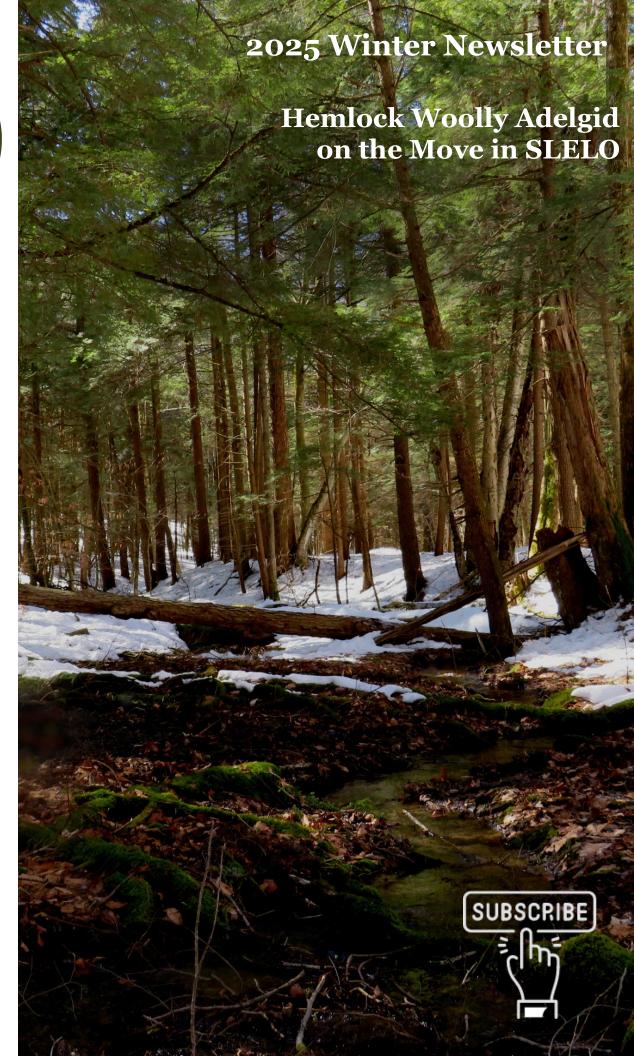


St. Lawrence Eastern Lake Ontario Partnership for Invasive Species Managemen 'Teaming Up to Stop the Spread of Invasive Species"



About the Cover:

Caroline Marschner- New York State Hemlock Initiative at Cornell University

With hemlock woolly adelgid (HWA) moving into the SLELO area, some readers may soon be looking at HWA on their property and wondering "now what?". Especially if you own more than a few hemlocks, figuring out the next steps can be daunting. Fortunately, there are resources available to help you think through your response to HWA, and the New York State Hemlock Initiative (NYSHI) with Cornell University is here to help. Below are some questions to consider for managing HWA. Please visit the NYS Hemlock Initiative website or reach out to the nyshemlockinitiative@cornell.edu for further information.

Question 1. Is this HWA? There are lots of resources to help identify HWA. The New York State Hemlock Initiative website has <u>handouts and videos</u> for HWA identification for you to use to confirm the presence of HWA.

Question 2. Oh, no, this is HWA. What next? You may be asking yourself, is the treatment to save my hemlocks worth the risks of using chemicals on my property? This is a personal decision, but whatever decision you make, remember that mortality rates of hemlocks with HWA are very high, and you need to weigh the impacts of treatment against the loss of hemlock from your property. Dr. McCarty of the University of Georgia has been researching the impacts of chemicals used to treat hemlocks for HWA since 2015 and has put together a thoughtful publication covering all the impacts of treating hemlocks she and others have found so far. While Dr. McCarty has found some impacts of treatment, the impacts of losing hemlocks from an ecosystem have been far greater. McCarty's take-home message is that ecosystems are less disrupted by treatments to conserve hemlocks than they would be due to a loss of hemlocks because of nontreatment.

Question 3. I have way too many hemlocks to save them all. Which ones do I save?

The answer to this depends on a lot of factors. How much hemlock is on your land, and how dense is it? What's likely to replace the hemlock when they die? Do you have rare species that will lose critical hemlock? Do you have trout in streams on your property? Are you financially able to save your trees? All these questions and more factor into which hemlock trees to save on your property. The NYS Hemlock Initiative has toolkits for landowners and regional land managers to help think through these questions. If you are planning for a single property, just reading through the linked documents at the bottom of the Landowner Toolkit page will help you think through what factors are important to you on your property. If you are managing many sites or working on saving hemlocks across the landscape (perhaps with a lake association or Soil and Water Conservation District), the included Excel file at the bottom of the Regional Hemlock Toolkit page may help guide decisions. NYSHI staff can assist groups as they consider large-scale hemlock conservation.

As we begin to see mortality from HWA in our area, tracking tree mortality across the region will allow us to identify any hemlock that stay healthy after HWA has killed most hemlocks. These 'lingering hemlock' may have some traits that would help tree researchers develop HWA resistant hemlock. The Nature Conservancy's Tree Species in Peril project is supporting research on invasive species-resistant strains of five tree species from the Northeastern US, including eastern hemlock. If you are interested in setting up a hemlock mortality plot to help the search for lingering hemlock, please reach out to Grace Haynes at gh447@cornell.edu.

New Beginnings for the SLELO PRISM Team

SLELO PRISM has a new Invasive Species Program Director, and we've hired a new Aquatic Restoration and Resiliency Coordinator!

Following nearly 6 years acting as our Aquatic Resiliency Restoration and Coordinator, Brittney Rogers has assumed the role as the Director Invasive Species Program (ISPD). Brittney's leadership, we are confident Under species management efforts will invasive our continue to thrive, ensuring a healthy environment for both people and nature. Brittney is dedicated to advancing this important work and securing a strong future for SLELO PRISM. Rogers stated, "I am committed and looking forward to leveraging the rich history of SLELO PRISM, our partners, and The Nature Conservancy to inspire new approaches to invasive species work and ensure the continued success of our program." Connect with Brittney via email at Brittney.Rogers@tnc.org should you want to discuss any potential projects.

We're pleased to introduce Adrien Owens as our new Aquatic Restoration and Resiliency Coordinator (ARRC). Adrien was raised on the St Lawrence, and will be relocating to the area from Washington. She holds a M.S. from the University of Washington and a B.S. from the University of New experience in aquatic Haven. Her sciences, community advocacy, invasive species management, and habitat restoration make her a vital asset to enhance invasive species our management, restoration, and resiliency efforts! The Great Lakes-St. Lawrence watershed holds great cultural and regional meaning to Adrien, and she could not be more excited to fulfill her new role as the Aquatic Restoration and Resiliency Coordinator, please reach out to her at Adrien. Owens@TNC.ORG.





Protector's Activity

SLELO PRISM-Megan Pistolese-Shaw

Winter is a great time to think about spring and gardening. One of the best ways you can protect your garden and surrounding natural areas from invasive species is to grow native plants. Winter sowing or frost seeding is an efficient and cost-effective method to establish native plants or enhance meadows, utilizing the natural freeze-thaw cycles of winter to integrate technique into the soil. This seeds particularly beneficial in the Northeast United States, where winter conditions are ideal for successful frost seeding. To ensure optimal outcomes, careful planning and adherence to best practices are essential. Use the tips below to help you successfully use winter sowing as a restoration method in your own yard or property!

Timing and Site Selection

The timing of frost seeding is critical. Seeds should be broadcast when the ground is frozen but not covered by deep snow, typically between late winter and early spring. This ensures that seeds remain on the soil surface without being washed away. The freeze-thaw cycles create natural cracks in the soil, which help the seeds embed themselves, improving seed-to-soil contact.

Selecting an appropriate site is equally important. Frost seeding works best in areas with minimal plant competition. Invasive species must be sufficiently removed before broadcasting seed. Investing time into the proper management of invasive species prior to sowing seeds will contribute to the long-term success of the project.



If vegetation is dense, mowing or lightly grazing the site in the fall can reduce competition and expose more soil, increasing the chances of seed germination.

Seed Selection and Preparation

Choosing the right seed mix is vital for the ecological success of the meadow. Native plant species are highly recommended as they are adapted to local conditions and support biodiversity. A mix that includes a variety of wildflowers and native grasses ensures yearround habitat value for pollinators and wildlife. Many of our native plant species require some level of stratification, meaning they require a process before germination that mimics the overwintering processes. natural This achieved through the process of frost seeding. Use the Native Plant Finder to learn of plants native to your Zip Code or view a native plant list from the NYS DEC. Both of these resources and more are found in the Garden Protector's Toolbox! Continued on next page...

PAGE 4

Protector's Activity (Continued)

SLELO PRISM-Megan Pistolese-Shaw

Application Techniques

Broadcasting seeds by hand or using a seed spreader is the most common method for frost seeding. Ensure even distribution to prevent patchy growth. A higher seeding rate than traditional planting may be necessary to compensate for potential losses due to wind or predation.

Post-Seeding Management

Post-seeding management is crucial for the long-term success of frost-seeded meadows. Monitoring for invasive species and maintaining low competition during the first growing season helps native seedlings establish.

Mowing to a height of 8-12 inches in the first year can prevent weeds from shading out young plants.

By adhering to these best practices, frost seeding can be an effective tool for meadow establishment, creating resilient ecosystems that benefit wildlife, enhance biodiversity, and contribute to the ecological integrity of your region.

Get more tips on how to protect your favorite outdoor spaces from invasive species by taking our Pledge to Protect!

2024 Accomplishments



SPECIES



SEARCHED FOR PRIORITY INVASIVE PLANTED IN RESTORATION AREAS



REMOVED MANUALLY



OF WATER CHESTNUT REPORTED MANUALLY REMOVED



INVASIVES SPECIES OUTREACH VIA SOCIAL MEDIA, EVENTS, EMAIL, AND WEBSITES



RELEASED IN THE SLELO REGION

Stats in this infographic showcase some of the accomplishments made in 2024. View our **Annual Report** to get a full overview of our efforts. Thanks to all our partners and volunteers for your support.

Species Spotlight: Blue Dune Grass

SLELO PRISM-Adrien Owens

Leymus arenarius, also commonly referred to as "blue dune grass," "European dune grass," blue lyme grass," or "sand rye grass," is an invasive sand-loving plant recognized for its blue-grey colored leaf blades. It is commonly used for ground cover and erosion control due to its rigorous growth behavior, however it can easily escape cultivation and overrun garden spaces, therefore intentional plantings should be avoided.

Native to Europe, *L. arenarius* grows and spreads aggressively through a rhizome network and has become invasive in Great Lakes dune habitats in midwestern states such as Wisconsin. According to the Flora of North America, Leymus arenarius has been found in New York with some sightings in Long Island, and bordering Connecticut, as well as parts of Canada in Ontario & Quebec. If this species starts spreading, it could have negative impacts New York's dune on communities.

L. arenarius is tolerant to a wide array of conditions including a variety of soil types, moisture levels, acidity and alkalinity ranges, and can withstand high temperatures. It grows dense monocultures that choke out native vegetation that provide vital habitat to dune species. Our native species of American beach (Calamagrostis breviligulata) plays a vital role in the ecology of Great Lakes shorelines. breviligulata stabilizes sand dunes, which in return protect the coast from the erosive forces of waves and storms. The stable environment created by beachgrass also provides habitat for a variety of wildlife. Unlike invasive L. arenarius species, our native beach grasses and shrubs don't create monoculture fields across our region's unique sandy habitats. Instead, they grow in

dispersed patches, with areas of sand in between. This allows other dune plants like Great Lakes sand cherry (*Prunus pumila* L. var. *pumila*) and common milkweed (*Asclepias syriaca* L.) to flourish. This native plant diversity provides habitat for pollinators and other insects which are the basis of ecosystem food webs. The open sand also creates crucial nesting sites for threatened birds like the piping plover.

You can help protect the dunes by keeping an eye out for blue dune grass; look for grayish-blue, broad, flat, arching leaves that grow between 23-35 inches tall with narrow flower spikes with similar coloring until they turn beige later in the growing season.



If you think you may have found blue dune grass, please report it to NYiMapInvasives and iNaturalist.

If you are unable to report sightings to these apps, please send clear, up-close photos of the plant and GPS coordinates of the location to Brittney.Rogers@tnc,org, and Adrien.Owens@tnc.org.

Restoration & Resiliency Initiatives

SLELO PRISM- Robert Smith

2024 Field Survey Results

Results of last summer's field season showed the presence of 14 Tier invasive species. Of the 90 highly probable areas (HPAs) that we visited, the most common species found was pale swallowwort, which was found at 54 sites. Common buckthorn and honeysuckle were the second and third most common, found at 18 and 17 HPAs respectively. The fewest number of tier invasive species was found at Ironsides Island with 1, while the largest number of tier invasive species was found at Deer Creek WMA with 11 species. The field report that includes this information is now available on the SLELO PRISM website.



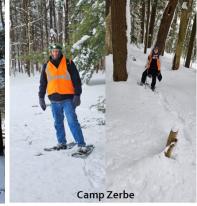


2024 Hemlock Woolly Adelgid Surveys

We started our HWA surveys last month and have selected 13 sites to survey. Most of these sites are just outside of the areas of known HWA infestation and are the same as last year with the exception of adding Black Pond and El Dorado, which share the hemlock stand that we surveyed, and removing Jadwin SF, Three Mile Bay WMA, and Winona SF. In addition to staff surveys, our Education and Outreach Coordinator, Megan Shaw, conducted four survey trainings in collaboration with the Tug Hill Tomorrow Land Trust. These trainings were held at







Inman Glide Trail, Great Bear Recreation Area, Salmon River Falls UMA, and Trenton Greenbelt.

Since finding the first HWA site in 2021 at Oswego County Reforestation Area, SLELO PRISM, New York State Parks Staff, and volunteers from our volunteer surveillance network (VSN) and New York State Hemlock Initiatives (NYSHI) HWA Hunters Program have found ten sites with HWA. These ten sites are mostly located along the Lake Ontario Shoreline and Oswego River to Oneida Lake. Three of the sites were found this year. These are SUNY Oswego, Great Bear Recreational Area, and Verona Beach SP. All of these with the exception of Verona Beach SP are in Oswego County. Verona Beach SP is the first known occurrence of HWA in Oneida County. Management options, either chemical or biological, are being used or in discussion at most of these sites.

Aquatic Restoration Resiliency Initiatives

SLELO PRISM- Brittney Rogers and Adrien Owens

Water Protectors Program:

We successfully hosted our first 3-part Aquatic Invasive Species Learning Experience (AISLE) in 2024 teaching attendees how to identify and survey for aquatic plants (both native and invasive). This was also the inaugural beginning of our new and exciting Water Protectors Program where stakeholders are invited to attend the AISLE training and adopt a waterbody to survey for and report invasive species. We had 17 water protectors in 2024 and look forward to expanding this volunteer program in 2025!

The Water Protector Program will continue this year with another 3-part AISLE being planned for this May through June. A single or all events can be attended, but registration is required. This training is perfect for, waterfront property owners, lake associations, kayaking groups, seasonal staff, or anyone who wants to learn more about aquatic plants and aid early detection efforts. Learn more about the program and sign up to be notified of the program registration announcement on our website.

Other Updates:

You may recall an invasive aquatic plant called fanwort (*Cabomba caroliniana*), was found to be established in Black Creek in the Village of Mexico. Fanwort was not known to be established in nearshore habitats of the Great Lakes and has the potential to be impactful and rapidly spread if introduced.

In 2025 surveys of Black Creek, the Little Salmon River, and nearshore habitats of Lake Ontario are being scheduled. To help us further understand the distribution of fanwort, we will also be communicating with private landowners,

community members, and anglers to help stop the spread of fanwort by looking for and reporting observations, and always practicing Clean-Drain-Dry protocols with all boating and fishing equipment. More information on Fanwort can be found on our website.

We will also be continuing our eDNA work in 2025 and would like to collaborate with partners and stakeholders who may have an interest in sampling their waters for more elusive or low-abundance invasive species. Contact <u>Adrien.Owens@TNC.ORG</u> if you'd like to collaborate on aquatic projects.

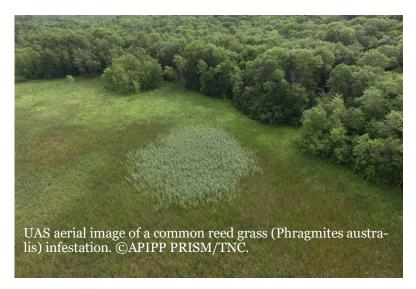


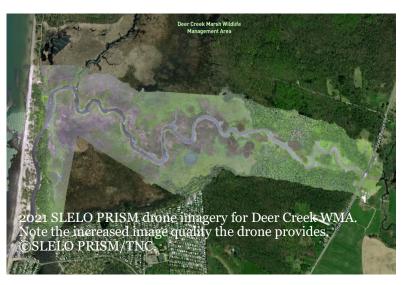
We hope to see you in the field protecting your waters this season!

New Multispectral Drone to Advance Invasives Species Surveillance

SLELO PRISM—Carolyn Koestner

With limited time and resources and a seemingly ever-expanding array of invasives to deal with - SLELO PRISM is continually looking for innovative ways to better accomplish our work. In 2021, previous SLELO staffer Zach Simek pioneered the use of small Unmanned Aircraft Systems (UAS) aka drones at the PRISM, using them to help monitor restoration success and identity invasives like Phragmites.



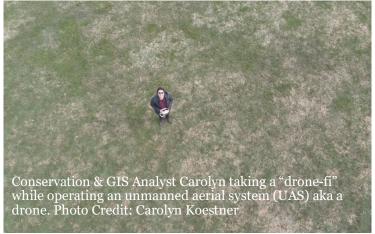


At the end of 2024, SLELO PRISM, in partnership with the Adirondack PRISM, we were able to purchase a new DJI Mavic 3M Multispectral Plus drone to use in our invasive species work. This easy to operate aircraft can capture both tree color and multispectral imagery.

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.

As SLELO's new drone pilot, I'm looking forward to integrating this state-of-the-art tool into our PRISM in the coming years and am excited to share updates on the work as it progresses.



Urbanization Drives Spotted Lanternfly Phenology Shifts

Fallon Meng, revised by Kristin Winchell- New York University

The spotted lanternfly (Lycorma delicatula), a striking yet highly invasive insect, continues its rapid expansion across the United States. New research by Hannah Owen, Fang Meng, and Kristin Winchell at New York University reveals how urban environments are reshaping the invasion dynamics of this pest, offering insights into its invasive success.

Drawing from over 19,000 observations on the community-science platform iNaturalist, the team leveraged public engagement to track the lanternfly's invasion patterns. These observations provided crucial insights into the timing, distribution, and abundance of the pest. Such large-scale data, contributed by everyday people, proved invaluable in uncovering the pivotal role cities play in the lanternfly's success.

Cities create opportunities for species like the spotted lanternfly. The urban heat island effect, where cities retain more warmth than surrounding rural areas, creates microclimates that allow the lanternfly to thrive in regions previously thought too cold. This is especially concerning as warmer temperatures facilitate earlier emergence, faster development, and extended activity periods for insects. Indeed, the researchers found that adult lanternflies are now appearing approximately 25 days earlier and staying active much longer compared to a decade ago when the invasion began in Pennsylvania. This prolonged activity window gives the pest more time to reproduce and spread, compounding its threat to ecosystems and agriculture.

In more recently invaded areas, like New York, the effects of this prolonged activity are clear with massive swarms appearing in New York City in September of 2022 and 2023.



Interestingly, in regions like Pennsylvania and New Jersey, where the invasion began earlier, populations appear to have peaked and stabilized. This suggests that natural ecological pressures such as predators, competition, or resource limitations-may eventually regulate lanternfly numbers. However, these declines do not signal the end of the invasion; rather, they mark a new phase where the pest becomes a persistent, albeit less overwhelming, part of the ecosystem.

The findings underscore the importance of focusing management efforts on urban areas, which act as both early detection zones and facilitators of spread. With cities serving as hubs for commerce and human activity, they become critical points for monitoring and intervention. Early detection systems, public awareness campaigns, and targeted urban management strategies could play a pivotal role in slowing the lanternfly's advance and reducing its impact. As lanternflies continue to adapt and spread, understanding the interplay between urbanization and invasive species will be key to mitigating their ecological and economic consequences. This research not only highlights the threat posed by these insects but also offers a blueprint for how urban environments can be part of the solution.

Suppressing Water Chestnut on the Oswegatchie River

Brad Baldwin-St. Lawrence University

St. Lawrence University received funding from the NYS DEC, as well as a grant from NYPA's SLRREF program, to support a multi-year suppression effort for a large water chestnut population (40+ acres) on the Oswegatchie River near the Village of Heuvelton, NY. In the summer of 2024, it was estimated that 30 million water chestnut plants were removed from this population using mechanical and manual methods. Over the next few years there are plans to continue mechanical and manual removal efforts on the River. These efforts aim to aid the reestablishment of native vegetation and reduce the spread of this invasive species downstream into Black Lake and the St. Lawrence River-two ecologically and economically important waterbodies.

In addition to removal efforts, surveys were conducted in the summer of 2024 by project staff on Black Lake. There are plans underway to work with the Black Lake Association to continue managing populations near the lake to remove any regrowth in 2025 and increase surveys of additional Lake shorelines. Likewise, initial surveys along the St. Lawrence River (from Ogdensburg to Massena) found only one small chestnut population in the mouth of Tibbetts Creek, near Ogdensburg. Efforts to hand-pull these plants with local community members are ongoing. Similar surveys and removals will be crucial in 2025, since the record summer floods in 2024 may have swept a considerable number of seeds/nuts downstream from the Heuvelton water chestnut population.



The suitability of fish habitat in nearshore waters dominated by water chestnut and by native vegetation were also explored. Similar amounts of potential fish forage (zooplankton, insects, and snails, etc.) and recorded juvenile fish were found in each habitat, suggesting that fish may use both site types as nursery areas. However, water quality measurements were generally worse in water chestnut dominate sites, showing lower dissolved oxygen and pH than seen in native plant dominate sites, especially from midnight to dawn.

Continued suppression of water chestnut at Heuvelton should help native plant recovery, which in turn will support native fish and invertebrate populations. There is hope that this work will reduce continued spread of water chestnut in these important waterbodies. More information about the project can be found on the St. Lawrence University website.

Volunteer with iMapInvasvies

Doug Knoph, iMapInvasives

Environmental professionals can't cover every inch of New York State to look for invasive species, which is why the NY Natural Heritage Program is thankful for all the volunteers who contribute data to our invasive species database! iMapInvasives has community science efforts that anyone can join this winter.

Returning for it's 4th year, our annual hemlock woolly adelgid (HWA) winter mapping challenge aims to track the leading edge of HWA populations in New York. These insects threaten the health of our eastern hemlocks, trees that provide important ecosystem services for forests and streams throughout the state. The challenge began on Feb 1st and ran until March 15th. Additional information about the challenge as well as a recording to the kick-off webinar is available on the iMapInvasives website.

Confident in your invasive species identification skills? You can get involved in the data confirmation process for some of the data submitted to iMapInvasives. Volunteers can apply for permission to review unconfirmed reports for common invasive species. If the photograph submitted with the record matches up with the listed species information, you can confirm the record and have it show up on our database! iMapInvasives receives tens of thousands of records every year, so we appreciate anyone willing to review some of the incoming data.

There are plenty more ways to get involved with iMapInvasives throughout the year, so remember to check in to see what's new (<u>learn</u> more)!

Call for Collaboration!

New York Invasive Species Awareness Week (NYISAW) will be observed June 9th through the 15th this year. It is an annual event hosted by the NYS DEC, the PRISM network, state agencies, and other collaborators across the state.

We highly encourage our partners to participate in NYISAW by hosting or collaborating on events held within our region. Events can be anything that helps to raise awareness of invasive species and encourages the public to get involved. If you're interested in hosting an event or collaborating with us on one please <u>fill out this form</u> or scan the QR code. Visit the <u>official NYISAW website</u> for more information.



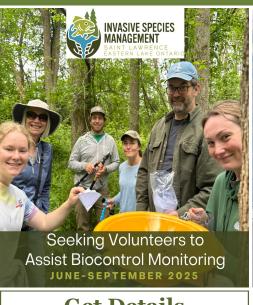
Scan to submit your interest in hosting or collaborating with SLELOon a NYISAW event.





EVENTS & ANNOUNCEMENTS







Get Details

Get Details

- Saturday, March 29th: THTLT Animal Track Adventure
- April 10th-11th, A2A Science Symposium
- Saturday, April 19th: Zoo NY Earth Day Celebration
- Saturday, April 25th: TILT Arbor Day Celebration
- Saturday, April 26th at 9 AM: Tree Watertown Planting at Thompson Park (meet at the Vet-eran Memorial statue).

Event contact: easher-idan84@gmail.com

- May 3rd Love My Park Day
- May 18th-25th Emerald Ash Borer Week
- May 31st- June 8th Make a Difference Week
- September 14-16 Invasive Species Expo
 - Volunteer Opportunities Join THTLT Bird Quest, trash clean-ups, special projects, and more!

<<Job & Funding Opportunities >

- Oswego SWCD Technician Job
- Save the River Summer Internships
 - Thousand Island Land Trust Internship
- **Great Lakes AIS Landing Blitz Funding**
- **NYS Funding Opportunities**

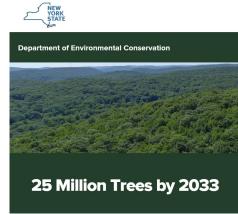


Protect Your Favorite Outdoor Spaces From Invasive Species

Take the Pledge



Emerging Invasive Alerts



Tree Planting Tracker

From the Director's Desk



New beginnings for the SLELO PRISM team include changes in staffing in 2024 and a renewed desire to strengthen partnerships to enhance our conservation work. My commitment is to protect the lands and waters within the SLELO region from invasive species, and our partners' dedication is crucial for impactful collaborations. As gatekeepers of the St. Lawrence River and Eastern Lake Ontario, we must collaborate at all scales to protect our large natural systems.

Invasive species pose serious threats to our lands and waters, such as out-competing, damaging, or replacing native species and disrupting ecosystem They also significantly disrupt biodiversity. The work we do with our partners and host, The Nature Conservancy, extends beyond our region-promoting native species establishment and creating resilient landscapes that withstand changing climate conditions and human encroachment.

Partnership and collaboration the are cornerstones of our success. By working together, we leverage diverse expertise, resources, and perspectives, making our conservation efforts more effective and far-reaching. Our collective actions amplify the impact of our work, ensuring that we can tackle the complex challenges posed by invasive species efficiently. more Strengthening these partnerships not only enhances our current projects but also paves the way for innovative solutions and long-term sustainability.

Join us in our mission to protect and preserve our natural systems. Your support and active participation are vital to our success. Together, we can make a difference.

~Brittney Rogers

SLELO PRISM Partner List

Learn More About Our Partners

- NYS Dept of Environmental Conservation
- The Nature Conservancy
- Algonquin to Adirondack Collaborative
- CNY Regional Planning and Development Board
- Cornell Cooperative Extension
- Soil and Water Conservation Districts
- Ducks Unlimited
- Fort Drum Military Installation

- Indian River Lakes Conservancy
- NY Natural Heritage Program
- NY Power Authority
- NY Sea Grant
- NYS Agriculture and Markets
- NYS Department of Transportation
- · NYS Office of Parks, Recreation, and **Historic Preservation**
- Onondaga Audubon
- · Save the River
- Soil & Water Conservation Districts
- St. Regis Mohawk Tribe Environmental Division
- Thousand Islands Land Trust
- Tug Hill Commission
- Tug Hill Tomorrow Land Trust
- U.S. Coast Guard Auxiliary

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Edits completed by SLELO PRISM Staff Articles contributed by SLELO partners







SLELO PRISM **Host Organization**



Department of **Environmental** Conservation





