

SLELO PRISM

St. Lawrence, Eastern Lake Ontario
Partnership for Regional Invasive Species Management

2024 Annual Report

Saving Great Places
Through Invasive Species Prevention,
Management and Ecological Restoration



**INVASIVE SPECIES
MANAGEMENT**
SAINT LAWRENCE
EASTERN LAKE ONTARIO

The Nature
Conservancy



Department of
Environmental
Conservation

Copies of this report can be obtained
from the SLELO-PRISM website:
www.sleloinvasives.org

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Oneida Lake North Inlet
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St. Lawrence Eastern Lake Ontario – Partnership for Regional Invasive
Species Management

Note: Some of the metrics contained in this report are subject to ongoing quality assurance
and data analysis and may change slightly from those shown in this report.

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SLELO PRISM.



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Highlights

This year, under a renewed agreement with NYS DEC, we developed a vision for protecting our lands and waters by adopting a Five-Year Strategic Plan setting the stage for maximizing our conservation impact.



Above: El Dorado PCA
Restoration: Walt Gibson
©TNC-SLELO

- Initiated our **CLAW** Program by collaborating with the Thousand Islands Land Trust to begin restoring **28 acres of important grasslands** on Tibbetts Point.
- Protected our freshwater resources by responding to a new **4.0-acre population of invasive Fanwort** in Mexico NY.
- Completed invasive species **management on 185.23 acres** of critical lands and ecological restoration efforts on 15 sites designed to promote biodiversity.
- Maximized the liberation of biological control agents on multiple target invasives exceeding **4,592 insects** released.
- Restoration coordinators and volunteers planted **1,065 live plants** of **22 native species** at terrestrial PCA restoration sites.
- Developed an Aquatic Invasive Species Learning Experience (**AISLE**) and Water Protectors initiative with a GIS Dashboard expanding our freshwater outreach.
- Engaged over **64,252 individuals** (directly & indirectly) through sponsored events, social media, SLELO sponsored websites and 1on1 engagements.

Saving Great Places

Through Invasive Species Prevention, Management and Ecological Restoration

The St. Lawrence and Eastern Lake Ontario region of New York State is an area rich with natural resources. Prominent geographical features found throughout the region have generated a vast diversity of habitat, landscapes, plant, and animal life. Some of the more prominent natural features include the Tug Hill Plateau, the Lake Ontario Shoreline and St. Lawrence River, globally rare Alvars, and even the Frontenac Arch geologic formation. Other prominent natural features include numerous wildlife management areas and nature preserves, inland lakes, rivers, wetlands, and unique fens and alvar. These resources support diverse terrestrial and aquatic habitats including nesting and spawning areas.

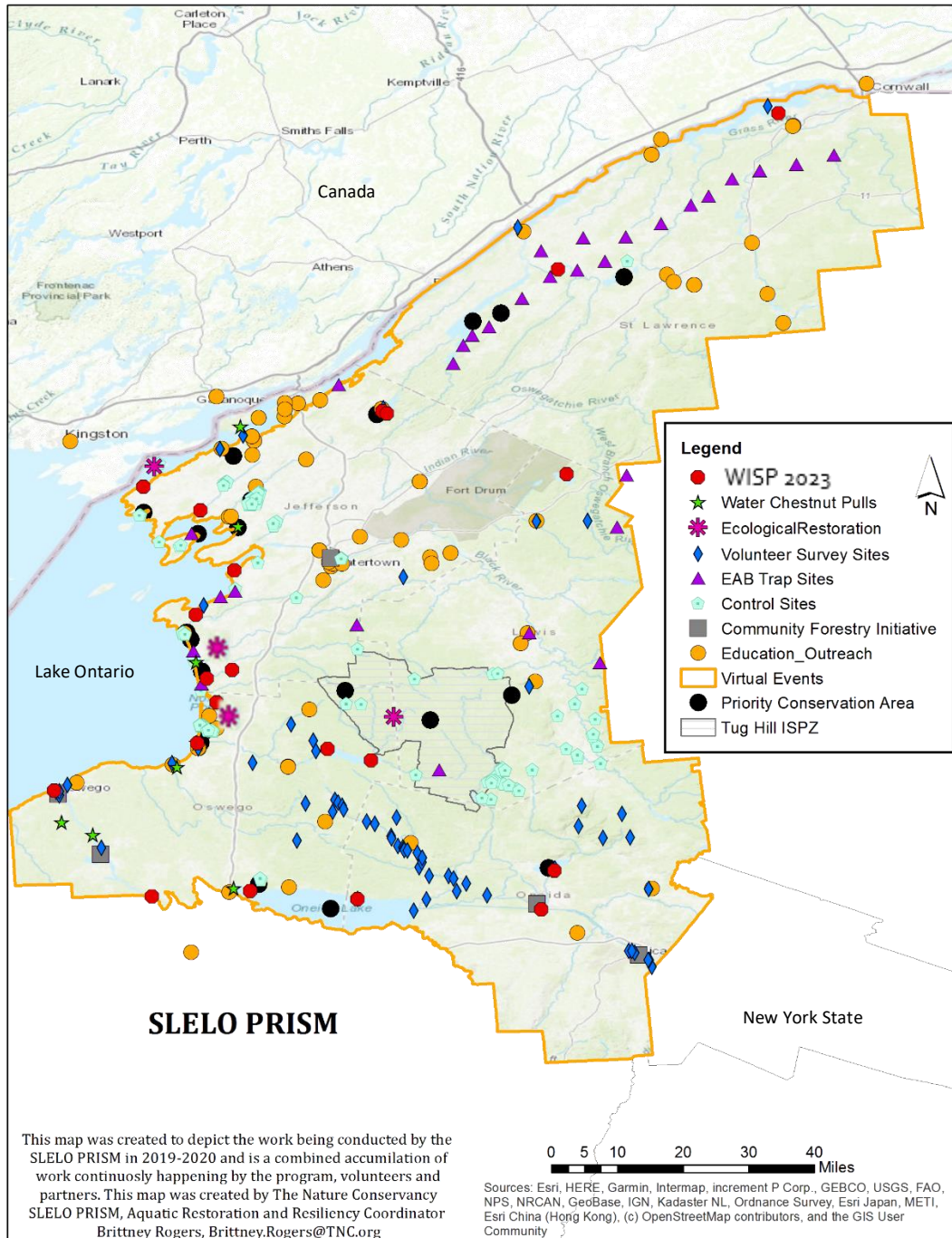
The five county SLELO PRISM region supports a nominal forest industry. These forested lands filter the air, safeguard private and public drinking water sources, produce locally grown forest products including lumber and maple syrup, provide essential habitat for wildlife, and moderate summer and winter temperatures near homes. Forests and trees are integral to the character of the SLELO region. They also provide a spectacular annual display of fall color across our landscape.

Chaumont Barrens Preserve is one of the last and finest examples of alvar grasslands in the world. It is a connected link in the chain of North American alvars forming an arc from Jefferson County through Ontario Province. The El Dorado Coastal Preserve is another example of an amazing area that provides critical habitat for coastal wildlife and plant communities.

Combined these are some of the great places we strive to protect under a vision of ecological health and sustained biodiversity.

Rob Williams 

The Places We Work



Special Initiatives I

Connected Lands & Waters

Connected Lands and Waters - CLAW

As our climate changes, native plants and animals shift their distributions by colonizing and establishing new territory, finding suitable conditions including microclimates that allow them to persist, and produce offspring to continue the process (Anderson et al 2012). The problem is that this takes time – generations and the process is complicated by landscape fragmentation such as roads, dams, development, and other barriers to movement such as invasive species. Invasive species also lesson the quality of the ecosystem services that are provided (including biodiversity) in support of range shifts to wildlife an example being specialized feeding habits (Tallamy 2021).

As a precursor or (pilot) initiative to the CLAW initiative, several projects have occurred. Early in our program the Salmon River Initiative serves to protect and enhance sections of the river spanning 17-miles of stream corridor. More recently a 30-acre riparian corridor of South Sandy Creek was restored helping to sustain biodiversity.

In 2024, SLELO PRISM partnered with Adirondack Research LLC® to begin a Phase I assessment and inventory of Priority Conservation Areas that may be negatively impacted by Tier 1 through Tier 4 invasive species (Appendix A). The results of these assessments will identify the most deserving areas in need of suppression and restoration and serve as the foundation for future rehabilitative site work.

The initial focus in 2024 included assessments of the following PCA's:

- Wolf Lake & Forest Trail
- Moon Lake
- Huckleberry Lake
- Oswegatchie River (6-mile section)
- Yellow Lake
- Ironsides Island (SLELO Team)
- Bombay/Brasher State Forest

Preliminary findings suggest that these sites are relatively free of non-native species and therefore are not candidates, at this time, for future suppression and restoration efforts.

Additional CLAW search areas are scheduled for 2025.



Special Initiatives II

Connected Lands & Waters

Tibbetts Point Grassland Restoration

~CLAW~

Grasslands are vital landscapes to our ecosystem and are in decline from external pressures including threats from invasive species. Conservation and management of grassland habitat is more important now especially since swallow wort and other invasives have become established in the Thousand Islands region.

In 2024, the SLELO PRISM collaborated with the Thousand Islands Land Trust (TILT), with an effort to reestablish a more biologically diverse grassland area near Tibbetts Point along the eastern Lake Ontario and St. Lawrence River confluence. This area is also part of the PRISM's Connected Lands and Waters Initiative a.k.a. CLAW.

This project called for the suppression/removal of encroaching woody invasives (honeysuckle and buckthorn) and invasive swallowwort. A combination of mechanical and chemical management practices was used for suppression.

Restoration will be accomplished by seeding disturbed areas with native ryegrass and overseeded with preferred native upland meadow seed mix.



This project restores important grassland habitat within our CLAW focus area.

Special Initiatives III

Forest Health

Suppressing Invasive Species with 4,592 Approved Biological Control Agents

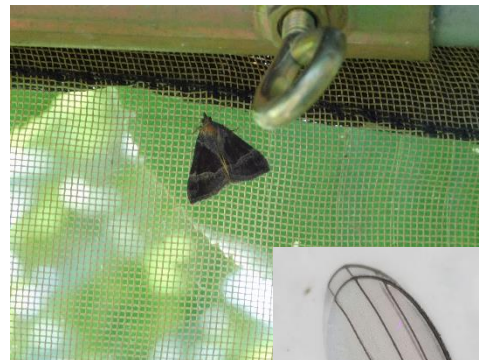
SLELO PRISM has implemented a biological control program that may offer long-term suppression of target invasive species. By introducing approved biocontrol's, we can lessen the labor and cost of other management techniques. This enhances the PRISM's goal of managing lands and forests for resiliency and regeneration by reducing the impacts of invasive species.

By suppressing monocultures of invasive plants and forest pests, we can preserve the native composition and biological integrity of priority conservation areas through the liberation of approved biological controls. This year (2024) we released close to **3,967 (*Leucotaraxix piniperda*)** silver flies, for the long-term protection of hemlock trees from the invasive woolly adelgid.

Biocontrol releases for the suppression of swallowwort also occurred in 2024. *Hypena opulenta* were released in the following quantities and life stages:

- 150 adults
- 150 pupae
- 325 larvae

These efforts are designed strengthen these land and forest resources towards their native composition making the sites more resilient to external stressors.



Above: *Hypena opulenta* adult © SLELO/TNC.
Bottom: *Leucotaraxix piniperda*. Courtesy NYSHI

Emerald Ash Borer Biocontrol Pan Trap Survey

This summer, volunteers joined team SLELO to assist with the deployment and weekly monitoring of yellow pan traps designed to determine if three parasitoid wasps (*Oobius agrili*), (*Spathius galinae*), and (*Tetrastichus planipennis*), have become established at release sites. These wasps have been deployed as part of an effort to naturally suppress populations of the invasive emerald ash borer.

Preliminary results indicate that, of the first 3 trap specimens sent to the USDA, some were confirmed as the parasitoid wasp species that we released last year. This is great news since it shows that the ***EAB biocontrol wasps are overwintering and possibly establishing.***

Additional trap specimens have been submitted to USDA and are awaiting results.

2024 participation metrics for this project included:

- 29 Volunteers
- 17 weeks
- 357 hours



Thank you to all our committed volunteers, and to our partners at the SUNY Oswego Rice Creek Field Station, Oswego SWCD, and USDA APHIS for supporting this effort!

Special Initiatives IV

Less herbicides – more natural

Hemlock Woolly Adelgid Survey & Treatment

Each year during the winter months, when hemlock woolly adelgid (HWA) egg masses are most visible, SLELO PRISM field representatives search Highly Probable Areas (HPAs) for the presence/absence of HWA. Hemlock trees are inspected visually, and data is recorded using Survey123.

SLELO PRISM staff completed hemlock woolly adelgid (HWA) surveys at 17 properties between November and April 2024. Approximately 632-acres of 30 highly probable areas (HPAs) were surveyed for signs or symptoms of HWA. No HWA was detected, by SLELO staff in 2024.

No new HWA populations were observed this past winter.

Since 2021 HWA has been found at seven (7) sites by SLELO and/or the NYS Office of Parks, Recreation and Historic Preservation to include:

- Battle Island State Park
- Camp Hollis
- Independence Park
- Mexico Point State Park
- Noyes Bird Sanctuary
- Oswego County Reforestation Area
- Selkirk Shores State Park

Referrals: Each time HWA is positively identified at a site the finding is reported to the landowner and/or land manager along with a referral to manage the adelgids to protect hemlock trees. This year, in cooperation with the New York Hemlock Initiative, and USDA, **3,967** (*eucoaraxix piniperda*) biocontrol insects were released at Mexico Point and Selkirk Shores State Parks in Oswego County to suppress hemlock woolly adelgid.

Sites Surveyed in 2024

1. Altmar State Forest
2. Camp Zerbe
3. Deer Creek WMA
4. Derby Hill Bird Observatory
5. Forest Park
6. Fran E. Jadwin State Forest
7. Great Bear Recreation Area
8. Happy Valley WMA
9. Jackson Hill State Forest
10. Lake Julia Nature Preserve
11. Little John WMA
12. Rainbow Shores Nature Preserve
13. Salmon River Falls
14. Sandy Creek State Forest
15. Three Mile Bay WMA
16. Whetstone Gulf
17. Winona State Forest

The full HWA survey report can be found on our website at: [SLELO PRISM Field Reports](#)

Special Initiatives V

Freshwater/Riparian Health/Terrestrial

Invasive Species Removals with Collaborators & Volunteers

Each year we assess sites under management and retire sites once the target species are suppressed below a level where less intensive management will suffice. Site management is then conducted with collaborators and volunteers using manual methods.

To **sustain biodiversity**, manual removals took place at five PCA locations to include:

- Lakeview Marsh WMA
- Black Pond WMA
- Guffin Bay
- El'Dorado Preserve
- Mud Bay Boat Launch

The following plants and quantities were manually removed and properly disposed of:

- **688** yellow iris stems & rhizomes.
- **2,365** swallow-wort stems & root mass.
- Multiple Bittersweet vines manually cut over **1.34 acres**.
- **27,907** pounds water chestnut pulled.



Photos by TNC © Brittney Rogers

Prevention

Goal Number 1

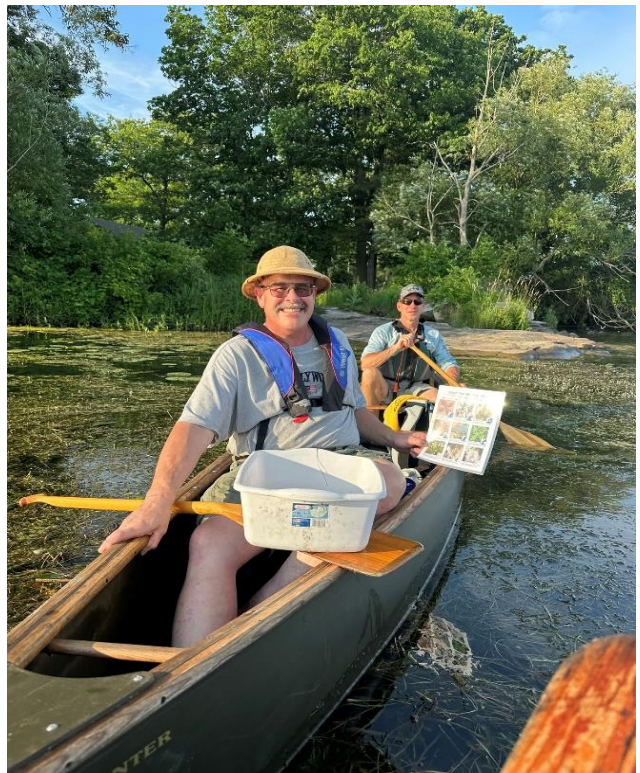
Healthy Freshwater Aquatic Invasive Species Learning Experience (AISLE)

In 2024, SLELO PRISM developed an aquatic invasives learning experience (AISLE) designed as a prevention measure to empower waterfront property owners and recreationists to adopt and protect waterbodies in the St. Lawrence Eastern Lake Ontario Region. We successfully hosted a 4-part learning series teaching attendees how to identify and survey for aquatic plants (both native and invasive).

Participants of the AISLE are encouraged to become Water Protectors by adopting a waterbody to monitor for signs of aquatic invasive species and report observations.

***Fourteen waterbodies were adopted by
17 volunteers in 2024.***

Right: Images of AISLE attendees. Photos By TNC Brittney Rogers and Megan Pistoiese.



Advisory Boards

Participation

Swallow-wort Working Group

In 2023-24, the SLELO PRISM Director completed participation on a working group in support of the development and rearing of a swallowwort biocontrol known as *Hypena opulenta*. The project was funded in part through grant(s) from the Federal Highway Administration, United States Department of Transportation and provided to principal investigator Dylan Parry, et al, State University of New York, College of Environmental Science and Forestry, Syracuse, NY.

TNC North America ISAC

This year marks the third year of our participation on The Nature Conservancy's North American Invasive Species Advisory Committee. The SLELO PRISM Director engages with this committee for shared representation and to address shared concerns for invasive species issues that helps advise collaborators within the North American Invasive Species community of practice. TNC ISAC focusses on balancing high-altitude initiatives with landscape level management support.



Photo above: Public domain

Early Detection

Goal Number 2

Priority Conservation Areas

There are currently 25 Priority Conservation Areas or PCA's within the SLELO region. These are areas that have ecological significance, are biologically diverse or that are host to rare native species. For efficiency, each PCA is currently surveyed on a two(or three) year rotation by our terrestrial and aquatic coordinators. The detailed final report can be found on our website at: [SLELO PRISM Field Reports](#). In 2024 the following PCA's were searched for Tier 1 and Tier 2 species along with notable native species. A total of **143** terrestrial and aquatic Highly Probable Areas (HPA's) were searched. ¹

Surveys have been completed at:

Bombay & Brasher SF (T)
Carleton Island (T)
Chaumont Barrens (T)
Deer Creek WMA (B)
El Dorado Preserve (T)
Ironsides Island (B)
Lakeview WMA – Lakeview Pond (A)
Lakeview WMA – Colwell Ponds (A)

*A = Aquatic, T = Terrestrial,
B = Both*

No New Tier-1 Species Observed



Photos: ©TNC/SLELO PRISM Brittney Rogers

¹ See Appendix (A) for SLELO Tiered Species List

Early Detection

Fanwort (*Cabomba carolinia*)

This summer a dense population of fanwort (*Cabomba carolinia*) was observed in Black Creek (Mexico NY). Fanwort is a Tier 2 species within the PRISM.

Subsequent to the initial observation, SLELO representatives conducted an assessment of a 4-acre pond above the Youngs Mill Dam in Mexico, NY and a downstream segment of Black Creek. A strategic/rapid response was coordinated between representatives of the SLELO PRISM, Cornell Water Resource Institute and NYS DEC Invasive Species Coordination Section to suppress this population.

After removing an undetermined amount of fanwort plants, SLELO initiated a robust fanwort outreach effort in the immediate area. The outreach effort included the following:



Target area: Little Salmon River/Black Creek.

- Informational flyers distributed at local businesses.
- Special announcement posted at the Salmon River Fish Hatchery.
- Mailers being planned for spring 2025 to waterfront property owners.
- Collaborating with NY Sea Grant and Oswego County Tourism to reach licensed fishing guides/charter captains.

Monitoring will occur for the next few years.



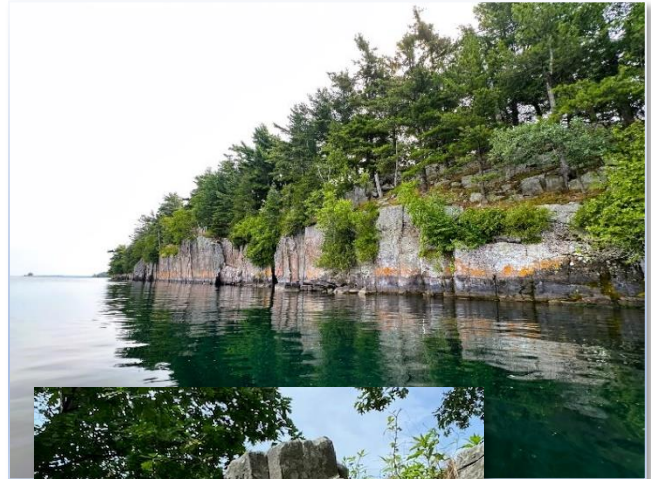
Left: Fanwort response team.
Right: fanwort plant stem
©SLELO PRISM

Ironsides Island

~CLAW~

Donated to The Nature Conservancy in New York in the early 1960s, Ironsides Island is a 30-acre (12 ha) undeveloped, isolated island located in the St. Lawrence River. The island has 30-to-40-foot (9 to 12 m) cliffs along its waterfront that is colored by *rust colored lichen*, hence its name. The island supports migratory birds providing rest and nesting sites during their flights along the Atlantic flyway. The island is also part the SLELO PRISMs CLAW (*Connected Lands and Waters*) initiative and lays within the perimeter of the Algonquin to Adirondack Corridor.

In 2024, Team SLELO completed a plant biodiversity assessment of the island. The Island hosts a high diversity of native trees and plants along with a low occurrence of non-native species on the island and in surrounding waters (Appendix E). Ironsides remains one of the last uninhabited islands in the northeast United States - one that is worthy of sustained biodiversity via protection!



Photos: Top:
North face of
Ironsides with
rust colored
lichen.
Middle: Rock
outcrop.
Bottom: Close
up of North
face of
Ironsides with
rust colored
lichen. ©TNC-
SLELO PRISM

Volunteer Surveillance Network

Enhanced Early Detection & Distribution Surveys

Empowering Community Scientists

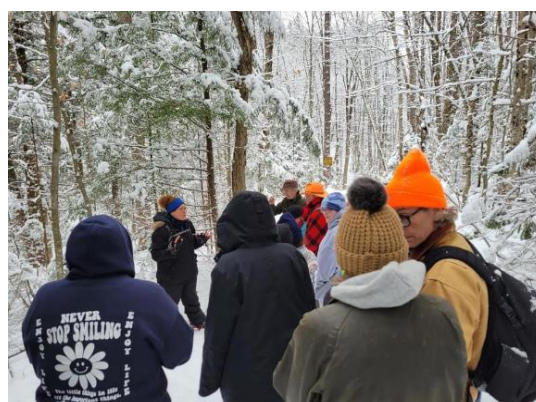
Early detection of invasive species greatly increases the opportunity for successful management. Since 2016, SLELO has coordinated a Volunteer Surveillance Network (VSN) to enhance early detection efforts for priority invasive species that are in low abundance or not present in but approaching the PRISM. The VSN is a community science initiative that provides participants with training on how to identify priority species and report their findings using iMapInvasives. As a component of the VSN, online maps are used to show the location of suggested survey sites for each focal species.

Recently, SLELO PRISM updated its VSN webpage with a more modern, user friendly web mapping experience. The new application provides species identification information and suggested survey sites for six focal species: **hemlock woolly adelgid, spotted lanternfly, elm zigzag sawfly, porcelain berry, fanwort, and tench**. Users can navigate species-specific pages to find a suite of information about the target invasives.

One new feature of the web mapping application is a convenient online survey

form that can be used to report survey efforts. By selecting a suggested survey site from the map, VSN participants can indicate whether they found the focal species, whether they reported data to iMapInvasives, and the total time spent surveying the location. In a future update of the VSN web mapping application, we will feature a data dashboard that summarizes the survey efforts of all VSN participants. Additionally, each user will be able to compare their individual contributions against collective survey efforts. Users who submit the most observations will rise up on the list and can claim bragging rights as SLELO's top surveyor!

To view the new VSN web mapping application, Click Here. [VSN Dashboard](#)



Above: Hemlock Woolly Adelgid Walk and Talk at Whetstone State Park. Training community members on surveillance technique. ©SLELO PRISM

Notable Native Species Observations

Each year, while conducting early detection searches, our team observes un-common native species. These observations are important in that they confirm that these species have survived in their natural state despite changes in the environment. Although we refrain from reporting their precise location, observing these species supports biological diversity and validates our work.

Mountain Death Camas (*Anticlea elegans var. glauca*)



All Photos:
©TNC B. Rogers

Mountain death camas is a New York State threatened species. It flowers from June to August. The flowers are star like and creamy white. Up to 50 flowers appear on branched panicles up to a foot tall. All parts of this plant

are very poisonous. Some early settlers were poisoned after confusing it with edible bulbs like wild onions.

Painted-Cup/Scarlet Paintbrush (*Castilleja coccinea*)



Painted-Cup is a New York State Endangered Species. It is a hemiparasite, which means it is able to get nutrients from other plants around it. It flowers early from May to August. The showy red to orange structures that people think of as the flower are bracts, a type of modified leaf, and not petals. Actual petals are green to yellow. The tubular shape of the flowers makes them well adapted for pollination by hummingbirds.

Promoting Biological Diversity

Through Rapid Response & Management

Goal Number 3

Often, invasive plants create monocultures on the landscape thereby reducing native plant diversity. By suppressing invasive plants and promoting native plant recovery, either through natural succession or intentionally through ecological restoration, we can sustain biodiversity on these sites. Biologically diverse areas are more resilient to external stressors such as a changing climate. In 2024 invasive species management was completed on **185.00 acres** of critical lands with a focus on six (6) Tier 1-3 species.

Invasive Knotweed:

13 Sites being managed (chemical)

4 PCAs

40.02 Acres under management

Phragmites:

21 Sites being managed (chemical)

9 PCAs

27.91 Acres under management

Invasive O. Bittersweet:

7 Sites being managed (chemical)

2 PCAs

11.69 Acres under management

Yellow Iris (volunteer efforts)

3 Sites being managed.

2 PCAs

2.84 Acres under management

Summary of 2024 Management Work

Hemlock Woolly Adelgid

No new observations/no referrals.

Emerald Ash Borer

No new parasitoids released.

Giant Hogweed:

25 Sites with no germination

5 Sites root cut

8 Sites herbicide treatment

2 Sites Retired/Eradicated

Pale Swallowwort:

39 Sites being managed (mostly chemical)

10 PCAs

118.07 Acres under management



Above: volunteers manually removing yellow iris.
©TNC/SLELO PRISM

Recovering Ecosystem Resilience

(for Biological Diversity) Goal Number 4

Restoring native plant assemblages post invasive species suppression, helps to recover the resiliency and biodiversity of treatment sites, and closes the loop between suppression and recovery. Our work demonstrates that although there are some smaller suppression sites that recover with natural succession, larger sites or treatment sites that result in bare ground and other variables such as the adjacent seed banks², often do repopulate with non-natives and therefore these sites do benefit from intentional restoration.³ A lesson we've learned is that there is no universal standard that affects all treatment sites.

As a general practice and where appropriate, the SLELO team plants native seed and shrubs to expedite the growth and recovery of native plants and to reduce the susceptibility of the site to the reinfestation of a non-native species. Specialized seed species varies from site to site and may incorporate up to twenty-two native species.

Black Pond Restoration Area:

After phragmites suppression this site was raked to clear ground of debris allowing direct contact of seeds with



Above: Brittney Rogers and Robert Smith readying for native plant restoration ©TNC-Brittney Rogers

the soil. Dead phragmites was mulched in-place. Approximately **181 plants of 11 native species** has been scheduled for planting at this site in 2024. Site size 2,000 sq ft.

² Williams, R.K. 2015. Salmon River Restoration Project Report. TNC, Pulaski, NY.

³ Salon P.R. and C. F. Miller. 2012. A Guide to: Conservation Plantings on Critical Areas for the Northeast USDA, NRCS, Big Flats Plant Materials Center, Corning, NY.

Recovering Ecosystem Resilience Continued...

Deer Creek Marsh Restoration Area:

Post invasive knotweed suppression in 2023, the site was raked to clear the ground of debris allowing direct contact of seeds with the soil. Garlic Mustard was found, and hand pulled from the site. In 2024, **282 plants of 12 native species** were planted throughout the restoration site. Site Size: 1800 sq ft.

El Dorado Restoration Area:

Following suppression of pale swallowwort, the site was raked to clear ground allowing direct contact of seeds with the soil. **604 plants of 15 native species** were planted in 2024 at this site. Site Size: 2500 sq ft.

Combined, our restoration coordinators with help from volunteers, planted **1,065 live plants of 22 native species** at terrestrial PCA restoration sites in 2024.

List of Native Plant Species used in 2024	
Scientific Name	Common Name
<i>Achillea millefolium</i>	common yarrow
<i>Andropogon gerardi</i>	big bluestem
<i>Anemone virginiana</i>	tall anemone, thimbleweed
<i>Asclepias syriaca</i>	common milkweed
<i>Cephalanthus occidentalis</i>	buttonbush
<i>Danthonia Spicata</i>	Poverty grass
<i>Eragrostis spectabilis</i>	purple love grass
<i>Eupatorium perfoliatum</i>	boneset
<i>Euthamia graminifolia</i>	flat-topped goldenrod
<i>Eutrochium maculatum</i>	spotted Joe Pye weed
<i>Helenium autumnale</i>	common sneezeweed
<i>Hibiscus moscheutos</i>	swamp rose mallow
<i>Juncus effusus</i>	common soft rush
<i>Mimulus ringens</i>	Allegheny monkey flower
<i>Onoclea sensibilis</i>	sensitive fern
<i>Panicum clandestinum</i>	Deertongue
<i>Rosa palustris</i>	swamp rose
<i>Sagittaria latifolia</i>	common arrowhead
<i>Schoenoplectus pungens</i>	three-square bulrush
<i>Spiraea alba v latifolia</i>	white meadowsweet
<i>Symphotrichum novae-angliae</i>	New England aster
<i>Viburnum lentago</i>	Nannyberry



Photo left: Robert Smith. Right Black Pond
©TNC/SLELO



Education, Outreach, Community Science

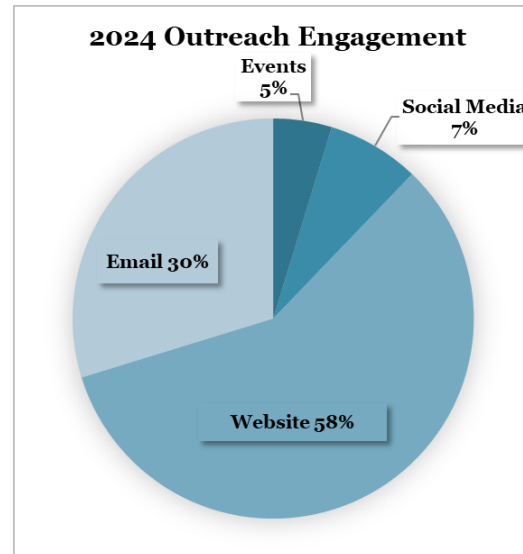
Goal Number 5

Education and outreach (E/O) are vital components to invasive species prevention and management and a primary goal of the New York State Comprehensive Invasive Species Management Plan and SLELO PRISM. E/O initiatives aim to bridge the gap between information and action through public engagement. There are many ways in which SLELO PRISM engages the public including but not limited to, in-person and virtual events, community science, social media, website, and other virtual engagements.

Outreach efforts (Appendix-C) are supported by our committee consisting of committed partners who contribute their time and expertise. The purpose of the committee is to enhance invasive species education and outreach efforts through collaboration and information sharing among PRISM partners. Participating members include:

- Megan Pistolese- SLELO PRISM, Lead
- Emily Fell- DEC Region 6/CCE
- Daniel Bellinger-STR
- Linda Gibbs-THTLT
- Gabriel Yerdon-THC
- Payton Reese-Oneida SWCD
- Heidi Sourwine-IRLC
- Kim Cullen-OPRHP

- Darleen Sourwine-OPRHP
- Cierra Williams-Jefferson CCE
- Isaac Matlock-Jefferson CCE



A Closer Look at 2024 Metrics

- ❖ **64,252 people** were directly engaged via events, social media, website, and email blogs.
- ❖ **53 events** were held in 2024 engaging a total of **3,092 attendees**.
- ❖ **365 social media posts** resulted in **4,719 engagements**.
- ❖ **18,883 email blogs** were opened.
- ❖ **12 press releases** reached **80,686 viewers**.

Newsletter

Each year, four quarterly newsletters are developed by the SLELO team in collaboration with multiple partners.

Featured articles include invasive species management initiatives, prevention methods, early detection/rapid response efforts, SLELO and partner special projects, species spotlights, upcoming events and much more!

We have over **4,000** subscribers, and distribution of the newsletter includes multiple statewide list-serves with **12,048 shares** in 2024. Our newsletter can be viewed on our [website](#) and receives strong recognition by our peers and the public.

Swallowwort Collaborative

The Eastern Lake Ontario Swallowwort Collaborative (ELOSC) is a platform focused solely on swallow-wort where the most up-to-date research and best management practices of this highly aggressive invasive species are shared with stakeholders. We currently have **483 subscribers** for the ELOSC exclusive listserv, and 8 contributing partners listed below.

Presentations showcasing management, research updates, and initiatives are hosted annually. Visit www.swallowwortcollaborative.org to learn more and subscribe to the listserv!

ELOSC Collaborators include:

- ❖ NY Invasive Species Research Institute
- ❖ Wells College
- ❖ University of Rhode Island
- ❖ 1000 Islands Land Trust
- ❖ The Nature Conservancy
- ❖ NYS Parks and Recreation
- ❖ Cornell Cooperative Extension
- ❖ SLELO PRISM

Eastern Lake Ontario

Swallow-wort collaborative



Linking People, Information & Action Through Enhanced Communication

Marketing, Communications and Media

In collaboration with Travel Alliance Partnership[®], our **Pledge to Protect[®]** (P2P) marketing initiative has been well received since its launch in the summer of 2021, with **356** pledges to date. The goals of this effort include:

1. Increase awareness of the ‘Pledge-to-Protect’ and the invasive species that threaten the environment in the SLELO region.
2. Gain positive coverage and seek third-party endorsements of the ‘Pledge-to-Protect’ through traditional media relations.
3. Expand marketing and advertising efforts and reach.
4. Engage target audiences to sign up for the ‘Pledge-to-Protect,’ educating and influencing them to act.

Results Summary:

- Drafted **six (6)** press releases relevant to newsworthy topics and distributed to SLELO PRISM’s existing media lists, resulting directly in two placements in target outlets generating 158,226 media impressions.
- Coordinated ad and blog placements in Discover Upstate NY, resulting in **4,374 views/reads** for blogs, and **401,020 impressions** and **18,956 clicks** for ads.
- A combined total of 50k prints of Journey and Upstate Summer featuring P2P ads were distributed. Additional ad placements in Adirondack Fishing, Hiking, and Paddling magazines are secured for 2025.
- Social media campaigns generated **8,871 views**, **25,465 impressions**, **303 link clicks**, 91 engagements, and **57 new pledgers**.
- Published 12 blog posts with timely topics relevant to audiences with notable open rates (42%–51%) and click rates (2%–6%).

Media Relations:

The P2P was featured on discoverupstateny.com, and printed publications Upstate Summer and Journey. The following press releases were drafted and distributed around relevant topics listed below (view full media mentions on our [website](#)):

- ✚ “Spring Into Action by Protecting Your Favorite Outdoor Spaces from Invasive Species.” - May 4, 2024
- ✚ “SLELO PRISM Helps Communities Make a Splash this Summer” – June 11, 2024
- ✚ “SLELO PRISM Inspires Communities to Volunteer in Invasive Species Management this Summer” – July 9, 2024
- ✚ “SLELO PRISM Provides Tips for End-of-Summer Invasive Species Management” – August 8, 2024
- ✚ “SLELO PRISM Offers Fall Tips & Resources for Invasive Species Management” – September 12, 2024
- ✚ “SLELO PRISM Provides Resources, Educational Opportunities for Firewood Month” – October 10, 2024

P2P Digital Advertising/Social Media:

Page Likes

- 562 Starting Page Follows
- 760 Current Page Follows
- 104 Total New Page Likes
- 18.5% Page Growth
- 3,835 Reached
- 13,237 Impressions
- 195 Page Engagement

P2P Email Growth (Lead Generation)

- 57 Email Leads
- 303 Link Clicks
- 8,871 Reached
- 25,465 Impressions
- 91 Post Engagement

Cooperation

Goal Number 6

Working together towards a common cause

is perhaps one of the SLELO Partnership’s strongest attributes. Our partners⁴ are interested in the subject matter, have a tremendous amount of expertise within the partnership, are fully engaged, and work extremely well together. Cooperative highlights from 2024 include:

- We participated in and presented at international conferences to include the North America Invasive Species Management Association (NAISMA) Annual Conference and the Society of Ecological Restoration (SER) conference.
- Participated with the New York Statewide (monthly) PRISM calls, providing roundtable reports and assisting with call facilitation.
- Our Volunteer Surveillance Network (VSN) continued with searches for tench, fanwort, hemlock woolly adelgid, spotted lanternfly, porcelain berry, and elm zig zag sawfly.
- We responded to multiple invasive species inquiries from the public.
- SLELO PRISM, along with multiple organizations, collaborated on the Oswego County Conservation Field Days (photo below). Sponsored by the Oswego County Soil & Water Conservation District, SLELO prepared sections about invasive species. (Photo ©TNC-Megan Pistolese).



⁴ See Appendix B for SLELO’s List of Partners

Information Management

Goal Number 7

New Conservation and GIS Analyst

This September, we welcomed Carolyn Koestner as our new Conservation and GIS Analyst (CGA). Carolyn brings with her extensive experience in using GIS and data analysis at environmental organizations. Shared between the Adirondack and SLELO PRISMs, she provides GIS and data analysis support to the PRISMs to advance invasive species work across Northern NY.

Water Protector Dashboard Development

Recently, SLELO PRISM updated its Volunteer Surveillance Network (VSN) to include a new and advanced aquatic invasive species volunteer focus. As mentioned earlier in this report, the Water Protectors program was initiated this year. The new application provides species identification, information, and suggested survey sites for volunteers to adopt a waterbody. Users can navigate species-specific pages to find and report a suite of information about the target invasives.

PCA Score Cards

As an effort to determine the level of impact our management and restoration work may have on our Priority Conservation Areas, we developed PCA Score Cards. These score cards utilize multiple datasets to determine changes in the overall health of our biologically diverse natural areas. As of this year, score cards and scores, have been developed for the following PCA's:

- Oneida Lake/3 Mile Bay = A+
- Lakeview WMA = A+
- Upper/Lower Lakes PCA = A
- Little John WMA = A-
- Deer Creek PCA = A-
- Fish Creek PCA = B
- French Creek = C *
- Chaumont Barrens = C- *
- Black Pond = D+ *

**Requires Attention*

Spatial Data Analysis

Our CGA works closely with NYS' Invasive Species Database Program (iMapInvasives) to manage and maintain invasive species data, see Appendix (D) for 2024 iMap metrics. Our CGA also provides technical support in GIS, remote sensing, and relational database technologies to Conservancy and PRISM staff.



New Multispectral Drone for Advanced Invasives Species Surveillance

This year, SLELO PRISM, in partnership with the Adirondack PRISM, we were able to purchase a new DJI Mavic 3M Multispectral Plus drone to use in our invasive species work. This easy to operate aircraft can capture both tree color and multi-spectral imagery. Ideas for how we plan to use this new drone include:

- Terrestrial plant survey and mapping.
- Terrestrial plant management monitoring - using a time series of multispectral images to assess treatment effectiveness.
- Forest pest surveying – leveraging the multispectral imagery to calculate vegetation indices (like NDVI) to search for trees with a lower “health” signature relative to the surrounding forest.
- Long term forest health monitoring – conducting annual or biannual flights to assess canopy health over select locations.

Our Conservation and GIS Analyst Carolyn is a licensed drone pilot, and we look forward to seeing how she integrates this new tool into our work in the coming years.



Conservation & GIS Analyst Carolyn taking a “drone-fi” while operating an unmanned aerial system (UAS) aka a drone.

Research Priorities

The New York Invasive Species Research Institute (NYISRI) periodically requests research related items that are evaluated and prioritized. Those deemed most feasible are considered for development. Recent research requests considered and/or submitted by the SLELO PRISM include:

Biological Control Rearing Facility

To develop and sustain large-scale biological control rearing facilities as biological controls are approved.

Augmentation of Biocontrol's via Chemical Ecology:

Using natural chemical compounds released by plants may be used to enhance weed biocontrol by increasing host specificity.

Invasive Macrophyte Nutrient Analysis

To gain a better understanding of the impact that *aquatic invasive plants* (AIP) have on internal nutrient loading of lakes and embayment's and the potential of AIPs to facilitate harmful algae blooms and carbon storage. This remains a research priority.

Pheromone Based Bait

Submitted was a research item for the development of a species-specific pheromone-based bait and netting protocol for confirmation, capture and removal of invasive fish.



Expenses by Function:

In 2024 program expenses were estimated and grouped together based on functional/programmatic categories (Figure 20). This allows for a general understanding of the current program focus and does not reflect a financial report.

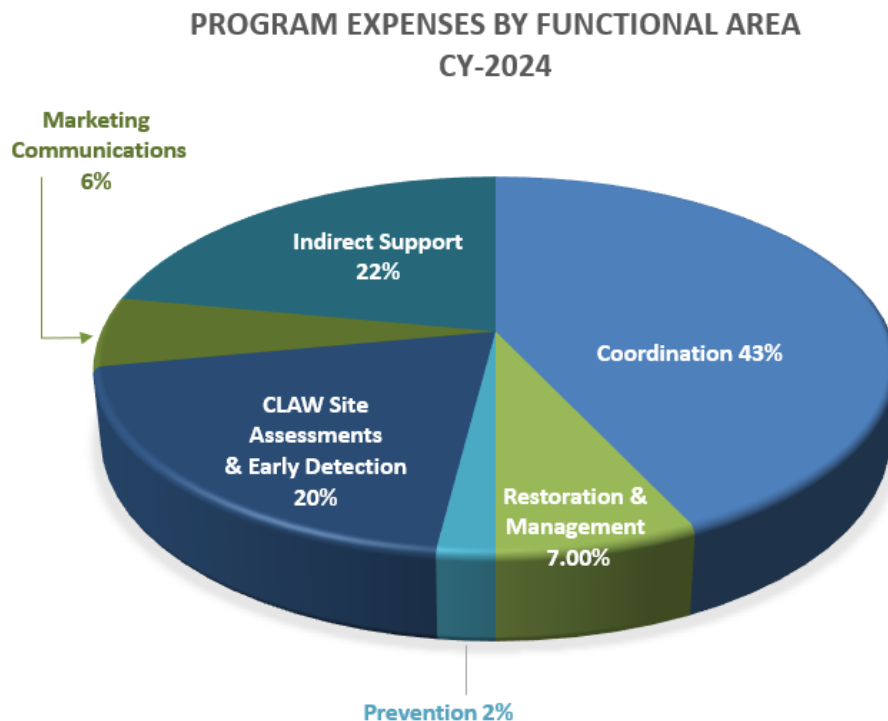


Figure 20: Program expenses grouped by function.

Function	Description
Program Coordination	Activities and expenses related to administering the program including full-time/part time staff.
Prevention	Implementation of prevention measures and efforts.
Marketing, E&O, Communications	Subcontract marketing firm, supplies and materials related to education, outreach and social media.
CLAW Site Assessments & Early Detection Surveillance	Site assessments and PCA surveys.
Restoration/Management	Ecological restoration and management costs.
Indirect	As a percent of total – host organization



Thank you!

We would like to thank our partners, staff, and volunteers for another successful year improving the health of our lands and waters! None of this work would have been possible without your enthusiasm and dedication. Together, we have made a positive impact towards sustaining biodiversity on our region's ecosystems.

~Team SLELO

References

Dean, Jennifer, and Mitchell O’Neill (2024). NYiMapinvasive Metrics Report for SLELO PRISM. NY Natural Heritage Program, NY DEC.

Gates, Natalie and Spencer Busler (2024). Final Project Report. Thousand Islands Land Trust. Clayton, NY.

Roggie, M. (2024). Summary of Field Season Control Work. SLELO-PRISM, c/o The Nature Conservancy's Northern New York Project Office. Pulaski, NY.

Salon P.R. and C. F. Miller. (2012). A Guide to: Conservation Plantings on Critical Areas for the Northeast USDA, NRCS, Big Flats Plant Materials Center, Corning, NY.

Williams, Robert K. 2023 Annual Report. St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management. The Nature Conservancy’s Northern New York Project Office, Pulaski, New York.

Williams, Robert K. 2024 Revised Strategic Plan for the St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management. The Nature Conservancy’s Northern New York Project Office, Pulaski, NY.

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Appendices:

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Page 40. Appendix D: NY iMapinvasives Select 2023 Metrics Summary

Page 41. Appendix E: Plant Species Observed at Ironsides Island in 2024.

Appendix A: SLELO PRISM's Current Species Tiers

Tier 1 - Prevention/Early Detection Species - Not in PRISM, but within 100-mile buffer or introduction pathway exists. Highest level of early detection survey efforts.

Invasive Longhorned Beetle - (*Anoplophora glabripennis*)

Hydrilla - (*Hydrilla verticillata*)

Kudzu - (*Pueraria montana* var. *lobata*)

Mile-A-Minute Vine - (*Persicaria perfoliata*)

Silver, Big Head and Grass Carp (*Hypophthalmichthys molitrix*), (*Hypophthalmichthys nobilis*), (*Mylopharyngodon piceus*), and (*Ctenopharyngodon idella*)

Slender False Brome - (*Brachypodium sylvaticum*)

Spotted Lanternfly - (*Lycorma delicatula*)

Water Lettuce - (*Pistia stratiotes*)

Water Hyacinth - (*Eichhornia crassipes*)

Water Soldier - (*Stratiotes aloides*)

Tier 2 – Eradication Species - Present in Prism, but at low abundance with suitable treatment methods available to make eradication feasible within Priority Conservation Areas (PCA's).

Elm Zigzag Sawfly (*Aproceros leucopoda*)

Bloody Red Shrimp (*Hemimysis*)

Fanwort - (*Cabomba caroliniana*)

Giant Hogweed - (*Heracleum mantegazzianum*)

Porcelain Berry - (*Ampelopsis glandulosa*)

Tench - (*Tinca tinca*)

Tier 3 -Suppression Species - Too widespread for eradication from PRISM, but some areas remain unaffected. Targeted management to suppress the population within Priority Conservation Areas (PCA's).

Common & glossy Buckthorn (*Rhamnus spp*)

Invasive Swallow-worts - (*Vincetoxicum spp.*)

Hemlock Woolly Adelgid (*Adelges tsugae*)

Invasive J. Knotweed - (*Reynoutria japonica*)

Invasive J. Stiltgrass - (*Microstegium vimineum*)

Invasive/Oriental Bittersweet – (*Celastrus orbiculatus*)

Phragmites/Common Reed – (*Phragmites australis*)

Rusty Crayfish - (*Orconectes rusticus*)
Starry Stonewort - (*Nitellopsis obtusa*)
Spiney waterflea (*Bythotrephes longimanus*)
Tree-of-heaven - (*Ailanthus altissima*)
Water Chestnut - (*Trapa natans*)
Wild Chervil - (*Anthriscus sylvestris*)
Yellow Iris - (*Iris pseudacorus*)

Tier 4 - Local Control Species - Present and widespread throughout PRISM with no chance of eradication. Localized (landowner) management applied to protect high priority resources like rare plant or recreation assets.

Broad-leafed helleborne (*Epipactis helleborine*)
Invasive clam (*Corbicula fluminea*)
Curly Leaf Pondweed - (*Potamogeton crispus*)
Emerald Ash Borer - (*Agrilus planipennis*)
Invasive Water Milfoil - (*Myriophyllum spicatum*)
Invasive European Frogbit - (*Hydrocharis morsus-ranae*)
Feral Swine - (*Sus scrofa*)
Honeysuckle spp. (*Lonicera spp.*)
Leafy Spurge - (*Euphorbia virgata*)
Purple Loosestrife - (*Lythrum salicaria*)
Round Goby - (*Neogobius melanostomus*)
Spotted Knapweed – (*Centaurea stoebe ssp. micranthos*)
Wild Parsnip - (*Pastinaca sativa*)
Zebra/Quagga Mussel - (*Dreissena spp.*)

Tier 5 – Species - Species that may or may not be in PRISM but are difficult to respond to or that require more knowledge of.

Invasive Jumping Worm (*Amyntas spp.*)
Beech leaf disease (BLD)

Appendix B: List of Current PRISM Partners

Principle Partners:

- New York State Department of Environmental Conservation
- The Nature Conservancy
- Cornell Cooperative Extension
- New York State Department of Transportation
- New York State Department of Parks Recreation and Historic Preservation
- Sea Grant of New York
- Thousand Islands Land Trust

At-Large Partners:

- St. Lawrence County Representative, vacant
- Jefferson County Representative, Cornell Cooperative Extension
- Lewis County Representative, Soil & Water Conservation District
- Oneida County Representative, vacant
- Oswego County Representative, Soil & Water Conservation District

Cooperating Affiliates:

- Ducks Unlimited
- Tug Hill Tomorrow Land Trust
- Tug Hill Commission
- Fort Drum Military Installation
- Save The River Organization
- Audubon Central New York
- New York Power Authority
- CNY Regional Planning and Development Board
- United States Coast Guard Auxiliary
- Indian River Lakes Conservancy
- St. Regis Mohawk Tribe at Akwesasne
- Algonquin to Adirondacks Collaborative | A2A
- New York Natural Heritage Program

Appendix C: SLELO PRISM's 2024 Education & Outreach Event Participation

Date	Event Type	Attendees	Date	Event Type	Attendees
1/4/2024	Webinar	104	6/5/2024	NYISAW	225
1/11/2024	Conference	200	6/6/2024	NYISAW	10
1/27/2024	Conference	120	6/6/2024	NYISAW	200
1/27/2024	Exhibit	30	6/6/2024	NYISAW	10
2/6/2024	VSN	1	6/6/2024	NYISAW	17
2/2/2024	Webinar	111	6/7/2024	NYISAW	50
2/9/2024	VSN	1	6/28/2024	Workshop	12
2/14/2024	VSN	9	7/12/2024	Removal	3
3/1/2024	Webinar	130	7/16/2024	Removal	2
3/7/2024	Webinar	59	7/17/2024	Removal	3
3/5/2024	VSN	2	7/18/2024	Removal	2
3/13/2024	VSN	25	7/22/2024	Removal	1
3/14/2024	VSN	2	7/23/2024	Removal	1
3/25/2024	Webinar	2	7/26/2024	Removal	8
4/10/2024	Webinar	169	7/30/2024	Removal	1
4/27/2024	Exhibit	268	8/2/2024	Removal	10
5/4/2024	Workshop	26	8/5/2024	Removal	6
5/17/2024	Webinar	52	8/8/2024	Walk/Paddle	13
5/19/24-5/26/24	Webinar	221	9/19/2024	k-12	70
6/3-6/9 2024	NYISAW	70	9/20/2024	VSN	12
6/3/2024	NYISAW	49	9/28/2024	Exhibit	300
6/4/2024	NYISAW		9/30/2024	k-12	50
6/4/2024	NYISAW	300	10/27/24-11/2/24	conference	100
6/5/2024	NYISAW	0	10/30/2024	VSN	2
6/5/2024	NYISAW	9	11/15/2024	VSN	5
6/5/24-9/25/24	Volunteer	29	Total	53 Events	3092 Attendees

Appendix D: NY iMapInvasives

Select 2024 Metrics Summary:

NY iMapInvasives is an online, collaborative, GIS-based database and mapping tool that serves as the official invasive species database for New York State. This database can be used for: reporting invasive species, recording treatment efforts, early detection proximity email alerts, mapping invasive species distributions, data analysis and generating reports. In partnership with the iMapinvasive program, the following metrics for the 2024 calendar year are reported.

Data Summary 2024	Count
Presence records entered	1,556
Not detected records entered	820
Number of common species not detected in search areas	26

Top 10 Species Reported in SLELO Region

Common buckthorn	224
Honeysuckle Spp.	196
Pale swallowwort	150
Invasive knotweed	110
Wild parsnip	92
Eurasian water-milfoil	66
Leafy spurge	42
Phragmites	40
Knapweed Spp.	40
Oriental bittersweet	35

Treatment Records

<u>Common Name</u>	<u>Total Count</u>
Oriental bittersweet	11
European swallow-wort	71
Yellow Iris	5
Purple loosestrife	4
Stiltgrass, Nepalese Browntop	1
European common reed	12
Invasive knotweed	76
Water chestnut	35



Appendix E: Plant Species Observed at Ironsides Island in 2024.

Common Name	Scientific Name	Research Grade	iMap	Cirsium arvense	
		ID	Report	Native	Invasive
Bracken Fern	<i>Pteridium aquilinum</i>	Creeping Thistle			
American Germander	<i>Teucrium canadense</i>	Winterberry Holly	N	Y	N
Common Milkweed	<i>Asclepias syriaca</i>	False Nettle	N	Y	N
Catnip	<i>Nepeta cataria</i>	Dotted Smartweed	N	Y	N
Eastern Hemlock	<i>Tsuga canadensis</i>	Woolgrass	N	Y	N
Eastern White Pine	<i>Pinus strobus</i>	Marsh Skullcap	N	Y	N
White Oak	<i>Quercus alba</i>	Prickly Gooseberry	N	Y	N
Bitternut Hickory	<i>Carya cordiformis</i>	Staghorn Sumac	N	Y	N
Bigtooth Aspen	<i>Populus grandidentata</i>	Common Mullein	N	Y	N
Herb Robert	<i>Geranium robertianum</i>	St. Johnswort	N	Y	N
Blue Vervain	<i>Verbena hastata</i>	Eastern Helleborine	N	Y	N
Canada Mayflower	<i>Maianthemum canadense</i>	Coltsfoot	N	Y	N
Sallow Sedge	<i>Carex lurida</i>	Reed Canarygrass	N	Y	N
Hop Sedge	<i>Carex lupulina</i>	Honeysuckle	N	Y	N
Swamp Milkweed	<i>Asclepias incarnata</i>		N	Y	N
American Hophornbeam	<i>Ostrya virginiana</i>		N	Y	N
	<i>Potentilla</i>				
Common Silverweed	<i>anserina ssp. anserina</i>		N	Y	N
Brambles	<i>Rubus</i>		N		
Red Maple	<i>Acer rubrum</i>		N	Y	N
Huckleberries	<i>Gaylussacia</i>		N		
Northern Red Oak	<i>Quercus rubra</i>		N	Y	N
Eastern Redcedar	<i>Juniperus virginiana</i>		N	Y	N
Paper Birch	<i>Betula papyrifera</i>		N	Y	N
Hedgenettles	<i>Stachys</i>		N		
Red Pine	<i>Pinus resinosa</i>		N	Y	N
Sugar Maple	<i>Acer saccharum</i>		N	Y	N
Common Mouse-ear					
Chickweed	<i>Cerastium fontanum</i>		N	N	N
Northern Whitecedar	<i>Thuja occidentalis</i>		N	Y	N
Rock Polypody	<i>Polypodium virginianum</i>		N	Y	N
Shagbark Hickory	<i>Carya ovata</i>		N	Y	N
White Ash	<i>Fraxinus americana</i>		N	Y	N
Black Willow	<i>Salix nigra</i>		N	Y	N
Basswood	<i>Tilia americana</i>		N	Y	N
Cypress Spurge	<i>Euphorbia cyparissias</i>		N	N	Y
Soft Rush	<i>Juncus effusus</i>		N	Y	N
Common Juniper	<i>Juniperus communis</i>		N	Y	N