

2019

WNY PRISM Annual Report



Prepared By

Andrea Locke, WNY PRISM Coordinator

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Cover Photo: Slender false brome removal at Drew's Nature Preserve.

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Introduction

Partners,

Western New York Partnership for Regional Invasive Species Management (WNY PRISM) has successfully closed the book on 2019, a year that saw the addition of new staff, new programs and the much-needed expansion of existing programs. This tremendous growth was made possible through a new 5-year WNY PRISM Contract (2019 – 2023) with the NYS Department of Environmental Conservation that provided for the development of a region-wide watercraft inspection program, and the addition of both an Aquatic Invasive Species Program Manager and Education and Outreach Program Manager. Including the Great Lakes Slender False Brome Working Group, funded through the Great Lakes Restoration Initiative, WNY PRISM's full-time staff increased from 3 to 5 and our seasonal staff increased from 8 to 27, in 2019.



WNY PRISM focused on program assessment and development in 2019. The most significant effort involved the development of a 5-year strategic plan to coincide with the new contract. This year-long effort took place alongside development of a new regional Watercraft Inspection Stewardship Program, which moved from a 2 launch pilot project in 2018 to a 22 launch program in 2019, the development of an expanded early detection and response program, improved Crew Assistance Program, increased data collection, and a new strategic approach to social media.

I would like to thank our host organization, the Great Lakes Center at SUNY Buffalo State and the Research Foundation for SUNY Buffalo State, without whom we would not have the support necessary to fulfill our ambitious, and ever increasing, scope of work. I would also like to thank the New York State Invasive Species Program including NYS Department of Environmental Conservation's Invasive Species Coordination Section, the NYS Department of Agriculture and Markets, New York State Invasive Species Research Institute and the New York State Invasive Species Database, also known as iMapInvasives, for their continued support.

I am also very thankful to all WNY PRISM's partners including the dedicated members of our Steering Committee, Working Groups, and project partners. Invasive species are a landscape issue and no one organization or agency can address the threat of invasive species alone. The only way to achieve long-lasting, sustainable success is to continue to build relationships and work together.

Highlights from 2019:

- WNY PRISM has worked with **159** partners including **41 new partners** in 2019.
- Hired new **Aquatic Invasive Species Program Manager, Education and Outreach Program Manager** and **27 seasonal staff** members.
- Dedicated over **2500 hours** to **invasive species removal projects** across **36 sites** in **5 counties**.
- **Managed 250 acres**, including 52 acres targeting early detection priority species.

- Invasive species targeted for removal included **invasive shrubs, Japanese stiltgrass, Japanese angelica tree, water chestnut, European frog-bit, knotweed, mugwort, Canada thistle, *Phragmites*, reed canarygrass and pale swallow-wort.**
- **93 sites surveyed** for invasive species.
- WNY PRISM staff submitted **1052 observations** to iMapInvasives and **96 not-detected** observations.
- The **top five recorded** invasive species for WNY PRISM in 2019 are **multi-flora rose, bush honeysuckle, knotweed, tree of heaven and common buckthorn.**
- **28 sites monitored** for early detection (not including slender false brome).
- Tabled at **21 events**, delivered **20 presentations** and held **4 workshops.**
- The WNY PRISM region held **31 events** and posted **3 displays** across all **8 counties** during ISAW.
- Total attendance at WNY PRISM events was **75,000** (not including the estimated 1.24 million Erie County Fair attendees) and included **3,129 interactions/direct contacts.**
- WNY PRISM held **4 volunteer workdays** with **34 volunteers**, resulting in **72.5 hours** contributed to invasive species removal efforts.
- Facebook posts **reached 32,392 people**, a **102% increase** from 2018.
- Provided over **3,000 outreach items** to partners for further distribution.
- Provided **9 Boot Brush Stations** to partners.
- Conducted **17,065 boat inspections** working at **22 launches** across **6 counties.** Boat Stewards (20) interacted with **39,697 people.**
- The Watercraft Inspection Program achieved a **95% acceptance rate** with **1,843 interceptions** – the most encountered species were **Eurasian watermilfoil (952) and curly leaf pondweed (749).**
- Worked with **Hydrilla Collaborative** partners on the Tonawanda Creek/Erie Canal *Hydrilla* Demonstration Project and the newly discovered *Hydrilla* infestations in Orchard Park.
- Coordinated the **Great Lakes Slender False Brome Working Group: 34 sites surveyed**, identified **14 new populations** (9 removed by hand, 3 treated with herbicide), held **4 Working Group meetings**, and completed **management research and data collection.**
- Coordinated **WNY Mile-A-Minute response efforts** through meeting facilitation, and outreach development and dispersal.
- Continued **Japanese stiltgrass** education and response efforts in the Village of Aurora and Town of East Aurora; held a public meeting attended by **16 partners and stakeholders.**

Sincerely,

Andrea Locke
WNY PRISM Coordinator



Background

An invasive species is one that is 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. As the world has become more interconnected and climate change has combined with traditional human-aided forms of disturbance, the negative impacts of invasive species are increasingly being felt. Western New York is particularly at risk to the threat posed by invasive species due to the long history of human development and alterations to the landscape, our adjacency to Lakes Erie and Ontario, placement within both the Great Lakes Basin and Mississippi River Watershed, and due to our position along well-traveled commerce and transportation corridors.

Recognizing the growing threat of invasive species, New York State (NYS) established the Invasive Species Task Force (ISTF), a multi-stakeholder working group made up of agencies, conservation organizations and businesses co-led by the NYS Departments of Environmental Conservation (DEC) and Agriculture and Markets (DAM), with the purpose to investigate invasive species issues and provide recommendations to the Governor and Legislature. The ISTF report, presented in 2005, identified 12 key recommendations which, when implemented, would allow for NYS to effectively address invasive species.

Based upon the recommendations from the ISTF, NYS established the Invasive Species Council (ISC) and Invasive Species Advisory Committee (ISAC), and formed within the DEC the Office of Invasive Species Coordination, now the Invasive Species Coordination Section (ISCS). Among the remaining 12 key recommendations were those that led to the creation of the New York Invasive Species Research Institute (NYISRI), establishment of the New York Invasive Species Database/iMapInvasives Program (iMap), and that which supported the creation of eight PRISMs, regional public-private partnerships designed to strategically deliver invasive species management functions across the state. Established in January 2014, WNY PRISM is one of these eight partnerships. These entities, along with the NYS Office of Parks, Recreation and Historic Preservation (NYS Parks), make up the statewide Invasive Species Program.



The WNY PRISM region consists of the 8 western-most counties in NYS, Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans and Wyoming.

WNY PRISM is a sponsored program of the Research Foundation for SUNY Buffalo State and is hosted by the Great Lakes Center at SUNY Buffalo State. Funding for WNY PRISM is provided by the Environmental Protection Fund through a contract with DEC. Additional funding is provided through federal, state and foundation grant programs including the Great Lakes Restoration Initiative.

WNY PRISM

Regional Description

The WNY PRISM region encompasses the eight western-most counties in NYS (Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans and Wyoming) and is the only PRISM region to include two of the Great Lakes: Lakes Erie and Ontario. Regional borders include those with Pennsylvania and Ontario, Canada, and Finger Lakes PRISM.

Home to some of New York State's most impressive natural features including Niagara Falls, the Niagara River Gorge, Letchworth State Park, and Zoar Valley, western New York boasts a diverse landscape. The Niagara River Corridor, a globally significant Important Bird Area and home to one of the world's most impressive concentrations of gulls with 19 species recorded, was recently designated by the United States as a Wetland of International Importance under the Ramsar Convention. Rare species found in WNY include the federally endangered eastern massasauga rattlesnake (*Sistrurus catenatus*), federally threatened Houghton's goldenrod (*Solidago houghtonii*), state endangered queen snake (*Regina septemvittata*), and state threatened yellow giant hyssop (*Agastache nepetoides*).

Habitats and natural features found within the region include northern hardwood and conifer forests, beech-maple forests, coastal plains, wetland communities including bogs and fens, significant riverine systems and glacial landforms such as moraines and kettle ponds. Four major watersheds (Lake Erie-Niagara River, Lake Ontario and Minor Tributaries, Genesee River, and Allegheny River) are found within the region and WNY PRISM is part of both the Great Lakes and Mississippi River Basins.

Land dedicated to agricultural production includes 1.38 million acres divided among 6,315 farms, with a median farm size of 75 acres (U.S. Agricultural Census, 2017). The highest volume agricultural products produced in western New York are corn, wheat, oats, soybeans, hay, fruit (including grapes/wine) and cattle. According to a 2007 U.S. Department of Agriculture Report, three western New York counties (Chautauqua, Genesee and Wyoming) ranked among the top 10 in agricultural sales for NYS, with Chautauqua County ranked as the top grape producer.



Cattaraugus Creek traverses Zoar Valley through the old-growth forests of Zoar Valley Multiple Use Area.

WNY PRISM's eight-county region is home to over 1.5 million people and 6,440 square miles. Buffalo, the second most populated city in NYS, was settled in the mid-1700s as a trading post. Over the next 200 years, Buffalo and the surrounding area became an economic center for shipping, manufacturing, and hydropower. The long history of human interaction with the landscape has had a direct influence on invasive species presence, distribution and the negative impacts felt across the region.

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 private citizens to improve, restore and protect local aquatic and terrestrial resources.

Operational Structure

WNY PRISM's operational structure consists of staff, a Steering Committee, Working Groups, partners and stakeholders. WNY PRISM staff include a Director, Coordinator and Program Managers. Funding for WNY PRISM staff positions is provided by the WNY PRISM contract and additional sources.

The Steering Committee is comprised of a core group of individuals representing a variety of organizations, agencies, businesses and citizens, 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. Participation in the Steering Committee is strictly voluntary.

Working Groups have been developed based on need, as identified by partners, and may be either ongoing or ad hoc (dissolved after the completion of specific tasks). Working Groups meet on an as needed basis and make use of in-person meetings, remote access technologies and email communication.

Full Partnership 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 or November. Working Groups and Full Partnership Meetings are open to everyone. For more information on WNY PRISM's operational structure, please see [WNY PRISM's Operational Guidelines](#).



WNY PRISM 2019 Education and Outreach Assistant and Invasive Species Management Assistants, Ashley Carmichael, Derek Claus, Payton Hanssen, and Ryan Elliott (left to right).

WNY PRISM Steering Committee

Buffalo Niagara Waterkeeper

Marcus Rosten

Chautauqua Watershed Conservancy/Roger Tory Peterson Institute

Jonathan Townsend

Cornell Cooperative Extension of Erie County

Sharon Bachman

Ecology & Environment, Inc.

Paul Fuhrmann

New York Sea Grant

Monica Miles

NYS Certified Nursery and Landscape Association/Chestnut Ridge Nursery	Bob Smith
NYS Department of Transportation	Alisia Vilonen
NYS Department of Environmental Conservation	Jennifer Dunn
NYS Office of Parks, Recreation and Historic Preservation	Aaron Heminway
U.S. Army Corps of Engineers – Buffalo District	Lynn Greer
U.S. Department of Agriculture – Natural Resources Conservation Service	Shanna Shaw
U.S. Fish and Wildlife Service – Lower Great Lakes Fish and Wildlife Conservation Office	Colleen Kolb



WNY PRISM 2019 Boat Steward/Environmental Educators.

WNY PRISM Staff

Dr. Christopher Pennuto
Director

Andrea Locke
Coordinator

Brittany Herson
Program Manager – Early Detection

Lucy Nuessle
Program Manager – Terrestrial Invasive Species

Kristin King
Program Manager – Aquatic Invasive Species

Emily Thiel
Program Manager – Education & Outreach

Seasonal Staff – 2019

Invasive Species Management Assistants
Derek Claus · Ryan Elliott · Payton Hanssen · Jason Kappan
Education and Outreach Assistant

Ashley Carmichael

Lead Boat Stewards

Emily Harrower · Katelin Quarles

Boat Stewards/Environmental Educators

Grace Bichler · Hunter Bogdan · Michele Carmalia · Danielle Casler · Skylar Claud · Layla Crabtree
Alexandra DePonceau · Candace Engel · Fabio Espinal · Julia Gerard · Bianca Gonzales · Matthew Hahn
Kegan Hoopes · Jarred O'Connor · Jason Kappan · Matthew Kongesor · Jason Porter · Tristan Williams

Early Detection Survey & Monitoring Technicians

Amanda Gabryszak · Kathleen McCormick

GIS Technician

Melissa Boglioli

WNY PRISM 2019 Annual Report

The WNY PRISM Annual Report provides an overview of the projects and programs WNY PRISM implemented in 2019. While the majority of work described in this report is funded completely or in part through the WNY PRISM contract some projects, such as the Great Lakes Slender False Brome Working Group and Priority Lands Invasive Species Removal and Volunteer Monitoring Program, are funded through Federal grant programs including the Great Lakes Restoration Initiative. For more information on any of the projects and programs mentioned in this report, or to access additional documents and resources, please visit www.wnyprism.org.

This report is organized based on WNY PRISM's established Goals: Partner and Network Coordination, Information Management, Education and Outreach, Prevention, Early Detection and Rapid Response, and Management and Habitat Restoration. As an organization that includes and depends upon partnerships to achieve success, many of the projects highlighted in this report include considerable effort and support from partner organizations, without whom the projects would not be possible. In this way, the WNY PRISM Annual Report serves not only as an overview of WNY PRISM activities, but as an overview of many invasive species management efforts taking place across the region.



The Boot Brush Station Program demonstrates a powerful collaborative effort between WNY PRISM and our partners.

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 5-Year Strategic Plan (2019-2023)

The effort to develop a new 5-year strategic plan began in March with an analysis of WNY PRISM programs. The Steering Committee took a critical look at our established programs to assess their strengths and weaknesses, to assess how well they meet the identified needs of the region, and to identify opportunities for program enhancements and new program development. In April, the Steering Committee met to review the completed analysis and began work to update WNY PRISM goals and objectives, and to develop new strategies. After a few rounds of revisions, the draft goals and objectives were approved by the Committee and efforts shifted towards engaging the broader partnership.

In September, WNY PRISM held open strategic planning sessions corresponding to draft goals at Tiff Nature Preserve. Over the course of two days, 37 representatives from partner organizations took part in building the core of the strategic plan. Partners provided feedback on the goals and objectives and assisted with the development of targeted strategies and outputs. A final opportunity for partner input to the strategic plan was provided in the form of a partner survey, released through the WNY PRISM listserv and announced during the September NYS Invasive Species webinar. The strategic vision resulting from this effort was presented at WNY PRISM's Fall Partner Meeting, held in October.



WNY PRISM held 4 Strategic Planning Sessions at Tiff Nature Preserve in September.

The [WNY PRISM 5-year Strategic Plan \(2019-2023\)](#) puts forth an ambitious program designed to provide the framework by which the invasive species management needs of the western New York region may be met. Six goals, organized in association with previously established WNY PRISM core functions, were developed alongside associated objectives, strategies, outputs and outcomes. The identified strategies are not exclusive to WNY PRISM staff. Programs depend on collaboration to achieve success and WNY PRISM is looking forward to working with a growing partner network to implement the strategic plan.

2019 WNY PRISM Partner Survey

In 2014, WNY PRISM sent out a survey to the newly established partner network to help identify some of the region's biggest concerns and priorities. The response from partners helped form the strategies used to build programming from the ground up. As part of this year's strategic planning process, WNY PRISM sent out an updated survey to partners to see how things may have changed. Survey questions ranged from identifying threats and priorities to how the value of WNY PRISM programming may be improved. Completed surveys were received from 40 individuals representing a cross-section of partners. Responses provided insight into shifting priorities within the region and information that proved valuable in the development of the strategic plan.

Partners identified Japanese knotweed (*Reynoutria japonica*), *Phragmites* (*Phragmites australis*), bush honeysuckle (*Lonicera spp.*), emerald ash borer (*Agrilus planipennis*), and common and glossy buckthorn (*Rhamnus cathartica*, *Frangula alnus*) as their highest priority species. While not among the top 5, more early detection species were considered priorities when compared to 2014 responses. Slender false brome (*Brachypodium sylvaticum*), Japanese stiltgrass (*Microstegium vimineum*), water lettuce (*Pistia stratiotes*) and water hyacinth (*Eichhornia crassipes*) were all identified, which demonstrated an important and encouraging shift in awareness and recognition of the threat posed by emerging species.

When asked where WNY PRISM should focus future efforts, expansion of current programming and an increased focus on public outreach tied for the top spot with 28.6% of participants selecting these items. Additional partner aid in the form of invasive species management advice and protocols (25%), and more early detection survey work (21.4%) were also among the standout selections. Similarly, invasive species management, early detection surveys and invasive species management workshops for professionals were ranked as WNY PRISM's most valued activities.

Finally, we once again asked our partners what they see as the greatest misconception about invasive species. In 2014, answers demonstrated concern over the public's lack of invasive species awareness as a whole and a prominent disbelief in the availability of effective management. The 2019 responses were more nuanced and referenced misconceptions regarding the definition of an invasive species and an underestimation of the threats that they can pose.



Japanese knotweed continues to be a priority management species for WNY PRISM partners.

Partner Engagement

WNY PRISM recognizes the importance of increased partner engagement and believes this will lead to further recognition of successful invasive species management activities, and WNY PRISM as a whole. To improve partner engagement and awareness of WNY PRISM programs and services, an emphasis was placed on forming new working relationships and further developing Full Partnership Meetings as a premier networking and communication opportunities.

WNY PRISM developed an informational brochure and partner packets designed to provide potential new partners with background on local invasive species issues and WNY PRISM programs and services. Twenty-seven partner packets were distributed to organizations and governing bodies with whom WNY PRISM has had limited interaction with previously. Each packet included general information on WNY PRISM and invasive species, and an invitation to the Fall Partner Meeting. Reports identifying invasive species presence and distribution within each recipient's service area were also provided, along with associated Best Management Practices and identification resources. Targeted stakeholders included Cornell Cooperative Extension offices, Soil and Water Conservation Districts, municipalities and other county-level entities.



The WNY PRISM 2019 Fall Partner Meeting, held on October 24, 2019, was hosted by Cornell Cooperative Extension of Erie County and held at the Roycroft Campus in East Aurora.

WNY PRISM held two Full Partnership Meetings in 2019. The Spring Partner meeting was held at the Richmond Memorial Library in Batavia and featured a presentation on the NYS spotted lanternfly response effort by Thomas Allgaier, Invasive Species Coordinator for DAM. The Fall Partner Meeting was held at the Roycroft Campus and Cornell Cooperative Extension Office, in East Aurora, and featured a presentation on the Niagara County Japanese Knotweed Eradication Program by Niagara County Soil and Water Conservation District Manager, Mark Seider. The Fall Partner Meeting also provided a vision of the new 5-Year Strategic Plan and allowed for partner feedback ahead of finalizing that plan.

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.

WNY PRISM Listserv

The WNY PRISM Listserv is the primary means by which WNY PRISM shares important information with partners. Information detailing invasive species news and regulatory updates are shared as the information becomes available. The WNY PRISM eNews, a biweekly digest of invasive species news, grant information, job openings, professional development opportunities and public events, received an updated format making the information easier to visualize and share. In 2019, 60 subscribers were added, increasing listserv membership to 309.

WNY PRISM Listserv Email Breakdown:

- 27 eNews
- 25 event announcements
- 13 partner news items
- 11 job opportunities
- 4 funding opportunities
- 13 WNY PRISM news items

Invasive Species Surveys and Mapping

Effective management planning requires accurate and complete information concerning the presence and distribution of invasive species, and WNY PRISM works to ensure the necessary information is available to managers. In preparation for the field season, WNY PRISM staff reviewed the available iMap data to identify gaps in invasive species presence and distribution. Data gaps may be either geographic, areas with few invasive species observations of any species, or based on individual species. In 2019, six survey and mapping projects were selected to address geographic data gaps. The six sites included two in Genesee County, and one in each of Erie, Wyoming, Orleans, and Niagara Counties. Species-specific data gap mapping priorities included tree of heaven (*Ailanthus altissima*), which was also a focus in 2018, oriental bittersweet (*Celastrus orbiculatus*) and European frog-bit (*Hydrocharis morsus-ranae*). WNY PRISM's focus on tree of heaven aligned well with NYS's spotted lanternfly (*Lycorma delicatula*) efforts and iMap's Mapping Challenge focus on



Oriental bittersweet was observed by the WNY PRISM Crew in 2019. The photo shows a vine climbing a young maple tree and the inset shows an established vine having fully engulfed a tree.

the same species, earning WNY PRISM the 2019 iMapInvasives Tree of Heaven Mapping Challenge Trophy.

Additional survey and mapping efforts included projects selected as part of WNY PRISM’s Crew Assistance Program. These projects assisted partners with invasive species management planning and were focused on providing partners with a general inventory of the species present on, or otherwise posing a threat to, their sites. WNY PRISM completed 3 invasive species inventories for partner projects including the David and Margaret Naetzker Preserve, Margery Gallogly Nature Sanctuary and adjacent Nike Base Park, and the Buffalo Sewer Authority – Unity Island. A fourth survey and mapping project marked the beginning of a multi-year effort at Bergen Swamp. Reports summarizing the invasive species surveys and providing recommendations for management and species prioritization were provided to partners for each project.

iMapInvasives

The launch of iMap 3.0 took place ahead of the field season and marked a significant change in a program that has been an integral part of WNY PRISM invasive species management efforts. Before WNY PRISM staff could be comfortable providing training assistance for the region, we needed to take part in multiple training sessions ourselves. Once familiar with the new functionality incorporated into the program, WNY PRISM began offering workshops. Three iMap 3.0 training opportunities were provided, resulting in the instruction of 42 individuals. Training focused on the new and updated functionality available in iMap 3.0, but also included invasive species ecology and identification.

WNY PRISM Region*

- 1,763 Observations
- 96 Not Detected
- 120 Species Reported
- 85 Observers/Users
- 19 Organizations
- Top 5 Species Reported
 - Japanese Knotweed
 - Multi-flora Rose
 - Honeysuckle
 - Common Buckthorn
 - Tree of Heaven

WNY PRISM Office/Crew

- 602 Observations
- 11 Counties
- 6 Projects
- 66 Species

*Based on iMapInvasives 2019 Annual Report – WNY PRISM



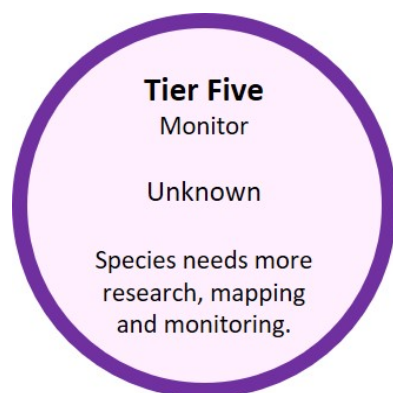
WNY PRISM Boat Stewards surveyed for water chestnut in the Southern Tier. Water chestnut saw an unfortunate resurgence in 2019.

New York State Invasive Species Tier Ranking System

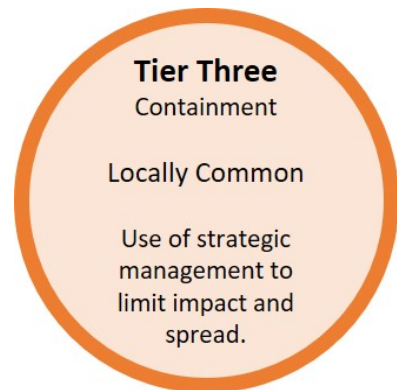
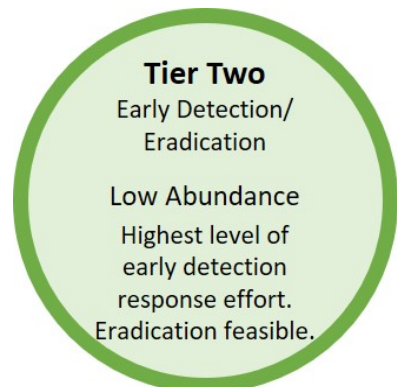
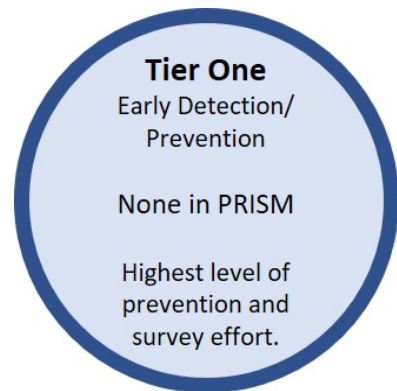
Over the last few years, the NYS Invasive Species Program has worked on the development of a universal classification system to be used to identify the management status and prioritization for individual species statewide. The aim of this system is to provide a level of consistency and clarity across the state, while continuing to allow each PRISM to rank species based on their local need, impact and level of threat.

[The NYS Tier Ranking System](#) identifies five tiers based on species abundance and impact within the PRISM, with additional consideration given to potential future impact, cost of control, and the difficulty of eradication. Tier One represents those species not yet found in the PRISM region and identifies prevention and surveys as the primary management strategy. Tier Two represents early detection species and identifies eradication as the management goal. Tier Three and Tier Four represent more common and widespread species. For Tier Three, the recommended management is to focus on spread prevention and strategic management, while Tier Four recommends asset-based management, or strategic management based on the protection of conservation targets. Tier Five species are those for which we lack the necessary information to make effective management decisions. Tier Five species may have incomplete presence and distribution data, or there may be no effective management available. For Tier Five species, the recommended strategy is to fill presence and distribution data gaps, and support research efforts targeting priority information needs.

WNY PRISM fully adopted the tier system in 2019, using it to identify priorities, inform management decisions, and assist in project selection. Tier rankings have now fully replaced the previous Terrestrial and Aquatic Priority Lists. An updated and expanded list of [species tier rankings](#), including 78 ranked species, is available for partner reference.

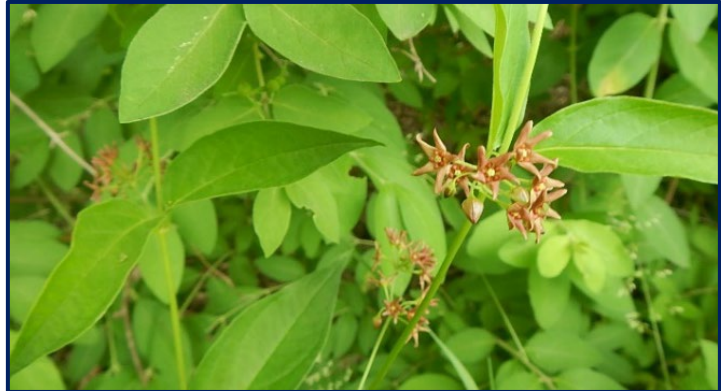


WNY PRISM has elected to maintain an [Approaching Region Priority List](#), or Watchlist, and an [Early Detection Priority Species List](#), both of which were updated in 2019. These lists provide additional guidance for the selection of priorities within the Tier One and Tier Two categories and guide WNY PRISM's information management and outreach efforts.



Invasive Species Research

WNY PRISM supports invasive species research that advances management and meets identified regional priorities. In previous years, each PRISM region surveyed partners and provided the identified research and information needs to NYISRI for review and further prioritization. In 2019, the process was updated by NYISRI to allow for the collection of research questions directly, while also providing for increased PRISM participation in the review and prioritization process.



Pale swallow-wort biocontrol development and release capacity continues to be a priority research need for WNY PRISM.

Research topics and questions were submitted to NYISRI and then provided to selected PRISM partners for assistance in sorting and prioritization. WNY PRISM regional priorities continue to focus on development of biological controls, identification of Best Management Practices and the understanding of the threat and biology of early detection and approaching region species. Increased access to known biocontrols, such as those for swallow-wort (*Cynanchum spp.*) and hemlock woolly adelgid (*Adelges tsugae*), and further development of new biocontrols for water chestnut (*Trapa natans*) and additional Tier Four species continue to rank highly among WNY PRISM priorities.

New York State eDNA Harbors Project

Aquatic invasive species surveys can be difficult, especially in large, open bodies of water like the Great Lakes. Traditional surveys that use nets, traps, electrofishing and rake tosses, can miss the early infestations of only a few individuals. When surveying for invasive species, it's important to find new infestations as early as possible. Environmental DNA (eDNA) allows for the greatly improved early detection of invasive species. Previous eDNA efforts have focused on a few, individual species. This was due to both the number of known genetic markers and limitations of the water sampling process. However, research



Dr. Paul Simonin and WNY PRISM Invasive Species Management Assistant Ryan Elliott collected water samples to look for eDNA of invasive species in Lake Erie, as part of the NYS Harbors Project.

to expand the number of species that can be detected from a single water sample has been progressing, and with this the potential for eDNA use has expanded considerably.

With assistance from the Great Lakes Center, WNY PRISM worked with Dr. Paul Simonin, a visiting researcher from Cornell University, in support of the New York State eDNA Harbors Project, a collaborative effort between multiple PRISMs (SLELO, FL-PRISM, WNY PRISM) and Cornell University. Water samples were collected from points in and around the Buffalo Harbor twice, once in the summer and again in the fall. Once processed, the water samples will be analyzed for the DNA of various invasive species that could pose a threat to Lake Erie and the greater watershed. This is the second year WNY PRISM has assisted with Dr. Simonin's research.



WNY PRISM Staff accepted the Tree of Heaven Mapping Trophy from Emma Antolos, DEC Invasive Species Education and Outreach Coordinator.

The WNY PRISM Crew conducted an invasive species survey at the David and Margaret Naetzker Preserve in North Harmony.



Education and Outreach

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

Education and outreach is essential for increasing invasive species awareness and improving the effectiveness of invasive species management. As WNY PRISM continues to grow programming and associated resources, we also continue to assess those programs for immediate and long-term impacts. The direct impacts, such as numbers of event attendees or hours of volunteer contributions, are relatively easy to measure. On the other hand, long-term gains involving behavior change and implementation of Best Management Practices can be more difficult. In 2019, WNY PRISM placed greater emphasis on the integration of behavior change and community engagement as part of established programs, and in the development of new initiatives.

Education highlights from 2019 include invitations to speak at a WNY Pollinator Conference, the Niagara County Environmental Education Field Day, and a Cattaraugus County Superintendents meeting. The WNY Pollinator Conference, held at the Buffalo Niagara Heritage Center, brought together those involved in the conservation of pollinators with those interested in learning more. WNY PRISM presented on the connection between invasive species and pollinators, and why invasive species management is essential to their



Hundreds of middle school students from across Niagara County attended the Niagara County Environmental Education Field Day, presented by Niagara County Soil and Water Conservation District.

preservation. The Niagara County Environmental Education Field Day saw 550 middle school students visit Royalton Ravine to learn about various environmental issues and programs from environmental professionals. WNY PRISM presented on invasive species spread prevention and the steps kids and adults alike can take to help make positive change. The Cattaraugus County Superintendents meeting provided WNY PRISM the opportunity to discuss the economic and human health impact of invasive species, and the actions municipalities can take to address spread prevention and decrease the cost of invasive species.

WNY PRISM was also invited by the Western New York Land Conservancy to provide an invasive species program to members involving the Restore the Gorge Project, a multi-year, multi-partner project to remove invasive species and restore native plant diversity to the Niagara River Gorge. The program involved a hike through the project area where invasive trees, including Norway maple and tree of heaven, had been treated and/or removed. This led to an opportunity for WNY PRISM to engage with

the Town of Tonawanda when one of the hike participants invited WNY PRISM to talk with the town about invasive species issues along a prominent pathway of invasion, a new Rails to Trails. The resulting collaborative effort between the town and WNY PRISM developed into an invasive species management program focused on volunteer monitoring, management and native plant restoration. WNY PRISM presented to an interested public at a Town Meeting, and a volunteer sign-up was met with a swift and impressive response. Over 30 people signed up ahead of a planned February 2020 training.

In addition to the many outreach events during which WNY PRISM handed out educational materials, we distributed over 3,000 individual outreach items to partners for use in their own programs. WNY PRISM designed new flags to attract attention to tables and provide waypoints for gathering volunteers, and once again produced well-received [spring and fall newsletters](#) that include regional and state updates, species profiles, program highlights, and written contributions from partners.



New flags will bring attention to outreach tables and events.

WNY PRISM Events

Presentation	County	Attendees	Date
Erie County Water Quality Committee	Erie	16	1/16/19
Japanese Stiltgrass Update	Erie	16	2/25/19
Rural Landowners Workshop	Cattaraugus	105	3/2/19
Niagara Frontier Botanical Society	Erie	15	3/12/19
WNY Farm Bureau Advisory Committee	Genesee	17	3/26/19
Pollinator Conference	Erie	38	5/11/19
Environmental Education Field Day	Niagara	550	6/4/19
Volunteer Walk and Talk	Genesee	6	6/22/19
Seneca Bluffs Walk and Talk	Erie	3	7/9/19
GCPF Environmental Science Camp	Genesee	14	7/12/19
Stewardship Day	Wyoming	5	7/22/19
Niagara Gorge Restoration Project Hike	Niagara	32	8/1/19
NAISMA Conference	Saratoga	400	10/1/19
Water Quality and Environmental Impact Day	Erie	36	10/7/19
Forum on Invasive Forest Pests	Chautauqua	22	11/7/19
Town of Tonawanda Board Meeting	Erie	60	11/18/19
Orleans County Master Gardeners	Orleans	9	12/4/19
Event	County	Attendees	Date
Cattaraugus Co. Superintendent's Meeting	Cattaraugus	37	5/8/19
Aquatic Invasive Species Workshop	Erie	15	6/29/19
Slender False Brome Education and Removal Day	Genesee	2	7/8/19

Honeysuckle Harvest	Erie	9	7/11/19
Buffalo River Speaker Series: Invasive Species ID and Removal	Erie	17	7/11/19
Stella Niagara Workday	Niagara	6	7/31/19
Slender False Brome Management Workshop	Genesee	28	8/8/19
iMap Training - Alfred University	Allegany	5	9/12/19

The WNY PRISM Crew was joined by volunteers at Stella Niagara Preserve to remove invasive shrubs and flowering rush.



Outreach Event/Tabling	County	Attendees	Date
Plant WNY Trade Show	Erie	230	2/1/19
Western Regional NYSTA Conference	Erie	160	3/25/19
Spring Into Nature - USFWS	Genesee	550	4/27/19
Silver Serpent Triathlon	Wyoming	350	6/2/19
Great Lakes Experience Festival	Chautauqua	1,000	6/8/19
Jamestown Public Market	Chautauqua	175	6/15/19
Party for the Planet	Erie	500	6/29/19
Canal Village Farmers Market	Orleans	150	7/13/19
Genesee County Fair	Genesee	37,000	7/18/19



Emily Thiel, Education & Outreach Program Manager applied spotted lanternfly tattoos at the Reinstein Woods Fall Festival. Photo Credit: Friends of Reinstein Woods.



Brittany Hernon, Early Detection Program Manager, talked about slender false brome and other invasive species at Spring into Nature, at Iroquois National Wildlife Refuge.

Orleans County Fair	Orleans	26,284	7/25/19
Elmwood Village Farmers Market	Erie	200	7/27/19
Wild America Festival	Chautauqua	1,850	7/28/19
Buffalo Science Festival	Erie	1,200	8/3/19
Insectival - Tiff Nature Preserve	Erie	188	8/4/19
Erie County Fair	Erie	1,238,456	8/10/19
Alfred Farmer's Market	Allegany	150	8/11/19
Clarence Hollow Farmers Market	Erie	300	8/24/19
Genesee Country Farmers Market	Genesee	350	9/6/19
Southern Tier/Olean Farmers Market	Cattaraugus	150	9/20/19
Reinstein Woods Fall Festival	Erie	2,500	9/21/19
Fall Creativity Forum - Buffalo State	Erie	160	11/14/19

Invasive Species Awareness Week

The 6th Annual New York Invasive Species Awareness Week (ISAW) took place July 7 – 13, 2019. Across the WNY PRISM region, 334 participants took part in 31 events hosted by WNY PRISM and partners. In addition, 3 informational displays were set up throughout the week. For the first time, an ISAW event was held in each of WNY PRISM’s counties within the same year. The 31 events placed WNY PRISM second for having the most events within a PRISM.

WNY PRISM-led events included three volunteer workdays, one management and habitat restoration site tour, an experiential learning workshop, and an informational display at the Canal Village Farmers’ Market. Now an ISAW tradition, the 4th Annual Honeysuckle Harvest was held at Kenneglenn Scenic and Nature Preserve. Kenneglenn is a 130-acre property owned and managed by the Western New York Land Conservancy. Located along Hunter’s Creek in Wales, Kenneglenn boasts impressive views and geologic features. Over the past four years, volunteer efforts have been paired with the targeted use of contracts to address the bush honeysuckle present on the preserve.



WNY PRISM worked alongside volunteers and Western New York Land Conservancy staff to remove bush honeysuckle and other invasive species from Kenneglenn Scenic and Nature Preserve during the Honeysuckle Harvest.

As part of an experiential learning workshop, campers at the Genesee County Park and Forest Environmental Science Camp learned how to identify slender false brome and how to collect data in the field. Campers practiced using field guides and were able to correctly identify black swallow-wort (*Cynanchum louiseae*) at the park. They were also taught the importance of cleaning off their boots before and after hiking through areas with invasives species. The activity concluded with an invasive species walk and talk accompanied by invasive species BINGO for prizes. This opportunity was created thanks to the strong relationship formed between WNY PRISM and Genesee County Park and Forest through the Great Lakes Slender False Brome Working Group.



Campers took part in a half-day experiential learning workshop at Genesee County Park and Forest focused on slender false brome during ISAW.

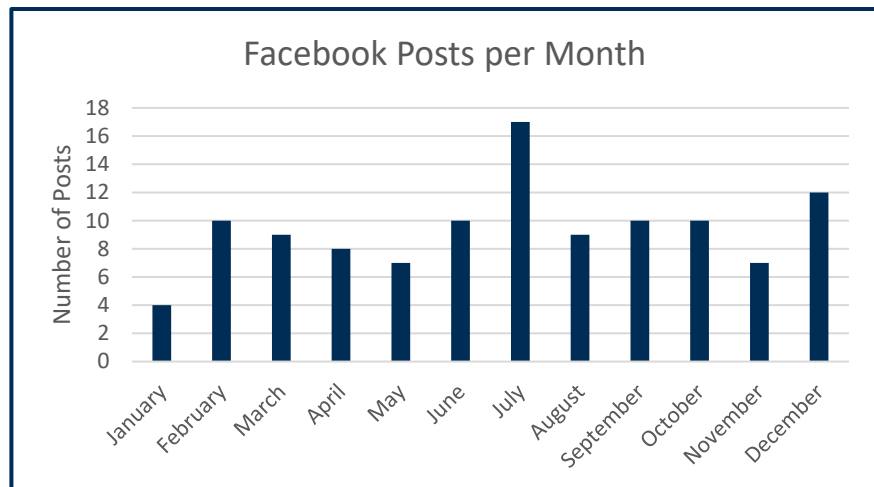
Online Media

The addition of a full-time Education and Outreach Program Manager provided WNY PRISM the opportunity to take a fresh look at our website and social media use. An assessment of the WNY PRISM website identified opportunities for improvement around information accessibility and content development. Menus were updated to provide improved navigation and to allow multiple paths for accessing information based on a user’s understanding of topics and terminology. A new project page was developed for the [Watercraft Inspection Stewardship Program](#), and more will be released in the future. Expanded information and resources for WNY PRISM’s prioritization efforts were added, and new focus was placed on increasing the frequency of news items.

Changes to WNY PRISM’s use of social media platforms marked a profound difference in the way we interact with the public and partners. The renewed focus will continue to increase awareness of invasive species issues and prevention, increase awareness of WNY PRISM, help strengthen partnerships, and assist with improved volunteer recruitment.

Increased frequency and consistency of posts, expansion to include use of Instagram, and an increased commitment to leverage partner following resulted in WNY PRISM’s most successful year in social media outreach.

WNY PRISM’s Facebook use placed greater focus on



driving traffic to our website and publicizing WNY PRISM events. Facebook posts drove 164 visitors to our website in 2019 and 9 events reached 2,967 individuals, garnering 108 responses.

Facebook Post Success: 2018/2019 Comparison

	Posts			Reach			Engagement		
	2018	2019	Change	2018	2019	Change	2018	2019	Change
Total	70	113	61%	16,000	32,419	102%	736	2346	219%
Average	-	-	-	229	287	25%	11	21	91%

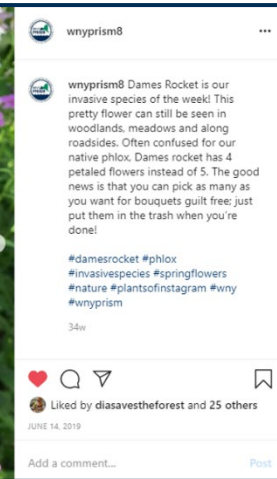
WNY PRISM debuted a new Instagram account in April and added 190 new followers throughout the year. Of the 78 posts created, the most popular were those focused on native plants and ecology, behind the scenes peaks into WNY PRISM efforts and invasive species of the week profiles. In addition to posts, Instagram also allows for the creation of Stories, featured posts or reposts that allow for increased interaction with followers. In 2019, WNY PRISM published 26 stories that garnered 692 views.

Instagram Posts



WNY PRISM's slender false brome management research, made possible through the Great Lakes Slender False Brome Working Group, was popular among followers.

Dames Rocket made a perfect invasive species of the week - as a beautiful and common species in WNY, many people don't realize its invasive.



Prevention

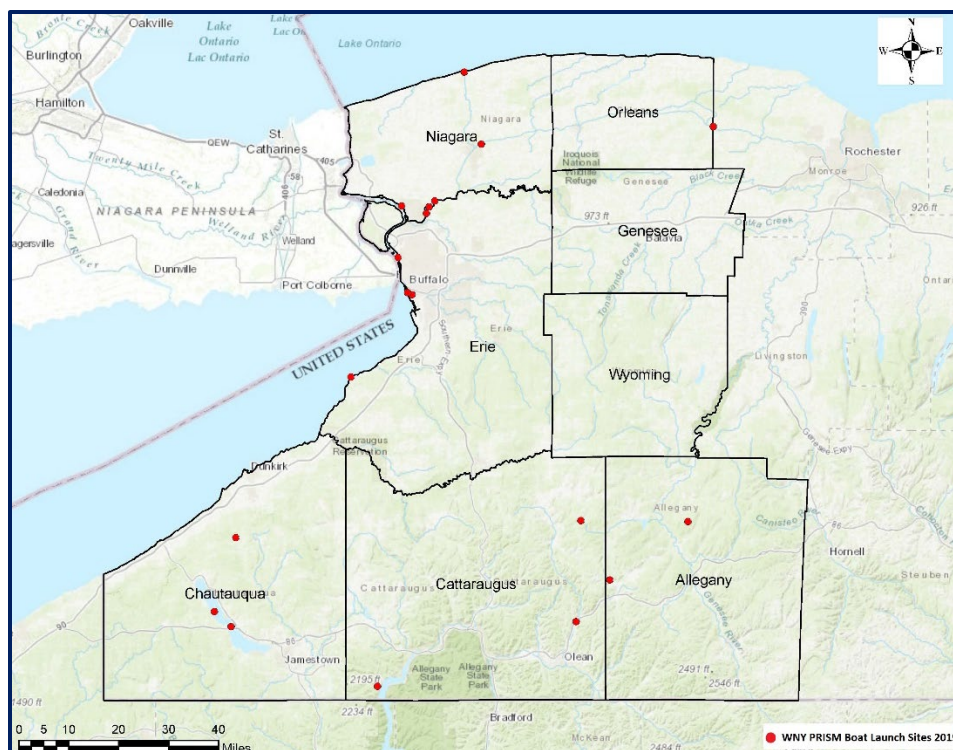
Goal: Prevent the introduction of invasive species to the WNY PRISM region, limit the spread of invasive species within the region and limit the movement of invasive species established in WNY PRISM to other regions.

Watercraft Inspection Stewardship Program

After a successful pilot program, WNY PRISM developed and rolled out our new, expansive Watercraft Inspection Stewardship Program (WISP) in 2019. Supported by the new WNY PRISM contract, WISP provides seasonal coverage for at least 20 boat launches across the region, a significant increase from the 2 launches covered in 2018.

WNY PRISM began the process of program development with site selection, identifying 28 public access boat launches for consideration. The launches were then prioritized based on location, the expected level of use and on how well the individual launch addressed WNY PRISM's established priorities. Additional focus was placed on selection of launches along Tonawanda Creek/Erie Canal, a primary vector for the spread of aquatic invasive species and site of a known *Hydrilla (Hydrilla verticillata)* infestation. Working along the canal also offers WNY PRISM the opportunity to work with many new municipal partners.

The result of the prioritization effort was a list of 22 launches to be covered by 18 Boat Stewards/Environmental Educators (Boat Stewards) and 2 Lead Boat Stewards (Leads). A few of the selected launches were small and near one another, allowing for Boat Stewards to split time between them.





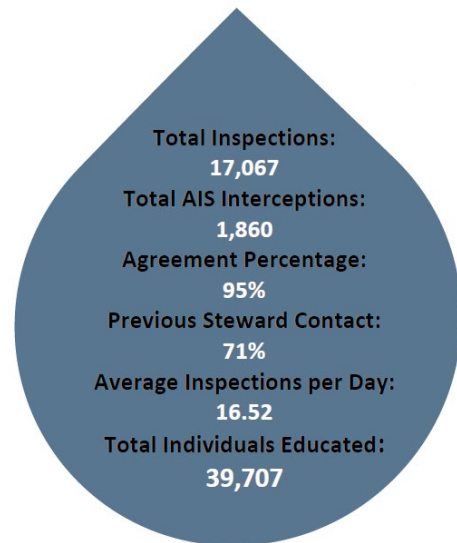
WNY PRISM Boat Stewards learned to identify aquatic invasive species during a 2-day training.

Boat Stewards and Leads were brought on board just ahead of the busy Memorial Day holiday for a rigorous 2-day training that introduced, and tested them on, inspection protocols, data collection and aquatic invasive species identification. Mock inspections ensured they were prepared to interact with the public while reinforcing Clean, Drain, Dry protocols. Presenters from the United States Army Corps of Engineers – Buffalo District (USACE) and New York Sea Grant assisted with the training, providing invaluable expertise and introduced the Boat Stewards to a few of the organizations with whom WNY PRISM frequently works.

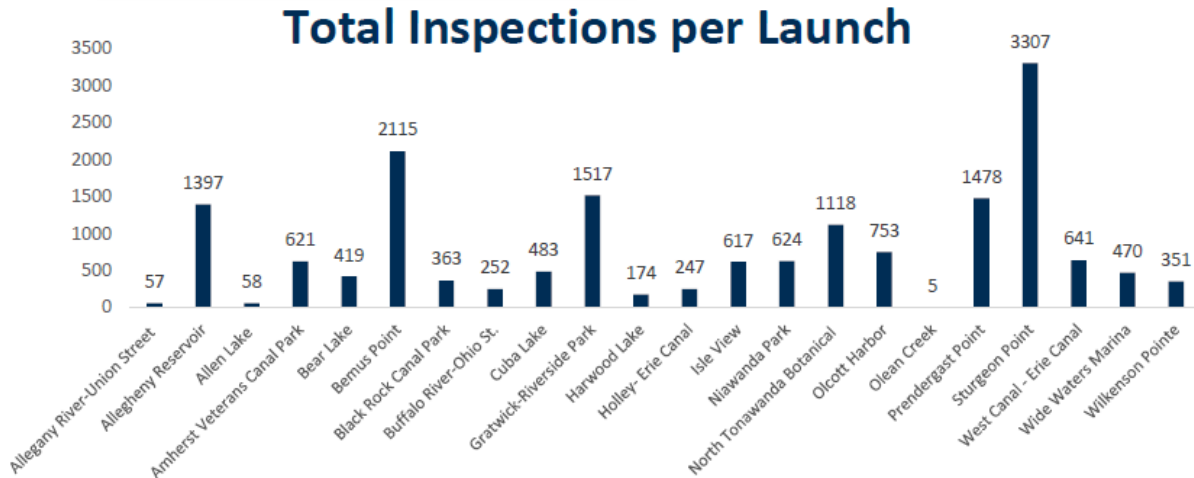
Once training was complete and Boat Stewards were stocked up on outreach materials, they were dispatched to their assigned launches. Throughout the season, Leads assisted the Program Manager by providing local supervision and support for the Boat Stewards. With launches separated by hundreds of miles, this program

would not have been possible without assistance from our Leads. Most of the Boat Stewards finished the season with the Labor Day holiday and headed back to school. However, Sturgeon Point remained staffed on weekends through the month of September.

Over the course of 15 weeks, Boat Stewards spent time talking with area residents and visitors about the importance of aquatic invasive species spread prevention. They spoke with nearly 40,000 individuals, many of whom were people WNY PRISM would have been unlikely to reach otherwise. Boat Stewards handed out 5,371 species watch cards, 2,329 Clean, Drain, Dry instructional rack cards and many other educational items. At the start of the season, only 60% of those encountered had previously met a Boat Steward. By the end of the season, this number was up to 84% (seasonal average of 71%). In addition, the number of people taking spread prevention measures increased from 48% to 58% between May and September. Both metrics demonstrate the success of outreach efforts raising regional invasive species awareness and encouraging behavior change.



With an impressive 95% acceptance rate for voluntary boat inspections, WNY PRISM Boat Stewards conducted 17,067 inspections resulting in 1,860 aquatic invasive species interceptions. Eurasian watermilfoil (*Myriophyllum spicatum*) was the most often encountered species with 952 interceptions, followed closely by curly leaf pondweed (*Potamogeton crispus*) with 878. Zebra and quagga mussels (*Dreissena spp.*) were next with 112 and 27 respectively, and then brittle naiad (*Najas minor*) with 6 interceptions. Single interceptions of European frog-bit, spiny/fishhook waterflea (*Bythotrephes longimanus* / *Cercopagis pengoi*) and water chestnut took place.



Boot Brush Station Program

Boot brush stations are an effective tool to prevent the spread of terrestrial invasive species and help educate the public on the importance of taking action. Invasive species can quickly spread along trails and other areas with heavy foot traffic. As mud contaminated with plant material and seeds collect in boot treads, invasive species spread along trails. From here, species can further establish within the interior of otherwise healthy natural areas. Recognizing this, WNY PRISM has continued to offer boot brush stations to partners. WNY PRISM has worked with partners to install 24 boot brush stations across the region since 2016.

In 2019, WNY PRISM developed an application process for partners interested in receiving and placing a boot brush station. Through this program WNY PRISM provides the sign and all necessary materials for the installation. Partners select the species they would like to have displayed, including a required early detection priority or otherwise ranked Tier One or Tier Two species, and commit to installation. We received 7 applications in 2019 and developed boot brush stations in collaboration with NYS Parks, Friends of Reinstein Woods, and the Chautauqua Watershed Conservancy. In addition, WNY PRISM developed 2 boot brush stations in collaboration with NYS Parks and Friends of the Genesee Valley Greenway through the Great Lakes Slender False Brome Working Group.



Approaching Region Species Update

In 2018, WNY PRISM updated our Early Detection Priority List and created an Approaching Region Priority Species List (Watchlist) to clarify the distinction between those species currently present in WNY and those not yet present, but most likely to appear in the near future. The list highlights species to be on the lookout for and serves as a tool for partners to help direct outreach and invasive species awareness efforts. Initial species were selected, reviewed and approved by the WNY PRISM Steering Committee and in 2019 a process for updating both the early detection and approaching region priorities was developed. Species currently on the Approaching Region/Watchlist will automatically be added to the Early Detection Priority List should they be confirmed present in WNY. This situation occurred in 2019 when yellow-floating heart (*Nymphoides peltata*) was reported for the first time. WNY PRISM confirmed the identification and reclassified the species as an early detection priority.



Porcelain Berry is an approaching region/watchlist priority species for WNY PRISM. This species spreads readily by seed and through the nursery and landscape trade, due to the colorful berries being attractive to homeowners.

For a new species to be added to the Approaching Region/Watchlist, it must first be nominated for consideration. Nomination may come from any partner, but it must include an explanation for inclusion and supporting documentation. The species will then be reviewed by the appropriate Working Group (i.e. Terrestrial or Aquatic), who will provide a recommendation to the Steering Committee. The WNY PRISM Steering Committee will make the final determination on inclusion.

Approaching Region/Watchlist Priority Species

- | | |
|---------------------------------------|-------------------------|
| 1. <i>Aldrovanda vesiculosa</i> | Waterwheel |
| 2. <i>Amplopsis brevipedunculata</i> | Porcelain Berry |
| 3. <i>Anoplophora glabripennis</i> | Asian Longhorned Beetle |
| 4. <i>Channa argus</i> | Northern Snakehead |
| 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 |



Waterwheel. Photo Credit: Chris Doyle, Allied Biological, Bugwood.org

Early Detection and Rapid Response

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

For invasive species management, the decision of where to place valuable resources is often a process of making tough decisions between competing priorities. Early detection species represent those species present, but not yet common or widespread in the region. They offer the best opportunity for meaningful gains in the effort to mitigate the threat of invasive species and as such, remain among the highest priorities for WNY PRISM.

Early detection species management includes surveys, monitoring, outreach, resource development and removal. Although the goal is to identify new species as soon as they invade an area, it is rare to truly detect the first, and only population.

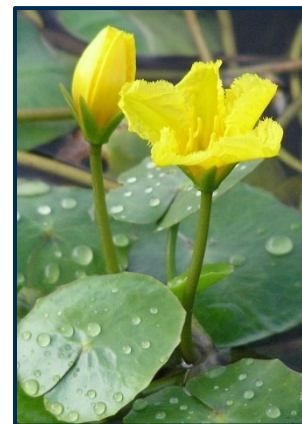
With increased surveys resulting in improved information on species presence and distribution, additional populations of early detection species may be discovered. In the case of Japanese stiltgrass, surveys have discovered additional infestations that widened the overall distribution of the species. However, water hyacinth surveys have not resulted in a needed expansion of the geographic survey area. The goal for early detection species management remains eradication.



Slender false brome spreads readily along rights-of-way, recreational trails and deer trails, as pictured here. Surveys completed in 2019 discovered additional populations along well-traveled trails.

Early Detection Priority Species

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

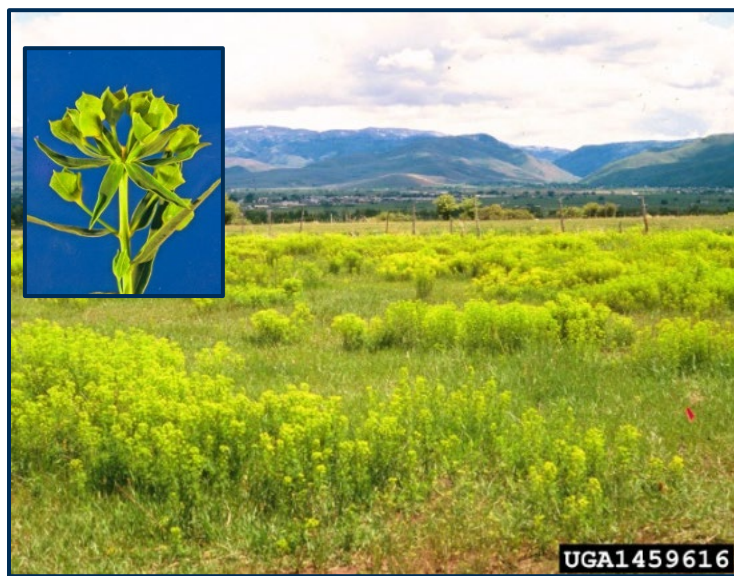


Yellow floating heart. Photo credit: Greg Bales.

Early Detection Species Update

Invasive species reported to iMap for the first time in 2019 include yellow-floating heart, scotch broom, leafy spurge (*Euphorbia esula*), lily leaf beetle (*Lilioceris lili*), and amur corktree (*Phellodendron*

amurense). Yellow-floating heart was reported by a private landowner requesting assistance for its removal after discovering it in their pond. WNY PRISM conducted a site assessment and provided the landowner with technical assistance, resulting in an early season treatment of the infestation. A small population of scotch broom was discovered at Letchworth State Park and reported to WNY PRISM by NYS Parks. The initial infestation was addressed by NYS Parks through manual removal however, the late season discovery of this species made additional surveys difficult. Yellow-floating heart and scotch broom were added to WNY PRISM's Early Detection Priority List in 2019.



Keep a lookout for leafy spurge, a problematic invasive species well established west of WNY. Photo Credits: Steve Dewey, Utah State University, Bugwood.org.

Leafy spurge is likely common in WNY, despite having not been officially reported previously. This species is very problematic in the west and mid-west, particularly in prairies and for grazing operations. The lily leaf beetle, also with previously recognized presence in WNY, continues to be the focus of a collaborative effort between the NYS Integrated Pest Management Program at Cornell University and Cornell Cooperative Extension. This effort involves survey and bio-control efforts. Three parasitoid wasps (*Tetrastichus setifer*, *Lemophagus errabundus* and *Diaparsis jucunda*) that specifically target lily leaf beetles by laying eggs in the beetle larvae, are currently being researched. Amur corktree will be assessed by WNY PRISM in 2020.

In addition, black jetbead (*Rhodotypos scandens*) was observed at Niagara Falls State Park, near a location it was found and eradicated in 2008. NYS Parks removed the individuals and surveyed the surrounding area for additional plants, finding none.

Early Detection Site Monitoring and Management

WNY PRISM works closely with partners to address early detection species priorities and depends on their assistance and support for both survey and removal activities. Agency partners, including USACE, United States Fish and Wildlife Service (USFWS), and DEC, conduct extensive submerged aquatic invasive species surveys in shared jurisdictional waters including the Great Lakes, Niagara River and Erie Canal, using various methods including eDNA. WNY PRISM focuses on terrestrial and emergent aquatic species. Surveys include both monitoring of known early detection sites and data collection for new sites. For known sites, monitoring occurs whether removal activities have taken place or not. New survey sites are selected based on species specific pathways of spread and habitat preferences.

Expanded surveys across the region have led to the expected increase in sites with known populations. As the number of sites increase, it becomes more difficult to address each one with current resource levels. This has put additional emphasis on the use of collaboration when working on early detection

species. Collaboration between partners greatly improves the likelihood of successful survey and removal efforts. WNY PRISM currently coordinates working groups focused on slender false brome and mile-a-minute, and is a participating member of a working group focused on *Hydrilla*. Efforts to establish a Japanese stiltgrass working group are underway.

Early detection sites are monitored annually by WNY PRISM. If removal efforts have resulted in individuals not being found for 3 consecutive years following the successful treatment, the site will then be monitored every other year. If no individuals are found after the second monitoring (year 7), the site is considered eradicated and removed from WNY PRISM's active site monitoring list. If at any point additional plants are found, the site resets to year 0 and removal efforts will be implemented. This marks a small change as previously WNY PRISM considered an early detection infestation eradicated after 5 years of no individuals found. Based on seed bank viability of invasive species, it was felt that 7 years provided greater confidence in stating a site was eradicated.

Japanese Angelica Tree

Japanese angelica tree was reported to WNY PRISM in 2018 after being identified and confirmed at Lake Erie State Park by NYS Parks. Additional surveys conducted throughout the Park showed the initial observation to be the full extent of the infestation. This marks the first and only known occurrence of Japanese angelica tree in the region, a species that has demonstrated strong establishment and spread potential in other regions of NYS. In collaboration with NYS Parks, WNY PRISM conducted an initial treatment of the 0.20-acre infestation in 2019, using both basal bark and foliar herbicide applications. Initial results were encouraging, though follow-up removal efforts are expected in 2020.



Japanese angelica tree was observed for the first time in WNY, in 2018. In 2019, WNY PRISM assisted NYS Parks with removal efforts. This picture shows the infestation prior to treatment.

Japanese Stiltgrass

In February 2019, WNY PRISM held a Japanese stiltgrass public meeting to update stakeholders on survey and management progress, and to discuss efforts moving forward. WNY PRISM discussed survey plans that would begin with known populations and continue downstream, and discussed continued treatment plans for existing project areas. The meeting was held in the Village of East Aurora, the location of the first stiltgrass report in 2017 (discovered in 2016), and attended by 16 individuals representing town officials, land managers and private citizens. This meeting also served as an opportunity to thank the Town of Aurora and the Village of East Aurora for their continued support of this effort.

WNY PRISM surveyed 40 new and previously identified sites for Japanese stiltgrass in 2019. Twenty-three sites, including one that was previously treated, had no plants observed. Of the remaining 17 sites, 9 were previously identified and 8 involved newly discovered infestations. Removal efforts ranging from manual removal to herbicide treatments took place at 10 sites and included initial treatments of a larger infestations at Hunter's Creek County Park and Allegany State Park. The treatment at Hunter's Creek was conducted by WNY PRISM in collaboration while Erie County and NYS Parks addressed the infestation in Allegany State Park. Additional removal efforts occurred on properties along Cazenovia Creek, along the Buffalo River, and at Whirlpool State Park. Newly discovered small infestations were removed by hand upon discovery, while those discovered late in the season, and those with larger infestations requiring management beyond that of hand removal, were not treated in 2019.



Japanese stiltgrass hides among the ferns and woody material at Hunters Creek County Park.

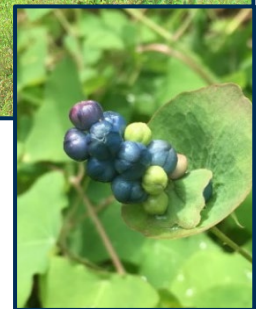
Mile-A-Minute

Mile-a-minute was first discovered at Oak Orchard Wildlife Management Area in fall 2017, and management led by DEC began in 2018.

Subsequent surveys discovered infestations on lands adjacent to the state-owned Oak Orchard. Based on known habitat preferences, it was recognized that mile-a-minute has the potential to spread rapidly throughout the western New York region and is of particular concern within the northern counties of Orleans, Genesee and Niagara. With regional interest high, a collaborative effort developed. WNY PRISM worked with partners to form a WNY Mile-a-Minute Working Group and held the first meeting in January. The Working Group identified the need for continued management, surveys, outreach and research. Management efforts were led by DEC and The College at Brockport, who received funding through a DEC sponsored rapid response grant to conduct research, surveys and management. WNY PRISM assisted with the development of outreach materials, including a [Mile-a-Minute Best Management Practices](#) fact sheet,



Mile-a-minute, marked by flagging, was treated at Oak Orchard WMA by DEC Staff.



and through facilitation of the Working Group meetings. All known infestations of mile-a-minute were treated in 2019.

Water Hyacinth

For the first time since 2014, no new water hyacinth populations were reported in WNY PRISM. In addition, 2019 was the first year when none of the previously identified sites monitored for water hyacinth had any new plants. Of the 8 identified water hyacinth early detection monitoring sites, 5 sites have not seen new plants emerge for 3 years following the last removal effort, joining a single site that achieved this distinction in 2018.

Water Lettuce

WNY PRISM monitored a single water lettuce early detection site located in Ellicott Creek, finding no plants. In 2018, 15 plants had been found and removed from this site. The only other currently known water lettuce site, located on private property in Erie County, was not monitored in 2019.

Hydrilla

WNY PRISM continued to work with USACE, DEC and USFWS on the Tonawanda Creek/Erie Canal *Hydrilla* Demonstration Project, a multi-year project aimed at eradicating *Hydrilla* from the Erie Canal and providing information for the development of Best Management Practices. WNY PRISM assisted with pre-treatment survey efforts, led by USACE, and with education and outreach efforts. Boat Stewards staffing launches along the Erie Canal provided information on *Hydrilla* and the project to interested boaters and others visiting the parks and trails. They also assisted DEC with an information booth at the Canal Fest of the Tonawandas, a week-long event that takes place just prior to planned herbicide treatments.

A new infestation of *Hydrilla* was discovered in a homeowner's association managed retention pond in Orchard Park, and was reported to WNY PRISM and DEC. Working with DEC and USACE, WNY PRISM assisted with follow-up surveys to both confirm the report and to identify the extent of the infestation. A second nearby infestation was discovered at Green Lake, part of the popular Yates Park. Discussions began quickly with the town and impacted homeowners, and an initial treatment took place prior to the end of the field season. Efforts are underway to ensure continued survey, treatment, research and outreach efforts in 2020.



WNY PRISM Boat Steward, Matt Kongesor, assisted with pre-treatment Hydrilla surveys in Tonawanda Creek.

Great Lakes Slender False Brome Working Group

The Great Lakes Slender False Brome Working Group (Working Group) represents a collaborative effort to improve the understanding and management of slender false brome within New York State and the Great Lakes Basin. The Working Group consists of federal and state agencies, businesses, universities and private organizations that strive to address the ecological threat posed by slender false brome. During the second and final year of Great Lakes Restoration Initiative (GLRI) funding, the Working Group made great strides towards addressing slender false brome issues including the development of a strategic plan for management and dedication to the continuation of the Working Group beyond GLRI funding.



Working Group Project Manager, Brittany Hernon, took Management Workshop participants in the field to see slender false brome at Genesee County Park and Forest.



Survey and Monitoring Technicians surveyed 40 sites for slender false brome in 2019.

In 2019, the Working Group held 4 quarterly meetings and 6 new organizations joined the effort including the NW Michigan Invasive Species Network and the Ontario Invasive Plant Council, two regions with known infestations of slender false brome. Education and outreach efforts focused on management workshops and targeted private landowner outreach. A management workshop was held at Genesee County Park and Forest in August, instructing 28 attendees in species identification and Best Management Practices. Informational letters were mailed to 167 residents with property adjacent to the West Shore Trail, an area heavily infested with slender false brome. Residents were provided resources for the identification and treatment of slender false brome and were invited to a volunteer workday held at Drew's Nature Center.

Survey efforts continued within WNY and the Finger Lakes regions. New infestations were found at Carlton Hill Multiple Use Area and along the Groveland Secondary Trail, both near previously identified populations. The plants found at Carlton Hill were removed by hand and the area will be monitored annually moving forward. The Groveland Secondary Trail, along with the Genesee Valley Greenway and West Shore Trail, will require further management planning to fully address. In addition, 14 new populations were discovered during monitoring of Genesee Park and Forest. Of these, 9 were removed by hand, 3 were treated with herbicide and the remaining 2 will be addressed in the future. The results

from the 34 site surveys completed in 2019 were used to update the habitat suitability model, further informing survey site selection moving forward.

Management efforts continued at Genesee County Park and Forest and Letchworth State Park, comparing multiple methods for effectiveness. After a second full year of treatment, a clearer picture of method effectiveness has emerged. A significant decrease in percent cover of slender false brome after a single year of treatment was seen for the herbicide, mechanical and herbicide, and manual treatment areas. Mechanical only treatments did not show a significant decrease in the percent cover of slender false brome. WNY PRISM also looked at the cost of using each method, finding the greatest impact on cost being staff time. This resulted in manual removal being the most expensive management treatment, at least over the first few years. A final year of data will be collected in 2020, however a Best Management Practices document was developed based on current results. This document, along with all other resources developed through the Great Lakes Slender False Brome Working Group, are available online as part of the [Great Lakes Slender False Brome Working Group Project Page](#).



Slender false brome management involves use of different removal methods - photos show manual removal (left) and after an initial herbicide treatment on a new infestation discovered in 2019 (right).



Research into the effectiveness of different management methods for slender false brome is ongoing. Photo shows management units side by side - mechanical only removal on the left and herbicide on the right.

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 WNY PRISM Crew Assistance Program (CAP) is one of our longest running programs, as well as one of our most popular and successful. Each year, WNY PRISM releases a request for project proposals through which partners may request assistance for invasive species removal, habitat restoration and/or invasive species surveys. WNY PRISM recognizes that most invasive species removal efforts require multiple years of treatment and while project acceptance one year doesn't mean a project will be selected in upcoming years, we do work to ensure that the efforts we take on receive the necessary follow-up. As such, many of the projects accepted under the CAP are continued in subsequent years. This makes the decision to take on new projects each year more difficult, as our ability to fit new projects into our increasingly tight schedule decreases. WNY PRISM identified 6 projects previously selected through the CAP that would require additional effort in 2019.

The 2019 CAP request for proposals generated 21 new project applications from 14 partners. Project proposals are reviewed and prioritized by WNY PRISM Staff and the WNY PRISM Steering Committee based on established criteria. At the end of this process, 17 projects located in 5 counties were selected for the Crew Assistance Program: 3 survey projects and 14 invasive species removal projects. Survey projects totaled 302 acres, while the



WNY PRISM Crew, from left to right Ryan Elliott, Derek Claus, Payton Hanssen, Lucy Nuessle and Ashley Carmichael.

invasive species removal projects covered 63.9 acres, 2.7 of which were focused on early detection species removal. Species targets for removal included invasive shrubs, *Phragmites*, knotweed, Japanese angelica tree, Japanese stiltgrass, pale swallow-wort (*Cynanchum rossicum*) and water chestnut.

Crew Assistance Program projects range from single day efforts to those requiring a week or more. Some of the Crew's smaller projects in 2019 included shrub removal from College Lodge and Fredonia Campus Woodlot, hand removal of water chestnut at the Audubon Community Nature Center,

knotweed removal efforts in partnership with the Lily Dale Assembly, and a second, and final year of follow-up on previously treated knotweed as part of a streambank restoration led by Erie County Soil and Water Conservation District. European frog-bit was removed by hand from Harwood Lake and Buckhorn Island State Park, in partnership with NYS Parks. WNY PRISM also continued our strong partnership with Tiff Nature Preserve and the Buffalo Museum of Science, completing early season Crew training while removing common buckthorn, *Phragmites*, and knotweed across 5 acres.

Niagara County Japanese Knotweed Eradication Program



Niagara County Japanese Knotweed Eradication Program Signs were placed at each site.

For the second year, the WNY PRISM Crew assisted Niagara County Soil and Water Conservation District (NCSWCD) with the Niagara County Japanese Knotweed Eradication Program. This ambitious program aims to address all knotweed within the county using a systematic approach to surveys and treatment. Most of the sites included in the project are located along roads and rights of way, however privately owned sites are addressed as well. WNY PRISM joined NCSWCD staff for 8 days over the course of two weeks to treat knotweed on 8 sites totaling 5 acres. Treatment consisted of herbicide stem-injection, the preferred method for an initial treatment of smaller infestations.

Bergen Swamp

WNY PRISM's Bergen Swamp efforts turned from a removal project into mapping project in 2019 as the Crew completed the initially identified areas for invasive shrub removal and moved onto *Phragmites* surveys. Bergen Swamp is a 2,000-acre nature preserve and Natural National Landmark comprised of diverse wetlands, fens, cedar swamps and pine-hemlock forests surrounded by rural and agricultural communities. The unique habitats and native flora and fauna present in Bergen Swamp make this preserve a high priority conservation area. While the trail system offers great opportunities to learn, hike and explore, it has also added significantly to the establishment and spread of invasive species. Previous work has focused on the removal of Japanese barberry from select areas near the primary trail system. However, the



Work at Bergen Swamp started with follow-up treatments for previous shrub removal activities. The Crew quickly worked through Japanese barberry and other invasive shrubs, opening time up for survey efforts.

reemergence of *Phragmites* as a threat (areas have seen prior treatment, many years previous) led to the shift from removal to surveys, to assist the Bergen Swamp Preservation Society with future management planning efforts.

Nature Sanctuary Society of Western New York Preserves

WNY PRISM was very excited to have the opportunity to work with the Nature Sanctuary Society of WNY (Society) at the Houghton Preserve in 2019. This was the first property purchased by the Society back in 1934 and represents one of the finest preserves in the region. The 23-acre preserve consists of a kettlehole bog surrounded by forested wetlands and is home to numerous rare plants and reptiles. To promote their mission of animal and plant preservation, the Society has partnered with WNY PRISM to actively manage invasive species that threaten the biodiversity of the Houghton Preserve. The primary invasive species threat to the preserve is glossy buckthorn, however, multi-flora rose (*Rosa multiflora*) and bush honeysuckle are also present in small, isolated populations. The Crew spent 2 days working at



WNY PRISM staff joined Nature Sanctuary Society of Western New York volunteers to remove glossy buckthorn from the Houghton Preserve.

the Houghton Preserve in 2019. The first day included a group of volunteers that focused on buckthorn removal in and around the bog. The second day saw efforts shift to forested areas and work was split between removal and surveys. In addition to work at Houghton Preserve, the Crew spent time removing bush honeysuckle from the Rosche Nature Preserve, formerly the Conewango Wetland Preserve. Working with volunteers, considerable progress has been made over the past couple years to remove the honeysuckle from the most sensitive areas of the preserve, including the vernal pools home to western chorus frogs.

Seneca Bluffs Natural Habitat Park Restoration Project

Seneca Bluffs Natural Habitat Park (Park), owned and managed by Erie County, is the site of a collaborative effort to remove invasive species and restore ecosystem function and features many strong partners. WNY PRISM has implemented invasive species management efforts along the upper terrace of the Park beginning with surveys in 2014 and removal every year since. USACE designed and implemented streambank stabilization, native plant restoration and invasive species removal along the lower terrace while Buffalo Niagara Waterkeeper hosted volunteer workdays to install native plants. In



Seneca Bluffs Before & After knotweed removal. The photo on the left shows the knotweed infestation ahead of WNY PRISM's first treatment in 2015 (site was mowed prior to treatment). The photo on the right shows the same area, pre-treatment 2019.

addition, Erie County Soil and Water Conservation District mowed and graded a recently purchased addition to Seneca Bluffs. The new property does have invasive species, including 4 acres of *Phragmites* with ~80% cover and 2.5 acres of knotweed with ~90% cover. The knotweed received an initial treatment in 2019 and planning efforts to address the *Phragmites* is underway.

WNY PRISM has managed invasive species at Seneca Bluffs for five years, spending between 2-4 days on site each year. Knotweed was the primary target early on, but treatment has resulted in the decrease of knotweed within the project area, allowing focus to shift to other species including *Phragmites*, reed canarygrass (*Phalaris arundinacea*), Canada thistle (*Cirsium arvense*) and mugwort (*Artemisia vulgaris*). Taking full advantage of the knotweed removal, both mugwort and Canada thistle began to spread, forming dense infestations throughout the Park. WNY PRISM followed, shifting focus to these species. The Crew successfully treated 100% of the mugwort and Canada thistle, alongside 100% of the knotweed, in 2019.

Priority Lands Invasive Species Removal and Volunteer Monitoring Program

In 2018, WNY PRISM received funding to implement the Priority Lands Invasive Species Removal and Volunteer Monitoring Project through the U.S. Forest Service Great Lakes Restoration Initiative Cooperative Weed Management Areas grant program. This project represents a collaborative effort between WNY PRISM, the Western New York Land Conservancy and Buffalo Audubon Society. WNY PRISM has focused efforts on invasive species removal at 3 high quality nature preserves (Niagara Escarpment Preserve, The Owen's Falls Sanctuary and the North Tonawanda Audubon Nature Preserve) while the Land Conservancy focused their efforts on the development of a volunteer monitoring program and



Main trail leading visitors through The Owen's Falls Sanctuary.

restoration efforts within the 13-acre grassland area at the Stella Niagara Preserve. WNY PRISM also assisted with invasive species removal efforts at Stella Niagara, focusing on the wooded areas framing the site.

Invasive species removal efforts began in 2018 and continued throughout 2019. Efforts involved the cut-stump treatment of invasive shrubs and small trees, foliar treatment of select small shrubs and herbaceous plants, knotweed stem-injection and use of a 'clip and drip' method of removal for small, isolated *Phragmites* patches. Monitoring of previous work demonstrated the success of removal efforts, including a 100% reduction of *Phragmites* after a single year. Trained volunteers completed monitoring across 181 acres.



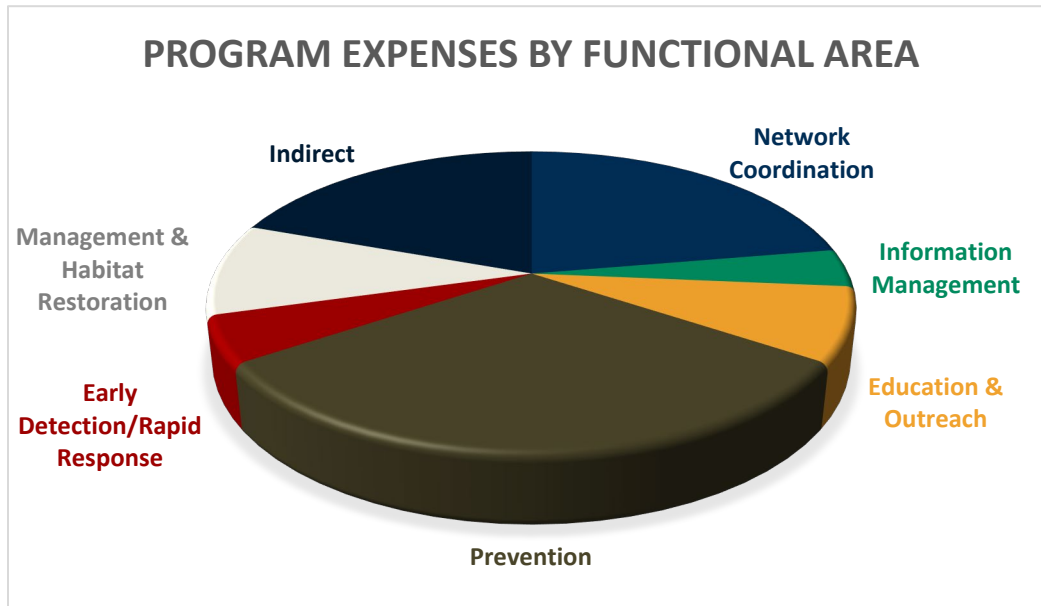
Niagara Escarpment Preserve grassland restoration. WNY PRISM has been removing herbaceous invasive species from the restoration and invasive shrubs from wooded areas.

In 2019, WNY PRISM conducted follow-up treatments on 90.2 acres of invasive shrub removal and conducted initial treatments on an additional 22.5 acres.

Work continued to progress from the more pristine interior of each preserve, toward the more highly invaded areas along property boundaries.



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 2019 and includes all funded programs. Expenses were grouped together by 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.

Prevention (31%) - Activities and expenses related to Prevention including related personnel costs, boat stewardship program management, travel, and supplies.

Management & Habitat Restoration (10%) - Activities and expenses related to Habitat Management and Restoration Goals, including related personnel costs, Crew Assistance Program, planning, travel, and supplies.

Early Detection/Rapid Response (5%) - Activities and expenses related to Early Detection and Rapid Response including related personnel costs, site assessments and monitoring, outreach, travel, and supplies.

Education and Outreach (8%) - Activities and expenses related to Education and Outreach including related personnel costs, volunteer management, website and online resources management, materials development, travel, and supplies.

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

Indirect Costs (19%) - Indirect Costs as determined by the Research Foundation for SUNY Buffalo State.

2020 Work Plan

Closing the book on 2019 means opening a new one for 2020, and the new year brings incredible opportunities for WNY PRISM to once again expand programs and services. Driven by the completion of the 5-year Strategic Plan, the WNY PRISM 2020 Annual Work Plan is more ambitious than ever. In addition to improving upon established WNY PRISM programs, such as the Watercraft Inspection Stewardship Program, Great Lakes Slender False Brome Working Group, Crew Assistance Program and Boot Brush Station Program, and the many services we provide, including invasive species information, management planning, grant assistance and project facilitation, 2020 will see an increased focus on data collection and management. WNY PRISM staff will work to develop straightforward, universal data collection protocols that partners can use to ensure the data necessary to implement successful invasive species management activities is collected and used. This is a significant undertaking, as data collection needs shift from initial site assessments, pre-treatment data, treatment data, and post-treatment monitoring, and multiple protocols must work synergistically.

WNY PRISM Spring Partner Meetings will see some changes in 2020. Based on needs identified through the strategic planning process, the spring meeting will now serve to provide annual stakeholder updates for regional early detection and prevention priorities. Resources will be developed and made available for partners to use to train seasonal field staff to assist with these priorities, resulting in a cohesive regional program.

The Town of Tonawanda Rails to Trails Volunteer Invasive Species Management and Monitoring Program provides WNY PRISM the opportunity to work on an exciting new effort alongside dedicated partners and volunteers. Invasive species threaten the ecological and financial goals of the newly established Rails to Trails that runs the length of the Town of Tonawanda and into the City of Tonawanda. Volunteers from the Town and beyond will receive training to survey the trail for invasive species and will work with WNY PRISM and the Town on removal and native plant installation.

WNY PRISM will also hold our first Invasive Species Management Symposium in 2020. This 1-day conference, to be held in the fall, will focus on adaptive management and the lessons learned while implementing complex invasive species removal and habitat restoration projects. The program will feature presentations on projects that have demonstrated the successful use of adaptive management and will provide the opportunity for attendees to present projects for which they are seeking management guidance.

The [WNY PRISM 2020 Annual Work Plan](#) is available on our website.



WNY PRISM Staff gathered to celebrate the last day of the 2019 Field Season. Clockwise from the left: Jason Kappan, Emily Thiel, Dr. Christopher Pennuto, Andrea Locke, Brittany Herson, Kristin King and Lucy Nuessle.