

2022

WNY PRISM Annual Report



Prepared By
Andrea Locke, WNY PRISM Coordinator

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Cover Photo: WNY PRISM’s Hemlock Woolly Adelgid Hunters Program training was held at Chestnut Ridge County Park in January.

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Introduction

Invasive species are those species which are non-native to the ecosystem under consideration, and whose introduction causes, or is likely to cause, economic or environmental harm, or harm to human health. Western New York is particularly at risk to the threat of invasive species due to the unique geographic and human characteristics of the region. Western New York is situated within both the Great Lakes Basin and Mississippi River Watersheds with extensive river systems connecting much of the landscape, and the diversity of natural ecosystems offer habitats that are inviting to a wide variety of invasive species. Western New York also has a long history of human development and has seen significant alterations to the landscape that have provided a level of disturbance in which invasive species thrive. In addition, western New York is positioned along prominent pathways of invasion, such as well-traveled transportation corridors. Each of these factors have led to the increased likelihood for the establishment and spread of invasive species within the region.



WNY PRISM encompasses the eight western-most counties of NYS, including 5 major watersheds and 6440 square miles.

Established in 2014, the WNY PRISM office has worked to meet the invasive species management needs of the region by forming partnerships, developing new programs and resources, and increasing staff capacity. WNY PRISM works to implement programs that address all aspects of invasive species management, from prevention to restoration, and continues to expand and improve upon efforts.

WNY PRISM would like to thank our host organization, the Great Lakes Center at SUNY Buffalo State University, as well as the entire NYS Invasive Species Program for their continued support. We would also like to thank WNY PRISM's partners including the dedicated members of our Steering Committee and Working Groups. WNY PRISM looks forward to continuing to work together on our shared mission.

WNY PRISM is a sponsored program of the Research Foundation for SUNY Buffalo State University. Funding for WNY PRISM is provided by the Environmental Protection Fund through a contract with NYS Department of Environmental Conservation (DEC). Additional funding is provided through various federal, state and foundation grant programs.



Mission

The WNY PRISM mission is to proactively identify, evaluate and address invasive species priorities in western New York using a coordinated partnership of local professionals, organizations and community members to improve, restore and protect local aquatic and terrestrial resources.

Operational Structure

WNY PRISM's operational structure consists of staff, a Steering Committee, and Working Groups. WNY PRISM also solicits information and feedback from partners and stakeholders, which factors strongly into the strategic decision-making process.

WNY PRISM staff include a Director, Coordinator, Program Managers, 25-30 seasonal staff and student interns. The Steering Committee is comprised of a core group of individuals representing a variety of organizations, agencies, businesses and community members, and is representative of the invasive species management needs of the WNY PRISM region. Steering Committee meetings take place quarterly with additional communication and meetings held as needed.

Working Groups (Terrestrial, Aquatic, Education and Outreach) have been established and meet on an as-needed basis, focusing on the completion of specific tasks and projects.

Partner Meetings are held twice a year. The Spring Partner Meeting is held in April, ahead of the field season, and the Fall Partner Meeting is held in October. In 2022, the Fall Partner Meeting was held in conjunction with the WNY PRISM Invasive Species Symposium. Working Groups and Partner Meetings are open to everyone; however, registration is sometimes required. For more information on WNY PRISM's operational structure, please see [WNY PRISM's Operational Guidelines](#).



WNY PRISM's first Invasive Species Symposium was held in October 2022 and attended by 57 partners. The event focused on regional invasive species management projects and discussions on lessons learned and use of adaptive management strategies.

WNY PRISM Steering Committee

Buffalo Niagara Waterkeeper	Robert Coady
Cornell Cooperative Extension of Erie County	Sharon Bachman
New York Sea Grant	Megan Kocher
NYS Certified Nursery and Landscape Association/Chestnut Ridge Nursery	Bob Smith
NYS Department of Transportation	Mark Bogdan
NYS Department of Environmental Conservation, Region 9	Jennifer Dunn
NYS Office of Parks, Recreation and Historic Preservation	Aaron Heminway
Royal Fern Nursery, Chautauqua Watershed Conservancy	Jonathan Townsend
U.S. Army Corps of Engineers – Buffalo District	Kathleen Buckler
U.S. Department of Agriculture – Natural Resources Conservation Service	Mike Shaw
U.S. Fish and Wildlife Service – Lower Great Lakes Fish and Wildlife Conservation Office	Colleen Keefer

WNY PRISM Staff

Dr. Christopher Pennuto Director	Andrea Locke Coordinator
Brittany Hernon Terrestrial Program Manager	Rachel Taylor Community Science and Engagement
Nicole Smeenk Aquatic Program Manager	Douglas Knoph Field Operations Manager

Seasonal Staff

Education and Outreach Assistant
John Montgomery

Invasive Species Management Assistants
Melanie Donofrio · Brianna Saylor · William Walston

Lead Watercraft Inspection Steward/Environmental Educators
Tyler Harrington · Vincent Manuella

Watercraft Inspection Steward/Environmental Educators

Hailey Kumpf · Austin Oare · Taylor Smith · Jade LaRock · Imani Stephans Ibrahim · Zachary Nyhart
Abigail Minnekine · Alexis Long · Oishee Ghosh · Lynnne Wallen · Ashley Daneau · Caroline Rossi
Nicole Hertel · Rachel Donner · Luke Thompson

Early Detection Survey & Monitoring Technicians

Jason Kappan · Diana Chaburka

GIS Technician

Megan Kresse

Student Intern – HWA Hunters Program

Noah Hodson



WNY PRISM 2022 Annual Report

WNY PRISM efforts are guided by the [WNY PRISM Strategic Plan \(2019-2024\)](#), which was developed through a year-long collaborative process involving regional partners in 2019, and updated in 2022. The original plan put forth an ambitious program designed to provide the framework by which the invasive species management needs of western New York may be met. The 2022 updates served to strengthen and expand upon the established framework by addressing shifted priorities, expanded programs and new opportunities. The strategic plan is further supported by the [2022 Annual Work Plan](#) that identified specific tasks for which WNY PRISM would focus on in 2022.

The WNY PRISM Annual Report provides an overview of the projects and programs WNY PRISM implemented in 2022 and is organized based on the six goals associated with WNY PRISM's established core functions: Partner and Network Coordination, Information Management, Education and Outreach, Prevention, Early Detection and Rapid Response, and Management and Habitat Restoration. Most of the work described in this report is funded through the WNY PRISM contract with New York State and administered by the Department of Environmental Conservation. However, some projects, including the Western New York Japanese Stiltgrass Early Detection and Rapid Response Project and projects at Tiff Nature Preserve and Houghton Preserve, are funded through external grant programs such as the Great Lakes Restoration Initiative and Greenway Ecological Standing Committee. For more information on the projects and programs mentioned in this report, or to view additional documents and resources, please visit www.wnyprism.org.

WNY PRISM depends on strong partnerships to achieve success and most of the projects highlighted in this report include support and assistance from partner organizations. In this way, the WNY PRISM Annual Report serves not only as a record of WNY PRISM activities, but as an overview of invasive species management across the region.

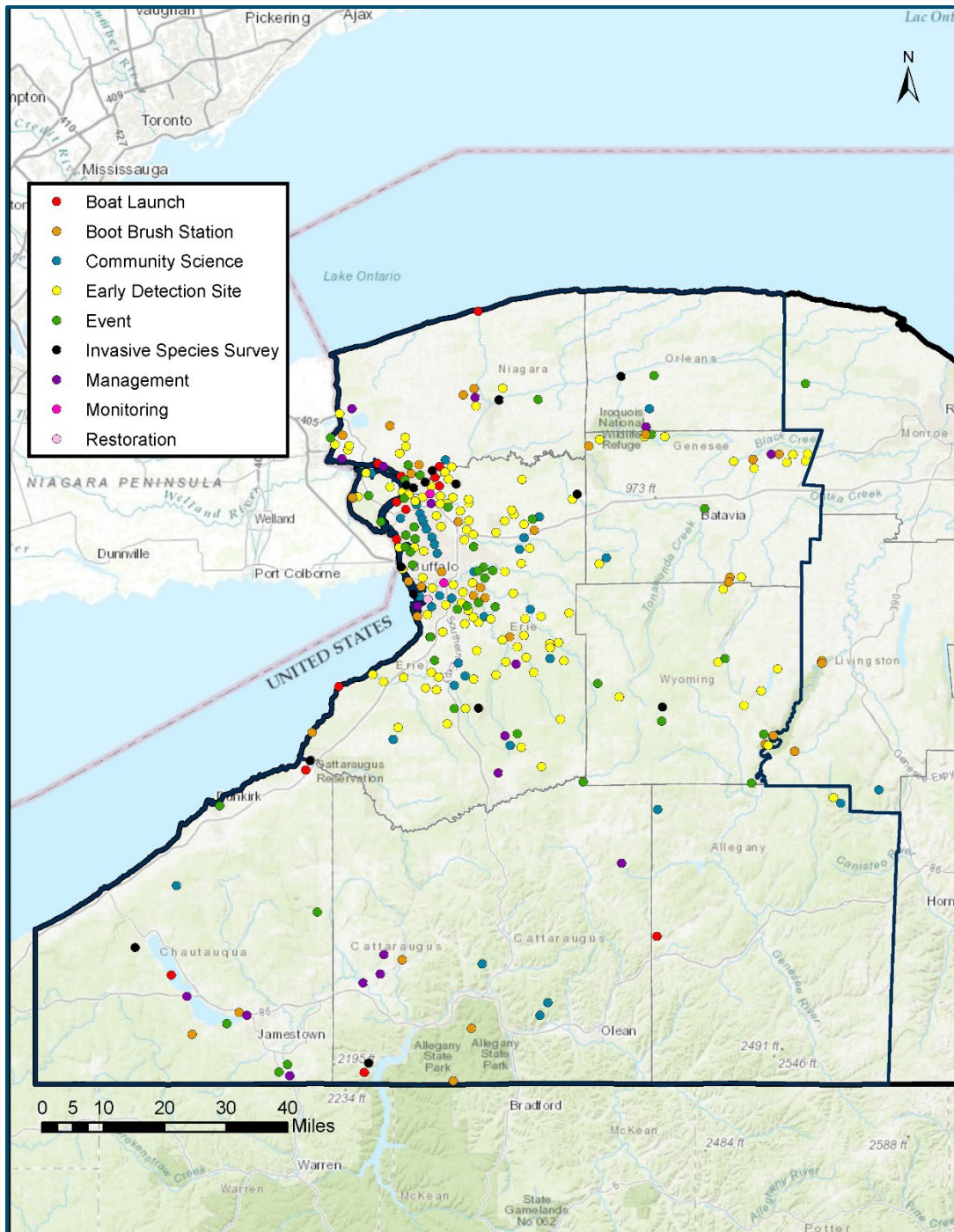


WNY PRISM coordinates a Watercraft Inspection Stewardship Program and several field-based invasive species management programs. WNY PRISM Boat Stewards practiced species identification during their pre-season training, and the WNY PRISM Crew headed out for some early season herbicide training at Hunter's Creek, treating Japanese stiltgrass.

WNY PRISM 2022 Program Highlights

- WNY PRISM has worked with **211** partners including **15 new partners** in 2022.
- Hired three new staff members: Douglas Knoph - **Field Operations Manager**, Rachel Taylor - **Community Science and Engagement Program Manager** and Amanda Cooper - **Aquatic Invasive Species Program Manager**.
- Hired **24 seasonal staff members** – Invasive Species Management Assistants (3), Education and Outreach Assistant (1), Boat Stewards/Environmental Educators (16), GIS Technician (1), Survey & Monitoring Technicians (2).
- Held first WNY PRISM **Invasive Species Management Symposium** with **57 attendees**.
- Conducted a comprehensive review and **updated WNY PRISM priority species lists**.
- The **Crew Assistance Program** received **13 proposals** from **10 partners** including at least one proposal from each of our **8 counties**.
- The **Crew Assistance Program** resulted in **12 completed projects** including **16.46 miles** and **1,897.76 acres surveyed**, **10.43 acres treated**, and **4,000 lbs.** of water chestnut removed.
- **Terrestrial early detection surveys** were carried out at **76 sites** encompassing **10,000 acres** and **183.67 miles**.
- **Aquatic early detection surveys** were carried out at **6 sites**, encompassing **106.76 acres**.
- **Early detection** priority species removal efforts resulted in **32 sites managed** with a combination of herbicide and manual removal, comprised of **2,043.86 acres treated** and **150 bags removed**.
- **1 water hyacinth** site designated as **presumed eradicated** after 5 years of monitoring without occurrence.
- **3,507 records were uploaded** to iMapInvasives for the region, including **85 unique species**.
- The **top five recorded** invasive species for WNY PRISM in 2022 are **Eurasian watermilfoil, curly-leaf pondweed, Japanese stiltgrass, European frog-bit** and **beech leaf disease (nematode)**.
- **Beech leaf disease (nematode)** was the **top, not-detected species**.
- Tabled at **15 events**, delivered **16 presentations**, and held **9 Walk and Talks** and **8 workshops** resulting in **3,983 direct contacts**.
- Obtained **over 400 signatures** on WNY PRISM **Pledge to Protect** commitment banners.
- WNY PRISM Listserv **gained 42 subscribers**, raising the total number of subscribers to **376**.
- WNY PRISM staff responded to **83 public inquires**, submitted through the website, email and by phone. Questions about **knotweed** and **hemlock woolly adelgid** were the most common.
- Facebook posts **reached 60,788** individuals and WNY PRISM added **152 new page likes**.
- Instagram posts and stories **reached 17,482** individuals and **increased followers by 18%**.
- Developed **7 Boot Brush Stations** for partners, currently awaiting installation – **40 Boot Brush Stations** have been fully installed across the WNY PRISM region.
- The Watercraft Inspection Stewardship Program achieved an **84.4% acceptance rate** with **385 interceptions** – the most encountered species were **Eurasian watermilfoil (190)** and **curly leaf pondweed (102)**.
- Boat Stewards conducted **12,063 boat inspections** working at **15 launches** across **5 counties**.
- Stewards conducted **359 Walk-Up Surveys** and **216 Angler Surveys** – 42.6% of anglers agreed to an inspection of their equipment, **no invasive species were observed**.

WNY PRISM – Where We Work



Partner and Network Coordination

Goal: Effectively coordinate the WNY PRISM partner network and strengthen relationships to the benefit of all those impacted by invasive species and those involved with invasive species management.

WNY PRISM works closely with partners and stakeholders across the region to address priority invasive issues. It is through partnership that we work to improve the effectiveness of invasive species management efforts, increase awareness of invasive species issues and engage both partners and community members in taking action.

Partner and network coordination begins with the WNY PRISM Steering Committee, which is comprised of member organizations, agencies, businesses and community members who represent the varied interests within the WNY PRISM region. The Steering Committee provides essential support for WNY PRISM efforts including the review and approval of strategic and species

priorities, review of operational documents, and review of project proposals and requests. Several members also participate in WNY PRISM Working Groups. Terrestrial, Aquatic, and Education and Outreach Working Groups are used to address various programs and tasks that benefit from the regional, expert knowledge our partners can provide. Working groups are open to all those interested in supporting WNY PRISM efforts and meet on an as-needed basis.

WNY PRISM collaborated with 15 new partners in 2022, bringing the total number of partners we've collaborated with through the years to 211. In addition to working with partners on shared projects, we also promote their programs and events. Partner efforts are highlighted in our newsletters, and we promote partner programs, events and accomplishments during our events, through the listserv and through other outreach opportunities.

Community members play a vital role in the partnership. WNY PRISM staff responded to 83 public inquiries received through our website, email and by phone. Topics were varied and ranged from observation reports, requests for presentations and management assistance, to questions about identification, best management practices, volunteer events, and job opportunities. However, the most



WNY PRISM's Fall Partner Meeting was held as part of our Invasive Species Management Workshop in October.

frequent questions concerned identification and management recommendations. The most commonly asked about species were knotweed (*Reynoutria spp.*) and hemlock woolly adelgid (*Adelges tsugae*).

Invasive Species Symposium

WNY PRISM held our first regional Invasive Species Management Symposium on October 18, 2022, at the Buffalo State Alumni and Visitor Center. The purpose of this event was to provide the opportunity for discussions on adaptive management and to learn about the process through understanding regional invasive species management and restoration projects that have put it to use. Planning for the symposium first began in 2020 and the dedicated planning committee included WNY PRISM staff, Steering Committee Members and presenters.

To kick-off the event, WNY PRISM Director, Christopher Pennuto, welcomed participants with a brief history of WNY PRISM and how the symposium came together. WNY PRISM Coordinator, Andrea Locke, then introduced the process of adaptive management, how important it is for the improvement of invasive species management efforts, and the many ways it can be incorporated into projects.



WNY PRISM Invasive Species Symposium was held at the Buffalo State Alumni and Visitor Center in October.

Two guest presenters, Andrew Lance with the Western New York Land Conservancy, and David Spiering with New York State Office of Parks, Recreation and Historic Preservation (NYS Parks), presented about regional projects where adaptive management principles were put to work. Andrew Lance presented on the challenges associated with restoration of diverse habitat types and how he improved ecological monitoring to help respond to these challenges. David Spiering discussed plant community ecology and how understanding plant interactions with each other and the environment can change management strategies and

improve success. Finally, Jennifer Dunn, with DEC's Great Lakes Program, discussed opportunities for collaboration and how to access funding through various state and federal programs.

The symposium also served as WNY PRISM's Fall Partner Meeting, which is a great opportunity to share information and identify opportunities for future collaboration. WNY PRISM staff provided program updates and presented results from the field season, while those in attendance provided updates and information about their programs. Several partners also set up tables with resources and additional information about their organizations and programs.

Collaboration

WNY PRISM staff participate in and/or facilitate several local, statewide and regional collaboratives to better provide support for the region we serve. WNY PRISM facilitates and/or participates in the following local, regional and statewide collaboratives:

- AIS Lakes/Ponds Prioritization
- Buffalo State Arbor Day Committee
- Great Lakes Action Agenda
- Great Lakes Environmental Sciences PSM Advisory Board
- Great Lakes Hydrilla Collaborative
- Great Lakes Phragmites Collaborative
- Great Lakes Slender False Brome Working Group
- iMap Post-Treatment Working Group
- iMap Tier Ranking Working Group
- iMap Tools Planning
- iMap SLF-TOH Survey Working Group
- Lake Erie Watershed Protection Alliance Niagara River/Lake Erie Watershed Advisory Committee
- NYS Aquatic Coordinators Working Group
- NYS Hydrilla Task Force
- NYS Invasive Species Management Metrics Working Group
- NYS Pesticide Stakeholder Working Group
- NYS PRISM Education and Outreach Committee
- Terrestrial Coordinators Working Group
- Phragmites Adaptive Management Framework
- Swallow-wort Research Group
- Watercraft Inspection Stewardship Program App (WISPA)
- Watercraft Inspection Stewardship Program Manual Update
- Wildlife Forever
- WNY Forest Pest Task Force
- WNY Mile-A-Minute Working Group
- WNY PRISM Aquatic Working Group
- WNY PRISM Education and Outreach Working Group
- WNY PRISM Terrestrial Working Group
- WNY Spotted Lanternfly Working Group
- WNY Water Chestnut Working Group

WNY PRISM provides support for partners seeking funds for invasive species management efforts in the form of proposal review, grant resources and letters of support. Letters of support were provided for Wildlife Forever, NYS Parks and the Western New York Land Conservancy. Supported projects involve hemlock woolly adelgid surveys and management and aquatic invasive species spread prevention education and management efforts. Awards have yet to be announced for the submitted proposals.

Communications

New Logo and Brand Standards

In accordance with new brand standards adopted for the statewide PRISM network, WNY PRISM set forth to update our logo. First developed in 2014, the original WNY PRISM logo served us well as we worked to establish the office and gain awareness of our programs and mission. The new logo and brand standards serve to provide greater consistency across the state with a clean, unified style and message.

The WNY PRISM Logo Redesign Working Group, consisting of WNY PRISM staff and Steering Committee Members, met several times with the DEC selected design team at Trampoline, Inc. to develop a new logo. It was important that the new logo represented the WNY PRISM region, so we began by providing the design team with a presentation on what makes western New York unique, focusing on the varied habitats, agricultural communities and geologic features. Including everything would prove impossible and it was decided that the unifying idea should focus on water and how it moves through our unique landscape. The resulting logo does well to represent and differentiate western New York.

Once the new logo was complete, work began to update all of WNY PRISM’s branded materials including hundreds of factsheets, posters, banners, signs and other outreach materials that all feature our original logo.



In addition, efforts began to update www.wnyprism.org. WNY PRISM staff and working group members worked with a designer to update the look and function of our website. While the design work was completed this year, programming will continue up to a planned launch next spring.

WNY PRISM Listserv

The WNY PRISM Listserv is the primary means by which WNY PRISM shares important invasive species information and resources with partners. In 2022, 102 emails were sent through the Listserv by WNY PRISM, iMapInvasives (iMap) and the New York Invasives Species Research Institute (NYISRI). Listserv membership increased by 42 subscribers, bringing the total Listserv membership to 376.

WNY PRISM Listserv Email Breakdown:

- 23 WNY PRISM eNews
- 37 event announcements
- 16 job opportunities
- 3 grant/funding opportunities
- 23 news items

The WNY PRISM eNews is a biweekly digest of invasive species news, grant information, job openings, professional development opportunities and public events. Several items included in the eNews, such as funding, events and job opportunities, are not sent individually and therefore not included in the individual category metrics.

Information Management

Goal: Establish WNY PRISM as the leading resource for invasive species management information and strategic planning. Ensure information is current, accurate, regionally appropriate and easy to access, and provide opportunities for improved data collection and partner collaboration.

Prioritization

Invasive Species Tier Ranking

The NYS Invasive Species Program developed a system to prioritize invasive species based on management strategies and recommendations. The aim of this program is to provide a level of consistency across the state, while continuing to allow each PRISM to rank species based on their local need, impact, and threat level. [The NYS Tier Ranking System](#) identifies five tiers based on species abundance (presence and distribution), impact (including potential future impact), cost of control, and difficulty of control. WNY PRISM first adopted the tier system in 2019, using it to identify species priorities, inform management decisions, and assist in project selection. In 2021, WNY PRISM revisited species tiers and conducted a comprehensive review of model assigned ranks and identified updated ranks where appropriate. This process involved WNY PRISM Working Groups and represented a significant time investment. WNY PRISM staff conducted an internal review of tier rankings twice in 2022. The initial review did not result in any changes to previously approved tier designations, however a second review in November resulted in updates based on data collected during the 2022 field season.



*Goatsrue (*Galega officinalis*) was moved from Tier 1 to Tier 2 after being confirmed established in western New York.*

Three species were added to WNY PRISM's list of priority species tier rankings, Himalayan balsam (*Impatiens glandulifera*), kudzu (*Pueraria montana*) and primrose-willow (*Ludwigia peploides*), which were all added within Tier 1 – Prevention. Two species, spotted lanternfly (*Lycorma delicatula*) and goatsrue (*Galega officinalis*), were moved from Tier 1 to Tier 2 – Eradication. Both species were confirmed in western New York for the first time in 2022. The updated [WNY PRISM Invasive Species Tier Rankings](#), including 149 ranked species, is available as a quick reference for partners.

Species Priorities

WNY PRISM maintains an [Approaching Region Priority List](#), and an [Early Detection Priority Species List](#), which provide guidance beyond the Tier Rankings for the selection of priorities within the Tier 1 and Tier 2 categories. WNY PRISM prioritizes the survey, monitoring and management of these species, as well as education and outreach related to increasing regional awareness.

The [Data Gap Species Priority List](#) is adjusted annually. In 2022, five species were selected as priority data gap species: hemlock woolly adelgid (*Adelges tsugae*), tree of heaven (*Ailanthus altissima*), leafy spurge (*Euphorbia esula*), Japanese honeysuckle (*Lonicera japonica*) and Callery (Bradford) pear (*Pyrus calleryana*).



Leafy spurge was added to WNY PRISM's Data Gap Species Priority List for 2022. Pictured here within an infestation of mugwort, leafy spurge continues to be underreported in WNY.

Approaching Region Priority Species* – Tier 1, species not yet present in WNY PRISM

- | | |
|---------------------------------------|-------------------------|
| 1) <i>Aldrovanda vesiculosa</i> | Waterwheel |
| 2) <i>Anoplophora glabripennis</i> | Asian Longhorned Beetle |
| 3) <i>Channa argus</i> | Northern Snakehead |
| 4) <i>Galega officinalis</i> | Goatsrue |
| 5) <i>Hypophthalmichthys molitrix</i> | Silver Carp |
| 6) <i>Hypophthalmichthys nobilis</i> | Bighead Carp |
| 7) <i>Impatiens glandulifera</i> | Himalayan Balsam |
| 8) <i>Lycorma delicatula</i> | Spotted Lanternfly |
| 9) <i>Oplismenus undulatifolius</i> | Wavyleaf Basket Grass |

Early Detection Priority Species* – Tier 2, species present in WNY PRISM

- | | |
|---------------------------------------|------------------------|
| 1) <i>Ampelopsis brevipedunculata</i> | Porcelain Berry |
| 2) <i>Aralia elata</i> | Japanese Angelica Tree |
| 3) <i>Brachypodium sylvaticum</i> | Slender False Brome |
| 4) <i>Cytisus scoparius</i> | Scotch Broom |
| 5) <i>Eichhornia crassipes</i> | Water Hyacinth |
| 6) <i>Microstegium vimineum</i> | Japanese Stiltgrass |
| 7) <i>Nymphoides peltata</i> | Yellow Floating Heart |
| 8) <i>Persicaria perfoliata</i> | Mile-a-Minute Vine |
| 9) <i>Pistia stratiotes</i> | Water Lettuce |

*Species lists presented here are those approved in February 2022 and do not include updates made in November.

Data Gap Species Priorities – more information is needed on presence and distribution.

- | | |
|-------------------------------|-------------------------|
| 1) <i>Adelges tsugae</i> | Hemlock Woolly Adelgid |
| 2) <i>Ailanthus altissima</i> | Tree of Heaven |
| 3) <i>Euphorbia esula</i> | Leafy Spurge |
| 4) <i>Lonicera japonica</i> | Japanese honeysuckle |
| 5) <i>Pyrus calleryana</i> | Callery (Bradford) Pear |

In November, WNY PRISM staff and the Steering Committee began a comprehensive review of the current approaching region and early detection priority lists, to ensure the lists remain consistent with established priorities and protocols. Spotted lanternfly and goatsrue were moved from the approaching region list to the early detection list due to both species being confirmed within the region. Red swamp crayfish (*Procambarus clarkia*) was also added to the early detection list, based on WNY PRISM’s efforts to address the species and with Steering Committee approval. With a strict 10 species limit placed on the early detection list, these additions required at least one species to be removed. Japanese angelica tree (*Aralia elata*) was selected for removal because previous management efforts for the single known infestation have been very successful and remaining follow-up will be led by the landowner, NYS Parks.



Red swamp crayfish was first reported to WNY PRISM in 2020, since then WNY PRISM has assisted with survey and containment efforts.

In addition to spotted lanternfly and goatsrue, three additional species were removed from the approaching region list. The list is intended to represent how WNY PRISM focuses our efforts, so northern snakehead (*Channa argus*), and silver and bighead carp (*Hypophthalmichthys molitrix*, *H. nobilis*) were removed because they are species WNY PRISM doesn’t work with directly. Each species is still identified as a Tier 1 priority species and WNY PRISM will continue to support partner efforts to raise awareness and survey for these species. Several new species were added to the approaching region list including hardy kiwi (*Actinidia arguta*), parrot feather (*Myriophyllum aquaticum*), primrose-willow (*Ludwigia peploides*) and kudzu (*Pueraria montana*).



Lesser celandine remained on WNY PRISM’s data gap species priority list for 2023.

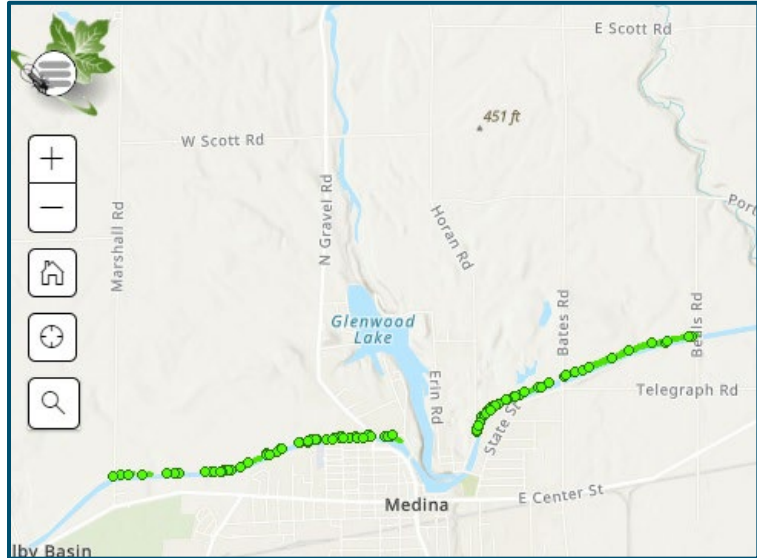
A new set of data gap species were identified for 2023. Hemlock woolly adelgid, tree of heaven and callery pear continue to be priority species for WNY PRISM and remained on the list. Burning bush (*Euonymus alatus*) and lesser celandine (*Ficaria verna*) were added as both species were the subject of an increased number of requests for information from partners and the public.

Surveys and Monitoring

Data Gap Surveys

WNY PRISM conducts invasive species surveys to address data gaps and to further inform management efforts within the region. Surveys consist of general inventories and species-specific efforts, and were carried out as part of species identification and data collection protocol trainings for seasonal staff and part of additional projects.

Identified as a geographic data gap, WNY PRISM surveyed a 4.28-mile section of The Erie Canalway Trail centered on Medina, NY. The Crew recorded 108 presence points representing 23 unique species. The most frequently observed species were mugwort (*Artemisia vulgaris*), bush honeysuckle (*Lonicera spp.*) and swallow-wort (*Vincetoxicum spp.*). All the observed species are common within the region.






The Erie Canalway Trail Survey was conducted across 2 days in May and June. The image is from www.nyimapinvasives.org.

As part of the Niagara River/Lake Erie Watershed Advisory Committee, WNY PRISM was given the opportunity to contribute to an update for the Stream Visual Assessment Protocol (SVAP). WNY PRISM worked with the Lake Erie Water Protection Alliance (LEWPA) and Erie County Soil and Water Conservation District to identify additional species to be included in the SVAP invasive species survey. The 2022 SVAP surveys focused on eight, 10-digit HUC sub-watersheds for which four core species were identified to be surveyed: giant hogweed (*Heracleum mantegazzianum*), knotweed (*Reynoutria spp.*), water chestnut (*Trapa natans*) and reed canarygrass (*Phalaris arundinacea*). One additional species was

added to the survey list for each sub-watershed. The additional species were selected based on two primary factors. First, was that each species is believed to be under-reported within the identified sub-watersheds and therefore surveys would assist in filling priority data gaps. Second, each species is less common on the landscape than the other species being surveyed and would therefore provide improved information as to the overall health of the sub-

Yellow Flag Iris (*Iris pseudacorus*) *Murder Creek/Ellicott Creek*

- Herbaceous perennial, 3-4' tall.
- Grows as individuals in expanding bunches, eventually forming monocultures.
- Flowers April-June, yellow with red/brown markings, showy.
- Leaves lance-shaped, flat, rigid and upright (tops may arch over), arising in a fan from the soil.
- Seed pods long, triangular (compared to shorter, more rounded pods of *Iris versicolor*).

Look-a-likes:

- Blue flag iris (*Iris versicolor*): Flowers blue (May-July), 1-3' tall, tend to grow in smaller clumps and interspersed with other plants.
- Cattails (*Typha spp.*): Mature plants can be 6' or taller. Leaves are flat on one side, curved on the other, and arise from the soil in a circular stem.








Photo Credit: Blue flag iris seed pods, D. Krumb, 06-MAY-04, SIGMA

watershed. The additional species selections included yellow flag iris (*Iris pseudacorus*), goatsrue, flowering rush (*Butomus umbellatus*) and yellow floating heart (*Nymphoides peltata*).

WNY PRISM provided partners with training opportunities and developed identification resources for survey staff in the form of laminated cards that could be added to survey packets.

Post-Treatment Monitoring

In partnership with the City of Buffalo, WNY PRISM has worked to monitor and remove invasive species along the Riverwalk Trail between Porter Avenue and the Peace Bridge. Beginning in 2018, the Crew completed herbicide treatments for target species including knotweed and *Phragmites* (*Phragmites australis*). As success was achieved with the removal of these species, efforts expanded to include wild parsnip (*Pastinaca sativa*), Canada thistle (*Cirsium arvense*) and several other Tier 4 species. No removal efforts were planned for 2022, however WNY PRISM continued to monitor the site. A broad array of Tier 4 species were observed as part of the post-treatment survey including knotweed and *Phragmites*. Despite this, the project is considered a success as the established project goals were met. Knotweed was successfully removed from the originally identified locations along the trail and we were able to gain an understanding of the level of resource investment that would be required to manage invasive species along this high-profile, urban trail. Due to the level of invasive species pressure from adjacent properties, the need for continued management would be expected to maintain the site.

Seneca Bluffs Natural Habitat Park (Seneca Bluffs), owned and managed by Erie County, represents a long-term, collaborative effort to remove invasive species and restore ecosystem function. WNY PRISM has worked with Erie County to implement invasive species management and native plant restoration within the upper terrace of Seneca Bluffs from 2014 through 2022. In addition to WNY PRISM's efforts, U.S. Army Corps of Engineers – Buffalo District (USACE) implemented a streambank stabilization project that included the removal of invasive species and native plant restoration, Buffalo Niagara Waterkeeper held several volunteer workdays to reestablish native species, and Erie County Soil and Water Conservation District assisted with *Phragmites* treatments and site grading.

WNY PRISM conducted a post-treatment survey across the approximately 15-acre property using updated survey protocols. Seventy-four presence points representing 13 species were observed as part of the survey. Many of these species, such as Canada thistle, mugwort and garlic mustard (*Alliaria petiolata*), have taken advantage of the space opened up by the successful removal of knotweed. When



Seneca Bluff through the years. In order from left to right: Pre-treatment for knotweed (after mowing and regrowth) in 2015, pre-treatment for knotweed in 2016 (mowing not necessary), and pre-treatment in 2022.

the project began in 2014, Seneca Bluffs had near 100% invasive species cover, primarily knotweed. While invasive species have not been eradicated from Seneca Bluffs, the project has successfully met the identified goals of removing knotweed, improving sightlines and park safety, and establishing native plant communities.

Regional Data Report - iMapInvasives

- 3507 Total Records
 - 2891 presence detected
 - 616 not-detected
- 9 Organizations (6 records undetermined)
- 85 unique species
- 695 records submitted by WNY PRISM staff
- Presence Detected – Top 10

○ Eurasian Watermilfoil	625
○ Curly-leaf Pondweed	399
○ Japanese Stiltgrass	197
○ European Frog-bit	189
○ Beech Leaf Disease (nematode)	151
○ Bush Honeysuckle	117
○ Multi-flora Rose	111
○ Broadleaf Watermilfoil	84
○ Brown Knapweed	78
○ Slender False Brome	72
- Not Detected – Top 10

○ Beech Leaf Disease (nematode)	75
○ Slender False Brome	75
○ Japanese Stiltgrass	66
○ Hemlock Woolly Adelgid	38
○ <i>Hydrilla</i>	19
○ Tree-of-Heaven	19
○ Water Hyacinth	17
○ Water Lettuce	17
○ Carolina Fanwort	14
○ Starry Stonewort	14



WNY PRISM volunteers surveyed for hemlock woolly adelgid (top) and European frog-bit was in the top 5 for species detected in 2022 (bottom).

The data provided is based on the iMapInvasives 2022 Annual Report for WNY PRISM. The report covers 12 months, December 2021 – November 2022.

iMapInvasives provided data includes both confirmed and unconfirmed records. All WNY PRISM provided data has been confirmed.

Education and Outreach

Goal: Increase public and partner awareness, understanding and participation in meaningful and effective invasive species management activities.

Community Science

Hemlock Woolly Adelgid Hunters

With the increasing presence and distribution of hemlock woolly adelgid (HWA) in the western New York region, we have expanded our efforts to address this species. WNY PRISM continues to work with partners including Cornell Cooperative Extension, Erie County and the New York Hemlock Initiative to train community scientists to survey for HWA. This year's primary training was held in two parts, while a series of HWA focused Walk and Talks provided another opportunity for community scientists to get involved.

The initial online training session was held in January and covered hemlock identification, HWA ecology and identification, hiking safety and an iMap Mobile App tutorial. The program was recorded and posted to our YouTube Channel where it has since been viewed 105 times. The field portion of the training was held at Chestnut Ridge Park where volunteers were able to see an infestation and receive practical experience working with iMap. Walk and Talks were held at Sprague Brook Park, Rattlesnake Hill WMA and The College Lodge. Six volunteers surveyed 20 sites and submitted 35 reports to iMap.

A total of 17 HWA Hunters were trained and six active volunteers donated 57.5 hours while surveying 20 sites and submitting 35 reports to iMap, both detected and not-detected. HWA was found at four sites: Franklin Gulf County Park, Chestnut Ridge, an area outside of Canaseraga State Forest and Taughannock Falls. Of these sites, only Franklin Gulf and



Hemlock Woolly Adelgid Hunters took part in a field training held at Chestnut Ridge County Park in January.

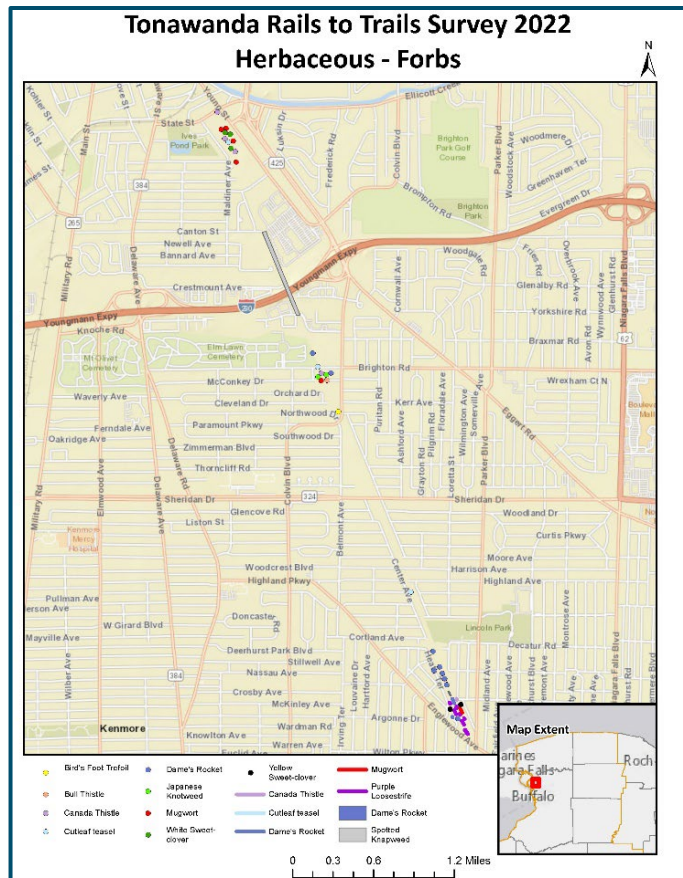
Chestnut Ridge are within the WNY PRISM region. The other sites, while surveyed by our trained HWA Hunters, fall within the Finger Lakes PRISM.

The HWA Hunters program contributed to the release of HWA biocontrol agents within WNY in 2022. Based on data collected by WNY PRISM community scientists, we became aware of the increased populations of HWA within the region. This reinvigorated discussions with the New York Hemlock Initiative about the viability of releasing biocontrols, and silver flies (*Leucotaraxis argenticollis*, *L. piniperda*) were released at Franklin Gulf. The larvae of these flies prey upon the eggs of HWA throughout HWA’s spring egg-laying season.

Trail Survey – Town of Tonawanda Rails to Trails

The Town of Tonawanda Rails to Trails Survey was first developed in partnership with the Town of Tonawanda for implementation in 2020. While the initial volunteer training was held in February 2020, the pandemic delayed the field training and surveys. A relaunch of the program took place in 2022 and this time we were able to get volunteers out on the trail. A training was held for new volunteers in April, bringing the total number of trained volunteers to 43. The four-mile length of the trail through the Town of Tonawanda was divided into ten sections and 15 volunteers signed up for a section to survey. The survey kick-off coincided with New York Invasive Species Awareness Week (NYISAW) in June and continued through August.

Twelve volunteers completed six of the ten identified trail sections, submitting 59 presence records. Fourteen unique species were recorded with the most frequently reported species being common buckthorn (15), dame’s rocket (9), multiflora rose (7), and mugwort (6). Volunteers were trained to collect data using the iMapInvasives Survey123 App. While this tool provides us with valuable information and has benefits regarding data organization and analysis, we found that it was too complicated for our volunteers and served as a deterrent for participation. We have learned from this and will switch to an easier method of data collection moving forward.



Spotted Lanternfly

WNY PRISM efforts to support statewide spotted lanternfly programs and increase awareness in western New York spanned the entire year. Staff worked with iMap to update and further identify

priority grid squares for the tree-of-heaven (*Ailanthus altissima*) and spotted lanternfly monitoring program and encouraged western New Yorkers to sign up. Staff also met with the Department of Agriculture and Markets (AGM) and NYS Parks to discuss coordinated efforts to reach regional businesses most likely to be impacted by future infestations.



WNY PRISM Invasive Species Management Assistant, Melanie Donofrio, checked a spotted lanternfly trap.

WNY PRISM received ten spotted lanternfly (SLF) monitoring traps from AGM in June, and established the WNY PRISM Spotted Lanternfly Trap Monitoring Program. The WNY PRISM region did not have any confirmed infestations of SLF at the beginning of 2022, with the nearest being in Ithaca, NY. However, several adults had been found in the region over the past few years, demonstrating the importance of expanded monitoring. Traps were distributed to partners and volunteers who had expressed interest in assisting with spotted lanternfly monitoring and were set up in Erie (7), Orleans (1), and Allegany (1) Counties. Ten traps were distributed, but only nine were set-up and monitored.

Volunteers checked the traps at a minimum every other week, but many checked weekly and one volunteer checked her trap nearly every day taking the opportunity to improve her insect identification skills. Volunteers were instructed to provide data to WNY PRISM monthly, but to report any observation of SLF immediately. Based on the local weather conditions where traps were placed, traps began to come down in late October. The final traps were removed during the first week of December.

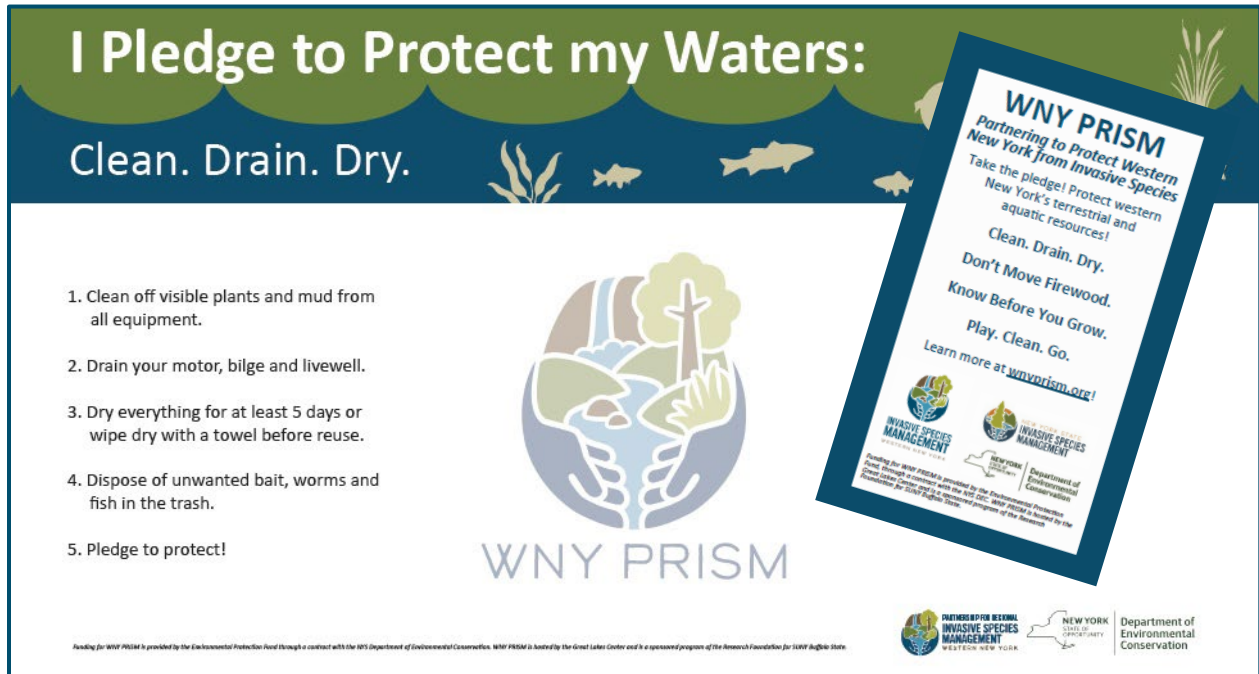
No SLF were found as part of WNY PRISM monitoring efforts this year despite several traps being placed within the City of Buffalo, where one infestation has now been confirmed. All monitors expressed interest in continuing to volunteer in 2023 and were given permission to keep the traps over winter. With the success of this program, we are looking forward to expanding the effort to include additional traps in 2023.

Pledge to Protect

Traditional educational messaging for invasive species is based on raising awareness but we recognize this is only the first step in fully engaging our diverse target audiences. To address this shift in priorities, WNY PRISM has expanded our use of the Pledge to Protect Program with updated commitment banners, wallet cards and stickers. The banners were brought to all WNY PRISM events, and everyone we spoke with was encouraged to make a commitment by adding their signature. The “*Clean. Drain. Dry.*” banner received the most signatures as it traveled to each of WNY PRISM staffed boat launches throughout the summer.

WNY PRISM’s four commitment banners, representing regional and national campaigns, include “*Play. Clean. Go.*”, “*Clean. Drain. Dry.*”, “*Don’t Move Firewood*”, and “*Know Before You Grow*”. The banners are placed on display at trainings, volunteer workdays and other outreach events where community

members are asked to sign, and in so doing commit to taking simple steps to help manage invasive species. These steps include actions such as cleaning footwear before entering and upon leaving a trail or natural area, planting native plants, and removing organic material from boats. WNY PRISM received over 400 signatures on the commitment banners this year.



WNY PRISM Events

WNY PRISM tracks both direct contacts and event attendees as part of education and outreach efforts. Direct contacts include those with whom WNY PRISM staff or volunteers communicate with directly, as well as all participants in partner meetings, presentations, workdays, workshops and trainings. Event attendees include those who may stop by our informational table and take outreach materials but with whom we did not have direct verbal communication.

WNY PRISM held and/or attended 68 events, with at least one event in each county, and recorded 3,983 direct contacts and 54,105 attendees. Some attendance numbers are estimates based on staff observations.

Partner Meetings	County	Direct Contacts	Date
Spring Partner Meeting	Erie	33	Apr-21
Symposium	Erie	57	Oct-18

Outreach Table/Display	County	Contacts/Attendees	Date
Plantasia	Erie	563/13,000	Mar-17
Tonawanda Earth Day Clean-up	Erie	120/120	Apr-23
Buffalo State Arbor Day	Erie	18/100	Apr-28
Kenmore Library Plant Swap	Erie	22/50	Jun-4

Plant Native!	Erie	122/300	Jun-4
GorgeFest	Niagara	51/300	Jun-18
Garden Art Sale	Erie	300/4500	June-25
Dunkirk Farmers Market	Chautauqua	26/153	Jul-6
Orleans County Fair	Orleans	124/24,787	Jul-28



Watercraft Inspection Steward Austin Oare and Andrea Locke staffed an informational table at the Plant Native! event held on Grand Island in June.

Elmwood Farmers Market	Erie	103/2700	Jul-30
Genesee Country Farmers Market	Genesee	27/130	Aug-26
Clarence Hollow Farmers Market	Erie	105/500	Aug-27
Reinstein Fall Festival	Erie	330/2500	Sep-17
Niagara Frontier Antique Boat Show	Erie	58/540	Sept-17
Penn Dixie Earth Science Day	Erie	104/500	Oct-1

Presentations	County	Direct Contacts	Date
Conewango Watershed Commission	Chautauqua	13	Feb-9
NYS Water Quality Symposium	Online	57	Mar-18
Master Gardeners, Erie County	Online	43	Apr-2
UB Invasion Ecology Class	Erie	30	Apr-8
Strykersville Senior Citizens	Wyoming	91	Apr-18
SUNY Brockport Environmental Science	Orleans	11	Apr-27
National Garden Club	Online	40	Apr-29
Uninvited Documentary Panel	Chautauqua	25	Jun-6
Native Alternatives to Invasive Garden Plants	Online	40	Jun-7
Letchworth Stewardship Day	Wyoming	8	Jun-11
Launch and Learn: Niawanda	Erie	2	Jun-12
Launch and Learn: Widewaters	Niagara	2	Jun-12
Niagara County Environmental Field Day	Niagara	65	Jun-15

American Association of Pesticide Educators	Niagara	48	Jul-19
Buffalo State Watershed Analysis Class	Erie	19	Oct-12
NYS PRISM Webinars (9)	Online	962	Multiple



WNY PRISM held our annual Terrestrial Invasive Species Management Workshop at Reinstein Woods with classroom and field components. The event had 39 attendees.

Workshop/Training	County	Direct Contacts	Date
HWA Hunters Virtual Survey Training	Online	8	Jan-22
HWA Hunters Field Survey Training	Erie	5	Jan-29
Rural Landowners Workshop	Cattaraugus	50	Mar-3
Trail Survey Training	Erie	11	Apr-27
Craneridge Management Workshop	Erie	5	Jun-11
Terrestrial Management Workshop	Erie	39	Sep-1
Aquatic Management Workshop	Erie	27	Sep-1
Wyoming County SWCD Knotweed	Wyoming	18	Sep-8
Volunteer Workdays	County	Direct Contacts	Date
Mill Road Park JSG Removal	Erie	15	Jul-23
Cazenovia Creek JSG Removal	Erie	4	Aug-6
Cazenovia Creek JSG Removal	Erie	11	Aug-16
Soccer Complex JSG Removal	Erie	16	Aug-20
Mill Road Park JSG Removal	Erie	15	Sep-10
Mill Road Park JSG Removal	Erie	7	Sep-15
Walk and Talks	County	Direct Contacts	Date
Sprague Brook Park – HWA	Erie	7	Mar-5
Rattlesnake Hill WMA – HWA	Allegany	1	Apr-9
The College Lodge – HWA	Chautauqua	2	Apr-10
Tift Nature Preserve	Erie	5	May-14

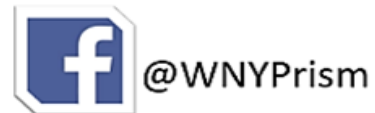
Genesee County Park and Forest	Genesee	4	Jun-4
Faun Lake	Wyoming	17	Jul-9
Reinstein Woods w/ Hikerbabes WNY	Erie	14	Jul-24
Boston Town Park	Erie	8	Aug-13
Oak Orchard	Genesee	5	Sep-10



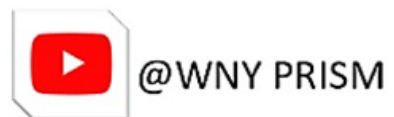
WNY PRISM participated in the Niagara County Environmental Field Day held at Newfane Elementary School in June. WNY PRISM staff presented a game that taught students how easy it was to spread invasive species, using the emerald ash borer (*Agrilus planipennis*) as an example.

Social Media Report

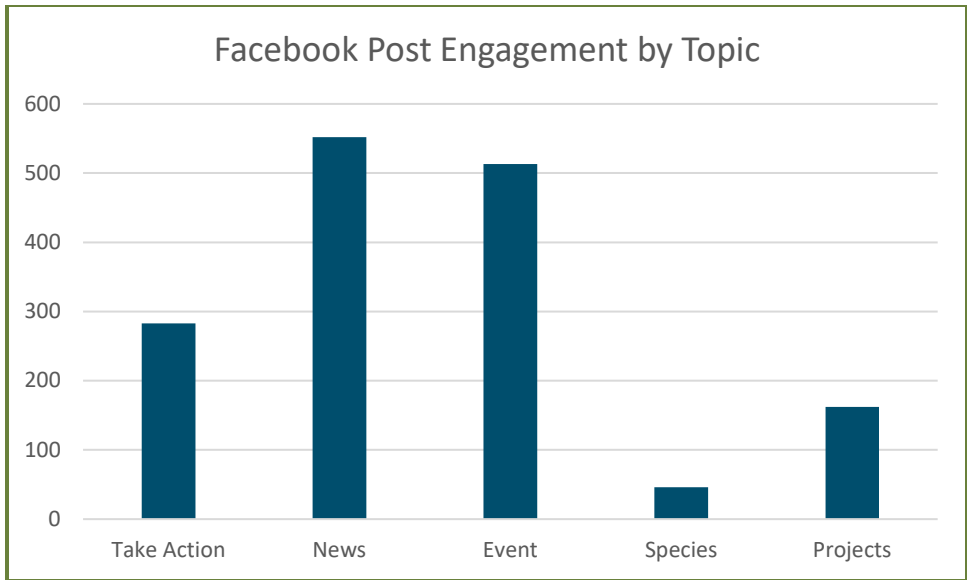
WNY PRISM administers [Facebook](#) and [Instagram](#) accounts through which we interact with the public and share stories about the many aspects of our work.



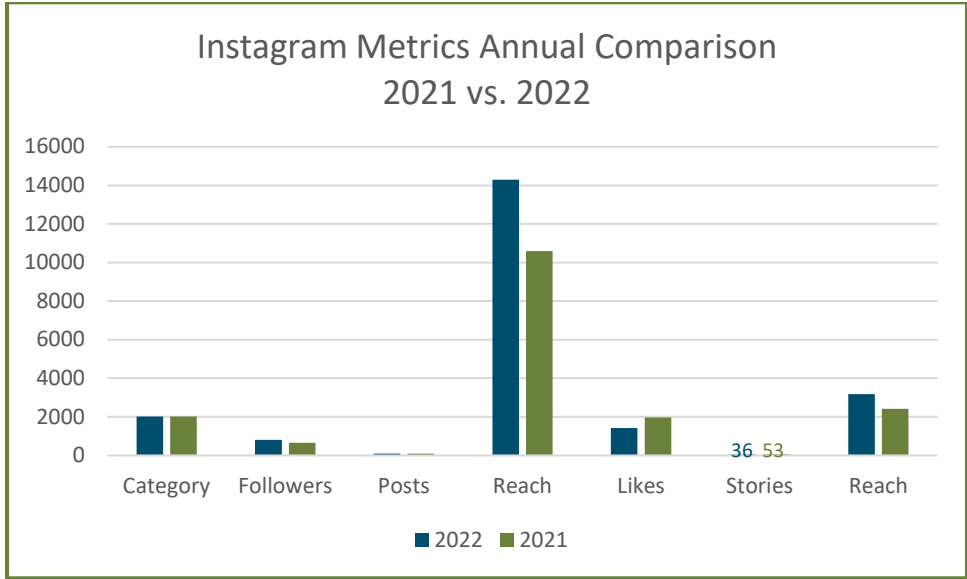
In 2022, WNY PRISM gained 152 Facebook page likes and 147 followers, representing increases of 17% and 24%, respectively. We created 112 Facebook posts reaching a total of 60,788 individuals and resulting in 1,765 engagement actions, defined by followers reacting, commenting or sharing a post.



WNY PRISM averaged over 2 Facebook posts per week and posts ranged in topic from invasive species news, calls to action, general information and project reports, to events and general ecology. The most frequent topics for Facebook posts were news items and events, including both WNY PRISM and partner events. However, the most popular posts, based on engagement per post numbers, were project reports with an average of 40.5 engagements. News and event posts had an average engagement of 17.8 and 13.9, respectively.



WNY PRISM’s Instagram has 805 followers, representing an increase of 18% from 2021. The 130 Instagram posts and stories created in 2022 reached 17,482 people. Instagram post topics include similar categories as Facebook posts, however the top performing categories were different. Instagram users favored posts that focused on our field work and events, and other posts that promoted taking action. However, three news items and a species spotlight on yellow flag iris were among the top five performing posts.



WNY PRISM’s YouTube channel, which is comprised of primarily tutorials and recorded presentations, received 408 view and 33 hours watched.

Prevention

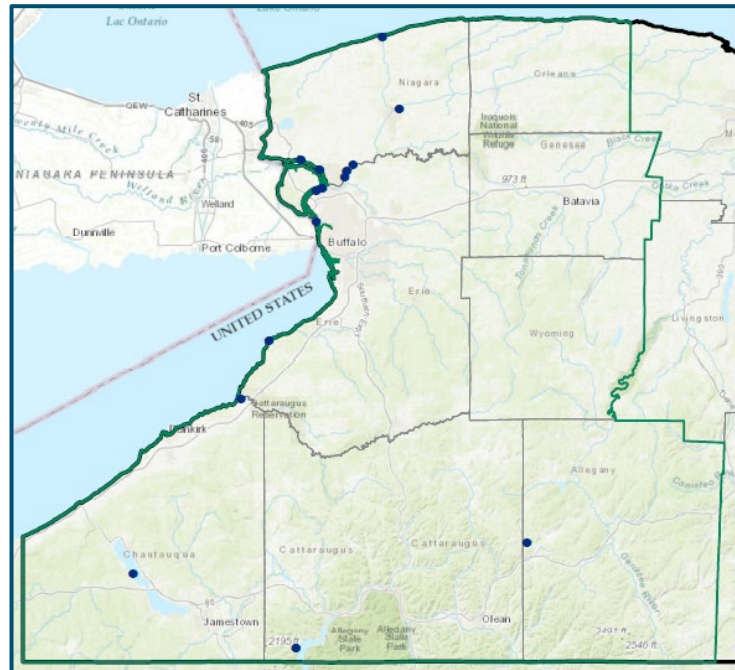
Goal: Prevent the introduction of invasive species to the WNY PRISM region, limit the spread of invasive species within the region and limit the movement of invasive species established in WNY PRISM to other regions.

Watercraft Inspection Stewardship Program

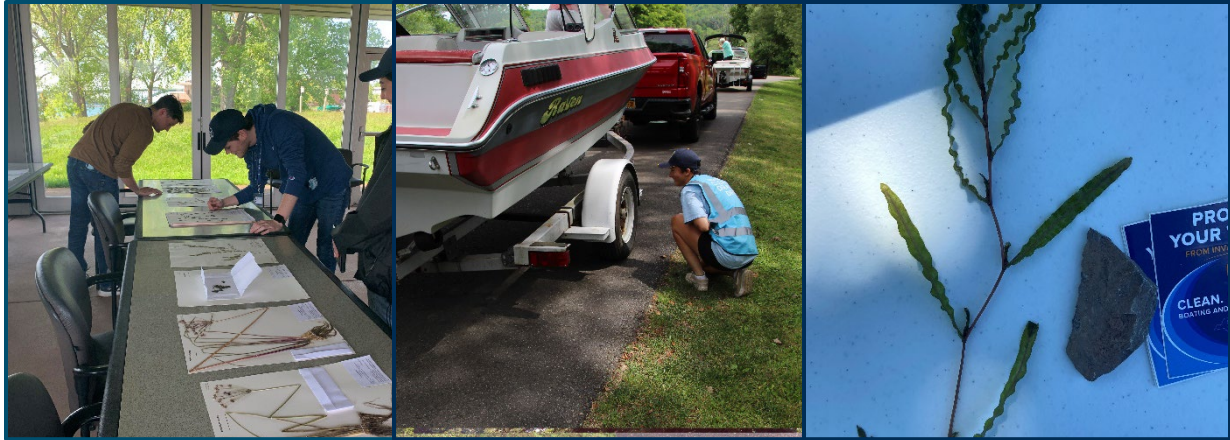
Boats, trailers and other watercraft have long been recognized as a vector for the spread of aquatic invasive species. Plants and animals can be transported between bodies of water when species become attached to watercraft and are subsequently moved to another location where they become dislodged. WNY PRISM coordinates a regional Watercraft Inspection Stewardship Program (WISP) to help reduce the spread of invasive species, to raise awareness and to engage the public in taking spread prevention action. Watercraft Inspection Steward/Environmental Educators (Stewards) are placed at public access boat launches throughout the western New York region, from late May through early September

(Memorial Day through Labor Day), to perform voluntary inspections and to remove visible aquatic plants and animals from watercraft. Stewards staff their assigned launch from 7:00 AM to 5:30 PM, Thursday through Sunday and holidays. Holidays tend to be among the highest boat traffic days, so Stewards are required to work these.

The WNY PRISM region has over 80 public launches and therefore it is necessary to work through a prioritization process to determine which launches will be staffed. Launches are selected through regular evaluation of launch usership, aquatic invasive species presence and distribution, risk of spread, opportunities for education and outreach, and how closely the launch aligns with WNY PRISM programs and priority waterbodies. Seventeen launches were selected prior to the start of the season with one launch, Sturgeon Point, requiring two Stewards. Fourteen Stewards and two Lead Stewards were hired, bringing the total number of Stewards to sixteen. Two prioritized launches remained unstaffed due to being unable to fill those positions.



Watercraft Inspection Stewardship Program - 2022 boat launch locations.



Watercraft Inspection Steward/Environmental Educators were trained to identify invasive species and inspect boats. From left to right, photos show species ID training, a boat inspection at Cuba Lake and curly-leaf pondweed, which was intercepted on a boat at Isle View.

<u>Boat Launch – Staffed*</u>	<u>Body of Water</u>	<u>Watercraft Inspected</u>	<u>Invasive Species Interceptions***</u>
Amherst Veterans Canal Park	Erie Canal	1057	4
Black Rock Canal	Black Rock Canal	136	8
Cuba Lake	Cuba Lake	1275	95
Gratwick Riverside Park	Niagara River	898	10
Griffon Park	Niagara River	648	2
Hanover Town Boat Launch	Cattaraugus Creek	1459	0
Isle View Park	Niagara River	740	20
Nelson C. Goehle – Widewaters	Erie Canal	269	0
Niawanda Park	Niagara River	372	23
North Tonawanda Botanical Gardens	Erie Canal	561	0
Olcott Harbor	Lake Ontario	1191	120
Onoville Marina Park	Allegheny River	1436	22
Prendergast Point**	Chautauqua Lake	583	24
Sturgeon Point	Lake Erie	1183	51
West Canal Park and Marina	Erie Canal	677	6

*Bemus Point and Holley/San Souci Park were selected but not staffed in 2022.

**Prendergast Point is staffed by both WNY PRISM and the Chautauqua Lake Association. Numbers include WNY PRISM's data only.

***Invasive species interceptions refer to the number of individual samples removed from launching and/or retrieving boats during inspections.

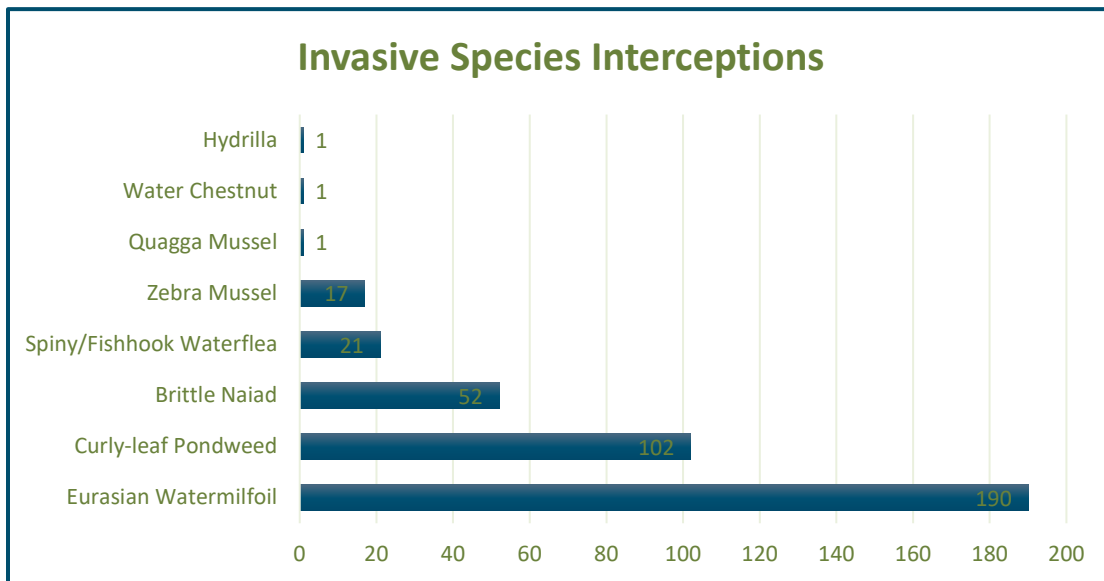
Stewards observed 14,295 watercraft and submitted 12,485 WISPA surveys while inspecting 12,063 watercraft, representing an 84.4% acceptance rate for inspection. The 84.4% acceptance rate represents a decrease from previous years. The acceptance rates were 92%, 89% and 94% in 2021, 2020 and 2019, respectively. Surveys are submitted whether or not an inspection is agreed to, resulting in a higher number of surveys submitted than watercraft inspected. Whenever an inspection does not take place, a survey is submitted as if the boater declined to participate. This may occur if a Steward finds themselves

too busy at the launch to approach each individual or group. On the other hand, if the Steward encounters a large group with kayaks, one survey may include multiple watercraft.

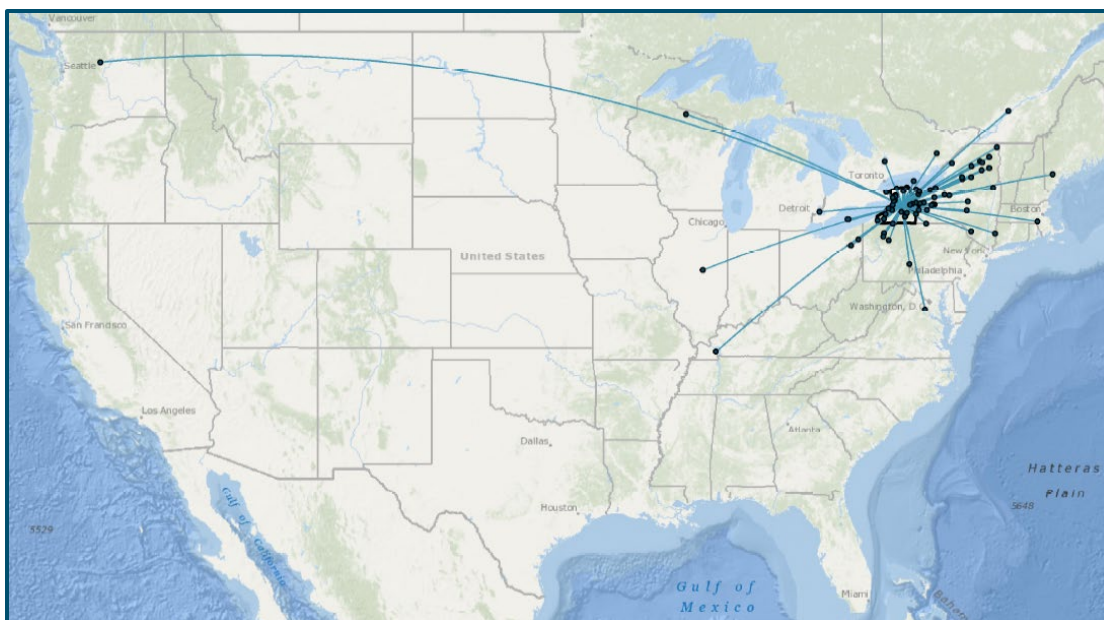
Stewards remove all plant and animal material from watercraft during an inspection, including native and invasive species from both launching and retrieving watercraft. Stewards removed 2,007 individual organisms from inspected boats including 385 invasive organisms and 1,622 native organisms. Only 18% of total watercraft inspected had organisms found during an inspection, and only 3.6% of the total watercraft inspected carried invasive species. Eurasian Watermilfoil (*Myriophyllum spicatum*), curly-leaf pondweed (*Potamogeton crispus*), and brittle naiad (*Najas minor*) were the species most frequently intercepted with 190, 102 and 52 interceptions, respectively.



Brittle naiad was intercepted at Widewaters Marina.



When watercraft are launching, Stewards inquire as to the last body of water visited. This provides important information for determining what species may be more likely to have been transported on any given watercraft. Of the watercraft inspected, 57% had been in the water in the last two weeks with 32% noting their last body of water visited was the same as the current launch location. The most common waterbody reported as being visited previously was Lake Erie with the next most common being the Niagara River and Tonawanda Creek/Erie Canal. Several boaters noted their previous waterbody was in Canada, either in Ontario or Quebec, and the furthest a boater traveled from in 2022 was Washington State.



Map of inbound locations for watercraft.

Boater activity was looked at for each launch, which allows us to better tailor outreach efforts and messaging, based on the interest of individual launch usership. The most common activity was recreation, with 71% of surveys identifying recreation as their primary activity. Fishing was the second most common activity with 27% of surveys identifying this as their primary activity. Additional identified activities included governmental uses, commercial enterprise and research activities. Several individuals were just out to test their boats or do some maintenance.

Angler and Walk-up Surveys

The WISPA survey is a powerful tool that allows watercraft inspection programs statewide to share data on inspections and interactions. However, it was acknowledged that there were opportunities beyond just interacting with boaters at the launches. In 2020, two new surveys were developed to accompany the WISPA survey and hopefully capture information from a broader group of recreationists that use a launch: the WISPA Angler and Walk-Up surveys.

The number of Angler and Walk-Up survey submissions is heavily dependent upon the location and layout of individual launches. Launches with heavier boat traffic, such as Sturgeon Point and Onoville Marina, are not often well set up for other members of the public to walk through or fish from the docks. In addition, Stewards are often busy talking with boaters and unable to interact with other visitors. However, launches that are adjacent to a popular park or walking trails may have many more interactions with non-watercraft launch visitors, regardless of the level of boat traffic.

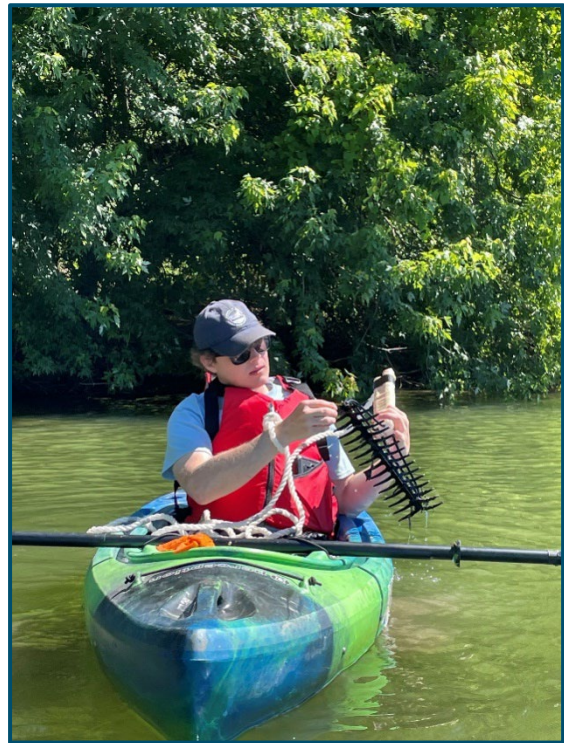
Stewards submitted 216 Angler and 359 Walk-Up surveys, recording direct interactions with 1,088 additional people. The busiest launches for both the Angler and Walk-Up surveys were along Tonawanda Creek/Erie Canal. The highest number of Angler Surveys were submitted from Widewaters Marina, and the highest number of Walk-Up Surveys were submitted from Amherst Veterans Canal Park.

Most of the people surveyed had no previous contact with a Steward, clearly demonstrating a need and opportunity for future expansion of outreach and education efforts about aquatic invasive species. Despite low familiarity with the program, 42.6% of anglers allowed the Steward to inspect their equipment, including fishing reels, bait boxes and tackle boxes. No invasive species were found during Angler Surveys, and organisms were only detected on 2.3% of the equipment inspected.

Boat Launch Surveys

Invasive species presence and distribution data provides important information that assists with management efforts from strategic planning and prevention to removal. Better understanding the species presence and distribution near boat launches also assists with efforts to train Stewards on what species they are likely to see and conversely, what species may represent an early detection. Boat launch surveys, including visual and rake toss surveys, were conducted at six launches in 2022.

Surveys were conducted from kayaks, using WNY PRISM's established protocol for rake toss and visual surveys. Surveys were conducted along the shoreline at points approximately 100 feet apart. At each point, water depth was measured, a visual assessment conducted and then a steel rake head attached to a rope was thrown into the water to gather plants. After the rake reached the bottom it was slowly dragged back to the kayak to retrieve the samples. Sampling points were recorded using the Simple Aquatic Survey Professional (SAS-Pro) survey in the ArcGIS Survey123 application, allowing the data to be directly uploaded to ArcGIS Online for later review and analysis. Surveys were conducted by a Lead Steward paired with the Steward assigned to the selected launch. Surveys took place at North Tonawanda Botanical Gardens, West Canal Marina, Amherst Veterans Canal Park, Widewaters Marina, Hanover Town Launch and Onoville Marina.



WNY PRISM Stewards conducted an AIS survey at Onoville Marina.

Onoville Marina had the greatest diversity of plant species observed at 11 species, but only three of the species found were invasive: brittle naiad, Eurasian watermilfoil and curly-leaf pondweed. Hanover Town Launch saw the highest rate of invasive species found with 12.2% of rake tosses resulting in invasive species being observed, but only two species, brittle naiad and curly-leaf pondweed, were found.

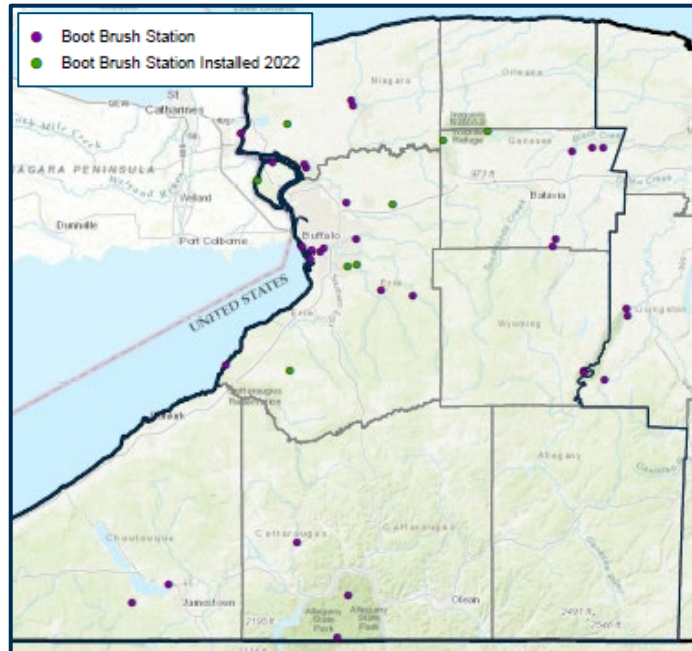
The Tonawanda Creek/Erie Canal sites had very low rates of plant finds with five or fewer rake tosses resulting in any plants being observed, including both native and invasive species. This could be due to several reasons; however, these launches do fall within the Tonawanda Creek/Erie Canal *Hydrilla*

Demonstration Project area and continued *Hydrilla* (*Hydrilla verticillata*) treatments may have contributed to a decrease of localized plant biomass.

Boot Brush Station Program

Boot brush stations are an effective and cost-efficient means to prevent the spread of invasive species along trails and within natural areas frequented by members of the public. They also serve as a great way to educate the public on both the threat of invasive species and the small steps they can take as individuals to spread the word, and not the species.

WNY PRISM's Boot Brush Station Program aims to improve regional spread prevention efforts by providing partners with the signs and building materials necessary to install a boot brush station on their property. Each sign is tailored to the individual site with the partner logo and a selection of relevant invasive species. WNY PRISM staff work with partners to select species to be included on the sign, and we strongly encourage inclusion of early detection priority species.



WNY PRISM Boot Brush Station locations.



WNY PRISM Crew assisted with the installation of a boot brush station at Cazenovia Creek FWMA.

Supplies and materials, including the sign, boot brush, lumber, and hardware, are provided to partners for installation, and as part of the program partners are expected to install and maintain the stations. Maintenance generally includes cleaning the sign and replacing the brushes, as needed. Brush replacement frequency depends on level of use, which can be highly variable between sites.

WNY PRISM provides six to eight boot brush stations each year, depending on the number of applications the program receives and the available funding for the given year. In 2022, seven boot brush stations were designed and provided to partners, bringing the total number of boot brush stations WNY PRISM has established within the region to 40.

Early Detection and Rapid Response

Goal: Develop an effective early detection program and associated protocols that provide for reporting, assessment, and response efforts.

The WNY PRISM early detection program addresses the survey, removal and spread prevention of Tier 1 and Tier 2 species, with a focus on established approaching region and early detection species priorities. WNY PRISM's Early Detection Priority Species represent those that pose the greatest threat to the region while also being species for which a goal of eradication is feasible based on current species presence and distribution, and management capabilities. There were no changes to the Early Detection Priority Species list heading into 2022, however confirmation of both goatsrue and spotted lanternfly within the region resulted in both species being automatically moved from the approaching region list to the early detection list, per WNY PRISM's established protocols.

Early Detection Priority Species

1. <i>Ampelopsis brevipedunculata</i>	Porcelain Berry
2. <i>Aralia elata</i>	Japanese Angelica Tree
3. <i>Brachypodium sylvaticum</i>	Slender False Brome
4. <i>Cytisus scoparius</i>	Scotch Broom
5. <i>Eichhornia crassipes</i>	Water Hyacinth
6. <i>Microstegium vimineum</i>	Japanese Stiltgrass
7. <i>Nymphoides peltata</i>	Yellow-Floating Heart
8. <i>Persicaria perfoliata</i>	Mile-a-Minute
9. <i>Pistia stratiotes</i>	Water Lettuce

WNY PRISM early detection sites, those with known infestations of early detection priority species, are placed into four categories: **Active**, **Inactive**, **Partner** and **Eradicated**. **Active** sites are those WNY PRISM staff members and/or volunteers visit each year to survey for and remove plants. **Inactive** sites are those for which WNY PRISM is unable to carry out management. This is most often due to capacity limits but also may be due to an inability to safely access a site or lacking permission to enter a site. **Partner** sites are those actively managed by WNY PRISM partners and **eradicated** sites are those identified as presumed eradicated based on WNY PRISM's early detection site monitoring protocol.

Early detection monitoring sites, sites where previous removal efforts resulted in no remaining plants, are monitored annually by WNY PRISM. If removal efforts have resulted in individuals not being found for three consecutive years, the site will then be monitored every other year for up to five or seven years depending on the species. If no individuals are found after the final year, the site is presumed eradicated and removed from WNY PRISM's site monitoring list. If at any point additional plants are found, the site resets to active management, and annual monitoring will begin again the following year.

One new site was added to WNY PRISM's presumed eradicated list in 2022, bringing the total to five sites. The Unity Island water hyacinth site joins additional water hyacinth sites in Bull Creek, Ellicott Creek and Ransom Creek as having five years of monitoring with no additional plants being detected. In addition, a single mile-a-minute site was previously designated as presumed eradicated.

Terrestrial early detection efforts focused on slender false brome (*Brachypodium sylvaticum*) and Japanese stiltgrass (*Microstegium vimineum*). Surveys were carried out at 76 sites throughout the region, encompassing over 10,000 acres and 183.67 miles, and 399 dedicated hours. One new slender false brome and four new Japanese stiltgrass sites were found as a result of these survey efforts. Slender false brome manual removal was carried out at five sites and led to the removal of 19 bags of plants, while herbicide treatment was carried out at two sites with a total of 220 acres treated. Japanese stiltgrass hand-pulling was implemented at 20 sites and led to the removal of 130 bags of plants, while herbicide treatment was carried out at five sites over 23.86 acres. Six Japanese stiltgrass removal workdays were held at three different sites and 40 volunteers attended these events.

Aquatic early detection efforts focused on water hyacinth and water lettuce. Three water lettuce and three water hyacinth sites were surveyed during the field season, with some sites being surveyed multiple times throughout the season. A total of 42.5 hours and 106.76 acres were surveyed in 2022, and no plants were found at any of the sites.

Terrestrial Early Detection Species

Porcelain Berry – 1 active

Porcelain berry was first reported in Delaware Park, a Buffalo Olmsted Park Conservancy property, in 2020 by a community scientist and volunteer; this remains the only known site within the region. After confirming the species identification, the volunteer removed the plant in both 2020 and 2021. WNY PRISM monitored the site in 2022 and removed the single plant, finding that two years of manual removal did not result in site eradication. WNY PRISM will work with Buffalo Olmsted Parks Conservancy to identify additional, acceptable management options moving forward.



Porcelain berry was once again observed at Delaware Park.

Japanese Angelica Tree – 1 partner

Japanese angelica tree was reported to WNY PRISM in 2018, after being identified and confirmed at Lake Erie State Park, and this remains the only known occurrence of this species within the region. WNY PRISM worked in partnership with NYS Parks to implement treatments in 2019, 2020 and 2021. After three years of treatment, the infestation was reduced to a size where NYS Parks staff were able to take over management without further assistance from WNY PRISM.

Slender False Brome – 6 active, 2 partner, 4 inactive

One new slender false brome site was found at Iroquois National Wildlife Refuge on the Swallow Hollow Trail. The one large plant on the trail and couple of surrounding seedlings were all removed. Slender false brome was manually removed from six total sites, including the new site and a small area within

Genesee County Park and Forest, encompassing 10.71 acres. Nineteen bags of slender false brome were removed through these efforts.

Herbicide treatment of slender false brome was carried out at two sites this season. In June, the Crew treated all slender false brome plants in the 220 acres of Genesee County Park and Forest and carried out follow up treatment in August. After all necessary permissions and glyphosate use permit requirements were completed by NYS Parks, WNY PRISM was able to assist with slender false brome herbicide treatment at Letchworth State Park, following manual removal efforts earlier in the season.

Slender false brome management plots were visited for pre- and post-treatment data collection. Twenty-five plots, evenly distributed among the control, manual removal, mechanical removal, herbicide treatment and mechanical herbicide treatment areas, were first established at Genesee County Park and Forest in 2018. Average slender false brome percent cover in these plots before any treatment was implemented was $67.2 \pm 21.2\%$. The four identified treatments were implemented, along with an untreated control, from 2018 – 2019. From 2020 – 2022, the entire infestation including the previous control plots were treated with herbicide, which was determined to be the most effective management method. In 2022, the average slender false brome percent cover ahead of treatment was $4.8 \pm 7.4\%$. Following data collection, all plants were treated with herbicide twice during the season.



Slender false brome manual removal at Letchworth State Park.

Scotch Broom – 1 partner

Scotch broom is present at a single known site within the region, at Letchworth State Park, and is under the management of NYS Parks. WNY PRISM continues to prioritize surveys and raising awareness for this species to ensure new populations are detected before a potential 30-year seed bank can be established. No new sites were reported in 2022.

Japanese Stiltgrass – 27 active, 4 partner, 4 inactive

Surveys resulted in the identification of four new Japanese stiltgrass sites including Anna Mae Bacon Bird Sanctuary, Birdsong Park Nature Trail, Boston Town Park and Reinstein Woods. All plants were hand-pulled at the first three sites, however, the infestation at Reinstein Woods was discovered too late in the season to effectively manage. WNY PRISM discussed the infestation with Reinstein Woods Staff, and there is mutual interest in having their volunteers get involved in manual removal efforts next year. Japanese stiltgrass was hand-pulled at 21 sites covering a total of 70.26 acres and resulted in removal of 130 bags of plants.

Herbicide treatment of Japanese stiltgrass was carried out at five sites: the East Aurora American Legion, Chestnut Ridge County Park, Franklin Gulf County Park, Hunters Creek County Park, and Mossy Point. The treatments were carried out in July with follow up treatments in late August and early September. Japanese stiltgrass herbicide treatment encompassed 23.86 acres.

WNY PRISM held six Japanese stiltgrass removal workdays to get the community out to help with invasive species removal and to learn more about the organization and ways they can practice spread prevention. Workdays were held at Mill Road Park (3), Cazenovia Creek Fish and Wildlife Management Area (2) and the West Seneca Soccer Complex (1). M&T Bank partnered with us for two of these workdays and groups from Erie County 4H and the Boy Scouts also attended workdays throughout the season. Forty volunteers took part in the removal workdays, removing 91 of the 130 total bags of Japanese stiltgrass removed this season.

Japanese stiltgrass surveys, management and volunteer workdays were supported by funding through the Great Lakes Restoration Initiative and U.S. Forest Service.



Japanese stiltgrass was found at Anna Mae Bacon Bird Sanctuary in 2022, and WNY PRISM removed all observed plants.

Mile-A-Minute – 1 active, 1 eradicated

The Mile-a-Minute Working Group includes SUNY Brockport, DEC and partners from Finger Lakes PRISM, and is facilitated by WNY PRISM. Management efforts in WNY PRISM are focused on infestations in the Oakfield area. The single identified site is located at Oak Orchard Wildlife Management Area (Oak Orchard) and includes satellite



Management efforts for mile-a-minute at Oak Orchard WMA have been led by SUNY Brockport and supported by DEC and WNY PRISM.

populations that are present on two adjacent private properties. A second site in Cattaraugus County is considered eradicated.

The team from SUNY Brockport coordinated the manual, mechanical and chemical treatment of mile-a-minute, ensuring all plants were treated. WNY PRISM spent one day at Oak Orchard assisting DEC and SUNY Brockport with manual removal.

Aquatic Early Detection Species

Water Hyacinth – 2 active, 1 partner, 4 eradicated



The free-floating water hyacinth was last found at Unity Island in 2017 and the site is now presumed eradicated.

Water hyacinth has been present in the region since 2001 and has been found in both Niagara and Erie Counties. Survey and management efforts began in 2014, initially led by partners, and WNY PRISM began expanding these efforts in 2016. At the start of 2022 there were seven known water hyacinth sites in the WNY PRISM region, six of which are being managed by WNY PRISM, with assistance from the U.S. Fish and Wildlife Service (USFWS), and a single site, Buckhorn Island State Park, being managed by NYS Parks.

No new water hyacinth populations were found this year, and no plants were found at any of WNY PRISM's active sites. With no plants found at the Unity Island site since 2017, the site is now presumed eradicated and has been removed from the active list. Only two active water hyacinth sites remain in the region.

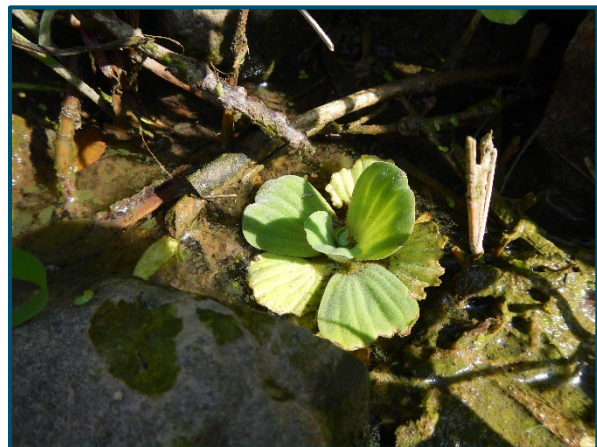
Water hyacinth was found at only a single site last year, Tonawanda Creek/Erie Canal, and this site was surveyed three times in 2022 in an attempt to collect local phenology data for the species. This would expand our understanding of how the species acts in this area and provide for the development of improved best management practices. However, since no water hyacinth was found this year, we were unable to provide data to the statewide effort.

Water Lettuce – 3 active, 1 inactive

Water lettuce has been observed at four sites in WNY PRISM. Three sites are active while the fourth, present on private property, is currently inactive. Each of the three active sites were surveyed at least twice this year and no water lettuce was found. This includes the Hyde Park site where over 700 plants were removed in 2020.

Yellow Floating Heart – 1 active

The only known infestation of yellow floating heart within the WNY PRISM region is located on private property in Chautauqua County. The landowner is actively managing the infestation with technical assistance from WNY PRISM. Yellow floating heart was selected as the additional species to be included in surveys for the Canadaway and Chautauqua Creek sub-watersheds, as part of SVAP.



Water lettuce was found in, and removed from, Tonawanda Creek/Erie Canal in 2021, but surveys did not detect any plants in 2022.

Additional Species

Goatsrue

Goatsrue was reported to WNY PRISM through iMap and by the Eckert Herbarium, located at SUNY Buffalo State University. WNY PRISM Survey Technicians visited locations where the species was reported and confirmed the presence of goatsrue. Verifying goatsrue presence in both Erie and Niagara County led the species to be moved from WNY PRISM's approaching region priority list to the early detection list in the fall.

Prior to confirming the presence of goatsrue within the WNY PRISM region, work had begun to develop a habitat suitability model similar to those previously developed for slender false brome and Japanese stiltgrass. The model uses known species presence points along with environmental layers including landscape, climate and dispersal variables to create a map that highlights suitable habitat. Those variables found to be the most important for determining habitat suitability for goatsrue were annual minimum temperature, aspect, distance to major roads and distance to water bodies. New presence data points were added as they were confirmed throughout the season, increasing the strength of model. The model will be used to identify priority survey locations for next year.

Japanese Tree Lilac

WNY PRISM assisted DEC and SUNY College of Environmental Science and Forestry with the assessment of the genetics of escaped populations of Japanese tree lilac (*Syringa reticulata*). The research will help managers to understand if there are similarities between the escaped populations and help to inform local and statewide management decisions. WNY PRISM was provided a database of known Japanese tree lilac locations within the Buffalo area and asked to sample trees while flowers were in bloom to ensure correct identification. Three to four leaves were collected from each selected tree and the samples were sent to the DEC Forest Health Diagnostic Lab for genetic analysis.

Red Swamp Crayfish

Red swamp crayfish was discovered by students at the Park School in Amherst and reported in 2020. WNY PRISM confirmed the identification and began working with the school and students to develop a management plan focused on trapping and monitoring the crayfish. In 2021, we enclosed the pond perimeter with a silt fence to reduce overland migration of the species and this year we continued with intensive trapping efforts, removing almost 200 animals. We also completed 76 surveys of retail aquarium stores to assess their potential as vectors for invasive crayfish sales.



Japanese tree lilac samples were collected from North Tonawanda street trees to assist with genetic analysis and comparison between populations.

Hydrilla

WNY PRISM continued to work with U.S. Army Corps of Engineers – Buffalo District (USACE), DEC and U.S. Fish and Wildlife Service - Lower Great Lakes Fish and Wildlife Conservation Office (USFWS) on the Tonawanda Creek/Erie Canal *Hydrilla* Demonstration Project, a multi-year project aimed at eradicating *Hydrilla* (*Hydrilla verticillata*) and providing information for the development of Best Management Practices. In support of the project, WNY PRISM Stewards provided outreach to members of the public at staffed launches along the Erie Canal throughout sampling and treatment efforts. In addition, WNY PRISM placed a Steward at Gratwick Riverside Marina in North Tonawanda, the location of a separate *Hydrilla* population, to conduct education and outreach on Friday afternoons.

On August 25, 2022, a Steward pulled a fragment of *Hydrilla* during an inspection of a retrieving boat at Niawanda Park, along the Niagara River. The data provided from the WISPA survey and the interaction between the Steward and boater gave the indication that the boat had recently left a marina north of Niawanda Park, toward Tonawanda Island. After communicating with NYSDEC and USACE, WNY PRISM sent the Niawanda Park Steward and both Lead Stewards to survey nearby marinas for potential unknown populations. Rake-toss surveys were completed at five locations and the data was entered into SAS Pro.

Surveyed Marinas:

- Bow & Stern Marina
- East Pier Marina
- Smith Boys (North Tonawanda location)
- The Shores Waterfront Island Restaurant & Marina
- Wardell's Boat Yard

Infestations were found at East Pier Marina, The Shores Waterfront Island Restaurant & Marina, and Wardell's Boat Yard. The infestation at Wardell's Boat Yard was already known to USACE and treated for earlier in the year, however the surveys found it still actively growing. The infestations at East Pier Marina and The Shores Waterfront Island Restaurant & Marina were previously unknown. In early September, USACE followed up with their own surveys and discovered a population at Winfield Marina. Subsequent surveys were conducted on September 15 and 16 by the NYSDEC Region 9 Aquatic Invasive Species coordinator at various locations along the Niagara River Corridor. No further infestations were found.



Hydrilla was found at the East Pier Marina and the Shores Waterfront Island Restaurant and Marina.

Management and Habitat Restoration

Goal: Assist with management planning and project implementation focused on long-term, sustainable projects that provide resilience against future invasions, and provide improved ecosystem function and services. Supported efforts will be based on WNY PRISM identified priorities through primarily technical assistance and training, with project implementation assistance when capacity allows.

Crew Assistance Program

The Crew Assistance Program (CAP) continues to be one of WNY PRISM's most successful programs, improving invasive species management across the region by assisting partners with invasive species surveys and mapping, invasive species removal, habitat management, and restoration projects. It offers valuable opportunities for partners to work alongside WNY PRISM's experienced staff and trained seasonal crew to learn about invasive species management and gain experience using removal methods and equipment.

The CAP is open to applications from December through January for the upcoming field season. Information on the program, including eligibility, required components and review criteria is made available, and partners are instructed to submit an online application. Each year the application process and criteria go through a comprehensive review and updates are made to continually improve the program. In 2022, pre-selection meetings were held with applicants to clarify project details and ensure all parties agreed upon individual responsibilities.

WNY PRISM received 13 CAP proposals from ten partners, including at least one proposal from each of WNY PRISM's counties. Each proposal was reviewed and prioritized based on our established review



WNY PRISM worked at Chautauqua Lake Outlet Greenway, to address knotweed. The top photo is pre-treatment, prior to mowing the knotweed, which was completed by the Chautauqua Watershed Conservancy. The bottom photo shows the Crew foliar spraying the resprouts within the mowed areas.

criteria and assessed based on the project’s ability to fit within our capacity. Twelve projects were selected for implementation including five survey and mapping projects, six removal and restoration projects and one that involved surveys and removal.

Invasive species surveys were conducted at Faun Lake, Myers Family Wetland, Onondaga Escarpment State Unique Area, Rattlesnake Hill Wildlife Management Area (WMA) and Boston Town Park. Invasive species removal efforts took place at Ball Creek Preserve, Bergen Swamp Preserve, Chautauqua Lake Outlet Greenway, Craneridge, Oak Orchard WMA and multiple sites across Niagara County. The additional project took place across two impoundments (Sites 16/16A) within the Conewango Watershed in Cattaraugus County and was completed in partnership with DEC.

The 2022 Crew Assistance Program resulted in 16.46 miles surveyed, 1,897.76 acres surveyed, invasive species being removed from 10.48 acres, including the removal of 4,000 pounds of water chestnut, and 12 completed projects.

Survey and Mapping Projects

Crew Assistance Program survey and mapping projects serve the purpose of providing partners with a basis for which to identify strategies and build a management plan. Surveys primarily consist of general invasives species site inventories, though species focused surveys are also conducted, such as in the case of the Rattlesnake Hill project and Conewango Creek Watershed project which focused on Japanese stiltgrass and water chestnut (*Trapa natans*), respectively. WNY PRISM uses the iMapInvasives Mobile Advanced tool to collect and manage data and provides each partner with a written summary of the survey and a map. The project summary includes an overview of how the survey was conducted and what was observed, provides management recommendations, and provides information on how to access the data within iMap. Depending on the number of species found during the survey, multiple maps may be provided to ensure they are easy to read.



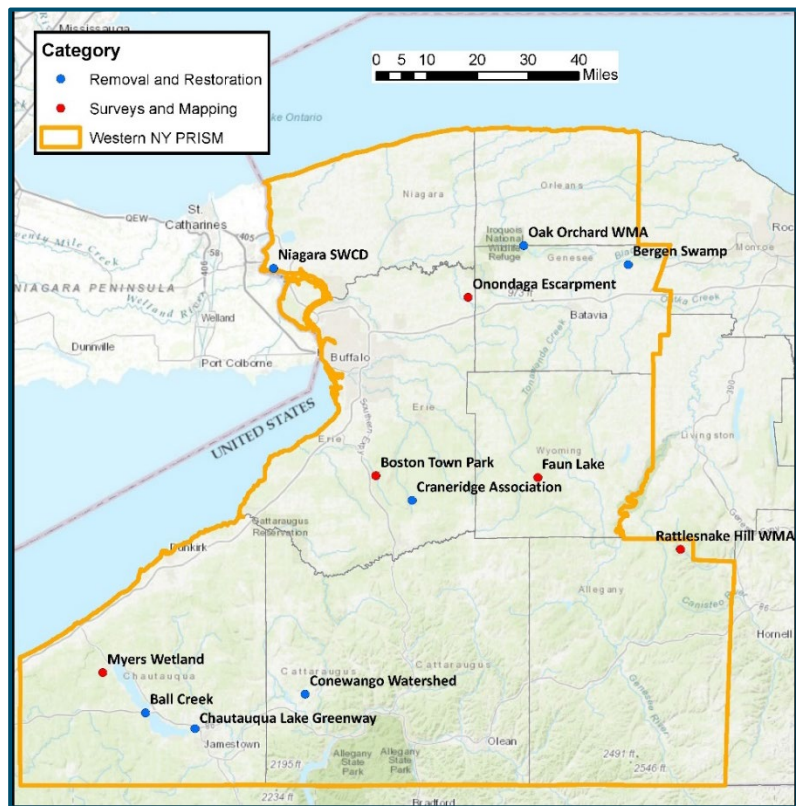
iMapInvasives Mobile Advanced survey training took place at Tift Nature Preserve in early, and still chilly, May.

The most frequently observed species were bush honeysuckle (*Lonicera spp.*), multiflora rose (*Rosa multiflora*), privet (*Ligustrum spp.*), common periwinkle (*Vinca minor*), mugwort (*Artemisia vulgaris*) and Japanese stiltgrass. Rounding out the top ten were tree of heaven (*Ailanthus altissima*), knotweed (*Reynoutria spp.*), reed canarygrass (*Phalaris arundinacea*) and dame’s rocket (*Hesperis matronalis*). Water chestnut was found at both the 16 and 16A impoundments. Thirty-one unique species were observed as part of CAP projects this year.

Project Site	Partner Organization	Miles Surveyed	Acres Surveyed
Faun Lake	Faun Lake Association	1.75	468.54
Myers Family Wetland	Chautauqua Watershed Conservancy	N/A	12.5
Onondaga Escarpment State Unique Area	NYS DEC Region 9	1.4	64
Rattlesnake Hill WMA	NYS DEC Region 8	11.81	1216
Conewango Watershed Sites 16/16A	Cattaraugus County Department of Public Works	N/A	32
Boston Town Park	Town of Boston Conservation Advisory Council	1.5	104.72

Removal and Restoration Projects

The prioritization criteria for projects under the CAP heavily favor work on Tier 2 species, however partners are more often seeking assistance with management of the more common Tier 3 and Tier 4 species. Species targeted for removal as part of projects this year included knotweed, *Phragmites* and several invasive shrubs or small trees including bush honeysuckle (*Lonicera spp.*), common buckthorn (*Rhamnus cathartica*), autumn olive (*Elaeagnus umbellata*), barberry (*Berberis spp.*), and multiflora rose (*Rosa multi-flora*). Removal methods consisted of several herbicide treatments including cut-stump, stem injection, clip-and-drip, and foliar spray, as well as manual removal.



Crew Assistance Program project locations map.

Knotweed management was the focus of three Crew Assistant Program Projects: Ball Creek Preserve, Chautauqua Lake Outlet Greenway and the Niagara County Knotweed Eradication Project. Ball Creek and Chautauqua Lake Outlet Greenway are both properties owned and managed by the Chautauqua Watershed Conservancy (CWC) and both properties were previously surveyed as part of the Crew Assistance Program. Based on the recommendation from WNY PRISM to address the small knotweed patches identified during the surveys, CWC reached out for assistance. Staff from CWC were able to cut the knotweed a month prior to the herbicide treatment,

facilitating improved efficacy for the herbicide treatment. WNY PRISM has assisted Niagara County Soil and Water Conservation District with the Niagara County Knotweed Eradication Project for several years, once again joining their seasonal crew to conduct follow-up treatments on multiple sites across the county.



The Crew worked at Bergen Swamp, treating Japanese and common barberry, and Phragmites.

Invasive shrubs and small trees were also the focus of three Crew Assistance Program projects, including projects at Bergen Swamp, Craneridge and Oak Orchard WMA. Bergen Swamp is designated as a National Natural Landmark and is home to many rare habitats and species. Japanese and common barberry were the invasive species targets for Bergen Swamp where the Crew was met and assisted by Bergen Swamp Preservation Society's Land Steward and Membership Chair. Two days were spent cut-stump treating the barberry across 2.14 acres. In addition to the barberry removal efforts at Bergen Swamp, WNY PRISM returned later in the summer to treat a 0.26-acre area for *Phragmites*. This site involved cut-stump treatment within sensitive habitat known to support spotted turtles.

The Craneridge Homeowners Association first applied for the Crew Assistance Program in 2021, requesting an invasive species survey, and based on the results of the survey, they applied in 2022 to seek assistance with removal of multiple invasive shrub species. The Crew was met by the Chair of the Craneridge Woodlands & Habitat Committee and five additional volunteers to assist with removal efforts, which consisted of cut-stump treatments across a combined 0.29 acres. Work at Oak Orchard WMA focused on removal of autumn olive and common buckthorn within two sections of the preserve, totaling 5.32 acres. Foliar application was used in an area within an old agricultural field that was mowed previously, while cut-stump treatments were used in a forested area where larger individuals were found. WNY PRISM also presented a Walk and Talk later in the summer that focused on discussing the site and management that had been conducted earlier in the year.



WNY PRISM Stewards removed water chestnut from Conewango Watershed Commission site 16A, removing over 4,000 lbs.

The final Crew Assistance Program project involved water chestnut surveys and removal at two impoundments situated along Elm Creek within the Conewango Watershed. Conewango Watershed Commission sites 16

and 16A were surveyed in late June, by both DEC's Region 9 AIS Strike Team (site 16) and WNY PRISM

staff (site 16A). While site 16 had water chestnut present, Site 16A contained a significant infestation. Staff from both DEC and WNY PRISM spent two-days removing water chestnut from site 16A, removing over 4,000 lbs. of water chestnut from a 0.5-acre area within the 8.5-acre infestation. Additional resources will be needed for future management.

Project Name	Partner Organization	Management Activity	Acres Managed
Ball Creek Preserve	Chautauqua Watershed Conservancy	Knotweed - foliar spray	0.17
Bergen Swamp Preserve	Bergen Swamp Preservation Society	Shrubs; <i>Phragmites</i> - cut stump; clip-and-drip	2.4
Chautauqua Lake Outlet Greenway	Chautauqua Watershed Conservancy	Knotweed - foliar spray	0.1
Craneridge	Craneridge Homeowners Association	Shrubs - cut stump	0.29
Niagara County Knotweed Eradication	Niagara County Soil & Water Conservation District	Knotweed - stem injection	1.7
Conewango Watershed Sites 16/16A	Cattaraugus County Department of Public Works	Water Chestnut - hand removal	0.5
Oak Orchard WMA	NYS DEC Region 8	Shrubs - cut stump, foliar spray	5.32

Habitat Management and Restoration Projects

Mosquito Junction – Tifft Nature Preserve

WNY PRISM continued to work with Tifft Nature Preserve (Tifft) to implement the Mosquito Junction Swamp Restoration Project in 2022, the final year of this project. Tifft is a 264-acre urban nature preserve that provides valuable habitat for migratory songbirds. Along the margins of a large, remnant marsh there are additional wetlands and transition zones including the one referred to as Mosquito Junction. This project focuses on the removal of invasive species and restoration of native plant communities within this area.

WNY PRISM staff worked alongside Tifft stewardship staff and volunteers for eight days, removing invasive species and restoring native plant communities in the Mosquito Junction project area. The Crew implemented invasive species removal efforts focused on common buckthorn, glossy buckthorn, multi-flora rose, bush honeysuckle, tree of heaven and *Phragmites*. Restoration efforts included native plantings in areas where foliar treatment occurred in previous seasons. Plants were protected from herbivory, primarily from deer, with a biodegradable jute fence.

Houghton Preserve

The Houghton Preserve is the first property purchased by the Nature Sanctuary Society of Western New York (NSSWNY), acquired in 1934. The 23-acre preserve contains a kettlehole bog surrounded by forested wetlands that provide habitat to numerous rare flora and fauna. Beginning in 2019, the NSSWNY partnered with WNY PRISM to survey for and manage invasive species that threaten the biodiversity of the preserve. Invasive species surveys showed low invasive species cover, especially within the bog, but several encroaching shrub species raised concerns. WNY PRISM worked with NSSWNY on implementation of the Invasive Species Management to Protect Rare Habitats at Alexander and Houghton Preserves Project in 2022, the second and final year of this project.



WNY PRISM manually removed glossy buckthorn from Houghton Preserve.

Invasive species removal efforts focused on the cut-stump herbicide treatment and manual hand-pulling of glossy buckthorn (*Frangula alnus*) within the two Management Units. Work conducted in May and June primarily took place within Unit 2, where treatment had occurred for the first time in 2021. Work conducted from July through September mostly took place within Unit 1, which had been treated by WNY PRISM staff in 2019 and 2020. Cut-stump treatment and manual removal of glossy buckthorn took place over 7 days from May to September. Removal efforts covered 2.28-acres and resulted in 15.5 bags of plant material removed.

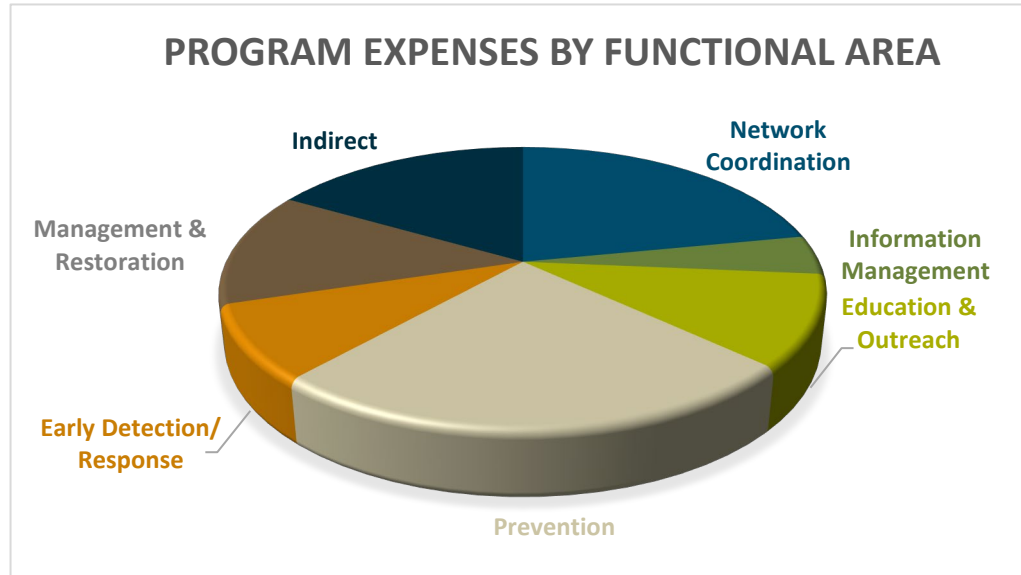
Water Chestnut and European Frog-bit Removal

Water chestnut is an aquatic invasive species of concern for the region, particularly within the Southern Tier, and WNY PRISM coordinates the WNY Water Chestnut Working Group to help facilitate communication, surveys and management efforts. Stewards assisted in several survey and removal projects in collaboration with the Working Group, including a return to Conewango Swamp Wildlife Management Area for a fourth year. Stewards found and removed ten plants over the course of a three-hour survey. Attempts were made to visually survey inaccessible areas, inaccessible due to low water levels, and no plants were observed. Stewards also spent one day at the Audubon Community Nature Center in Jamestown to assist their summer crew with water chestnut removal, removing 36 lbs. of water chestnut and European frog-bit (*Hydrocharis morsus-ranae*) during the six-hour workday. Additional European frog-bit removal took place at Harwood Lake MUA. Stewards also spent one day removing European frog-bit from Harwood Lake, removing 1,316 lbs.



WNY PRISM Stewards removed 1,316 lbs. of European frog-bit from Harwood Lake MUA.

Summary of Program Expenses



This summary of program expenses is intended to provide a general overview of how WNY PRISM divided time and resources in 2022. It includes all funded programs. Expenses were grouped together by Goal/Core Function. Most WNY PRISM activities fall within multiple categories and effort was taken to place expenses in the most appropriate category. This is not intended to serve as a financial report.

Network Coordination (22%) - Activities and expenses related to Partner/Network Coordination including the cost of program administration, general office supplies, travel, and related personnel costs.

Information Management (4%) - Activities and expenses related to Information Management including related personnel costs, survey and monitoring, prioritization, research, outreach, and supplies.

Education and Outreach (10%) - Activities and expenses related to Education and Outreach including related personnel costs, volunteer management, website and online resources management, materials development, travel, and supplies.

Prevention (25%) - Activities and expenses related to Prevention including the Watercraft Inspection Stewardship Program, related personnel costs, management, travel, and supplies.

Early Detection/Rapid Response (9%) - Activities and expenses related to Early Detection and Rapid Response including related personnel costs, site assessments and monitoring, outreach, travel, and supplies.

Management & Habitat Restoration (13%) - Activities and expenses related to Habitat Management and Restoration Goals, including related personnel costs, Crew Assistance Program, planning, travel, and supplies.

Indirect Costs (17%) - Indirect Costs as determined by the Research Foundation for SUNY Buffalo State.

WNY PRISM Partners (new partners in **bold**)

Adirondack Park Invasive Plant Program	Chautauqua County Forest Pest Taskforce	Finger Lakes Regional Watershed Alliance
Alfred Farmers Market	Chautauqua Institution	Fox Valley Farmers Market
Alfred State College	Chautauqua Lake & Watershed Management Alliance	Friends of Bond Lake
American Association of Pesticide Safety Educators	Chautauqua Lake Association	Friends of Iroquois National Wildlife Refuge
American Legion Post 362	Chautauqua Watershed Conservancy	Friends of Letchworth State Park
Amherst Conservation Advisory Council	Chautauqua-Conewango Consortium	Friends of Reinstein Woods
Amherst Public Library	Christ the King Seminary – Diocese of Buffalo	Friends of Times Beach
Amherst State Park	Citizens Coalition for Wildlife and Environment	Friends of Unity Island
Arcade Chamber of Commerce	City of Buffalo	Gardens Buffalo Niagara
Audubon Community Nature Center	City of Dunkirk	Genesee Country Farmers Market
Belmont Farmers Market	City of Lockport	Genesee County Agricultural Society
Bergen Swamp Preservation Society	City of Niagara Falls	Genesee County Park and Forest
Buffalo and Erie County Botanical Gardens	City of North Tonawanda	Genesee County Soil and Water Conservation District
Buffalo Audubon Society	City of Tonawanda	Genesee River Wilds
Buffalo Museum of Science	Clarence Hollow Farmers Market	Girl Scouts of Western New York – Camp Timbercrest
Buffalo Niagara Heritage Village	Conewango Creek Watershed Association	Grand Island Conservation Advisory Committee
Buffalo Niagara Waterkeeper	Cornell University	Grand Island Memorial Library
Buffalo Olmsted Parks Conservancy	Craneridge Association	Great Lakes Action Agenda
Buffalo Science in the (Virtual) Pub	Daemen College	Great Lakes Center at SUNY Buffalo State
Buffalo Sewer Authority	Don't Move Firewood	Great Lakes Hydrilla Collaborative
Buffalo Women of Environmental Learning & Leadership (BWELL)	Eastern Monarch Butterfly Farm	Great Lakes Media
Buffalo Zoo	Eckert Herbarium	Great Lakes Phragmites Collaborative
Byron-Bergen Central Schools	Elmwood Village Farmers Market	Great Lakes Restoration Initiative
Canal Village Farmers Market	Environmental Protection Agency	Greystone Nature Preserve
Capital Region PRISM	Erie Canal Harbor Development Corporation	Groundworks Buffalo
Catskill Regional Invasive Species Partnership	Erie County 4-H Club	Habitattitude
Cattaraugus County	Erie County Agricultural Society	Hamburg Farmers Market
Department of Public Works	Erie County Department of Environment and Planning	Hikerbabes Community: Western New York Chapter
Cattaraugus County Highway Department	Erie County Department of Parks, Recreation and Forestry	Invasive Species Advisory Committee
CCE of Allegany County	Erie County Soil and Water Conservation District	Invasive Species Coordination Section
CCE of Erie County	Faun Lake Association	Invasive Species Council
CCE of Genesee County	Federated Garden Clubs of New York	Jamestown Community College
CCE of Niagara County	Finger Lakes PRISM	Jamestown Farmers Market
CCE of Orleans County		
CCE of Wyoming County		
Certified Nursery Landscape Professionals		

Jamestown Garden Club
 Ken-Ton School District
 Lake Erie Seaway Trail Center
 Lake Erie Watershed Protection Alliance
 Lily Dale Assembly
 Lockport Community Market
 Lockport Public Library
 Long Island Invasive Management Area
 Lower Hudson PRISM
 M&T's Think Green Resource Group
 Master Forest Owners
 Master Gardeners
 Master Naturalists
 National Plant Diagnostic Network
 Natural Resources Conservation Service – USDA
 Nature Sanctuary Society of Western New York
 New York Farm Bureau
 New York iMapInvasives Program
 New York Invasive Species Research Institute
 New York Natural Heritage Program
 New York New Jersey Trail Conference
 New York Sea Grant
 New York State Turfgrass Association
 Niagara County Parks
 Niagara County SWCD
Niagara Frontier Antique & Classic Boat Club
 Niagara Frontier Botanical Society
 Niagara River Greenway
 Niagara University
 NIASMA
 North American Invasive Species Management Association
 North Buffalo Farmers Market
 North Tonawanda City Market
 NYS Canal Corporation
 NYS Classic Fishing Tournaments

NYS Department of Agriculture and Markets
 NYS Department of Environmental Conservation
 NYS Department of Transportation
 NYS Federation of Lake Associations
 NYS Hemlock Initiative
 NYS Office of Parks, Recreation, and Historic Preservation
 NYS Thruway Authority
 Olean Farmers Market
 Onondaga Environmental Institute
 Ontario Invasive Plant Council
 Orchard Park Library
 Orleans County Soil and Water Conservation District
 Panama Rocks
Penn Dixie Fossil Park & Nature Reserve
 Perry Farmers Market
 Pfeiffer Nature Center
 Plant WNY
 Play. Clean. Go.
 PUSH Buffalo
 Reinstein Woods
 Research Foundation for SUNY Buffalo State
 Richmond Memorial Library
 Riverside Community High School
 Roger Tory Peterson Institute
 Rushford Lake Association
 Saint Bonaventure University
 Salamanca Farmers Market
 Science Demands Action
 Seneca Nation of Indians
 Silver Lake Association
 Silver Lake Water Quality Group
 South Towns Garden Club
 St. Lawrence Eastern Lake Ontario PRISM
 Starry Stonewort Collaborative
 Stop Aquatic Hitchhikers
Strykersville Senior Citizens
 SUNY Brockport
 SUNY Buffalo State
 SUNY College of Environmental Science and Forestry

SUNY Fredonia
 The Nature Conservancy
 The Park School
 Tifft Nature Preserve
 Town of Amherst
 Town of Aurora
 Town of Bergen
 Town of Boston Conservation Advisory Council
 Town of Byron
 Town of Cheektowaga
 Town of Clarence
 Town of Eden – Conservation Advisory Board
 Town of Hanover
 Town of Holland
 Town of Newfane
 Town of Tonawanda
 Town of Tonawanda – Youth, Parks & Recreation
Town of Tonawanda Public Library – Kenmore Branch
 Town of West Seneca
 U.S. Army Corps of Engineers – Buffalo District
 U.S. Department of Agriculture – Animal and Plant Health Inspection Service
 U.S. Department of Agriculture – National Resources Conservation Service
 U.S. Fish and Wildlife Service – Lower Great Lakes Fish and Wildlife Conservation Office
 University at Buffalo
 University of Georgia
 Village of Allegany
 Village of East Aurora
 Village of Holley
 WBFO 88.7 NPR
 West Seneca Chamber of Commerce
 Western New York Land Conservancy
 WGRZ Channel 2
 WNY Forest Pest Taskforce
 Wyoming County Soil and Water Conservation District