



# SLELO PRISM

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

2021 Summer Newsletter

# Aquatic Invasive Species

AND HARMFUL ALGAL BLOOMS

## *In This Issue*

- ♦ *About the Cover*
- ♦ *Make Your Efforts Count*
  - ♦ *Species & Partner Spotlight*
  - ♦ *Community Science*
  - ♦ *Innovative Technology*
- ♦ *Terrestrial & Freshwater Initiatives*
- ♦ *Education & Outreach*
- ♦ *Manager's Memo*

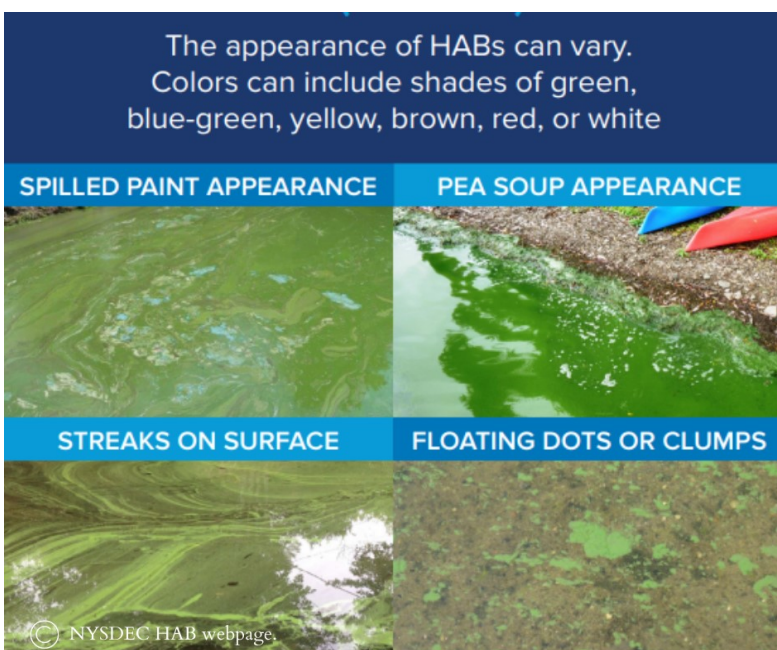


# About the Cover

*SLELO PRISM—Megan Pistolese*

## WHAT IS A HARMFUL ALGAL BLOOM?

A harmful algal bloom (HAB) is a large-scale, visible algal bloom in freshwater produced by a group of bacteria called cyanobacteria or blue-green algae. These types of blue-green algae are capable of producing toxins that can cause health hazards. In freshwater lakes, excessive phosphorus loading into a water body allows HABs to occur. Blooms of concern typically appear as spilled paint, pea soup, floating dots, or surface streaks.



## REPORT HABs Online

Email [HABInfo@dec.ny.gov](mailto:HABInfo@dec.ny.gov)

The NYS DEC is also interested in the presence of *Cladophora*— a type of native algae.

If you notice stringy algae in clumps along the shoreline please fill out the report form on the



# Calling all Water Chestnut Pull Organizers

*SLELO-Megan Pistolese*

Roughly **35,000 pounds** of water chestnut are removed through hand-pulls in the SLELO region annually.

Many of our partners organize water chestnut pulls (WCPs) and have a process in which they record their efforts. However, utilizing a centralized platform to record WCP, like iMapInvasives, could better capture regional and statewide efforts and also help to identify data gaps and reduce the replication of efforts. Furthermore, reporting pull efforts to iMap helps to standardize the data metrics which helps to give a more accurate representation of collaborative efforts.

The effectiveness of a centralized platform and standardized data can be seen in the

success of the Watercraft Inspection Steward Program Application (WISPA). This application provides program leaders with an online dashboard to retrieve and analyze data which is used to provide state-wide, regional and local insights into the effectiveness of the program.

Reporting to iMapInvasives has been made even easier with a **step by step document** and **recorded webinar series** to help guide you.

You can also reach out to the iMapInvasives team at **[imapinvasives@dec.ny.gov](mailto:imapinvasives@dec.ny.gov)**, 518-402-8941 with questions to learn how to upload your existing WCP data into the iMap database.

## Milfoil, Community Science, and Teens

*Sarah Trick-IRLC*

Project WHIRL is an annual summer program for teens hosted by the Indian River Lakes Conservancy. This acronym stands for: Protectors of Water and Habitat in the Indian River Lakes. This year, their program has expanded allowing for two cohorts, one consisting of Indian River students participating for a high school physical science credit, and a second for students from five local districts who will meet each week to learn about watershed management, aquatic resources education, and invasive species management.

Both groups are partnering with Clarkston University on a study evaluating five Indian River Lakes for milfoil weevil suitability. Milfoil weevils are a small beetle-like organism that spend a majority of their lifecycle on, or within, milfoil plants. There have been multiple successful case studies from across the U.S. of weevil stocking as a form of milfoil control.

Teens involved in this program will work with volunteers and staff from Clarkston University evaluating shoreline habitat, lake area, milfoil abundance, and Secchi depth readings, among other factors.

Their learning will culminate with local presentations to interested community members along with student presentations at Clarkston University's field station in Norwood. Student's findings will be used in the university's weevil studies and will help inform lake associations.



WHIRL-2021 © IRLC

# Species Spotlight—Forest Pests

SLELO - Megan Pistolese , Rob Williams

## Elm Zigzag Sawfly (*Aproceros leucopoda*)

Our partners at NYS Ag & Markets have informed us that we have a new contender on its way from the north that will likely pose an additional threat to the health of our state's American Elm populations which according to the NY Flora Atlas, are established in all but three New York counties. The contender is the Elm Zigzag Sawfly (Ezs) *Aproceros leucopoda*, which is a new invasive species to North America, named after the zig-zag feeding pattern of the larvae.

This insect can cause significant branch die-back and crown thinning, weakening the trees and causing increased vulnerability to other pests or pathogens. Elms in a variety of habitats, including arboretums, botanical gardens, roadside trees, urban plantings, and in natural woodlands are susceptible.

There is a possibility of organizing a Volunteer Surveillance Network for this pest, but first we need to locate elm tree stands in the SLELO region. If anyone knows of elm stands that have easy access, please reach out to [Megan.Pistolese@tnc.org](mailto:Megan.Pistolese@tnc.org) and include the subject "elm stands."

## Box Tree Moth (*Cydalima perspectalis*)

On May 26th, the Canadian Food Inspection Agency (CFIA) had confirmed the presence of box tree moth in a St. Catharines, Ontario, Canada nursery. The box tree moth is native to Japan, China, Taiwan and the far east. According to the literature, the larvae are voracious defoliators of *Buxus* and is considered a high-consequence defoliating pest of boxwood, with other possible hosts. If you think you have found this moth, take quality close up photos, and contact Thom Allgaier with NYS Agriculture and Markets at,

[Thomas.Allgaier@agriculture.ny.gov](mailto:Thomas.Allgaier@agriculture.ny.gov).



Box Tree Moth © NYSAGM

## Elm Zigzag Sawfly © NYSAGM





# Healthy Trees , Healthy Cities App

*Rachel Holmes-The Nature Conservancy*

Monitoring for tree health enables managers to get ahead of the next worst invasive insect or disease. Research suggests trees provide optimal ecosystem services at maturity; therefore, a tree health monitoring program is essential to ensure trees reach maturity and the return on investments in tree-planting is maximized. Since 2015, the USDA Forest Service and The Nature Conservancy have spearheaded a tree health monitoring initiative called Healthy Trees, Healthy Cities (HTHC) which includes the development of a smart phone application by the same name. The app features three modules – a basic inventory tool, an insect/disease detection protocol, and a tree health monitoring protocol.

The HTHC tree health monitoring module is a simple methodology for lightly trained observers to identify stress in trees. It includes a set of six variables designed by USDA Forest Service scientists to capture signs and symptoms of stress in trees throughout their lives. These variables are leaf discoloration, leaf defoliation, fine twig dieback, crown transparency, crown vigor and crown light exposure.

The variables – collected through visual observation – are then statistically combined to form a stress index that is non stressor-specific, meaning it does not focus on one known or anticipated cause of stress. By knowing when and where your trees may be stressed, you can proactively respond to their needs, or seek professional help for them before it's too late.

Furthermore, understanding patterns of systemic tree stress in particular locations, at particular times of year, or for particular species, enables early detection and rapid response to tree threats even before we are able to identify them.



The insect/disease detection module of the HTHC app includes the signs and symptoms of approximately 15 tree-killing insects and diseases in one protocol. The simple questions either yes/no or choice from a pulldown menu – offer data that can be used alone or in combination with HTHC's tree health data to provide additional context for the cause of stress in trees.

The **app** can be downloaded on Apple and Android devices and a series of training videos for the tree health protocol can be found **[here](#)**.

## Releasing Biological Controls

### *Hypena opulenta*:

In cooperation with the New York Invasive Species Research Institute, we set up 4 cages this year, 2 on Grenadier Island and 2 at Robert G. Wehle State Park. 20 Males and 20 Females of adult *Hypena opulenta* (a biocontrol for swallowwort spp.) were placed in each cage on Grenadier Island. 20 Males and 20 Females were placed in one cage at the Wehle site, and 10 Males and 10 Females were placed in the second cage at Wehle State Park. The *Hypena* were placed in the cages on June 1 and will be released from the cages sometime this month. Defoliation has started to occur in the cages and we will continue to monitor these cages until we observe significant swallowwort defoliation. We will then remove the cages and allow the larvae to disperse as has been done in previous years. We also may have an opportunity to release additional *Hypena* later this summer pending their availability.

### *EAB parasitoids*:

Regarding EAB Biological Controls - Parasitoid Wasps have been released in 3 of the 5 counties in the SLELO region. Those are St. Lawrence, Jefferson, and Oneida Counties. There are three species that have been released. Those are *Oobius agrili*, which is an egg parasitoid, *Tetrastichus planipennis*, and *Spathius galinae*, which are larval parasitoids. Release rates in the region are 600 per year for *Spathius galinae* and 1,200 per year for *Oobius agrili* and *Tetrastichus planipennis*. According to the USDA, good sites

for release are areas larger than 40 acres with at least 25% ash density. Smaller sites may be acceptable if ash density is high. Sites where trees will not be harvested for the next five years are preferred. Public land is often preferred over private land due to uncertainty of continued permissions throughout the period of release and recovery. Areas must also be approved for any activities related to the release. Preferred sites should include a range of size classes from seedling to mature and should have a low to moderate EAB population. That is, most trees should still appear to be fairly healthy with a full crown or small degree of crown dieback (crown class 1 or 2). These preferences are guidelines and not strict rules, so an area not meeting these requirements may still be eligible.

**If you are aware of an EAB infested area that meets or is close to these requirement, please email Robert at [robert.l.smith@tnc.org](mailto:robert.l.smith@tnc.org) with the subject "EAB infested areas"**



*Tetrastichus planipennis* Credit: D. Cappaert

# Terrestrial Restoration & Resilience Initiatives Continued...

## Giant Hogweed Eradication 2021:

Number of Sites Checked = 48

Number of Sites no Permission = 1

Number of Sites No Germination = 40

Number of Sites Root Cut = 1

Number of Sites Foliar = 6

Number of Sites not monitored this year = 11

Total Sites Assessed = 59

## Black River Trail Feasibility Study:

Zack Simeck our GIS Analyst has been assisting our PRISM with mapping of compartments

along the black river trail needed for our feasibility study. The final steps of data analysis is underway, and a map showing invasive species abundance in each compartment is being developed to will help to prioritize future suppression and restoration efforts should they be deemed feasible. As we finalize the conclusions and recommendations, our Zack is also exploring ways to share the extensive native and invasive species dataset through an interactive web application as well.

## Eastern Lake Ontario Shoreline Dunes Management Plan

*Rob Williams—SLELO*

The Eastern Lake Ontario Dunes is a 17-mile (5,800 acres) barrier beach and wetland ecosystem designated as a Natural Heritage Area, Audubon Important Bird Area, Significant Coastal Fish and Wildlife Habitat, National Natural Landmark, and proposed National Marine Sanctuary.

There are rare and significant natural communities identified by the NY Natural Heritage Program including Great Lakes Dunes, Sand Beach, and Shallow Emergent Marsh which support federal and state protected rare plants and wildlife.

Invasive plant species, like spotted knapweed and phragmites, threaten the natural integrity of the dunes and

wetlands, and pose significant threats to habitats supporting threatened and endangered species.

The project team, led by Patricia Shulenburg of the ELO Dunes Foundation, are currently engaged with land managers and private property owners to develop a first ever Invasive Species Management & Ecological Restoration Plan for this unique coastal area.

Our hope is that we can sustain the health of the dunes and their resiliency to invasive species and climate stressors.





# Aquatic Restoration and Resilience Initiatives

SLELO– Brittney Rogers

In 2021 we will be conducting aquatic field surveys at Guffin Bay, Delta Lake, Fish Creek, French Creek, Mud Bay, Mud Lake, Upper and Lower Lakes WMA, and the Whetstone Reservoir. Surveys are conducted via rake tosses and visual observations and data is submitted through SAS-Pro, a Survey123 tool developed by the New York Natural Heritage Program and **iMapInvasives** team.

As part of our efforts in better understanding “**What We’re Protecting**” we are working with the NYNHP and NY Flora Association to help update distribution lists of native aquatic plant species encountered during field surveys. According to our current understanding, there are over 140 native aquatic plants in NY and very little information on which waterbodies they all do or don’t exist in. Through our efforts we re hoping to improve the **NY Flora Atlas** information and get a better gauge on the diversity of our waterbodies and the distributions of our ecologically important native species. If anyone is interested in



collaborating on this effort, please contact **[Brittney.Rogers@tnc.org](mailto:Brittney.Rogers@tnc.org)**

Our 2021 Watercraft Inspection Steward Program, co-administered with the **Thousand Islands Land Trust**, began in May and consists of 9 stewards covering launches around the region. We are continuously improving the program by expanding our understanding of the launches, their use, and the species in the immediate surrounding areas. Stay tuned for additional updates on program and project results as the season progresses.



## Data at a Glance:

3,772 Surveys Conducted  
4465 Watercraft Inspected  
9,490 People Contacted  
66% Launching Boats  
245 Dirty Boats  
216 Invasive Species

## Highest Launch Use:

Delta Lake  
Lake Bonaparte  
Godfrey Point  
North Sandy Pond  
South Sandy Creek  
Mary Street  
Butterfield Lake  
Wellesley Island  
Cape Vincent  
Redfield



# Innovative Technology Aids Invasive Species Work

*Mike Rawitch— Galago Innovation Project Manager-Ramboll*

Galago, powered by Ramboll, is developing the next generation of land management technology utilizing drones, satellites and artificial intelligence. Traditional environmental monitoring requires time-consuming manual data collection that often results in an incomplete picture. Galago improves this process by providing sitewide understanding through the use of image analytics and artificial intelligence, enabling clients to make better informed decisions. Galago has a dedicated team of remote sensing and data scientists with significant experience in developing drone data workflows to assist in capturing Ramboll's domain knowledge digitally through technology-enabled consulting and innovative methods built from years of experience. The Galago team has developed algorithms for plant monitoring and species identification, identifying the evolution of habitat types, and automating processing of UAS-collected imagery and point clouds to reduce turnaround time.

Galago is currently conducting a 250-acre pilot study within Hemlock-Canadice State Forest using drone image recognition to record and monitor Giant Hogweed. This site was chosen in coordination with the New York State Department of Environmental Conservation (NYSDEC) due to its known infestation and challenging terrain. Just south of Hemlock Lake, Galago deployed drones to map the area of interest over several dates to better understand plant phenology and its visibility in aerial imagery. Galago's field team conducted multiple flight methodologies with varying resolutions and flight altitudes to answer the question of, when are giant hogweed



Overhead drone imagery shot © Mike Rawitch.

plants visible in drone imagery? Using this approach, Galago was able to identify giant hogweed through aerial imagery based on both the flower and leaf structure. Future activities on this site include the application of machine learning (ML) and artificial intelligence modeling (AI) to automate species identification. Data collected in previous flights will be utilized as training data for the model. This automation will save time and increase efficiency. Additional, data collected will be provided to the NYSDEC for both ground truthing and eradication/management efforts. Leveraging aerial imagery for invasive species identification can significantly reduce time in the field, increase ability to capture phenology in small windows of time, reduce cost and create a permanent digital record of invaluable data.

For additional information please visit our [web-site](#). You can view a webinar recording providing an overview of this technology [HERE](#). Reach out to the Galago's Innovation Project Manager Mike Rawitch to start a project at [mrwitch@ramboll.com](mailto:mrwitch@ramboll.com).

# Partner Spotlight

*Les Benedict-St. Regis Mohawk Tribe*

The Saint Regis Mohawk Tribe- Environment Division is planting the seeds for the future by investing in the Akwesasne Native Plant Nursery (ANPN). Although, not unique, it is the Tribe's first venture into developing its capacity to produce native plant species for a wide range of purposes. Native American tribes throughout the US are growing native plants for reforestation and restoration efforts. In addition to fulfilling vital ecological roles, native plant species include many species of plants traditionally used by tribes for food, shelter, textiles, medicines and ceremony.

In 2003, a Tribal Nursery Needs Assessment was published through the Reforestation, Nurseries, and Genetics Resources Program ([RNGR](#)). This assessment was the first survey to assess American Indian native plant needs and develop a national directory of tribal nurseries. The survey assessed the needs of 77 different groups and revealed that 86% requested further nursery and restoration training, 35% of tribes and tribal colleges have existing nurseries, and 31% did not have a nursery and would like to start one, and many small, existing nurseries wanted to expand the scope of their projects.

Recognizing the importance of native plant species for restoration projects as well as the strong cultural connections to native plants, the Tribe has been working to develop its capacity to operate and manage our own native plant nursery, to meet the Tribe's future native plant needs.

## **The goals of Akwesasne Native Plant Nursery (ANPN)**

**GOAL 1:** Build and develop sustainable Tribal resource management capacities to propagate native plants on Tribal lands restoration sites that will benefit fish and wildlife habitats.

**GOAL 2:** To develop our Tribal native plant nursery and greenhouse pilot project to estab-



The beginning of the ANPN. Photo credit– Les Benedict– SRMT.

lish native plant supplies for restoration efforts while supporting culturally & traditionally important native plant propagation

**GOAL 3:** Outplant native plants to restore degraded Tribal lands.

**GOAL 4:** Increase community awareness and education concerning the benefits and process of producing and propagating native plants including culturally/traditionally significant native plants.

**GOAL 5:** Build and expand strong partnerships and support network.

*Early successes to date include the construction of a high-tunnel greenhouse system, installation of a waterline to the site, training and capacity building of staff, and establishment of sweet-grass and several tree/shrub species.*

Anyone with an interest in the ANPN or participating in the working group can contact the Land Resources program at the Tribe at:

[jessica.raspitha@srmt-nsn.gov](mailto:jessica.raspitha@srmt-nsn.gov)

[les.benedict@srmt-nsn.gov](mailto:les.benedict@srmt-nsn.gov)

518-358-5937



# Upcoming Invasive Species Events and Announcements

## eDNA Webinar Series



August 4th @ 5:30pm

[Click to View Details & Register](#)

## Assist Water Chestnut Pulls

August 5th  
Two sites  
Begin @ 9am

Save The  
River

Upper St. Lawrence  
RIVERKEEPER



SLELO PRISM

8/5 @9am in Guffin Bay &  
Oswegatchie River. [REGISTER](#)

## Great Lakes Summer Teacher Workshops:

July 14th- August 5th. *If you're an educator who wants to incorporate invasive species and Great Lakes ecosystems into your curriculum this is an opportunity for you!*

## NYS Pesticide Use and Regulations:

Wednesday, July 28th @ 6pm.

## NYiMapInvasives Trainings:

- Data Gaps/Under-reported Species: Wednesday, July 28th 1pm-2pm.
- Identifying/Reporting Spotted Lanternfly and Tree of Heaven: Thursday, August 5th 10am.

## NYS Pesticide Use and Regulations:

Wednesday, July 28th @ 6pm.

## <<Notable Announcements>>

## The Eastern Lake Ontario Invasive Species Symposium



Recordings/Exhibits

[Click to view recordings of  
each session and resources  
from presenters.](#)



## Project WHIRL

TEEN ENVIRONMENTAL EDUCATION  
LEARN ABOUT AQUATIC RESOURCES  
IN THE INDIAN RIVER LAKES REGION  
THROUGH HANDS-ON RESEARCH  
OUTDOORS ENTHUSIASTS WANTED

[Click to learn about this  
teen environmental edu-  
cation program.](#)

## WORKING WITH NATURE

A GUIDE TO NATIVE PLANTS FOR NEW YORK'S GREAT LAKES SHORELINES



[View a guide to native  
plants for NY Great  
Lake Shorelines.](#)



# Managers' Memo

## Will You Take A Pledge?



They say that telling someone to do something often results in inaction, but inviting someone to take a positive, voluntary action more often results in behavior change and behavior change is one objective of protecting our lands and waters from invasive species impacts. Inviting someone to take a pledge and then providing them with the tools and a reward, makes more sense and more likely results in activities that are **responsible, resourceful and repeatable**.

In the coming weeks the SLELO PRISM partnership will launch a major marketing and communications effort designed to be fun, positive, inviting, engaging and rewarding. It will invite you to display your sincerity towards protecting our lands and waters and provide you with the necessary tools to do so.



Whether you are particularly interested in forests, freshwater, gardens, communities, lands and trails, pledgers will become protectors and will have access to toolboxes designed for your specific interest.

Equally important is that we are inviting all other PRISMs across New York State to participate. To achieve this, we have the ability to create a landing page that can redirect individuals to any region of New York, landing on any PRISMs website where they will find pledge materials and unlock toolboxes designed to help individuals take action to suppress the spread of invasive species resulting in healthier lands and waters. This will also enhance consistency of messaging.

So I challenge you to get involved and take the pledge, I know I will.

~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
- ◆ 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

### Acknowledgements:

NYS Invasive Species Council  
NYS Department of  
Environmental Conservation  
The NYS Environmental  
Protection Fund

Edits completed by SLELO PRISM Staff  
Articles contributed by SLELO partners



The Nature  
Conservancy



SLELO PRISM  
Host Organization



Department of  
Environmental  
Conservation

Eastern Lake Ontario

Swallow-wort collaborative

