

# 2016

## WNY PRISM Annual Report



Prepared By

Andrea Locke, WNY PRISM Coordinator

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*Cover Photo: Tifft Nature Preserve – 2016 WNY PRISM Crew planted native species alongside Tifft staff within areas previously treated for invasive species. Photo shows Crew returning from the planting site, in canoes, with another planting site in the foreground.*

*All photos used in this annual report, unless otherwise cited, are property of WNY PRISM.*

## 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.



## Background

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 business 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 twelve 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, Invasive Species Advisory Committee, and formed the Office of Invasive Species Coordination within DEC. Among the remaining twelve key recommendations was one that supported the creation of PRISMs, regional private-public partnerships designed to strategically deliver invasive species management functions to their regions. Invasive species management functions include coordinating partner efforts, recruiting and training citizen volunteers, identifying and delivering education and outreach, establishing early detection and monitoring networks and implementing direct eradication and control efforts. The Western New York Partnership for Regional Invasive Species Management (WNY PRISM) was established in January, 2014. Later that spring, all eight PRISM regions were up and running, effectively providing regional coverage for all of NYS. Funding for WNY PRISM is provided by the Environmental Protection Fund through a contract with DEC. WNY PRISM is hosted by the Great Lakes Center and is a sponsored program of the Research Foundation for SUNY Buffalo State.

WNY PRISM encompasses the eight western-most counties in NYS (Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans and Wyoming). This area includes some of New York State's most impressive natural features, such as Niagara Falls and the Niagara River, Niagara and Portage Escarpments, Lake Erie and Lake Ontario shorelines, forests of the Southern Tier, Zoar Valley, Iroquois NWR, Letchworth State Park, and Chautauqua Lake. The Niagara River itself is a globally significant Important Bird Area with one of the world's most impressive concentrations of gulls, having 19 species recorded. WNY includes major watersheds such as Lake Erie-Niagara River, Southwestern Lake Ontario and Allegheny River, and is part of both the Great Lakes Basin and Mississippi River Basin. The WNY PRISM region holds a population of over 1.55 million residents, and contains cultural and urban centers such as Buffalo, Jamestown, Lockport and Niagara Falls. Land dedicated to agricultural production includes over 1.4 million acres with an average farm size of 170 acres. This diversity of cultural, historic, geographic, ecologic and agricultural factors make WNY a globally unique and important place.



*The Great Lakes Center at Buffalo State celebrated their 50<sup>th</sup> Anniversary (1966 – 2016) at the Burchfield Penny Art Center on April 15, 2016. Photo Credits: Bruce Fox, SUNY Buffalo State.*

WNY PRISM addresses invasive species priorities using a coordinated partnership network, for which we provide leadership, information, technical assistance, management planning and management assistance, and collaboration opportunities. Over the course of the past three years, WNY PRISM has quickly established itself as the primary organization for effective management of invasive species within the region. During this time, the WNY PRISM Network has grown significantly. We are now comprised of over 70 Partner organizations and have conducted work in each of our eight counties. Our many Partners, including non-profits, universities, businesses, state and federal agencies, and local governments, bring together an incredible wealth of knowledge, drive and expertise in diverse fields including conservation, natural resources, habitat restoration, research, agriculture, urban planning, education, partnership building and landscape design.

WNY PRISM would like to thank our host organizations, the Great Lakes Center and the Research Foundation of SUNY Buffalo State, as well as our State Partners from The New York State Invasive Species Coordination Section, New York State Invasive Species Council and Advisory Committee, New York State Invasive Species Research Institute, and NY iMapInvasives. We would also like to thank our Steering Committee and Working Group Members for the considerable time and effort they have committed to ensuring the success of WNY PRISM.

## **WNY PRISM Steering Committee and Staff**

### **Steering Committee Members**

|                       |  |
|-----------------------|--|
| <b>Alisia Vilonen</b> | New York State Department of Transportation                                      |
| <b>Bob Smith</b>      | Chestnut Ridge Nursery, Certified Nursery Landscape Professionals                |
| <b>Gregg Sargis</b>   | The Nature Conservancy   |
| <b>Helen Domske</b>   | New York Sea Grant   |
| <b>Jeff Diers</b>     | Fredonia, Conewango Creek Watershed Association                                  |
| <b>Jennifer Dunn</b>  | New York State Department of Environmental Conservation                          |
| <b>John Grabowski</b> | Buffalo Niagara Riverkeeper  |
| <b>Lynn Greer</b>     | United States Army Corps of Engineers – Buffalo District                         |
| <b>Meg Janis</b>      | New York State Office of Parks, Recreation and Historic Preservation             |
| <b>Paul Fuhrmann</b>  | Ecology & Environment, Inc.  |
| <b>Robert Haltner</b> | United States Fish and Wildlife Service – Lower Great Lakes Office               |
| <b>Shanna Shaw</b>    | United States Department of Agriculture – Natural Resources Conservation Service |
| <b>Sharon Bachman</b> | Cornell Cooperative Extension of Erie County                                     |

### **WNY PRISM Staff**

#### **Dr. Christopher Pennuto**

Director

#### **Andrea Locke**

Coordinator

#### **Tyler Christensen**

Invasive Species Management Assistant

#### **Emily Dyett**

Invasive Species Management Assistant

#### **Ian Sansone**

Invasive Species Management Assistant

#### **Adam Haines**

Education and Outreach Assistant

## Introduction

In 2016, WNY PRISM continued to strive towards fulfilling our mission and meeting our goals. WNY PRISM goals, which were developed and finalized in 2014, encompass six main focus areas: Partner/Network Coordination, Information Management, Education and Outreach, Prevention, Early Detection and Rapid Response, and Management and Habitat Restoration. Each year, WNY PRISM develops an Annual Work Plan that is organized in relation to these goals and forms the structure for our efforts throughout the year. WNY PRISM put forth an ambitious Work Plan in 2016, and this Annual Report provides an overview of the work conducted during the full course of 2016 to implement the objectives and actions set forth. A working document, the WNY PRISM 2016 Annual Work Plan was developed to be flexible, allowing WNY PRISM to take advantage of opportunities when they present themselves, while adding much needed guidance in a realm where needs far outweigh even the combined capacity our of Partnership. WNY PRISM successfully implemented our 2016 Annual Work plan and saw significant growth in nearly all aspects of our work. This Annual Report, as a culmination of this work, highlights many of our accomplishments. But, it would be impossible to include all of the projects and initiatives we worked on throughout all of 2016.

The WNY PRISM Annual Report is not only an opportunity to present our own accomplishments from the past year, it also allows for WNY PRISM to provide highlights of all the incredible work our Partners are doing throughout the region. Much of our work would not be possible without the efforts put forth by our Partners. For this, WNY PRISM would like to thank all of our Partners for their hard work and assistance in 2016. WNY PRISM is truly a sum of its parts.

## Goals and Accomplishments

### 2016 Highlights

#### Early Detection Reporting Protocol

Invasive species pose a significant threat to our environment and economy, as well as to human health. Once well established, they can be very expensive and time consuming to manage. For these reasons, prevention has long been held as the gold standard for invasive species management. By preventing the initial establishment of invasive species, impacts on the environment, economy, and human health can be minimized while also avoiding the long term costs of management. However, prevention efforts are unable to stop all invasive species from being introduced or established. Early detection is the next step in defense against invasive species. Successful early detection programs allow for potential threats to be identified in time for effective, efficient and environmentally sound decisions to be made (assessment) and actions to be taken (rapid response). The earlier an infestation is found, the greater the likelihood of successful and cost effective management efforts taking place.

WNY PRISM created an Early Detection Priority Species list in 2015 (<http://www.wnyprism.org/priority-invasives/>), and has continued this effort with our newly established Regional Early Detection Reporting Protocol, released this fall.

Developed in cooperation with WNY PRISM's Working Groups, Steering Committee and additional Partners, this protocol provides a framework for professionals and citizen scientists, to report sightings of new and emerging invasive species as they first enter our region. The WNY PRISM Regional Early Detection Reporting Protocol, which can be found on our website (<http://www.wnyprism.org/get-involved/early-detection/>), includes a step-by-step process for identification, documentation, and reporting of early detection invasive species. Once reported, WNY PRISM will work with our Partners to confirm species identification and assess the infestation for possible response and control efforts.

For the purposes of this protocol, early detection species are defined as any invasive species which is known from three or fewer locations within the eight county region of WNY PRISM. This includes, but is not restricted to, WNY PRISM's Early

Detection Priorities Species. Species that do not fall under the definition of early detection, such as those that are already well-established or common within western New York, may continue to be reported to NY iMapInvasives ([www.nyimainvasives.org](http://www.nyimainvasives.org)). Invasive species presence and distribution data, whether for early detection or common species, will continue to assist resource managers in the development of effective landscape scale management.



*During an invasive species survey of Franklin Gulf, WNY PRISM Crew looked for hemlock woolly adelgid, an early detection priority species.*

### Slender False Brome Working Group



*Brachypodium infestation at Bergen Swamp – grass has created a near monoculture within the understory shown here.*

Slender false brome (*Brachypodium sylvaticum*) is an invasive species of grass that poses a significant ecological risk to the region and has been identified as an early detection priority for WNY PRISM. Known from one location in western New York, as well as 3 additional locations within New York State, this species is well positioned to become one of our most pressing invasive species issues. Due to its emerging status in New York, there is an immediate need for improved understanding of this species, as well as a need to identify effective methods of management. To address this immediate concern, WNY PRISM has taken a lead in the coordination of the statewide effort to

improve management of this species by establishing the Slender False Brome Working Group.

*Brachypodium* has many characteristics that make it a considerable threat to western New York’s natural areas, beyond those of many other invasive species. *Brachypodium* has the ability to invade and thrive in a wide range of habitat types. It grows in full shade, beneath the canopy of riparian, mesic and upland forests just as easily as it will invade open grasslands and wetlands, including rare and vulnerable fens and bogs. Although it appears to avoid extremes in water levels, it has been found within areas of seasonal flooding and along rocky outcroppings. Adding to its competitive advantage over native species, *Brachypodium* is not palatable to deer and other wildlife.

Taking advantage of multiple Pathways of Invasion, *Brachypodium* has the potential for a high rate of spread. Seeds are easily spread by people on boots, mowers, farm equipment and other vehicles, as well as spread by water and animals. Of particular concern is this species demonstrated ability to invade high quality areas that would otherwise be considered resilient against invasion and lay a significant distance from nearby trails, roads, utility lines and other forms of human disturbance.

*Brachypodium* is an emerging invasive species and as such, regional awareness of this species is low. This lack of awareness is in stark opposition to the severe impacts it threatens, and has limited our ability to determine its true distribution across the landscape. Therefore, education and outreach efforts are needed to raise awareness among Partners and citizens, and surveys are necessary to develop distribution maps and inform management strategies. In addition, despite all of the information we have compiled, there remain many unanswered questions with regard to its ecology and how to manage this species. Most of our information comes from the Pacific Northwest, where this species has been an ongoing issue for many years. Therefore, management methods will need to be assessed for effectiveness in New York State.

Conversations about starting a working group dedicated to *Brachypodium* began prior to the establishment of WNY PRISM, but these conversations gained momentum in 2016 and culminated in the first Slender False Brome Working Group meeting being organized by WNY PRISM and held at SUNY Brockport in December. The meeting was well-attended with 17 individuals representing 13 different organizations from across the state. Through this initial effort, the working group identified 7 priorities including conducting surveys (determine current distribution and prioritize areas for survey), development of Best Management Practices, share expertise and knowledge, raise public awareness, identify research needs, develop a regional strategic plan, and collaborate with the broader eastern region of North America. WNY PRISM is looking forward to continuing with this working group to address identified priorities in the coming the years.



*Brachypodium sylvaticum* (slender false brome).



## Boot Brush Stations

WNY PRISM initiated a pilot boot brush assessment project in summer 2016. Boot brush stations have been in use nationally at trailheads and fishing access sites to help slow the spread of terrestrial and aquatic invasive plants, by removing potential seed propagules from the treads of hiking boots. While widely considered to be an effective educational tool, very little quantitative data is available to assess the efficacy of these stations for removing plant propagules from footwear.

As part of our pilot project, WNY PRISM installed five boot brush stations at select trailheads in Erie County (Times Beach Native Area, Seneca Bluffs Natural Habitat Park, Tift Nature Preserve, Amherst State Park, and Kenneglenn Scenic and Nature Preserve) to assess whether the stations collected seeds from invasive species. Each station includes the boot brush, informational sign, and a small 'debris tray' located under each brush. The debris tray was used to collect any seeds brushed off by station users. Signage reminds hikers that their footwear is a possible vector for dispersing seeds around the landscape, and instructs them to use the brush stations both before entering a trail and upon leaving, after their hike. Signs were developed in partnership with PlayCleanGo! and Finger Lakes PRISM.



Boot Brush Station installed by WNY PRISM at Tift Nature Preserve.

Seeds and soil were collected from two stations in summer 2016 and placed in a lab freezer to be germinated in spring 2017. Once germinated, they can be more easily identified. This summer was very dry, potentially resulting in lower than expected station use (i.e., hikers had no need to brush mud from their boots). In spring/summer 2017, multiple collections are planned at the stations to retrieve material from the debris trays for germination. Additionally, trail surveys are planned to identify plants occurring along trails leading away from the stations to compare with taxa identified from the debris trays. A comparison of debris tray germination and trail identifications should provide some insight into whether boot-brush stations provide some removal benefit to reducing the dispersal of invasive plant propagules, in addition to their educational benefits.



WNY PRISM worked with PlayCleanGo! and FL-PRISM to develop signs for our Boot Brush Stations.

## Partner/Network Coordination

*Establish a partnership network and communication for those involved in invasive species information and management within the WNY PRISM region. Facilitate opportunities for cooperation including sharing of information, personnel, equipment and expertise.*

Partnership and Network Coordination is at the core of WNY PRISM. It is through our relationships that we are able to fulfil our mission to address invasive species priorities in western New York. Perhaps the most difficult of our Goals to measure, we've been able to do so by tracking an increase in the number and diversity of Partners engaged in WNY PRISM activities, and seeing an increase in the number of projects occurring in the region that involve WNY PRISM and multiple Partners. As we continue to build our network and involve a greater diversity of expertise and resources, our invasive species management efforts will be more successful.

WNY PRISM found success building our network in 2016, which is demonstrated by our many related accomplishments. Efforts this past year focused both on meeting with new Partners and strengthening our relationships with those Partners we've been working with since our establishment in 2014. Key strategies for building our network include identifying additional



*WNY PRISM Partners posed for a picture after the WNY PRISM Fall Partner Meeting, held at Woodlawn Beach State Park.*

Partners and Stakeholders within the western New York region, establishing and improving communication, sharing of information and resources, providing assistance and collaboration opportunities for Partners seeking grant funding for priority projects, and coordinating with other PRISMs and the statewide network developed by the New York State's Office of Invasive Species Coordination. Our statewide network includes the PRISMs, the Invasive Species Research Institute, the NY iMapInvasives Program, and the New York State Invasive Species Council and Advisory Committee.

### *WNY PRISM Coordination*

- Hired and supervised 3 Invasive Species Management Assistants (Crew).
- Hired and supervised Education and Outreach Assistant.
- Complied and prioritized requests for Crew Assistance.
- Accepted and supervised Aquatic Invasive Species student intern.
- Hosted and provided training and resources for DEC's Giant Hogweed Program Technicians.
- Held open Working Group Meetings (Terrestrial, Aquatic, Conservation Targets and Education & Outreach).

- Held 3 Steering Committee Meetings, Spring and Fall.
- Held 2 Full Partner Meetings.
- Provided continuing education opportunities for staff including trainings and online resources - attended Healing our Water's Great Lakes Restoration Conference.
- Provided the Great Lakes Center with articles for newsletters and annual report.

### *Regional Partnership*

- Participated in Great Lakes Action Agenda Meetings and assisted with coordinated efforts.
- Participated in WNY Emerald Ash Borer Taskforce Meetings.
- Participated in the Town of Amherst Invasive Species Task Force.
- Participated in Aquatic Plant Control – Hydrilla Collaborative.
- Participated in Erie County Parks Stakeholder Meetings.
- Provided support for Partners seeking grants to fund invasive species management efforts.
- Provided Letters of Support for Chautauqua Lake Association, New York Sea Grant, Erie County Department of Environment and Planning, and PUSH Buffalo.
- Met with various Partners on potential projects and future collaborations.
- Distributed all meeting minutes, work plans and reports through the WNY PRISM Listserve and Website.



*Full house at WNY PRISM's Fall Partner Meeting, held at Woodlawn Beach State Park.*

### *Statewide PRISM Network*

- Participated in Quarterly PRISM Leaders meetings and calls.
- Participated in Monthly New York State Invasive Species Speaker Series.
- Participated in Cornell Cooperative Extension Invasive Species In-Service.
- Participated in New York State Invasive Species Priority Setting Initiative led by the Invasive Species Research Institute and iMapInvasives Program.
- Worked closely with NY iMapInvasives on workshops and data uploads.
- Coordinated Slender False Brome (*Brachypodium sylvaticum*) Working Group.
- Worked with PRISM Leaders on efforts including statewide priorities and prioritization.
- Participated in statewide forest pest initiatives including hemlock woolly adelgid and Asian longhorned beetle.

## Information Management

*Collect, utilize and share information regarding invasive species management including species, pathways of invasion, surveys, infestations, control methods, monitoring, research, current efforts/projects and opportunities for partner collaboration.*

Ensuring that the Western New York Region has access to the best, most accurate, and current information on invasive species management, and other invasive species issues, is a primary focus for WNY PRISM. The ability to manage invasive species effectively on a regional and landscape scale requires a broad understanding of the issues at hand, as well as having resources available to assist with on-the-ground management of species. In 2016, WNY PRISM continued to work on improving the information available for our region by conducting invasive species surveys, identifying research needs and priorities, working with statewide Partners on prioritization projects and use of consistent language, increasing content within our online platforms, and identifying experts that may serve as additional resources for WNY PRISM and our Partners. The WNY PRISM Listserve was used strategically, and in coordination with social media accounts, to provide timely information to the region. To better service the region, WNY PRISM surveyed Partners for how they use the Listserve and what information is the most helpful for them. Using this information, WNY PRISM was able to adjust the amount and types of information distributed through the Listserve, making it a far more effective tool.

### iMapInvasives Initiative

WNY PRISM continued to focus on increasing the level of information available on the regional distribution of invasive species by working with iMapInvasives and Partners to submit observation data. We continued efforts to encourage submission of observations for species that had noticeable and significant data gaps within iMapInvasives by highlighting species of concern on our website, e-newsletters and at iMapInvasives trainings held throughout the region. Efforts were successful as iMapInvasives recorded 2,622 new observations for western New York, submitted by 42 unique users from 19 different organization. This demonstrates a significant increase from 2015, when we had 28 unique users from 11 organizations. Also in 2016, observations were submitted for 7 of our 8 counties and included 63 different species. The most 'observed' species was actually a negative observation for hemlock woolly adelgid (*Adelges tsugae*), meaning surveys for this species came back with no detections. Hemlock woolly adelgid is one of two species within iMapInvasives that allows for not-detected observations to be submitted, the other being water chestnut (*Trapa natans*). Efforts to survey these species are ongoing.



*WNY PRISM Invasive Species Management Assistant, Emily Dyett, surveys invasive species in Silver Lake.*

WNY PRISM offered a number of iMapInvasives trainings within our region in 2016. We held our Spring Blitz Training in partnership with iMapInvasives and Finger Lakes PRISM, at Letchworth State Park. This event trained attendees in invasive species ecology, identification, basic iMapInvasives data entry, advanced project and survey use, and included a field session which introduced attendees to the mobile observation tool as well as field data collection forms. Additional trainings and workshops included presenting iMapInvasives to the Groundworks Buffalo Green Team, introduction to iMapInvasives for local civic groups, and providing training for the WNY PRISM Crew, DEC Intern, Land Conservancy volunteers, and DEC Giant Hogweed Technicians. In addition, we provide training materials for Partners so they may hold their own iMapInvasives trainings.

WNY PRISM received a number of requests from Partners to assist with mapping invasive species on properties they manage. These requests became iMap Projects and included Clarence Oak Openings, Silver Lake, Franklin Gulf, Chautauqua Lake Outlet and Tributaries, and North Tonawanda Audubon Preserve. For each of these projects, the expectation is that Partners will use the data collected, as well as written reports on survey results and management suggestions, provided by WNY PRISM, to serve as the basis for future management planning and invasive species removal efforts. WNY PRISM conducted additional surveys to fill identified information gaps. Surveys included species specific efforts and surveys in areas that were lacking observation data, such as areas in and around Nature View Park and Royalton Ravine.

### *WNY PRISM Crew iMapInvasives Report*

- 904 Observations
- 7 Projects
- 52 Species
- 6 Counties
- Top 5 Species Observed (most common)
  - Bush honeysuckle (*Lonicera spp.*)
  - Multi-flora rose (*Rosa multiflora*)
  - Japanese barberry (*Berberis thunbergii*)
  - Eurasian watermilfoil (*Myriophyllum spicatum*)
  - Mugwort (*Artemisia vulgaris var. vulgaris*)



### **Online Platforms Report**

Social media and other online platforms took a more significant role in WNY PRISM's efforts to improve information management, as well as education and outreach efforts, in 2016. Success was demonstrated by a significant increase in Facebook followers and the number of individuals reached through our efforts.

- **WNY PRISM Website ([www.wnyprism.org](http://www.wnyprism.org))** – WNY PRISM used our website to provide information for our region including press releases, research, and best management practices.

- **Listserve** – The WNY PRISM Listserve includes 243 members. Information distributed through the listserve included PRISM updates, press releases, grant opportunities, job openings, invasive species information, research, regional projects, and information requests.
- **Facebook** – WNY PRISM placed 71 posts on our Facebook page in 2016, which were seen by 8,854 people. Our page received 42 new likes.

## Invasive Species Research Institute

WNY PRISM once again reached out to our Partners to develop a list of research priorities for western New York, and we received research topics from across our region. Once collected, suggestions were sent to the New York State Invasive Species Research Institute (ISRI), where they were combined with research priorities provided by other PRISM regions. Many of the research needs were similar to those submitted in last year’s survey (2015). This year, common topics that emerged as statewide priorities include improving PCR/eDNA resources,



*Brachypodium sylvaticum* research, bait surveys, continued hemlock woolly adelgid research (*Adelges tsugae*), biocontrols with a focus on knotweeds (*Reynoutria spp.*) and swallow-wort species (*Cynanchum spp.*), and climate change issues. ISRI will work to further prioritize these research needs on a statewide level and seek opportunities to support and/or implement research projects.

### WNY PRISM 2016 Research Priorities

- eDNA - increasing the number of markers/sequences available for testing.
- Increase research and funding for biocontrols – multiple species.
- Identifying future/emerging issues – early detection and approaching region species, which species should be highest concern.
- *Brachypodium* research (seed viability and production, habitat preferences, Best Management Practices).

## UAV Use in Aquatic Plant Surveys

In spring 2016, the WNY PRISM Director, colleagues in the Geography & Planning Department at Buffalo State, and collaborators at Buffalo Niagara Riverkeeper received funding to assess the use of drone technology in the documentation of aquatic invasive plants. The objective of this project was to develop a transferrable protocol to use low-altitude unmanned aerial vehicle (UAV) technology to perform rapid detection and coverage estimation of a floating aquatic invasive species. Water chestnut (*Trapa natans*) was selected for this pilot study and investigations were performed along the lower Tonawanda Creek and the Erie Canal system. The entire length of this section was surveyed by drone prior to a visual survey conducted by the USFWS - Lower Great Lakes Office. After 2 days of drone surveys, 4 locations with water chestnut were identified. Two weeks later, USFWS personnel detected plants in the same 4 locations. However, they also detected plants in 5 additional locations. Fewer than 5 plants were found at each of the 9 identified locations, and all plants were pulled by USFWS personnel. In the end, the drone survey required less time and person days to conduct, but resulted in a lower detection frequency and drone use was restricted by weather conditions to days with winds <10 mph.

## Education and Outreach

*Increase the public, partner, and stakeholder awareness, understanding and participation in invasive species issues and management within the WNY PRISM region, through effective educational and outreach efforts.*

Education and outreach is an essential function of all of WNY PRISM's invasive species management efforts. WNY PRISM not only works to educate and raise awareness of invasive species issues with citizen scientists, volunteers and the general public, but also with our Partners, land managers and additional stakeholders. WNY PRISM had another successful and rewarding year with regard to our education and outreach efforts. We built upon existing programs, improved efforts, and improved messaging across each of our priorities and objectives.

The success of our e-newsletters continued in 2016. WNY PRISM released both a Spring/Summer and Fall/Winter e-newsletter. Featured Partners included The Invasive Species Research Institute and Chautauqua Lake Association (CLA), both of whom submitted articles for our e-newsletters. The CLA also wrote a blog post for our website. Additional education and outreach efforts included various presentations, workshops and tabling events. WNY PRISM participated in outreach events throughout our region in 2016, taking part in 46 unique events, directly engaging nearly 3500 individuals at events seeing over 350,000 attendees.

WNY PRISM tracked our distributed materials in 2016, which totaled 10,200 individual pieces, distributed to 21 different Partners. Partners used these materials for various education and outreach efforts including tabling events, workshops, presentations, and programmatic efforts. The majority of distributed materials were the Stop Aquatic Hitchhikers rack cards, which WNY PRISM distributed to interested Lake Associations and Boat Steward Programs. The Plantwise brochure, Prohibited and Regulated Species: Plants booklet, and WNY PRISM Keep-A-Lookout Fliers were among the most requested.

### Education and Outreach Working Group

The WNY PRISM Education and Outreach Working Group (E&O WG) was established to improve invasive species education and outreach efforts within the region by identifying and addressing needs, prioritizing efforts and assisting with strengthening the connection between WNY PRISM, Partners, volunteers, and the general public. The E&O WG works to promote WNY PRISM to foster awareness of our mission, create new partnerships, increase collaboration among partners, enhance visibility, increase the regional knowledge of invasive species and management, and leverage efforts into action.



*Invasive Species Management Assistant, Ian Sansone, at Buffalo Zoo's Party for the Planet.*

The E&O WG first identified regional priorities in 2015, and continued efforts to address these needs in 2016. Among those addressed were the need to develop tools for municipalities and effective outreach materials for different demographics and user groups.

Development of a tool kit on invasive species issues and best management practices for spread prevention, targeting education for municipalities and road crews, has continued in 2016. WNY PRISM worked with the Town of Amherst on introducing a number of Best Management Practices for their road crews and parks staff. A successful workshop was held for 34 town employees, with a focus on the ecology and impact of invasive species, identification, introduction to iMapInvasives, and how to implement easy steps such as use of mobile mapping tools and cleaning off mowers, in order to decrease the spread of invasive species. This presentation will become part of the online tool kit, for use by other municipalities, as a resource for department supervisors to do in-house workshops.



WNY PRISM Crew, Tyler Christensen, Emily Dyett and Ian Sansone at the Clarence Hollows Farmers' Market.

In 2016, WNY PRISM began development of an outreach materials kit with the creation of an outreach poster and some species specific posters. The intended use is for bulletin board type displays, and posters will be made available to libraries and schools, possibly in conjunction with Invasive Species Awareness Weeks or other similar state or national outreach efforts. Components of this kit may be adjusted based on the interest of those requesting them, and we will work to expand components and promote the use of these kits in 2017.

Additional education and outreach projects include development of internal documents identifying species and topic experts that may be appropriate Partners for education and outreach efforts, and a document identifying current youth educational programs. These documents will allow E&O WG members to more quickly place those inquiring about certain programs or program availability with those who may provide that particular service or need. Documents were developed in partnership with Cornell Cooperative Extension of Erie County and the Western New York Land Conservancy.

### National Invasive Species Awareness Week



WNY PRISM Coordinator, Andrea Locke, presenting on Birds & Invasives. Photo Credit: Elyse Henshaw, RTPi.

WNY PRISM worked with the Roger Tory Peterson Institute to bring National Invasive Species Awareness Week to western New York. National Invasive Species Awareness Week (February 21 – 27, 2017) gave us an opportunity to tie-in to a national campaign and to host a series of workshops and presentations during a time of year that doesn't have as much invasive species engagement as during the growing season. Events held during this week included an Aquatic Invasive Species Workshop, a Forest Pest Workshop with guest speakers from across the



state, and evening presentations on topics of Using Native Plants in the Landscape, Invasive Species Management, and Birds and Invasives. Events were well attended, demonstrating a growing concern and interest in invasive species and invasive species issues within residents of the Southern Tier of western New York.

### New York Invasive Species Awareness Week

The 3<sup>rd</sup> Annual NYS Invasive Species Awareness Week (ISAW) was held July 10 – 16, 2017, and WNY PRISM again coordinated efforts for the region. Work planning ISAW began early in the year with multiple statewide planning calls and reaching out to Partners in an effort to increase support for ISAW. The intent being to increase the number of events held in western New York. WNY PRISM coordinated a number of events including the well-attended Hydrilla Hunters Aquatic Invasive Species Workshop, held in partnership with USACE – Buffalo District and USFWS – Lower Great Lakes Office. In addition, WNY PRISM worked with the Western New York Land Conservancy on the Honeysuckle Harvest and with the Roger Tory Peterson Institute on a screening of “The Hemlock Woolly Adelgid: A Film About the Loss of an Ecosystem”. Other events held in western New York included Invasive Species Action Days at Reinstein Woods, emerald ash borer (*Agrilus planipennis*) surveys, multiple presentations, and additional invasive species removal volunteer workdays. WNY PRISM even received a proclamation from the Town of Amherst, recognizing Invasive Species Awareness Week, during a Town Hall meeting. WNY PRISM continued efforts beyond the final day of ISAW by following-up with Partners that had hosted events, submitting participant surveys, and continuing to attend statewide follow-up meetings.



ISAW Hydrilla Hunters Aquatic Invasive Species Workshop held at West Canal County Park in North Tonawanda, along Tonawanda Creek/Erie Canal.

### Events

*WNY PRISM hosted, participated, and/or provided support in planning for the following Education & Outreach Events held in 2016. These events had a combined attendance of over 350,000 and WNY PRISM recorded 3,457 direct contacts/interactions.*

### Trainings and Workshops

| Event                              | Partners              | Date      | Attendees |
|------------------------------------|-----------------------|-----------|-----------|
| Forest Pest Workshop - NISAW       | RTPI                  | 2/23/2016 | 10        |
| Landscapers Workshop               | CWA                   | 3/14/2016 | 17        |
| Environmental Field Day            | Niagara Co. SWCD      | 6/7/2016  | 587       |
| Amherst Highway Dept. Workshop     | Town of Amherst       | 6/14/2016 | 34        |
| Spring iMapInvasives Training      | iMap, Parks, FL-PRISM | 6/16/2016 | 18        |
| ISAW Hydrilla Hunters/AIS Workshop | USACE, USFWS          | 7/11/2016 | 19        |

|                                     |                   |            |    |
|-------------------------------------|-------------------|------------|----|
| Master Gardeners – Chautauqua Co.   | Fredonia          | 9/24/2016  | 26 |
| Master Forest Owners (MFO) Workshop | Erie Co. CCE, MFO | 12/13/2016 | 35 |

## Presentations

| Event                                   | Partners                  | Date       | Attendees |
|---|---------------------------|------------|-----------|
| WNY Farm Show                           | Erie Co. Ag. Society      | 2/6/2016   | 25        |
| Niagara Frontier Botanical Society Mtg. | NFBS                      | 2/9/2016   | 28        |
| Native Plants Landscaping – NISAW       | RTPI                      | 2/22/2016  | 30        |
| Management Webinar – NISAW              | RTPI, Juniata             | 2/24/2016  | 8         |
| Birds & Invasives – NISAW               | RTPI                      | 2/26/2016  | 30        |
| Envirothon – Cattaraugus County         | Catt. Co. SWCD            | 3/2/2016   | 35        |
| Rural Landowners Workshop               | CCE Allegany County       | 3/5/2016   | 100       |
| Iris Society of WNY Mtg.                | Iris Society of WNY       | 3/12/2016  | 11        |
| Great Lakes Seminar (GLC600)            | GLC, Buffalo State        | 3/16/2016  | 14        |
| Envirothon – Erie County                | Erie Co. SWCD             | 3/31/2016  | 50        |
| Master Gardeners – Chautauqua Co.       | MG of Ch. Co.             | 4/5/2016   | 35        |
| WNY PRISM Spring Partner Mtg.           | Tiftt Nature Preserve     | 4/28/2016  | 26        |
| Eden Conservation Club Program          | Eden Cons. Club           | 5/17/2016  | 21        |
| Christmas Tree Farmers Assoc.           | CTFA                      | 7/16/2016  | 500       |
| Reinstein Woods Teacher Institute       | Reinstein Woods, DEC      | 8/3/2016   | 21        |
| Groundworks Buffalo – iMap Training     | Groundworks, iMap         | 8/4/2016   | 5         |
| The Majestic Hemlock                    | Pfieffer Nature Center    | 10/22/2016 | 16        |
| Lancaster Women’s Civic Club Mtg.       | Lancaster Women’s CC      | 11/9/2016  | 34        |
| WNY PRISM Fall Partner Mtg.             | Parks, Cornell University | 11/17/2016 | 36        |
| Niagara University Seminar              | Niagara University        | 12/1/2016  | 18        |

## Outreach and Volunteer Events

| Event   | Partners                 | Date             | Attendees |
|---|--------------------------|------------------|-----------|
| Great Lakes Center 50 <sup>th</sup> Anniversary | GLC, Buffalo State       | 4/15/2016        | 150       |
| Buffalo Olmstead Parks – Envirofair             | Buffalo Olmstead Parks   | 4/23/2016        | 300       |
| Buffalo State Environmental Fair                | Buffalo State            | 4/26/2016        | 200       |
| Boom Days/ GL Environmental Festival            | USFWS                    | 5/7/2016         | 2000      |
| Great Lakes Student Summit                      | Buff Museum of Science   | 5/9/2016         | 250       |
| Genesee Co. Farmers’ Market                     | GCFM                     | 6/24/2016        | 100       |
| Party for the Planet                            | Buffalo Zoo, Erie County | 6/25/2016        | 400       |
| Salamanca Farmers’ Market                       | Southern Tier FM         | 6/28/2016        | 100       |
| Tiftt Insectival                                | Buff Museum of Science   | 7/9/2016         | 478       |
| Honeysuckle Harvest                             | Land Conservancy         | 7/13/2016        | 16        |
| Canal Fest of the Tonawandas                    | DEC, USACE               | 7/24/2016        | 250,000   |
| Franklinville Farmers’ Market                   | Southern Tier FM         | 7/27/2016        | 105       |
| Lockport Farmers’ Market                        | Community Market         | 7/30/2016        | 230       |
| Dunkirk Farmers’ Market                         | Local Dev. Corp.         | 8/10/2016        | 215       |
| Erie County Fair                                | EC SWCD                  | 8/13 & 8/16/2016 | 100,000   |
| College Lodge Buckthorn Removal                 | SUNY Fredonia            | 8/19/2016        | 6         |
| Clarence Hollow’s Farmers’ Market               | Clarence Hollow FM       | 8/27/2016        | 600       |

## Prevention

*Facilitate the prevention of new occurrence, spread and further establishment of invasive species within the WNY PRISM region through understanding of pathways of invasion and targeting of priority conservation areas. Prevention measures must address both the movement of invasive species in and out of the WNY PRISM region.*

WNY PRISM strives to maintain close communication with Partners on potential and emerging invasive species threats to our region, while also raising public awareness of these issues. To do this, WNY PRISM encouraged the sharing of information among Partners and used available tools to disseminate appropriate and timely information to the region. Prevention efforts tie-in strongly with our Information Management and Education and Outreach programming as national outreach campaigns such as Don't Move Firewood are integrated into our programming. One of this year's highlighted projects, the Boot Brush Station Pilot Project (page 9), addresses spread prevention of terrestrial species.



## Aquatic Invasive Species

Spread prevention of aquatic invasive species (AIS) continues to see strong support statewide. This is evident in the surge of interest and funding for boat stewardship programs. This spring, DEC released AIS Spread Prevention Grants, for which WNY PRISM assisted Partners by providing information and letters of support. WNY PRISM also provided outreach materials for use in boat stewardship programs including CleanDrainDry! Rack Cards and WNY PRISM AIS Keep-A-Lookout! Fliers. We hosted an undergraduate intern, from the University at Buffalo, who worked on a project collecting information from Lake Associations across western New York. Purpose of this project was to determine current status of AIS in western New York lakes and potential for establishment of boat stewardship programs.

## Plantwise NY

WNY PRISM supports the use of native plants in landscaping and promotes being Plantwise. Although we focus on native plants because of their far reaching ecological benefits, non-invasive ornamental plants are still preferred and promoted over use of invasive species. State regulations (6 NYCRR Part 575: Prohibited and Regulated Invasive Species), intended to disrupt a Pathway of Invasion to help control invasive species by reducing their introduction and spread, were put into effect in 2015. The regulations established a list of prohibited and regulated species for which it is now unlawful to knowingly possess with the intent to sell, import, purchase, transport, or introduce. While not a comprehensive list of all invasive plant species available commercially, it is a great start for promoting the use of native and non-invasive species for use in landscaping. Part 575 was the focus of our Landscapers Workshop held in March, 2016, and the focus of multiple presentations including those to the Iris Society of western New York and Master Gardeners. Full terms, including the list of prohibited and regulated species can be found on DEC's website: <http://www.dec.ny.gov/regulations/93848.html>.

## Early Detection and Rapid Response

*Develop effective early detection, assessment and rapid response protocol(s) for the WNY PRISM region including mapping procedures, volunteer training/involvement, Best Management Practices, permit regulations and response teams, and provide assistance to partners for implementation of recommended protocols.*

Early detection and rapid response efforts have seen expansion and significant progress this year. As we have improved our understanding of invasive species presence and distribution across the region, we've been able to determine which species are truly early detection, and therefore further able to focus our efforts on projects that better meet our regional early detection needs. As part of our ongoing efforts, WNY PRISM developed an early detection monitoring program. This process began with the creation of an early detection priority species list in 2015 (<http://www.wnyprism.org/priority-invasives/>), which provided the necessary starting point for WNY PRISM to identify sites for monitoring in 2016. This process has continued with the further development of the Western New York Early Detection Reporting Protocol. More information on this protocol may be found in our 2016 Highlights section (page 6-7) and website (<http://www.wnyprism.org/get-involved/early-detection/>).

Filling information gaps is essential for improved early detection, assessment and rapid response. For this purpose, general surveys with emphasis on early detection priorities took place in 2016. The WNY PRISM Crew continued to survey the Chautauqua Lake Outlet and tributaries in partnership with the Chautauqua Lake Association. Surveys focused on water chestnut (*Trapa natans*) and hydrilla (*Hydrilla verticillata*), but were not limited to these two species. In 2015, a small population of water chestnut was found by the Crew in the outlet. The infestation was removed upon discovery and we are happy to report that no plants were found in 2016. Hydrilla has not been found during these surveys.

WNY PRISM continued to work with DEC's WAVE (Water Assessments by Volunteer Evaluators) Program. In addition to volunteers collecting benthic macroinvertebrates to assist in determining water quality of wadeable streams, they are also encouraged to look for invasive species as part of their surveys. This year, WNY PRISM developed and provided updated training and reference materials for volunteers that include many of our priority and early detection species. Updated materials are more streamlined for quicker reference.

### Early Detection Site Monitoring

With the development of WNY PRISM's Early Detection Priorities in 2015 came the opportunity to begin development of a site monitoring program. WNY PRISM Partners, DEC, USFWS – Lower Great Lakes Office and USACE – Buffalo District conduct early detection monitoring for aquatic species including for some WNY PRISM priority species. For this reason, WNY PRISM has focused our efforts on monitoring of terrestrial species and some near shore aquatic plants. Using information from three separate mapping databases, iMapInvasives, EDDMaps, and GLANSIS, WNY PRISM created a list of early detection monitoring sites that includes five priority species: slender false brome (*Brachypodium sylvaticum*), water hyacinth (*Eichhornia crassipes*), mile-a-minute vine (*Persicaria perfoliata*), water lettuce (*Pistia stratiotes*), and Japanese stiltgrass (*Microstegium vimineum*).

The first set of sites monitored as part of WNY PRISM's early detection efforts were visited in June, 2016. These sites included those found in Erie and Niagara Counties and addressed three of our early detection priorities: water hyacinth, water lettuce, and Japanese stiltgrass. In each case, the target species was not found, although limitations to our survey capabilities were encountered such as the ability to access private property and lack of watercraft to gain improved vantage points for aquatic plants. Efforts will be made to improve monitoring in future years, including increasing efforts to contact appropriate private landowners and working closer with Partners on emergent aquatic vegetation. *Brachypodium* sites were visited later in the season, taking advantage of the WNY PRISM Crew doing invasive species removal in the area. *Brachypodium* was confirmed to be in previously reported locations in and adjacent to Bergen Swamp. WNY PRISM and our Partners are well aware of this infestation and work is being planned to address this threat.

The final identified early detection monitoring site was for mile-a-minute vine (*Persicaria perfoliata*). WNY PRISM did not monitor this site in 2016. Partners have informed WNY PRISM that the observation was a single plant that had been removed upon confirmation. However, since WNY PRISM has not been able to obtain any record to substantiate this, the site should be visited in the future. WNY PRISM plans to do so the next time WNY PRISM staff is within a reasonable distance of the site.

## Hemlock Woolly Adelgid Update



The Majestic Hemlock workshop was held in partnership with Pfeiffer Nature Center, iMapInvasives, WNY PRISM and the High Allegheny Hemlock Partnership.

Hemlock woolly adelgid (*Adelges tsugae*/HWA) is widely considered an early detection priority species by Partners, as its distribution continues to be limited within the region and is managed in such a way that aligns with early detection methods. However, it does not strictly qualify as an early detection priority for WNY PRISM due to its presence in more than 3 locations within the region. In 2016, WNY PRISM continued to support HWA surveys in the Southern Tier, an

effort led by Roger Tory Peterson Institute, Jamestown Community College, Chautauqua Watershed Conservancy, and the High Allegheny Hemlock Partnership. Additional surveys were conducted at Franklin Gulf County Park in southern Erie County and in areas previously treated for HWA. All HWA surveys conducted in WNY PRISM in 2016 resulted in no new observations for this species.

In addition, WNY PRISM, in partnership with NY iMapInvasives, The High Allegheny Hemlock Partnership, and Pfeiffer Nature Center, presented as part of the workshop, "The Majestic Hemlock". This workshop taught attendees about the ecology of eastern hemlocks, threat of HWA, and how to use iMapInvasives to help survey for this pest. Pfeiffer Nature Center volunteers are developing plans to survey for HWA on the property.

## Management and Habitat Restoration

*Assist partners with control of invasive species (eradication, containment, suppression) on high priority conservation areas based on identified regional conservation targets. Assist with the establishment of long-term management and monitoring, and the restoration of impacted sites to healthy native vegetation, to provide increased resilience against future invasions.*

WNY PRISM's management and habitat restoration efforts were extensive in 2016. The year began with a call-out to Partners for requests for Crew assistance for the summer season. We received a large number of requests involving a variety of projects (19 requests from 13 Partners). Requests included invasive species removal, surveys and mapping, habitat restoration, and outreach events. WNY PRISM staff and the Steering Committee reviewed Crew requests for consistency with our established priorities, as well as whether or not the project fell within WNY PRISM's current capacity. While not all project requests found consistent were within WNY PRISM's capacity to implement to the full extent of what was requested, we were able to work with Partners on such projects to one degree or another. In order to best assist Partners, the WNY PRISM Crew spent the first couple weeks of their summer participating in extensive training. In a very short window of time, the Crew was trained in invasive species identification, ecology and management, iMapInvasives, first aid, herbicide safety and use, use and maintenance of management tools, and how to conduct effective outreach.

In addition to the projects highlighted within the next couple of pages of this report, WNY PRISM assisted Partners on a number of other efforts. We continued work on comparison of effectiveness of knotweed treatments at the Great Lakes Center Field Station, collected *Galerucella* beetles for purple loosestrife biocontrol alongside the DEC staff, assisted the Audubon Community Nature Center with water chestnut (*Trapa natans*) removal, and helped to remove honeysuckle (*Lonicera spp.*) from Iroquois National Wildlife Refuge. We also continued to work alongside Partners on the Tonawanda Creek/Erie Canal Hydrilla Control Demonstration Project. The Crew spent a couple of days working on the boats doing pre-treatment surveys alongside DEC, USACE - Buffalo District and the USFWS – Lower Great Lakes Office, and once again staffed an informational booth at the well-attended Canal Fest of the Tonawandas. Hydrilla control efforts have been very successful and WNY PRISM is looking forward to continuing to take part in this collaborative effort.



*Stem-injection gun used to apply herbicide to *Reynoutria* species.*

Along with working to implement on-the-ground invasive species management projects, providing the much needed assistance to move priority projects forward, WNY PRISM worked to develop broader understanding of management planning within our region. Proper assessment and strategic planning can be the difference between long-term success and failure. Therefore, management planning was the focus of WNY PRISM's session at the Rural Landowners and Master Forest Owners Workshops. We participated in the Western New York Land Conservancy planning meetings for the restoration of Stella Niagara and Clarence Oak Openings and provided feedback to Partners on knotweed (*Reynoutria spp.*) removal plans including plans for removal within the Lower Genesee River watershed.

## Project Highlights

### Seneca Bluffs Natural Habitat Park

WNY PRISM continued to work closely with the Erie County Department of Environment and Planning on a number of projects this year, the largest being our continued invasive species removal and management efforts at Seneca Bluffs Natural Habitat Park. Over the past two years, WNY PRISM has treated knotweed (*Reynoutria spp.*) on the property, with great success. Using both foliar spray and stem-injection methods, knotweed has visibly decreased in areas where treatments were conducted. In 2016, approximately 80% of the knotweed on the upper terrace was treated and the hope is to treat 100% in 2017. Knotweed and additional species located on the lower terrace, adjacent to the Buffalo River, are expected to be treated by USACE – Buffalo District as part of an ongoing bank stabilization and shoreline restoration project.

Erie County assisted with management efforts by arranging to have the knotweed dominated areas mowed prior to our treatments. This allowed us to treat a much larger area with far less herbicide. In addition to our primary target, we were able to treat other management priorities including phragmites (*Phragmites australis*), Canada thistle (*Cirsium arvense*) and reed canarygrass (*Phalaris arundinacea*). WNY PRISM is looking forward to continuing this project with Erie County and excited to see the habitat restoration phase, which will involve the establishment of native plant communities, replacing the knotweed.



Photo point compares knotweed cover before and after treatment. Top photo was taken 4 wks. after mowing and just prior to first herbicide treatment in 2015. Bottom photo was taken in 2016, prior to treatment. Mowing this area was not necessary in 2016.

### Niagara Escarpment & Stella Niagara Preserves

WNY PRISM continues to work closely with the Western New York Land Conservancy (Land Conservancy) on invasive species management within their preserves and managed sites. In 2016, WNY PRISM continued invasive species removal efforts at the Niagara Escarpment Preserve (NEP) and followed up last year's survey at Stella Niagara with removal efforts there as well. The WNY PRISM Crew spent two days removing invasive species from NEP using both mechanical and chemical methods. Target species included pale swallow-wort (*Cynanchum rossicum*), invasive shrubs including common buckthorn (*Rhamnus cathartica*), phragmites (*Phragmites australis*), and reed canary grass (*Phalaris arundinacea*). Purple loosestrife (*Lythrum salicaria*), which had been found and removed in 2015 was not seen on the property this year. We successfully treated all of the pale swallow-wort, phragmites and reed canarygrass found on-site using different methods of herbicide application. Shrub removal involved

both mechanical/hand-pulling and cut-stump herbicide treatments, depending on the species and size class of the individual. Continued efforts will be necessary to treat all of the invasive shrubs on the property. The desired outcome of shrub removal efforts is to set back the infestation to a level where it can be effectively managed by volunteers using strictly manual methods.

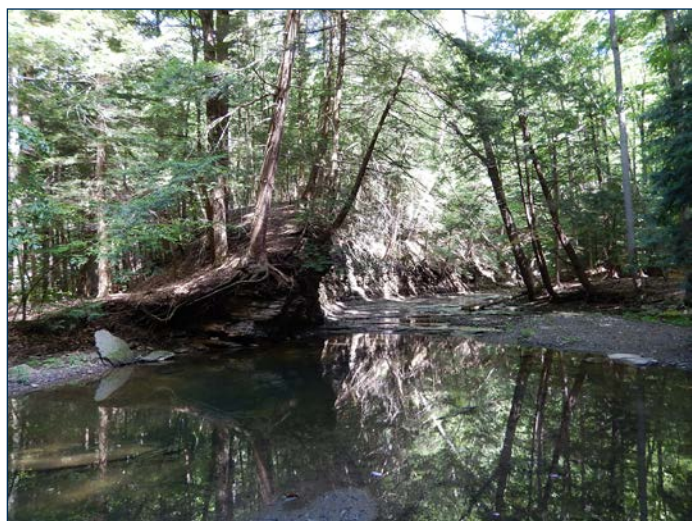
Invasive Species removal implemented by WNY PRISM at Stella Niagara focused on invasive shrub removal within the wooded areas adjacent to the prairie restoration. Using a combination of mechanical/hand-pulling and cut-stump herbicide treatments, we were able to cover the entire area identified for treatment. Additional management will be necessary as continued seedling growth is expected and a significant number of larger individual shrubs were unable to be treated using available tools. The Land Conservancy is working with additional partners to implement invasive species removal across the remainder of the preserve.



WNY PRISM spot spraying reed canarygrass along the forest edge at Niagara Escarpment Preserve in 2016.

### Franklin Gulf Survey

WNY PRISM was invited by the Eden Conservation Advisory Board (ECAB) to conduct an invasive species survey of Franklin Gulf County Park. Franklin Gulf, formerly known as Larkin Woods, is a 637 acre park owned and maintained by Erie County. The majority of the park is forested, containing extensive stands of eastern hemlock and American beech. While Franklin Gulf has low invasive species cover overall, the park does have infestations of invasive species threatening its habitats. WNY PRISM, along with a volunteer from the ECAB, and with permission from Erie County, conducted an invasive species survey along trails. The most abundant invasive species found at Franklin Gulf were Japanese barberry (*Berberis thunbergii*) and multi-flora rose (*Rosa multiflora*). Additional species surveyed include reed canarygrass (*Phalaris arundinacea*), mugwort (*Artemisia vulgaris*), and black locust (*Robinia pseudoacacia*). The Crew also looked for evidence of hemlock woolly adelgid (*Adelges tsugae*), but it was not found within the surveyed areas of the park. WNY PRISM provided a survey summary with management suggestions to the ECAB and the Erie County Department of Environment and Planning. The ECAB would like to use volunteers to assist with invasive species removal of woody species. This could be very effective at this site because of the relatively low cover and smaller size class of many of the individual barberry and multi-flora rose shrubs.



Franklin Gulf County Park, and Erie County Natural Habitat Park, located near North Collins, NY.



## Bergen Swamp

Bergen Swamp is one of western New York's most botanically diverse natural areas. In 2016, the Bergen Swamp Preservation Society hosted the WNY PRISM Crew over two days while we, along with a Bergen Swamp Preservation Society Board Member, implemented invasive species removal within Bergen Swamp. Removal efforts focused on woody shrubs along the established trail system. Methods of removal included cut-stump herbicide treatments and manual removal (hand pulling). The method selected depended on the location, species and size of the individual. Care was taken with regard to selecting the treatment method as the native plant communities within Bergen Swamp contain rare and sensitive species. Target species included multi-flora rose (*Rosa multi-flora*), Japanese and common barberry (*Berberis thunbergii* and *B. vulgaris*), and common buckthorn (*Rhamnus cathartica*). Nearly two miles of trail were managed during the two days the Crew was working at Bergen Swamp.



WNY PRISM Crew removed invasive shrubs from Bergen Swamp.

## Tifft Nature Preserve – Buffalo Museum of Science

WNY PRISM worked on a number of invasive species removal projects with Tifft Nature Preserve in 2016. Located a short distance from the WNY PRISM Office at the Great Lakes Center Field Station, and having a sizeable cache of stewardship equipment to work with, Tifft Nature Preserve is an ideal Partner to assist with the field portion of the Crew's herbicide training. While working at Tifft, the Crew was able to gain experience with multiple species, application methods, and tools, including cut-stump treatment, backpack spot spraying and stem injection. Phragmites (*Phragmites australis*), knotweed (*Reynoutria*



WNY PRISM Crew treated knotweed at Tifft Nature Preserve, Emily Dyett is treating resprouts from 2015 treatment before moving onto a new area.

*spp.*) and common buckthorn (*Rhamnus cathartica*), were our primary targets, but we also treated some bush honeysuckle (*Lonicera spp.*), Canada thistle (*Cirsium arvense*), and even reed canarygrass (*Phalaris arundinacea*) when it was found within our treatment areas. Treated areas included those along popular trails, areas containing conservation targets, and areas near the visitor center. Our herbicide training was completed in early summer, however we returned to Tifft later in the season to conduct follow-up treatments and to help with habitat restoration efforts in areas treated previously for invasive species.

## 2017 Annual Work Plan

The WNY PRISM 2016 Annual Report is all about looking back on a year filled with accomplishments, but WNY PRISM continues to move forward and is excited to have already started on efforts for 2017. We have once again put forth an ambitious Annual Work Plan; one that will expand upon our success from the last three years. In 2017, we will work to grow our Partnership Network, provide increased and improved information and coordination for our region, and continue work with our Partners to improve and protect our natural resources from the harm caused by invasive species. We will continue our efforts to prioritize needs within the region, and work to fulfill those needs. We will continue to identify Best Management Practices for our priority species. We will continue striving to meet the educational needs of the region by providing information, technical assistance, trainings and workshops, creating outreach materials, participating in area festivals, events and farmers' markets, and presenting on invasive species issues. Finally, we will work with our state Partners to form a stronger statewide PRISM network. This will facilitate the landscape level planning necessary for the effective, long-term success of invasive species management efforts.



*The Brachypodium Working Group toured Bergen Swamp to see the species and infestation firsthand in December, 2016.*

In December, 2016 WNY PRISM held an initial statewide working group meeting focused on *Brachypodium sylvaticum*, or slender false brome. This invasive grass is an early detection priority for WNY PRISM and a species of concern across the state. Relatively new to New York State, and eastern North America, this species poses a significant risk to many of our most botanically diverse natural areas. With initial efforts having taken place to identify needs and priorities with regard to this species, WNY PRISM will expand efforts to address *Brachypodium* in 2017. The first item on our list is to conduct surveys to form a more accurate picture of distribution across the state.

The [WNY PRISM website](#) and social media will also continue to be a focus moving forward. We will work to expand and improve the resources for Partners, including species specific information, opportunities for involvement, and tool kits. There is a lot of invasive species information out there and we will work to ensure accurate and essential information is easy to locate for our region. Maintaining a website can be a time consuming task, and we will look to our Partners for help in this effort.

The WNY PRISM Crew will be back to work in just a few short months, traveling throughout the region assisting our Partners with invasive species removal, habitat restoration and mapping projects. We have received numerous and wide ranging requests from Partners for Crew assistance. These requests once again highlight the need for increased capacity for invasive species removal within western New York. WNY PRISM will continue to work with Partners to increase their capacity for management, while also working to increase ours. The WNY PRISM [2017 Annual Work Plan](#) is available on our website.

## Partner Highlights

*This section includes short summaries of invasive species related work WNY PRISM Partners implemented and submitted for inclusion in this Annual Report. If you would like to learn more about these projects, please contact the identified Partner.*

**Audubon Community Nature Center/Jamestown Audubon** – The Audubon Community Nature Center (ACNC) continued to work on water chestnut (*Trapa natans*) removal from Big Pond and Spatterdock Pond. Removal efforts began with hand-pulling, with two interns and numerous volunteers in June. Recognizing that the infestation in Big Pond was beyond what could be addressed through use of hand-pulling alone, ACNC conducted their first herbicide application in 2016.

**Bergen Swamp Preservation Society** – Bergen Swamp Preservation Society worked with WNY PRISM to implement removal of invasive shrubs within Bergen Swamp. Target species included Japanese barberry (*Berberis thunbergii*) and multiflora rose (*Rosa multiflora*). Methods used included manual removal and cut-stump herbicide treatments. Over the course of two days, two miles of trail were managed. In addition, slender false brome (*Brachypodium sylvaticum*) surveys were conducted, alongside native vegetation surveys. This was done in partnership with SUNY Brockport faculty and students, and covered 3 miles of trail.



*WNY PRISM Crew worked to remove woody invasive species from Bergen Swamp in August, 2016.*

**Buffalo Audubon Society** – Buffalo Audubon Society continued work to remove European black alder (*Alnus glutinosa*) from Buckhorn Island and Beaver Island State Parks, located on Grand Island. European black alder had established and was spreading through sedge meadows and cattail marshes along the east branch of the Niagara River. Eight acres were treated using a combination of mechanical and foliar treatments. This project, done in partnership with NYS Office of Parks, Recreation and Historic Preservation and Niagara River Greenway Commission, began in December, 2014 and finished in November, 2016. Buffalo Audubon Society also assisted with education and outreach efforts throughout the region, including invasive species messaging during many of their programs.

**Buffalo Niagara Riverkeeper** – Buffalo Niagara Riverkeeper (BNR) implemented a number of projects this year that involved significant invasive species removal efforts, including a living shorelines project at Hyde Park Lake and a habitat restoration project at RiverBend. Target species included phragmites (*Phragmites australis*), common buckthorn (*Rhamnus cathartica*), bush honeysuckle (*Lonicera spp.*), knotweed (*Reynoutria spp.*), and mugwort (*Artemisia vulgaris*) among others. Invasive species removal was also done at Nature View Park as part of the River Academy Class, and involved honeysuckle removal along ¼ mile of shoreline. BNR continued their Boat Launch Stewardship Program in 2016, inspecting 1452 boats and connecting with 3455 boaters. In addition, BNR completed 61 miles of stream assessments throughout the Niagara River Watershed. Assessments include recording invasive species data on knotweed, purple loosestrife (*Lythrum alatum*), water chestnut (*Trapa natans*), phragmites, hydrilla (*Hydrilla verticillata*), bush honeysuckle, and mugwort.

Chautauqua Lake Association (CLA) – Receipt of a NYS Department of Environmental Conservation AIS Spread Prevention Grant enabled CLA to introduce a Boat Launch Watercraft Steward Program at six public launch ramp sites along the shoreline of Chautauqua Lake. Under separate funding programs, CLA was able to provide a Watercraft Steward presence on Bear and Cassadaga Lakes as well. This was CLA’s first experience in providing a Watercraft Steward Program. In 2016, 3,217 boats were inspected. Of these, 7.3% were found to have organisms and 49 species were intercepted. Visitors were surveyed and 94% responded that they were taking spread prevention measures.



Chautauqua Lake Association’s Watercraft Steward on Duty sign. Photo Credit: CLA.

Cornell Cooperative Extension of Erie County – Cornell Cooperative Extension of Erie County (CCE-EC) held numerous educational events throughout the year, with attendance over 1,100. Events included Envirothon, Master Forest Owners Workshop, and multiple forest pest workshops. Outreach efforts included presence at regional events such as Party for the Planet, Erie County Fair and Plantasia. The WNY EAB Taskforce, coordinated by CCE-EC, held bi-monthly meetings in partnership with Erie County. In addition, CCE-EC presented at the Right-of-Way school involving a smartphone app for invasive species that are commonly found along a right-of-way, for which they were instrumental in developing.



WNY PRISM Crew helped volunteers and SUNY Fredonia with invasive species removal at College Lodge.

Fredonia – SUNY Fredonia continued to work on invasive species removal at College Lodge Nature Preserve and Campus Woodlot, a natural area on the SUNY Fredonia campus. Work at the Campus Woodlot included student led bush honeysuckle (*Lonicera spp.*) and common buckthorn (*Rhamnus cathartica*) pulls, involving 50 students. College Lodge Nature Preserve saw 150 students assist with manual removal of periwinkle (*Vinca minor*) and WNY PRISM assistance with common buckthorn removal. Hemlock woolly adelgid (*Adelges tsugae*) surveys were conducted at both sites.

Nature Sanctuary Society of Western New York – Work at Alexander Preserve continued with 25 students taking part in a garlic mustard (*Alliaria petiolata*) pull on April 24, 2016. Manual removal of phragmites (*Phragmites australis*) and bush honeysuckle (*Lonicera spp.*) also continued at Conewango Preserve, where methods included use of tarps to combat the phragmites and manually digging out honeysuckle with assistance from the WNY PRISM Crew.

New York State Department of Agriculture and Markets – A key function of New York State Department of Agriculture (DAM) mission is to protect the native habitats of NYS and to prevent the introduction or spread of non-indigenous diseases, insects and plants. In 2015, DAM and Department of Environmental Conservation enacted Part 575 Prohibited and Regulated Species to address the current nationwide trend of preventing the spread of invasive species. This is an ongoing cooperative effort between both

agencies to reduce the spread of invasives within New York State’s native habitats. Outreach has been a key component in spreading the word on this new regulation. Efforts have taken the form of brochures, workshop presentations and Nursery/Greenhouse/Dealer establishment site inspections by DAM Horticultural Inspector staff. DAM regulatory authority permits the Department to conduct site inspections at licensed establishments and to take the appropriate action when invasives are found in commercial trade. Data collected from site inspections in 2016 have shown high compliance.



From left to right: Crew Leader, Jeff Friedman (based out of Avon, NY), Kevin Preischel and Daniel Vladu, DEC Field Technicians hosted by WNY PRISM and the Great Lakes Center.

New York State Department of Environmental Conservation (DEC) – DEC’s Great Lakes Program has been involved in the planning of several restoration projects that include invasive species treatment and management. Target species include knotweed (*Reynoutria spp.*), swallow-wort (*Cynanchum spp.*) and phragmites (*Phragmites australis*). In 2016, WNY PRISM partnered with DEC’s Giant Hogweed Control Program, providing a host site for DEC Technicians. In western New York, 368 sites were controlled and 202 sites monitored, with no plants found. These sites previously had plants, but none were found this year due to successful past control efforts.

New York State Department of Transportation (DOT) – DOT Region 5 follows invasive species best practices. In general, DOT projects avoid disturbance of invasive plant species when possible. If avoidance is not practical, controls are specified to prevent further spread of the plants. Typically this means excavating the plant and either disposing of it at an appropriate location off site or burying it on site. For smaller populations, herbicides are used as spot treatments. As a standard requirement, all projects include on-site equipment washing to clean equipment that comes in contact with invasive species to prevent plant material from leaving the construction site. In 2016, NYSDOT implemented multiple invasive species management projects as part of their ongoing infrastructure projects. Target species for control efforts include phragmites (*Phragmites australis*) and knotweed (*Reynoutria spp.*). In addition, DOT continued invasive species monitoring efforts at Hinman Valley Wetland and Goodell Creek Mitigation Sites. Additional target species for monitoring included reed canarygrass (*Phalaris arundinacea*), multiflora rose (*Rosa multiflora*) and tartarian honeysuckle (*Lonicera tartarica*).

New York State Office of Parks, Recreation and Historic Preservation (Parks) – Letchworth State Park was home to a number of workshops this year including a hemlock woolly adelgid workshop on survey protocols, and an iMapInvasives Training in partnership with WNY PRISM and the Natural Heritage Program. Invasive species removal efforts took place at parks throughout the region using the Invasive Species Strike Team. Target species included common buckthorn (*Rhamnus cathartica*), bush honeysuckle (*Lonicera spp.*), multiflora rose (*Rosa multiflora*), autumn olive (*Elaeagnus umbellata*), oriental bittersweet (*Celastrus orbiculatus*),



Parks Boat Steward Holly, conducting outreach at Paddles Up! Photo Credit: Gwen Temple.

knotweed (*Reynoutria spp.*), phragmites (*Phragmites australis*), *Vinca* species, Japanese barberry (*Berberis thunbergii*) and garlic mustard (*Alliaria petiolata*). In addition, Parks conducted an initial invasive species survey to determine species presence and abundance in silver maple-ash swamp for future removal efforts with Buffalo Audubon Society, approximately 125 acres were mapped.

Parks Boat Stewards worked at multiple boat launches within the region including Sunset Bay, Big Six Mile Creek, Fort Niagara and Buffalo Harbor. Over the course of the summer, Boat Stewards saw 2684 boaters. Only 10 boats were found to have invasive species (*Potamogeton crispus* and *Myriophyllum spicatum*), and 87% of boaters surveyed said they perform at least one AIS prevention method. In addition, Boat Stewards conducted outreach at Canal Fest of the Tonawandas, Paddles Up!, and Buffalo Paddle Festival, and they assisted with invasive species removal and volunteer efforts at Reinstein Woods and Canadaway Creek Cleanup Project.



Volunteers surveying for HWA with RTPI in 2016. Photo Credit: Elyse Henshaw, RTPI.

Roger Tory Peterson Institute of Natural History (RTPI) – RTPI held numerous Education and Outreach events focused on invasive species issues in 2016. Events included hemlock woolly adelgid survey trainings and educational programs, Forest Pest Workshops, and events held in conjunction with National Invasive Species Awareness Week (ISAW) and New York State ISAW. RTPI conducted hemlock woolly adelgid (HWA) surveys at 10 sites, totaling 145 acres and included 82 volunteers. No HWA was found. In addition, 2 sites were surveyed for general invasive species presence, for a total of 94 acres and 10,346 linear feet (nearly 2 miles) along trails and the Jamestown Riverwalk.

Tift Nature Preserve/Buffalo Museum of Science – Invasive species management and research is ongoing at Tift Nature Preserve with regard to knotweed (*Reynoutria spp.*), phragmites (*Phragmites australis*), black swallow-wort (*Cynanchum louiseae*), common buckthorn (*Rhamnus cathartica*), bush honeysuckle (*Lonicera spp.*) and European fire ant (*Mymrica rubra*). Volunteer workdays saw management of priority patches of knotweed, Canada thistle (*Cirsium arvense*), and common buckthorn. The WNY PRISM Crew assisted with additional removal projects as well as native plantings. The Insectival, a family friendly event held in July, had activities and crafts related to insects and arthropods. Display tables with information on invasive insect species were setup, including one from WNY PRISM. Nearly 500 people attended the Insectival.



WNY PRISM assisted Tift Nature Preserve with planting native species in areas previously treated for invasive species. Photo Credit: Dave Spiering, Tift Nature Preserve.

United States Department of Agriculture National Resources Conservation Service (NRCS) – Projects in the WNY PRISM area were treated for invasive species as a component of wildlife habitat or forestry management contracts, through either EQIP (Environmental Quality Incentives Program) or WHIP (Wildlife Habitat Incentive Program). Target species included bush honeysuckle (*Lonicera spp.*), multiflora rose (*Rosa multiflora*), common buckthorn (*Rhamnus cathartica*), autumn olive (*Elaeagnus umbellata*), black locust (*Robinia pseudoacacia*), black and pale swallow-wort (*Cynanchum louiseae* and *C. rossicum*), spotted knapweed (*Centaurea stoebe*) and garlic mustard (*Alliaria petiolata*) in forested settings via mechanical and chemical control methods. Additional invasive species management was conducted through the Wetland Reserve Program (WRP). Easement holders are implementing control on species including purple loosestrife (*Lythrum salicaria*), phragmites (*Phragmites australis*), Eurasian water-milfoil (*Myriophyllum spicatum*), curly-leaf pondweed (*Potamogeton crispus*) and hydrilla (*Hydrilla verticillata*).

United State Army Corps of Engineers – Buffalo District – In 2016, USACE Buffalo District partnered with WNY PRISM and USFWS – Lower Great Lakes Office on the WNY Hydrilla Hunters and Aquatic Invasive Species Workshop, a hands on workshop that offered the opportunity to learn about AIS, species identification, survey techniques, and available management options for invasive species found in western New York. USACE – Buffalo District also worked with multiple partners to staff an informational table at Canal Fest of the Tonawandas. Invasive species management projects include coordination of the Aquatic Plant Control Hydrilla Collaborative and Tonawanda Creek/Erie Canal Hydrilla Control Demonstration Project, Times Beach Restoration Project, and Unity Island Project. Target species include hydrilla (*Hydrilla verticillata*), phragmites (*Phragmites australis*), tree of heaven (*Ailanthus altissima*), mugwort (*Artemisia vulgaris*), purple loosestrife (*Lythrum salicaria*), and cattails (*Typha angustifolia* and *Typha x glauca*). Management methods included mechanical/manual and chemical treatments. In addition, USACE - Buffalo District is involved in numerous survey and monitoring projects in western New York.



Volunteers pose for a picture in front of a pile of cut and pulled honeysuckle during the Honeysuckle Harvest.

Western New York Land Conservancy – In 2016 the Land Conservancy, in partnership with WNY PRISM, conducted an initial survey of Clarence Oak Opening, to determine invasive species presence and abundance. They also had soil samples taken in order to conduct seed bank testing to better inform potential, future restoration efforts. Invasive species removal efforts took place at multiple preserves with the help of volunteers and the WNY PRISM Crew. Target species included pale swallow-wort (*Cynanchum rossicum*), phragmites (*Phragmites australis*), reed canarygrass (*Phalaris arundinacea*), Canada thistle (*Cirsium arvense*),

mugwort (*Artemisia vulgaris*) and numerous woody species. Significant work took place at Stella Niagara, where restoration efforts began in earnest in 2016. The Honeysuckle Harvest, held as part of New York State Invasive Species Awareness Week, had 20 volunteers remove honeysuckle (*Lonicera spp.*) from Kenneglenn Scenic and Nature Preserve.

## Partners

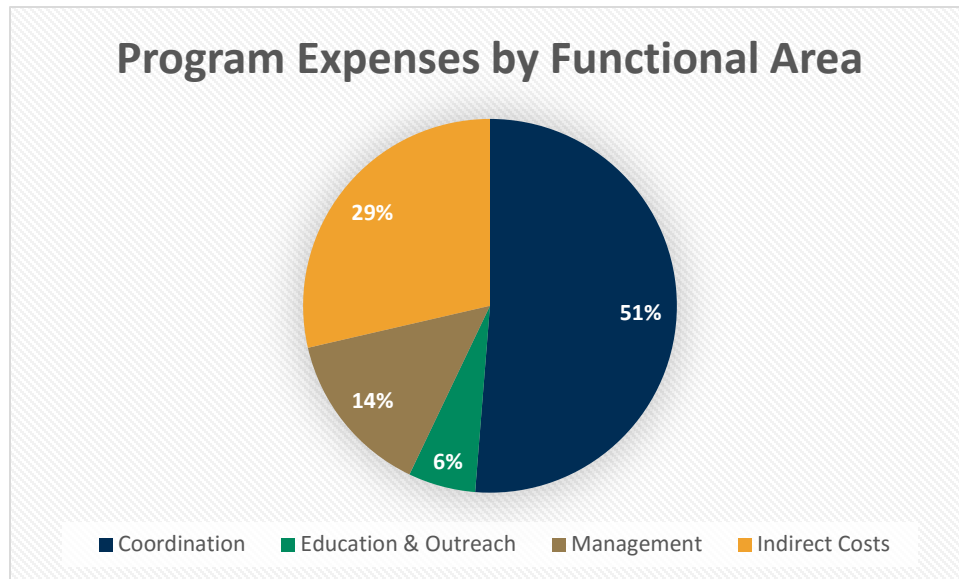
2 the Outdoors  
Adirondack Park Invasive Plant Program  
Alfred State  
Amherst State Park  
Bergen Swamp Preservation Society  
Buffalo Audubon Society  
Buffalo Niagara Riverkeeper  
Capitol-Mohawk PRISM  
Catskill Regional Invasive Species Partnership  
Certified Nursery Landscape Professionals  
Chautauqua Lake Association  
Chautauqua Watershed Conservancy  
Chautauqua Institution  
The College at Brockport  
Conewango Creek Watershed Association  
Cornell Cooperative Extension (Allegany, Erie, Genesee, Niagara and Wyoming Counties)  
Cornell University  
DEC Invasive Species Coordination Section  
Ecology & Environment, Inc.  
Erie County Environment and Planning  
Erie County Soil and Water Conservation District  
Finger Lakes PRISM  
Friends of Bond Lake  
Friends of Times Beach  
Genesee River Wilds  
Great Lakes Center  
Groundworks Buffalo  
Jamestown Community College  
Long Island Invasive Management Area  
Lower Hudson PRISM  
Master Gardeners  
National Plant Diagnostic Network  
Nature Sanctuary Society of Western New York  
New York iMapInvasives  
New York State Natural Heritage Program  
New York Sea Grant

New York State Department of Agriculture and Markets  
New York State Department of Transportation  
New York State Invasive Species Research Institute  
New York State Office of Parks, Recreation, and Historic Preservation  
Niagara County SWCD  
Niagara University  
Orleans County SWCD  
Pine Woods Park – North Tonawanda  
PlayCleanGo!  
PUSH Buffalo  
Reinstein Woods  
Roger Tory Peterson Institute  
Rushford Lake Association  
Seneca Nation of Indians  
Silver Lake Association  
St. Lawrence Eastern Lake Ontario PRISM  
Stop Aquatic Hitchhikers  
SUNY Fredonia  
SUNY Buffalo State  
The Nature Conservancy (PA & NY)  
The Western New York Land Conservancy  
Tift Nature Preserve - Buffalo Museum of Science  
Town of Amherst  
Town of Eden – Conservation Advisory Board  
United States Fish and Wildlife Service – Lower Great Lakes Office  
United States Army Corps of Engineers – Buffalo District  
United States Department of Agriculture  
National Resource Conservation Service  
University at Buffalo  
WNY Emerald Ash Borer Task Force  
Wyoming County SWCD  
**And More!**

WNY PRISM would like to thank all of our Partners for all of their time and effort put towards invasive species management in western New York and their support of WNY PRISM.



## Summary of Project Expenses



Program expenses were grouped together by functional areas. This summary is intended to provide a general understanding of how WNY PRISM divided our time and resources in 2016, but is not intended to serve as a financial report.

|                        |            |
|------------------------|------------|
| Coordination           | 51%        |
| Education and Outreach | 6%         |
| Management             | 14%        |
| <u>Indirect Costs</u>  | <u>29%</u> |
|                        | 100%       |

### Coordination:

Activities and expenses related to our Partner/Network Coordination and Information Management Goals, including costs of administering the program, general office supplies, travel and conference related costs, and full personnel costs for WNY PRISM Coordinator and Director.

### Education and Outreach:

Activities and expenses directly related to our Education and Outreach Goals, including personnel costs for the Education and Outreach Assistant, volunteer management, website development, travel related costs, supplies and materials.

### Management:

Activities and expenses related to our Prevention, Early Detection and Rapid Response, and Habitat Management and Restoration Goals, including personnel costs for the Invasive Species Management Assistants (3), travel related costs, supplies and materials.

### Indirect Costs:

Indirect Costs as determined by The Research Foundation for SUNY Buffalo State.