



# SLELO PRISM

St. Lawrence Eastern Lake Ontario Partnership for Invasive Species Management  
"Teaming Up to Stop the Spread of Invasive Species"

2023 Spring Newsletter

11

Number of Hemlock  
Woolly Adelgid  
Infestations Found  
Using eDNA

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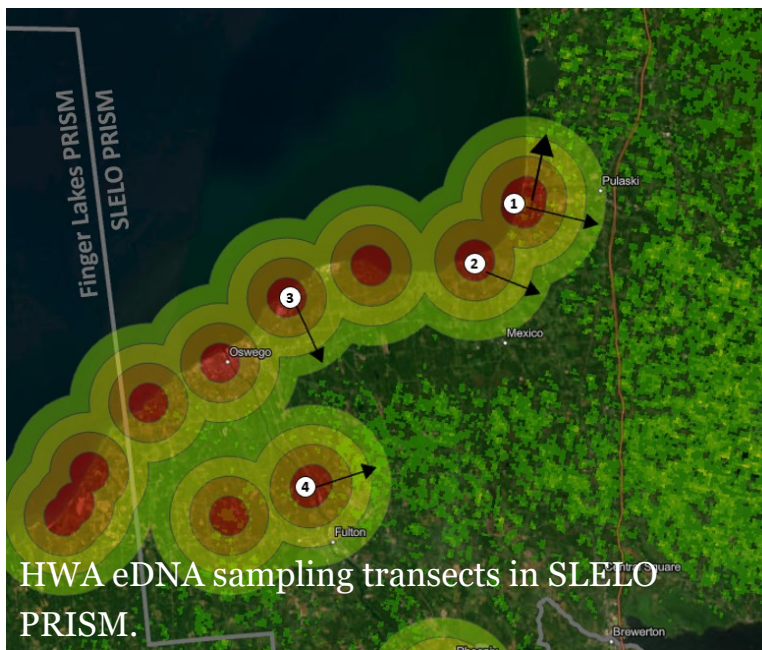
# About the Cover: eDNA Aids HWA Early Detection

Tonya Bittner, Nicholas Dietschler, Mark Whitmore (NYSHI) & Zachary Simek (ADK & SLELO PRISM)

Early detection of hemlock woolly adelgid (HWA) can increase opportunities for management interventions that slow the insects' spread and save hemlock stands. But how do we effectively detect an insect that is smaller than a sesame seed? The answer could be environmental DNA (eDNA).

Research led by the New York State Hemlock Initiative (NYSHI) at Cornell University suggests that eDNA is more sensitive than visual surveys when HWA is at low densities. NYSHI staff performed an early detection survey along the southeastern edge of Adirondack Park in the summer of 2022 in collaboration with Zack Simek from the Adirondack and SLELO PRISMs. Samples were collected from areas with known HWA infestation (three positive "controls"), no known infestation (five presumed negative "controls" >4 miles away), and by distance to closest known HWA (within 1, 2, 3, or 4 mile radius, n = 5 per category).

**Laboratory analysis found HWA eDNA at 11 sites**, including two "negative control" locations. There was no clear relationship between HWA presence and distance to the closest known infestation, but the results suggest the possible influence of prevailing winds (blowing northeast up the lake) on the dispersal of eDNA, or low and difficult-to-detect HWA densities. Trained volunteers from the Adirondack PRISM visited the new positive sites and did not find HWA during follow-up visual surveys, but new infestations can start with as few as one insect so continued survey is needed. This summer, the research team will resample all sites to evaluate whether eDNA signals disappear, increase, or stay the same.



We are excited to expand the HWA eDNA survey to the SLELO region in 2023. Following the sampling methodology piloted in the Adirondacks, PRISM staff will collect eDNA samples at various distances from known HWA along five transects (see above map). Samples will also be collected from approximately five locations greater than four-miles from known HWA. These areas have already been visually surveyed by SLELO staff, providing an interesting opportunity to compare the effectiveness of visual and eDNA survey techniques.

All eDNA samples will be collected in June and we expect to share the survey results with partners this winter. These eDNA survey techniques show promise for sensitive assessment of large areas of remote forest along the expanding northern range of HWA. This tool fills a much-needed role, aiding traditional ground surveys in areas where hemlock can make up a large part of the forest community, allowing for early detection and a rapid management response.



# Protector's Activity

SLELO PRISM-Megan Pistoless-Shaw

Snow thaw and springtime rain create perfect conditions for vernal pools to develop. Typically found in the spring and fall or after heavy rainfall, vernal pools are shallow depressions that are intermittently or ephemerally filled with water without a flowing outlet.

Vernal pools provide essential habitats free of fish predators, support the lifecycle of amphibians, and serve as an important food source for wildlife. Learn more about plants and wildlife that depend on and live in vernal pools on the [New York Natural Heritage Program website](#). Learn of interesting [macroinvertebrates](#) that you may encounter at vernal pools.

Since vernal pools only fill with water for a short period of time they are sensitive to conditions that change the availability of water such as climate change, and disturbances caused by human activities and invasive species. Invasive plants can lower ground table water levels making conditions too dry for vernal pools to develop.

## What You Can Do to Help?

- Clean the tread of your shoes before hiking to avoid spreading plant seeds or other debris that could introduce an invasive species or pathogen to the area ([shoe disinfection protocol](#)).
- Protect vernal pool wildlife by keeping an eye out for Amphibian Migrations Road Crossings (AMRC) while traveling ([learn about a volunteer-based AMRC project](#)).
- Reach out to your local NYS Department of Environmental Conservation office to learn if a vernal pool you've encountered could be certified and protected.



Some invasive plants that could invade vernal pool habitats include but are not limited to, common reed grass, purple loosestrife, yellow iris, common and glossy buckthorns, invasive bittersweet, and knotweed.



Take the Pledge to Protect to get more tips like this at, [iPledgeToProtect.org](https://iPledgeToProtect.org)



# Terrestrial Restoration & Resiliency Initiatives

*SLELO PRISM- Robert Smith*

## **2023 Hemlock Woolly Adelgid (HWA) Survey Results:**

This past winter/fall field season, SLELO PRISM surveyed 18 sites for HWA. 14 of these were completed by the early detection team with some help from volunteers, while 4 were volunteer surveys led by Megan Pistolesse-Shaw. Of these 18 sites, none were found to have HWA present. This is good news, but does not exclude the possibility that HWA has arrived recently and just hasn't reached the lower branches that we inspect or caused thinning in the crown. There was one confirmed HWA site found by OPRHP this year at Battle Island State Park. This brings the total known HWA sites to seven. The other known HWA sites are as follows: Camp Hollis, Independence Park, Mexico Point State Park, Selkirk Shores SP, Noyes Bird Sanctuary, and Oswego County Reforestation Area. The Summary Report will be available soon on the SLELO PRISM [web-site](#).

## **Early Detection:**

Surveys remain on a two-year rotation for our Priority Conservation Areas. This year, Brittney and Robert will return to the eleven sites surveyed in 2021 to include:

- Black Lake
- Delta Lake
- Fish Creek WMA
- French Creek WMA
- Little John WMA
- Mud Lake
- Tug Hill ISPZ
- Upper & Lower Lakes WMA
- Whetstone Reservoir
- Limerick Cedars
- OBI/Three Mile



Four of these PCAs will only have terrestrial surveys, while four PCAs will only have aquatic surveys. Three PCAs will have both aquatic and terrestrial surveys occur this year.

## **2023 Invasive Species Control Work:**

This upcoming field season we plan to treat 90 sites, which is only 1 more than last year. Seventeen sites from last year were retired due to no presence of target species, while 10 sites were removed to determine the need for future management. These sites were all replaced by new sites found in the previous year's surveys. Changes in the number of each species treated were minimal, with losses/gains of 1 or 2. Deer Creek had the greatest increase in treatment sites, from 6 to 14. This was due to a return to sites that were off-limits in 2022. Three PCAs had the greatest decrease with 3 sites each. This was due to retired sites and sites in review.



As part of DEC's **Giant Hogweed** Program, we will be monitoring and treating, if necessary, at 37 sites in Lewis and Jefferson counties. To date, giant hogweed has been eradicated (that is free of giant hogweed for three or more years) at 52% of our sites. Of those eradicated sites, 57% involved manual treatment using the root cut method to reduce the use of herbicides.

## Biological Controls for Invasive Species Suppression in SLELO PRISM:

This year, we have several planned biocontrol releases in the SLELO PRISM Area. Starting with Pale Swallowwort, we will again be releasing *Hypena opulenta*, the moth that feeds exclusively on swallow-wort as larvae. Two cages will be set up at Grenadier Island and two cages will be set up at Wehle State Park. This will occur in early June. We are also expanding our overwintering/establishment surveys with planned trail surveys at Wehle State Park and Informal Community Science Surveys on Grenadier Island. We hope to find signs that these moths are surviving and establishing themselves at these sites. Next, we will be conducting our second year of parasitoid wasp releases at Rice Creek Field Station (SUNY Oswego). This will involve the release of 3,000 of the three different species that target Emerald Ash Borer. This will occur throughout the summer and will be followed up by an establishment survey in 2025. Lastly, we are planning to release two biological control species (a silver fly species and a *laricobius* beetle) at Independence Park starting this year and possibly going into next year.



**Restoration:** In 2022, we added a restoration element to management sites where the natural establishment of native species seemed unlikely. In preparation, we surveyed for the presence of native, nonnative, and invasive species presence at four management sites. We followed up in the fall by planting several native graminoids, forbs, and shrubs.

This year, we plan to survey an additional four sites at four PCAs for species presence and plan to follow up with planting in the fall or next year, depending on the amount of reduction in invasive species presence. Follow-up surveys/monitoring will occur at the 2022 restoration sites.



For more information on these or other terrestrial restoration and resiliency projects please reach out to Robert Smith at [robert.l.smith@tnc.org](mailto:robert.l.smith@tnc.org).

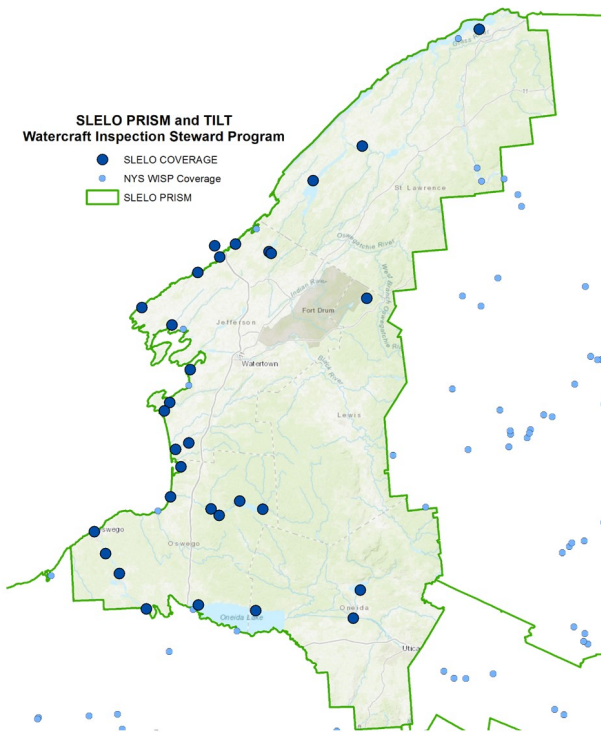


# Aquatic Restoration and Resiliency Initiatives

SLELO PRISM – Brittney Rogers

## Watercraft Inspection Steward Program:

We are excited to again co-administer WISP with the Thousand Islands Land Trust. We are currently recruiting and onboarding 12 stewards to be stationed around the SLELO PRISM region (See map below). We are thankful to the many partners, municipalities, and land managers who continue to support this program. In 2023 we plan to continue extensive launch coverage around the region, conduct plant species surveys at launches, attend education and outreach events and conduct SLF trap monitoring. Launch coverage begins Memorial Day Weekend following a three day intensive training. *If you see a steward, be sure to say hi!*



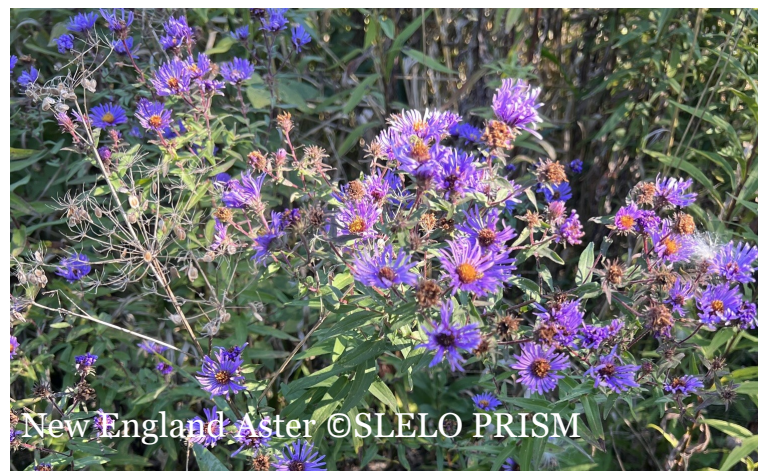
## 2023 eDNA Project:

This year our eDNA project will be limited with strategic sampling occurring around the region. Expect to see TNC's eDNA mobile lab stationed at sampling points and be sure to get a tour while attending outreach events including the 2023 SLELO Symposium! Visit our [website](#) to read more about current and past projects.



## 2023 Restoration Efforts:

Following three years of work assessing the riparian areas of South Sandy Creek, managing invasive species — invasive knotweed and Phragmites, and conducting extensive native species surveys, we are moving into our next phase of exciting work, enhancing the biodiversity and resilience of this precious resource in Eastern Lake Ontario. This spring, we will be planting 24 native species, totaling over 6,600 plants, at the South Sandy Creek Restoration Project site this June. *If you are interested in attending please be sure to sign up on our [volunteer webpage](#) to receive future updates on installment dates and logistics!*





# Notable Native Sighting

SLELO PRISM – Brittney Rogers



Water Marigold, *Bidens beckii*, is commonly found in shallow slow moving waters, considered to be a more uncommon species in the northeast. Through our early detection surveys, team SLELO has only encountered *Bidens beckii*, in St. Lawrence and Jefferson counties while NYFA indicates there are historical records in all 5 counties of our region. *B. beckii* is considered an indicator species as it is often one of the first submersed plant species to die when water quality declines. It is very valuable to the ecosystem as the foliage of *B. beckii* provides shade, shelter and foraging opportunities for fish, the flowers are pollinated by insects, and the fruit serves as a food source for waterfowl.

*B. beckii* has two distinct leaf types, the submersed and aerial leaves which differ greatly. Submersed leaves are finely divided and oppositely arranged along the stem, with each leaf dividing three times right at the stem-creating a whorled appearance.

If you're lucky enough to see this species flower, the stem emerges from the water with lance-

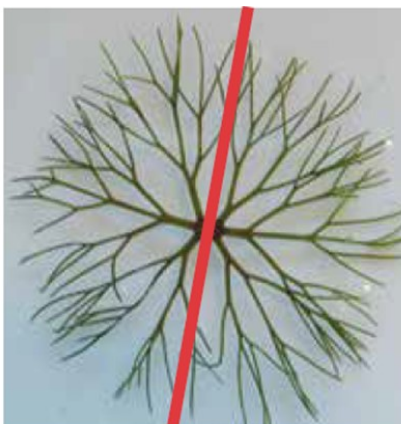
shaped serrated leaves also oppositely arranged. Blooms are yellow and appear daisy-like.

Native lookalikes for *B. beckii* include coontail and the water crowfoot species in the *Ranunculus* family. Due to its similar submersed leaves, *B. beckii* is commonly misidentified as the invasive aquatic plant called fanwort, *Cabomba caroliniana*. The presence of a distinctive petiole is the easiest way to distinguish fanwort from the native water marigold along with other distinguishing

INVASIVE	NATIVE
Carolina fanwort ( <i>Cabomba caroliniana</i> )	Water marigold ( <i>Bidens beckii</i> )
<ul style="list-style-type: none"><li>• Leaves on short stalks, attaching on opposite sides of the stem</li><li>• Flower white with a yellow center</li><li>• May have tiny, floating leaves</li></ul>	<ul style="list-style-type: none"><li>• Ring/whorl of leaves around the stem</li><li>• Leaves do not have stalks</li><li>• Yellow, daisy-like flower</li></ul>
	



Water Marigold  
©SLELO PRISM



Stem cross-section showing two oppositely arranged leaves, each dividing three times where attached directly to the stem

characteristics listed below sourced from the Wisconsin Aquatic Invasive Species Early Detector **Handbook**.

Fanwort is present in Kosoag Lake in Williamstown and has been managed for multiple years and is significantly suppressed. A fanwort survey was conducted in 2016 in the west branch of Fish Creek that connects Kosoag Lake to Oneida Lake, no fanwort was found in the Creek but it hasn't been surveyed in 7 years.

**Volunteers are wanted** to help survey this



# Calling all Water Chestnut Organizers

Mitch O'Neil-NYNHP/iMapInvasives

Water chestnut (*Trapa natans*) is an aquatic invasive plant spreading through the rivers, lakes, and ponds of the northeast, forming dense floating mats that alter aquatic ecosystems and impede boating, paddling, and swimming. You may be familiar with their fruits that wash ashore, with sharp spines that can cause pain and even injury when stepped on.

We can protect our water resources from these negative impacts through consistent hand harvesting – each year, dozens of conservation professionals, and volunteers across the state work together to remove thousands of pounds of water chestnut by hand out of New York waterbodies. We estimate that in 2022 over 50,000 pounds of water chestnut were managed.

The PRISM network uses iMapInvasives, the official invasive species database for New York State, to track these efforts. Documenting water chestnut infestations and removal efforts with a standardized data collection method empowers us to quantify water chestnut distribution/biomass, track progress across multiple years, and summarize efforts across regions.

**We ask water chestnut pull organizers to record three main things in iMapInvasives:**

- Delineate the areas where you found water chestnut.
- Indicate the density of each infestation (trace, sparse, dense, or monoculture)
- Delineate the areas where your removed water chestnut



Then, we can calculate biomass estimates which take into account both the area and density of the infestations. With this information, you can track the infestation through time and see whether it shrinks over the years in response to continued removal efforts, or if other management techniques are needed.

**Water chestnut pull organizers** – we welcome you to join the network of partners across the state working with iMapInvasives to document your efforts. **Water chestnut pull volunteers**– we thank you for your contributions, many hands make light work! Check with your pull organizers to make sure the water chestnut removal is documented in iMapInvasives, to make sure your efforts count!

Visit the [nyiMapInvasives website](https://nyimainvasives.org) to:

- Watch a recorded training on how to report water chestnut-pull data to iMapInvasives.
- Read the tutorial PDF for a step-by-step guide on documenting your efforts.
- View the upcoming state-wide report for the 2022 field season.



# A Word From a Steward

*Sam Verbeck-2022 WISP*

Clean Drain and Dry are words that boaters are hearing at boat launches from New York to Texas. Another commonly seen sign declares, "Stop Aquatic Hitchhikers," but what does it all mean and why are these measures important? These need to be more than words, they need to be actions.

Invasive species are nothing new to the United States. They have been introduced inadvertently by people who have had honorable intentions and those who are unaware of invasive species on or in their watercraft. From seemingly innocent ornamental garden plants to aquarium specimens, non-native and invasive plants have found their way to our shores through a variety of routes. Species like the zebra mussel and round goby were unintentionally introduced through ballast water, while invasive aquatic plants like hydrilla were likely introduced through the aquarium trade and from there dumped into a waterway where they spread far and wide by watercraft.

The pathways of introduction for many aquatic invasive species make the words clean, drain, and dry have meaning that goes beyond words and provokes action! Next time you take your watercraft out on the water be sure to take action and follow these simple steps to protect the waters you love.

**Clean:** Clean whatever comes in contact with the water, this includes your boat and trailer as well as, life jackets, fishing line and tackle, boat fenders, anchor, and anchor lines. As soon as you pull your boat out of the water, take a walk around the trailer and remove any plant debris you can see.



Plants can easily hold thousands of zebra mussel eggs. Plants should be placed in the invasive species disposal located at every state launch. If a decontamination station is not nearby, wash your boat at home. A 10% bleach solution will help to kill eggs but drying time is still important. When inspecting your fishing gear, pay close attention because spiny waterfleas love to wrap themselves around fishing lines.

**Drain:** Drain and empty live wells, bait buckets, and bilge water, and lower your boat motor as you are preparing your trailer before you leave the boat launch area.

**Dry:** Dry your vessel, equipment, and fishing tackle for a minimum of 5 days before launching in a different body of water. Dry all parts of your boat. Zebra Mussel eggs can live out of the water for 5 days and an adult Zebra mussel can live out of water for 2 weeks. By ensuring proper dry time, you can significantly reduce the likelihood that aquatic invasive species will survive and be spread to other water bodies.



# Volunteer Challenge

Volunteering is a great way to protect your lands and waters from invasive species and to get involved in your community. There are many different ways to volunteer with SLELO PRISM such as, assisting invasive species removals and restoration projects, aiding special projects like eDNA, and helping to survey for priority invasive species.

SLELO PRISM has over 100 volunteers who have engaged with us in some way and we're wanting to thank them all!

As part of an engagement initiative we've developed a fun **Volunteer Challenge** where participants can join volunteer opportunities and earn prizes by achieving various "participation levels". Learn of upcoming volunteer **opportunities** and get started on the challenge today!



## SLELO PRISM Volunteer Challenge



All volunteer contributions are valued. Complete challenges to achieve each level. Scan the QR code to submit achievements and win prizes.

## Volunteer Experience Showcase

Overcoming winter's dreariness was made possible by getting outdoors with SLELO PRISM. Volunteering provided an outlet for teamwork, nature therapy, cold weather exercise and incentive to plan more adventures, local and afar.

My volunteer experience started off with attending a training to become a member of SLELO PRISM's invasive species Volunteer Surveillance Network (VSN). I learned to recognize and survey for hemlock woolly adelgid and other priority species, and how to report observations to [NYiMapInvasive.org](http://NYiMapInvasive.org).

Moving forward, I have ambitions to participate in invasive species identification walks and events with SLELO PRISM and the Cornell Cooperative Extension's Master Gardener Volunteers of Oneida County of which I'm also an active member.

If you're not already involved, consider volunteering with SLELO or your county's PRISM. You will be rewarded with a heightened sense of belonging by contributing to community science and reconnecting with nature—helping to preserve the lands and waters you cherish most now and for generations to come.



~ Lucas Russell, SLELO Invasive Species Warrior



# EVENTS & ANNOUNCEMENTS

## Eastern Lake Ontario Invasive Species Symposium

June 22, 2023  
Tailwater Lodge, Altmar, NY



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

### EVENT DETAILS

- **June 22<sup>nd</sup>** Eastern Lake Ontario Invasive Species Symposium
- **May 6<sup>th</sup>** I Love My Parks Day
- Volunteer Opportunities
  - \* July 12,13,26,27– Terrestrial hand-pulls
  - \* June 24th-29th– Native plantings
- **May 24th** Backyard Invasives webinar
- **Invasive Species Expo (9/24-9/26)**
  - \* Submit an abstract for 9/25-9/26 sessions
  - \* Exhibit Sign-up for 9/24 Community Day



### LEARN MORE



### EVENT DETAILS

#### NYISAW events in SLELO ([view all](#))

- \* June 6th– Native Alternatives to Common Invasive Garden Plants webinar
- \* **June 7th** Watertown Farmer's Market *information table hosted by Tug Hill Commission and NYS Zoo.*
- \* **June 8th** Yellow Flag Iris Hand-Pull at Montario Point Boat Launch in Henderson, NY
- \* **June 9th** Tree Walk and Invasive Species Art Exhibit
- \* **June 9th** TILT Zenda Farm Picnic
- \* **June 10th** NYS Parks "Alien from Outer States" Guided Walk & Talk @ Minna Anthony Nature Center no registration, contact 315 482 2479 for details.
- \* **June 5<sup>th</sup>-9<sup>th</sup>** SLC CCE webinar series

## <<Notable Announcements>>

**Take the Pledge.  
Get The Tools.  
Earn The Badge.**  
[iPledgeToProtect.org](http://iPledgeToProtect.org)



### TAKE THE PLEDGE

**Great Lakes  
Basin Forest  
Health  
Collaborative**

### LEARN MORE

**Northeast Seed Network**

### LEARN MORE





# From Our Director

*Connectivity, Climate Adaptation, Resilience*



As our climate changes, plants and animals shift their distributions by colonizing and establishing new territory, finding suitable microclimates that allow them to persist, and producing offspring to continue the process. The problem is that this process takes time, often generations; and the process is complicated by landscape fragmentation such as roads, dams, development, and the impacts invasive species have on habitats (Anderson et al 2016).

Invasive species also lessen the quality of ecosystem services that are provided to wildlife as their range shifts. By reducing the invasives found along connected systems and by reestablishing native plant assemblages we can begin to recover ecosystem resilience based on an overarching solution which is to focus resources on these 'connected systems'.

Across New York State our freshwaters are almost all connected e.g., Finger Lakes, Great Lakes, Erie Canal, and Hudson River, and our forests are all directly or indirectly connected to the Appalachians. Focusing at least some of our resources on these 'connected systems' would increase our collective conservation impact on lands and waters by improving the quality of these green infrastructures. As a first step, when deciding on when and where to search for invasive species, we may want to consider these connections as Priority Conservation Areas (PCAs). Followed by focusing our invasive species surveys, management, and subsequent restoration within these PCAs to help us achieve healthier connected systems, and greater resilience under changing circumstances.

~ Rob Williams

## SLELO PRISM Partner List

- ◆ NYS Department of Environmental Conservation
- ◆ The Nature Conservancy in New York
- ◆ Cornell Cooperative Extension Offices
- ◆ NYS Office of Parks, Recreation & Historic Preservation
- ◆ NYS Department of Transportation
- ◆ NY Natural Heritage Program
- ◆ Soil & Water Conservation Districts
- ◆ Fort Drum Military Installation
- ◆ CNY Regional Planning & Development Board
- ◆ NY Power Authority
- ◆ Tug Hill Commission
- ◆ Tug Hill Tomorrow Land Trust
- ◆ Thousand Islands Land Trust
- ◆ Indian River Lakes Conservancy
- ◆ Save The River
- ◆ NY Sea Grant
- ◆ Ducks Unlimited
- ◆ Onondaga Audubon
- ◆ US Coast Guard Auxiliary
- ◆ St. Regis Mohawk Tribe-Environmental Unit
- ◆ Algonquin to Adirondack Collaborative

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The Nature  
Conservancy



**SLELO PRISM**  
Host Organization



Department of  
Environmental  
Conservation

**Eastern Lake Ontario**

Swallow-wort collaborative

