

2022-2023

FINGER LAKES PRISM ANNUAL REPORT



HOBART AND WILLIAM SMITH COLLEGES

FINGER LAKES
INSTITUTE



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INTRODUCTION

Vision

Finger Lakes Partnership for Regional Invasive Species Management (Finger Lakes PRISM) preserves the biodiversity of our natural communities through the prevention, detection, and control of invasive species.

Mission

Our mission is to reduce the introduction, spread, and impact of invasive species by working collaboratively with partners to implement effective education, outreach, and control measures.

2022-2023 Summary

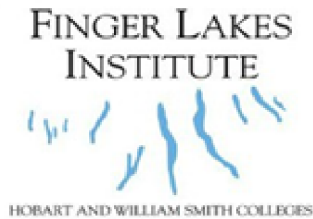
This annual report highlights prominent accomplishments for the Finger Lakes PRISM between April 1 2022 and March 31 2023. We experienced a great deal of change this year. A new Coordinator was instated in May, followed by additional major staffing changes that continued through February 2023. Program changes were also abound – newly created programs and existing program reorganizations posed a number of exciting challenges and opportunities for Finger Lakes PRISM staff. As programs developed and new avenues for fighting invasive species were explored, we have worked to incorporate Finger Lakes Institute (FLI) programs into Finger Lakes PRISM strategic planning. Finger Lakes PRISM staff work directly with K-12 education programming staff, watershed managers representing intermunicipal watershed organizations, and labs that actively process and analyze water and biological samples from across the Finger Lakes for nutrients and contaminants at the FLI. Incorporating the diverse scientific areas and technical fields of the FLI offers the opportunity for comprehensive and informed decision-making across Finger Lakes PRISM programs.

With the help of our broad volunteer network, our dedicated staff worked to strategically address the constantly evolving threat of invasive species across the 17 counties in the Finger Lakes PRISM. Through continuous education and outreach, we grew and tended to diverse partnerships, and engaged new audiences regionally. Our expert staff worked tirelessly through busy field seasons to detect and respond to emerging invasive species. We discovered and pursued new opportunities to leverage our existing resources to combat invasive species.

We look forward to continuing this work with our partners and staff, and contributing to the protection of our important natural spaces and resources.



INTRODUCTION



The Finger Lakes Institute (FLI) at Hobart and William Smith Colleges (HWS) strives to protect and promote the water resources and natural capital of the Finger Lakes region. We connect HWS academic activities to regional, state and federal research and community needs. The FLI provides (i) relevant, actionable scientific analysis for the region; (ii) research and professional development opportunities for students, faculty, and staff; and (iii) a place for community education about existing and emerging water quality issues through focused goals:

- *Advance, coordinate, and share scientific data and understanding about the FingerLakes environment*
- *Provide equitable, meaningful professional experiences for the next generation of environmental researchers, educators, and policymakers at Hobart and William Smith Colleges and beyond Enhance understanding of environmental issues by regional policy makers and the public Support the economic foundation of the Finger Lakes region through comprehensive land use planning, policy development, and sustainable enterprise*
- *Promote regional equity by creating and increasing access to educational resources for all community partners including: Finger Lakes region residents, K-12 teachers and students, Hobart and William Smith Colleges, and other regional colleges and universities*

Finger Lakes Institute Invasive Species Team includes: Sam Beck-Andersen, Finger Lakes PRISM Coordinator; Matt Gallo, Terrestrial Invasive Species (TIS) Program Manager; Amy Slentz, Aquatic Invasive Species (AIS) Program Manager; Josh Neff, AIS Field Coordinator; Ben Kelley, EDRR Project Coordinator; Ian Smith, Seneca Lake Watershed Steward; Nadia Harvieux, Education Program Manager; Trevor Massey, Lab Manager; Evan Helming, Laboratory Technical Director; Lisa Cleckner, Director, Finger Lakes Institute.

GOAL 1: PREVENTION

"Prevent the introduction and spread of Invasive Species (IS) to new areas within the region through targeted prevention efforts for vectors and pathways of transmission."

Finger Lakes PRISM recognizes prevention as the most cost effective method for reducing the impacts of IS ecology and human health. It is the cornerstone of our programming. Prevention is built into many of our projects, and is the key to our success in the region.



Spotted Lanternfly Campaign

In 2022, Spotted Lanternfly (SLF) continued to spread across New York State. Within our region, SLF populations have been confirmed in Broome, Tioga, Tompkins, and Onondaga counties. As SLF continues to spread across our region via the transit corridors of I-81 and I-90, dissemination of information to the public and our partners is as important as ever.

The NYS Dept. of Agriculture and Markets continues to manage the active infestations in our region. To supplement those efforts, Finger Lakes PRISM staff continued the distribution of over 250 SLF traps to partners regionally. Partners mark locations of the traps, and periodically monitor traps throughout the SLF lifecycle for signs of the pest. Additionally, 750 interactive “Maker Kits” aimed at youth education about SLF were distributed to partners regionally.



Watercraft Steward Program

Our watercraft steward program experienced an exciting change this year with the addition of operating a decontamination unit at the Canandaigua Lake State Marine Park in Canandaigua. In a collaborative effort among the NYS Department of Environmental Conservation (DEC), NYS Office of Parks, Recreation and Historic Preservation (OPRHP), Canandaigua Lake Watershed Association, and the City of Canandaigua, Finger Lakes PRISM was given the opportunity to operate the first decontamination station installment at one of the busiest boat launches in the region. During this pilot program PRISM stewards decontaminated over 177 watercraft. In the process, PRISM staff gained important experience and knowledge about what it takes to integrate a decontamination unit at this site, which will be applied to operations in the 2023 boating season.

GOAL 1: PREVENTION

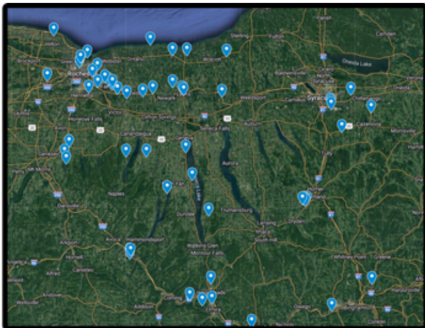


Education and Outreach

- 24 trainings (416 people)
- 47 tabling events (3,409 people)
- 48 presentations delivered (1,150 people)
- 33 workshops (692 people)
- 6 meetings hosted (124 people)
- 3 iMapInvasives trainings (43 people)

Key Outputs

- **WATERCRAFT STEWARD PROGRAM** - 27 stewards, 3 regional coordinators
 - 36,565 watercraft inspected
 - 72,549 interactions with people during inspections
 - 24 launches covered on 15 waterbodies
 - 4,255 new boater engagements where boaters answered 'no' to previous steward contact
 - **DECON** - 177 watercraft decontaminated at Canandaigua Lake State Marine Park
- **OUTREACH** - 5,834 people across 161 different programs.
- **SOCIAL MEDIA** - 1,213 Facebook followers, 558 Twitter followers, and 541 Instagram followers ; over 350,000 impressions on Nextdoor



Locations of SLF traps deployed through partner organizations



Outreach setup for a tabling event in the Finger Lakes



2022 Watercraft Steward Program Training at Seneca Lake State Park



Watercraft steward Tabitha O'Brien with Bassmasters Elite contestant



Coverage for 2022 FLI Watercraft Stewards

Locations for Finger Lakes PRISM Watercraft Steward Program coverage

OUTCOME: New invasions to the region are prevented to the greatest extent practicable

GOAL 2: EARLY DETECTION, RAPID RESPONSE

"Implement early detection and rapid response measures to identify new IS to the area and respond to mitigate the effects."

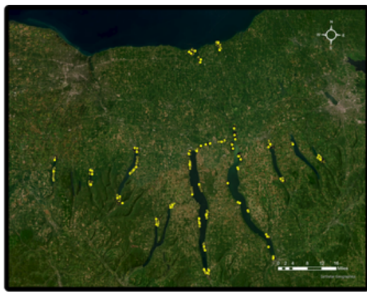
Early detection and rapid response (ED/RR) are critical to controlling the spread of IS and managing impacts. The Finger Lakes PRISM engages in multiple ED programs and seeks funding to complete additional ED work in the region. Our technical staff work diligently through the summer and fall growing seasons to identify existing and emerging populations of high priority invasive species. With 17 counties and 7.3M acres, it is impossible to detect IS across all landscapes. As a supplement to structured survey efforts, we train and mobilize volunteers to help fill early detection/rapid response gaps in IS data across the region.



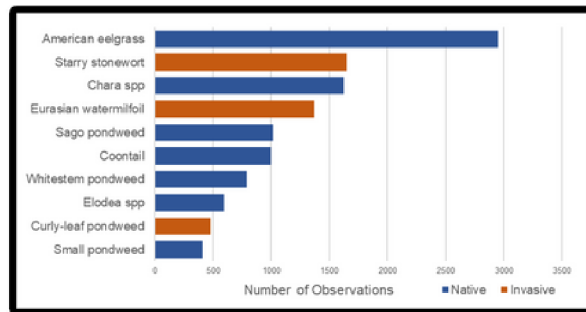
Macrophyte Surveys

To detect high-priority AIS, point-intercept surveys target areas susceptible to AIS via recreational activities. Five field staff surveyed areas around waterbody access points for AIS. Hydroacoustic, water chemistry, and macrophyte data were also collected across six waterbodies, in close proximity to a boat launch or marina.

Hydroacoustic data was also collected monthly from June - September on three waterbodies at six sites total with macrophyte points taken along transects. BioBase-processed data were analyzed to calculate physical factors including substrate hardness and macrophyte biovolume across sample areas.



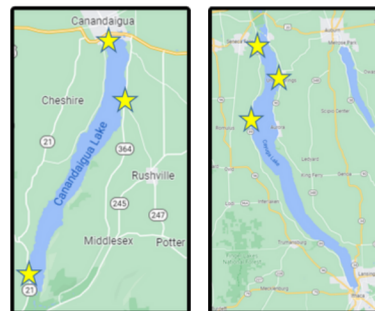
Points collected during EDRR and Hydrilla monitoring surveys



Top 10 organisms detected during EDRR and Hydrilla monitoring surveys

Invasive Species Discovered During Surveys

- Starry stonewort (*Nitellopsis obtusa*)
- Eurasian watermilfoil (*Myriophyllum spicatum*)
- Curly-leaf pondweed (*Potamogeton crispus*)
- Brittle naiad (*Najas minor*)
- Hydrilla (*Hydrilla verticillata*)
- American lotus (*Nelumbo lutea*)
- European frogbit (*Hydrocharis morsus-ranae*)
- Water chestnut (*Trapa natans*)



Hydroacoustic survey sites

GOAL 2: EARLY DETECTION, RAPID RESPONSE



Hydrilla Monitoring

Alongside general EDRR surveys, AIS technicians conducted focused surveys monitoring for hydrilla in Cayuga Lake and surrounding waterbodies. These additional surveys focus on determining status of known hydrilla populations, and detecting new populations. In late summer 2022, the first population of hydrilla on the western shore of Cayuga Lake was discovered at Sheldrake Point. This discovery prompted a coordinated response from DEC and Finger Lakes PRISM staff, who collaborated to survey the area. This coordinated effort yielded the delineation of four new distinct hydrilla patches.

AIS technicians continued to support hydrilla monitoring efforts of the US Army Corps of Engineers (USACE) at their treatment sites in Aurora and Ithaca NY for two to three days per month from June to September. This is a valuable partnership. Finger Lakes PRISM is able to provide supplemental personnel and equipment that helps USACE achieve comprehensive monitoring goals, and Finger Lakes PRISM staff are afforded the opportunity to work along side a federal program with highly experienced and knowledgeable staff. Over the years, support like this has fostered a valuable relationship between the Finger Lakes PRISM and USACE.

EDRR efforts also included scheduled dive surveys at hydrilla sites to assist in population delineation. PRISM staff dove on three occasions in August, September, and October, when hydrilla is most commonly found in the water column. This method offers an effective view of a site that allows surveyors to more completely examine the distribution of plants. New or expanded hydrilla populations were discovered during each dive day.



An AIS technician dives in a bed of American eelgrass searching for hydrilla

GOAL 2: EARLY DETECTION, RAPID RESPONSE

Our volunteers drive much of what we do. By providing the opportunity for motivated volunteers to assist in our efforts, we are able to expand our detection network across the Finger Lakes. Volunteers are trained in ecology, identification, sampling, and reporting methods for a wide variety of aquatic and terrestrial invasive species through our various citizen science programs. These trainings enrich volunteers, and their participation in these programs builds community and encourages stewardship of our waterways. This is all achieved while contributing important distribution data for invasive species managers regionally and statewide.



Macrophyte Survey Program

The Macrophyte Survey Program provides community scientists with the information and supplies needed to sample for invasive aquatic plant species in waterbodies. Participants attend a training prior to the start of the program to learn how to identify aquatic plants and report findings using a phone or tablet. We provide identification guides that cover a wide range of species but we focus on three high-priority invasive species: hydrilla, starry stonewort, and water chestnut. We engaged 45 active participants that conducted 325 rake tosses on 17 waterbodies across 12 counties. Six unique invasive species were detected: starry stonewort, Eurasian watermilfoil, curly-leaf pondweed, water chestnut, brittle naiad, and European frogbit.



Trail Survey Program

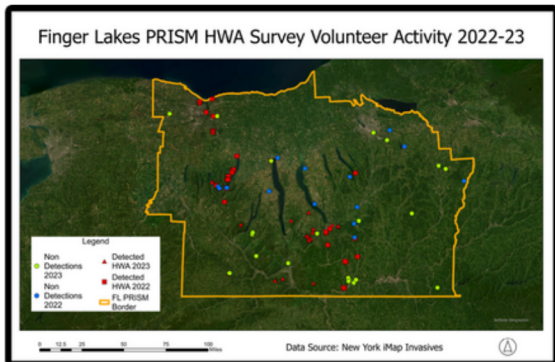
Trails are common locations for invasions. Between the inherent disturbances trails pose in a landscape and visitors acting as potential vectors, trails are highly susceptible to invasive species introductions. This makes our job of recruiting interested volunteers that much easier. In 2022, 30 volunteers recorded 431 points at their local trails, with over 80% of those points being invasive species. Volunteers are either trained as Trail Trackers to identify six invasive species or Trail Masters to identify over 20 different species.



Hemlock Woolly Adelgid Survey Program

While eastern hemlock is not the most prevalent tree species in the Finger Lakes, they are critical for protecting water quality, and are threatened by the hemlock woolly adelgid (HWA). In winter 2022-2023, our HWA Survey Program included 23 active participants, who submitted 80 total points with 72 observations of HWA. Throughout the year, PRISM staff trained 120 people in HWA identification and reporting across two virtual events.

GOAL 2: EARLY DETECTION, RAPID RESPONSE



Locations of samples taken by Macrophyte Survey Program volunteers

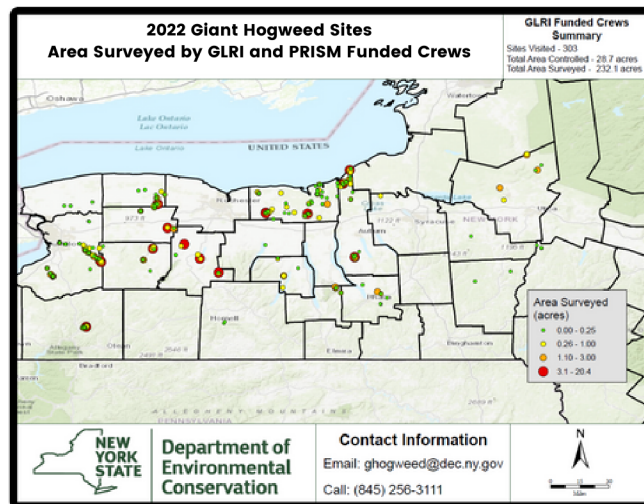


Giant Hogweed Program

In partnership with the NYS Department of Environmental Conservation (DEC) Giant Hogweed Program, Finger Lakes PRISM hired and employed two seasonal technicians to aid in the control of giant hogweed in DEC regions 7 and 8. During 2022, the field crew was able to survey 232 acres of giant hogweed at 303 sites for giant hogweed and other high priority invasive species. These surveys allow the DEC to understand regional distribution of giant hogweed, supporting the mitigation and spread suppression of active populations. This partnership is an example of how the Finger Lakes PRISM leverages resources and expertise from varied partners to manage invasive species on a landscape level.

Key Outputs

- **MACROPHYTE SURVEYS** - 12,269 rake tosses across 13 waterbodies
- **VOLUNTEER PROGRAMS** - 98 active volunteers submitted 836 survey points
- **GIANT HOGWEED** - surveyed 232 acres across 303 sites
- **SLF CAMPAIGN** - Over 250 traps distributed



OUTCOME: Priority conservation targets are protected from new IS infestations

GOAL 3: PARTNERSHIPS, EDUCATION, INFORMATION

"Build partnerships and networks that leverage effective public education efforts and facilitate the sharing of information"

Partnerships are the foundation of Finger Lakes PRISM. Partners and communication networks are vital to effective education, outreach and advancement in the prevention and management of IS.



Federal, State, and Regional Participation

In 2022-2023 the Finger Lakes PRISM participated in a wide variety of federal, state, and regional projects addressing issues including hydrilla management, hemlock woolly adelgid containment, and SLF as well as contributing to national meetings such as the Great Lakes Panel on Aquatic Nuisance Species (ANS) and the ANS Task Force. Finger Lakes PRISM staff regularly attend and provides updates during statewide calls for education and outreach, aquatic- and terrestrial-focused programming, and more.

Watershed associations are a valuable partnership for the Finger Lakes PRISM. They bring a diverse crowd of motivated volunteers to various PRISM programs and are helpful in identifying IS priorities for an important demographic here in the Finger Lakes region. In addition to participation in individual lake-association involvement, Finger Lakes PRISM staff regularly attend and provide updates to the Finger Lakes Regional Watershed Alliance, an organization representing constituents from all 11 Finger Lakes.

Finger Lakes PRISM staff participated in over 60 regional, state, and federal meetings.

OUTCOME: Finger Lakes PRISM is the regional leader in IS management facilitating active partners, effective public education, and information networks



TIS Program Manager Matt Gallo educating volunteers on the ecological important of eastern hemlock trees, and how to spot HWA

GOAL 4: CONTROL AND RESTORATION

"Control invasions through eradication, containment, suppression, and restoration targeting high priority conservation areas."

While prevention is the most effective and most utilized method of IS control for the Finger Lakes PRISM, active control measures are employed where necessary and appropriate. These measures, followed by restoration, can successfully mitigate IS impacts and manage IS spread regionally. Targeting high priority conservation areas and species then are key. Below are pictures of our high-profile control projects in the region.



Water Chestnut Control

This program continues efforts of Finger Lakes PRISM to actively control water chestnut populations in the Finger Lakes and Southern Lake Ontario regions. This season, our staff focused on partnering with agencies and regional groups to maximize impact. This approach allows the Finger Lakes PRISM to play an important supporting role in controlling high priority water chestnut populations. Finger Lakes PRISM staff typically provided material support in the way of boats and other supplies, educational instruction, and 2-3 personnel, while partners typically provided an additional volunteer workforce. Finger Lakes PRISM participated in or hosted 16 water chestnut control outings across 12 waterbodies in 2022.



Finger Lakes PRISM watercraft stewards took on a large population of water chestnut in Maxwell's Bay



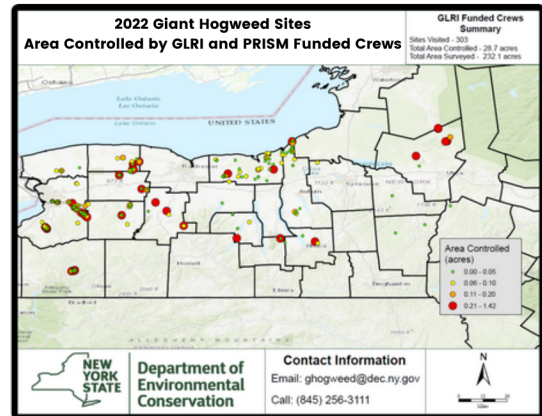
AIS technicians assisting with the weighting and disposal of water chestnut at a Lake Ontario embayment pull

GOAL 4: CONTROL AND RESTORATION



Giant Hogweed

PRISM staff worked alongside the NYS DEC Giant Hogweed team to mechanically and chemically treat 28.7 acres of giant hogweed sites at 303 sites across three PRISMs.



Hydrilla Treatment

Finger Lakes PRISM continued annual Hydrilla treatment at Finger Lakes Marine Service in Lansing, NY on Cayuga Lake. This effort supplements a wide range of Hydrilla management efforts currently taking place on Cayuga Lake by partners including the US Army Corps of Engineers, the NYS DEC, and the Local Hydrilla Task Force.



An herbicide applicator spreading Sonar H4C at a marina in Lansing, NY

Key Outputs

- **WATER CHESTNUT CONTROL** - 179 volunteers helped remove 13,255 lbs across 490 acres, 14 sites on 12 waterbodies
- **HYDRILLA TREATMENT** - 5 acres treated
- **GIANT HOGWEED** - 28.7 acres treated with NYS DEC Giant Hogweed staff

OUTCOME: The occurrence and impact of highly IS are reduced in priority conservation areas.

GOAL 5: FUNDING AND SUPPORT

"Secure funding and legislative support from federal, state, and local governments."

Management is complex and expensive. A major challenge for Finger Lakes PRISM is to secure the funding and support necessary to accomplish our mission in alignment with our vision. Strategies to garner funding and support must be targeted, dynamic, and consistent. The Finger Lakes PRISM continually seeks ways to increase external funding and provide support to partner projects.

During the year, the Finger Lakes PRISM submitted two successful Great Lakes Restoration Initiative grant proposals through the United States Forest Service for invasive species control, detection, outreach, and prevention over the next two years.



Cooperative Weed Management Area

Finger Lakes PRISM staff will leverage existing staff and programming to survey manmade ponds within the Finger Lakes National Forest. These ponds are important to the Forest, providing grazing cattle with drinking water, and providing important water storage for the Seneca and Cayuga Lake watersheds. The program seeks to better understand and control four existing populations of water chestnut present in the Forest, while simultaneously inventorying other ponds within the Forest for invasive species. The program also includes elements of water quality monitoring and the development of a community science program to continue pond monitoring into the future.



Forest Restoration

Finger Lakes PRISM will work with contractors to treat hemlock dominant stands within 25 feet of vulnerably sections of streams to suppress existing hemlock woolly adelgid populations. Treatment will take place on 37 acres in four state parks in Cayuga and Schuyler counties.

OUTCOME: Adequate funding and consistent support ensures effective IS management across Region

ACKNOWLEDGEMENTS

The Finger Lakes Partnership for Regional Invasive Species Management (Finger Lakes PRISM) is a collaborative program designed to address the threat of invasive species. Housed within Hobart and William Smith Colleges' Finger Lakes Institute (FLI), the program is one of eight across New York that focuses on managing invasive species, developing detection programs, employing response efforts, providing education programs and outreach, and working with communities. PRISM programs are administered through the New York State Department of Environmental Conservation.

Hobart and William Smith Colleges is a nationally recognized liberal arts institution defined by a longstanding focus on educating across academic disciplines and an intellectual environment that cultivates faculty and student connections. With a strong commitment to inclusive excellence, the Colleges have a distinguished history of interdisciplinary teaching and scholarship, curricular innovation and exceptional outcomes. Hobart and William Smith provide robust programs in career development, study abroad, service, leadership and athletics. With an enrollment of 1,660, more than 70 percent of students study abroad through the No. 1 global education program in the country and all participate in community service. Located in the heart of the Finger Lakes region, Hobart and William Smith enjoy a lakeside campus on the shore of Seneca Lake. Originally founded as two separate colleges (Hobart for men in 1822 and William Smith for women in 1908), Hobart and William Smith students share the same campus, faculty, administration and curriculum.

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