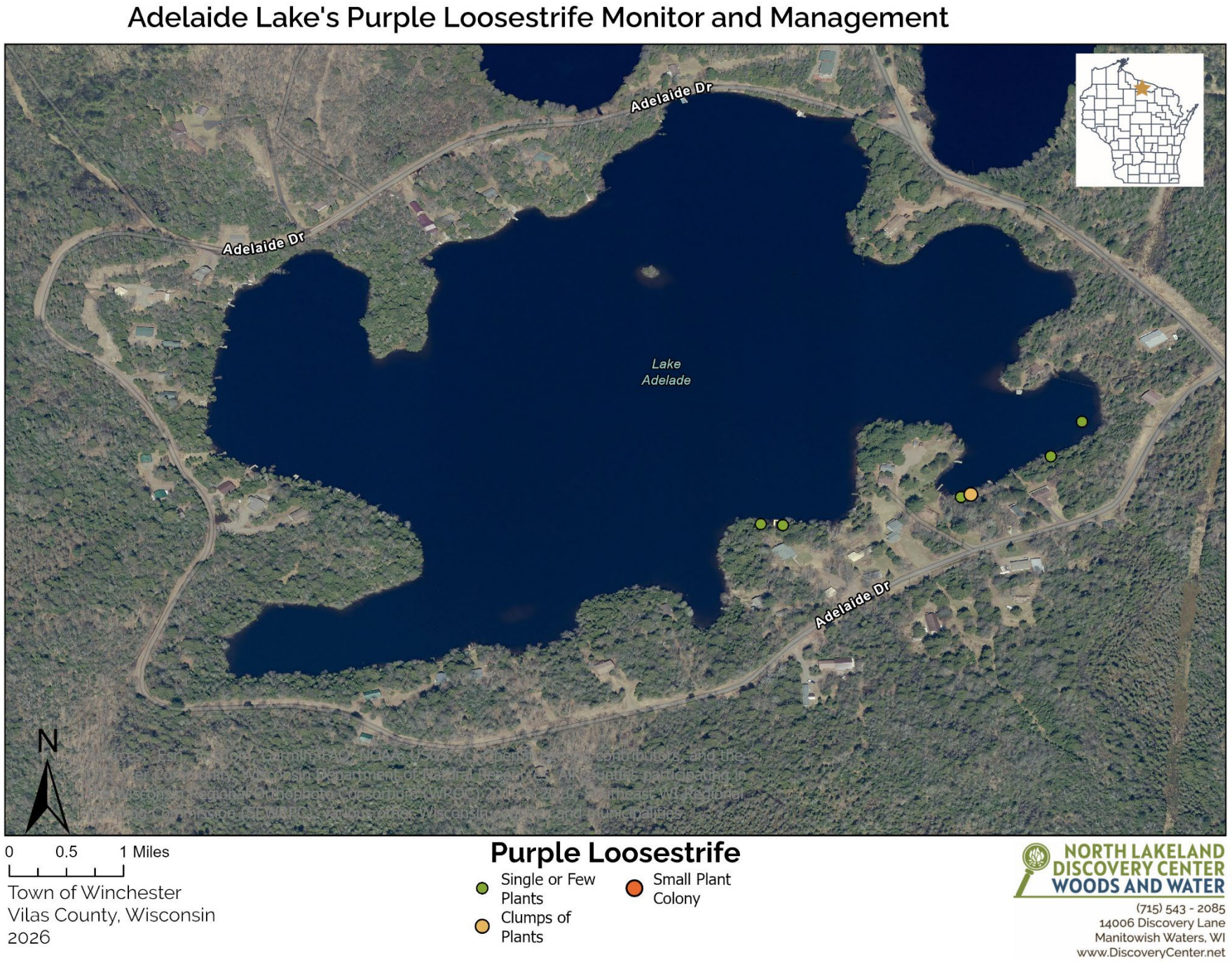
Map 10. Alder Lake's Eurasian Watermilfoil survey results by Onterra



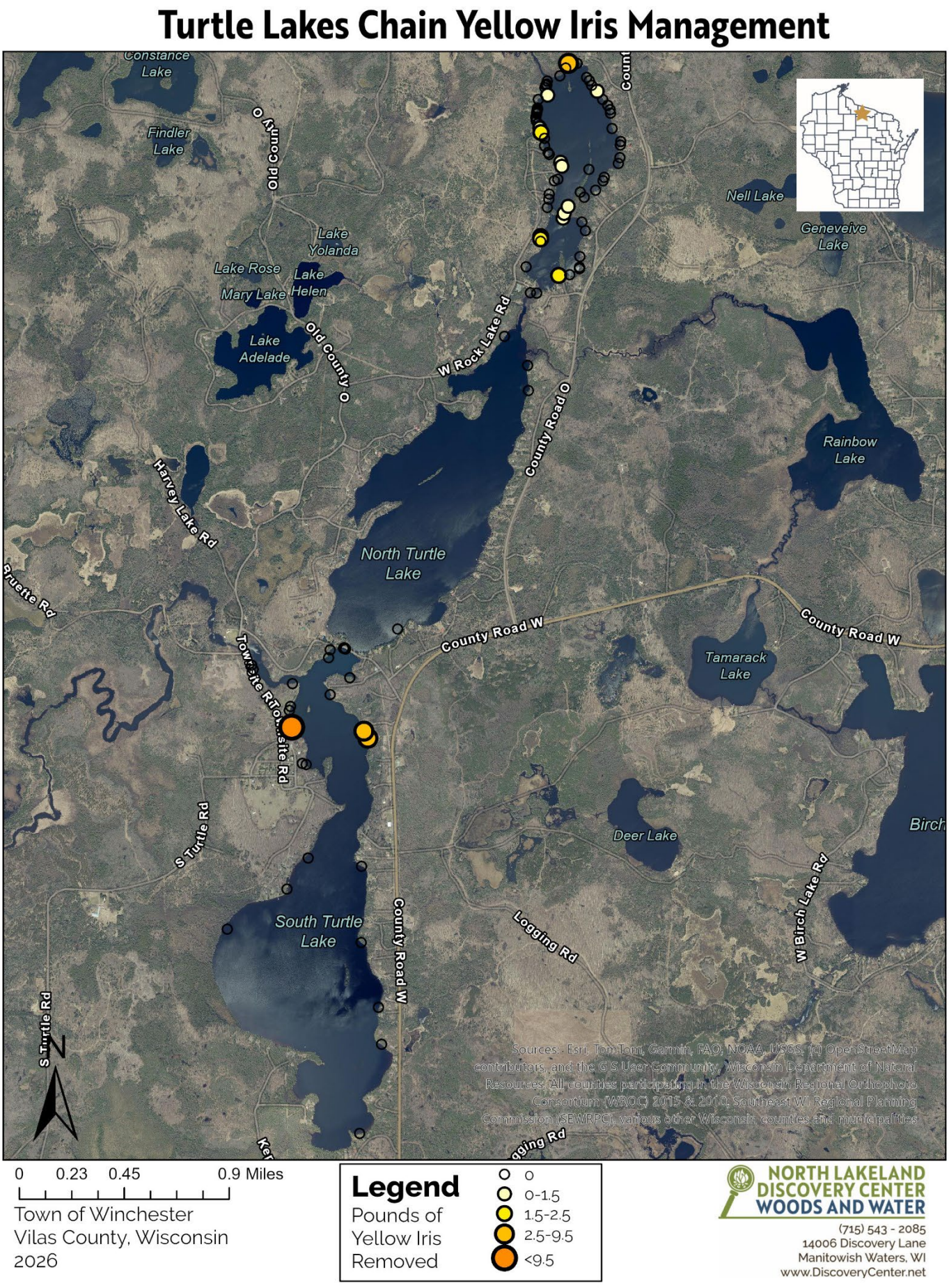
Map 11. Manitowish Chain's 2026 Purple Loosestrife results by NLDC



Map 12. Adelaide Lake's 2026 Purple Loosestrife results by NLDC



Map 13. Turtle Lakes Chain's 2026 Yellow Iris Management by NLDC



Map 14. Pardee Lake's 2026 Yellow Iris Management by NLDC

