

SPECIAL PROJECT WEBINAR SERIES

Zoom Webinar

3.16.22

1PM-2PM EST

Aquatic Restoration Initiative

Presented by:

SLELO PRISM

Brittney Rogers



**INVASIVE SPECIES
MANAGEMENT**

SAINT LAWRENCE
EASTERN LAKE ONTARIO

SLELO PRISM

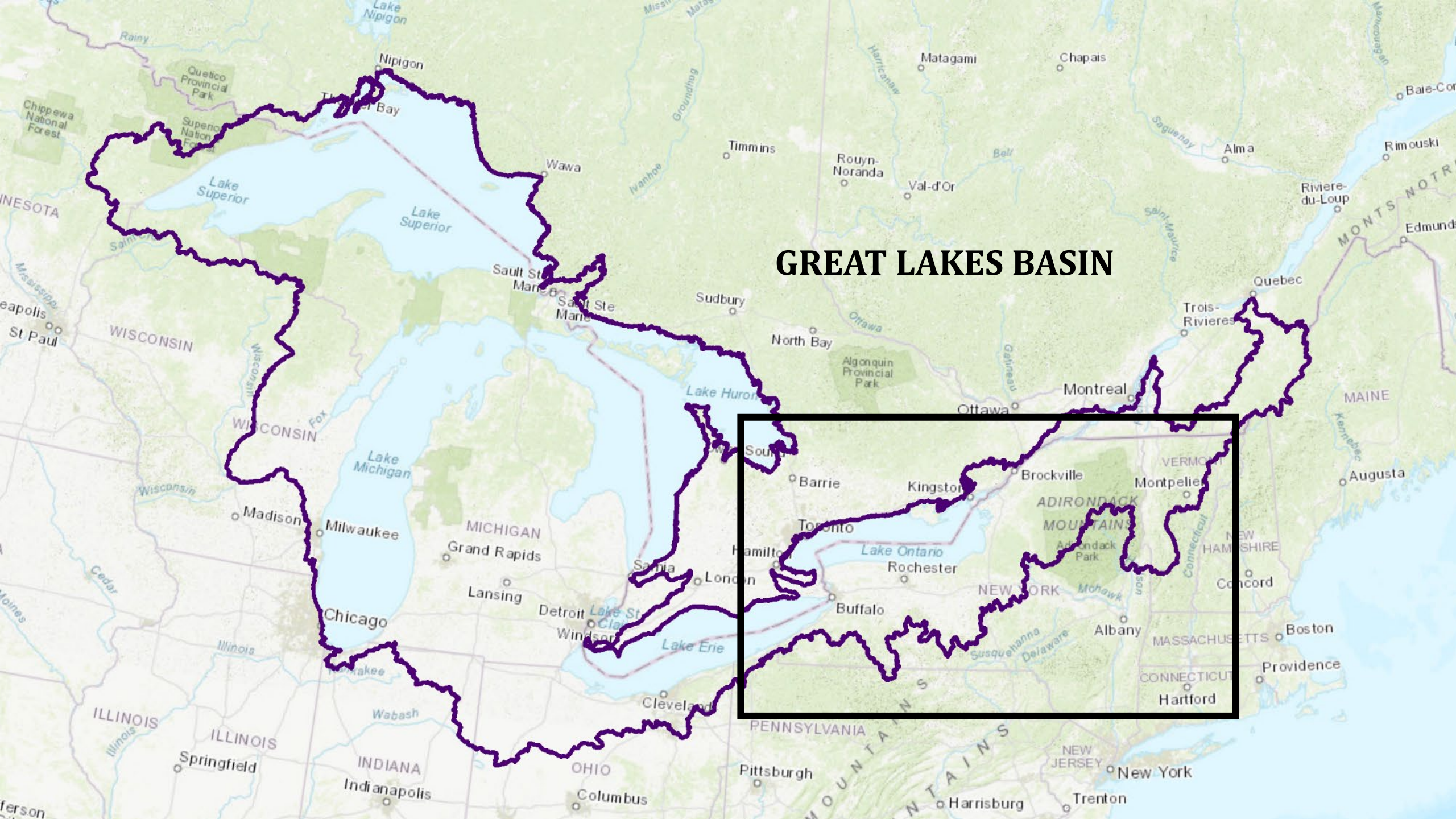


Today's Discussion:

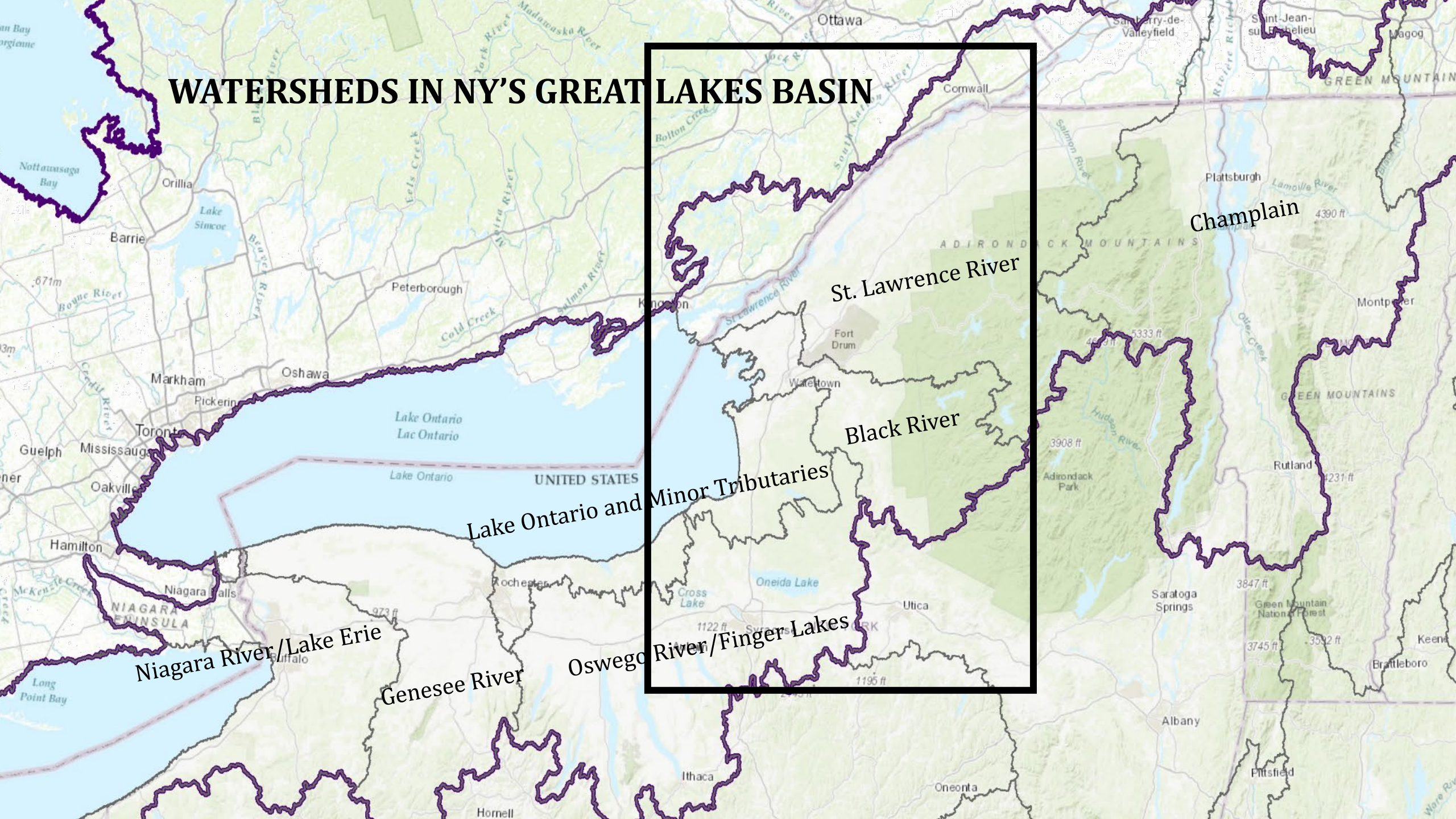
- Housekeeping
- Project area
- SLELO PRISM
- South Sandy Creek:
 - Phase I
 - Phase II
 - Phase III
- Dune Restoration Project

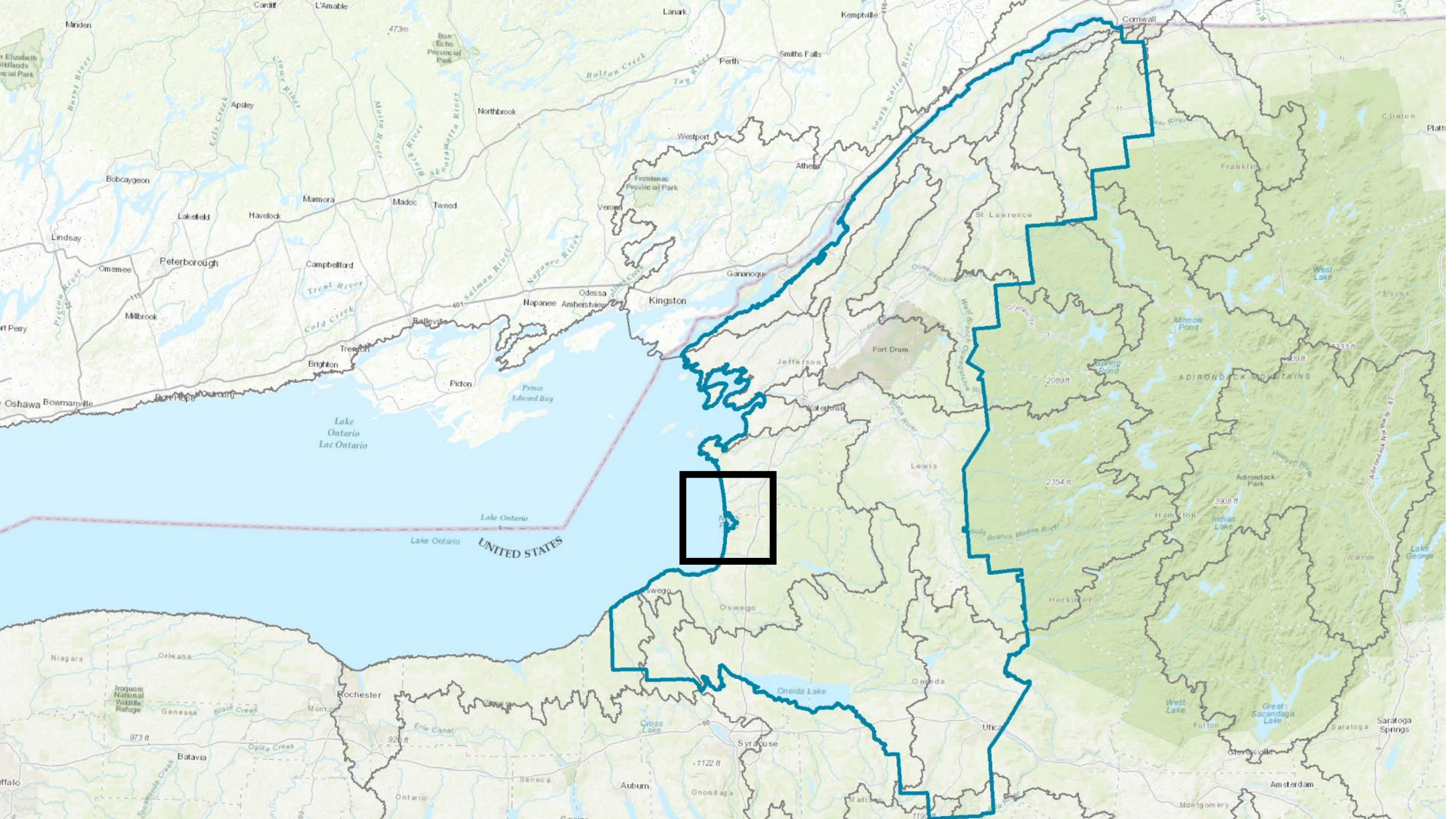


GREAT LAKES BASIN



WATERSHEDS IN NY'S GREAT LAKES BASIN

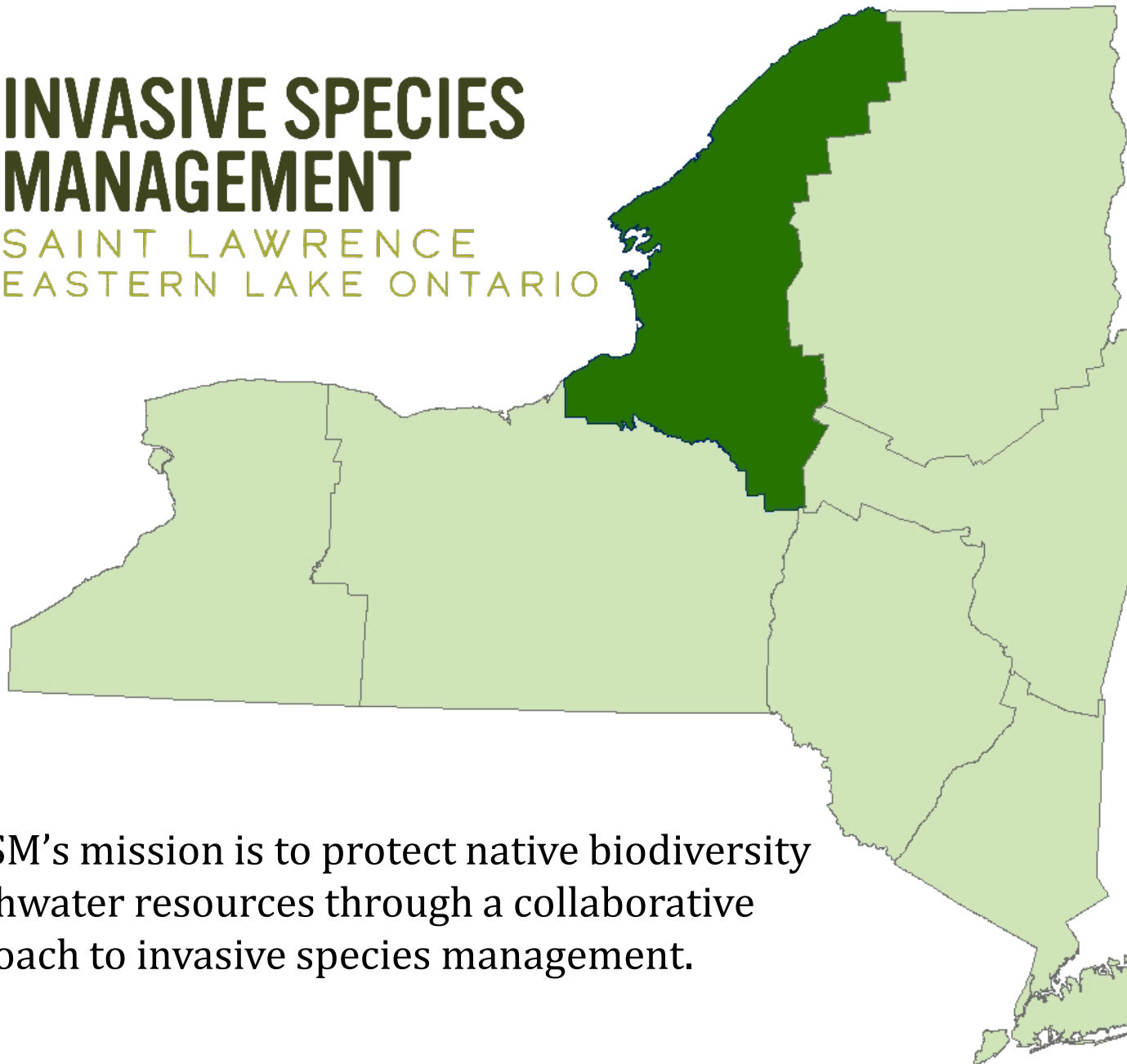






INVASIVE SPECIES MANAGEMENT

SAINT LAWRENCE
EASTERN LAKE ONTARIO



Adirondack Park
Invasive Plant Program

Capital Region

Catskill Regional
Invasive Species Partnership

Finger Lakes

Lower Hudson

Long Island
Invasive Species Management Area

St. Lawrence Eastern Lake Ontario

Western New York

SLELO PRISM's mission is to protect native biodiversity
and freshwater resources through a collaborative
approach to invasive species management.

Core Programming

Prevention

Early Detection

Rapid Response

Management and Control

Ecological Restoration

Education and Outreach

Special Initiatives

Aquatic Restoration Initiative

Black River Trail Feasibility Study

Environmental DNA Monitoring

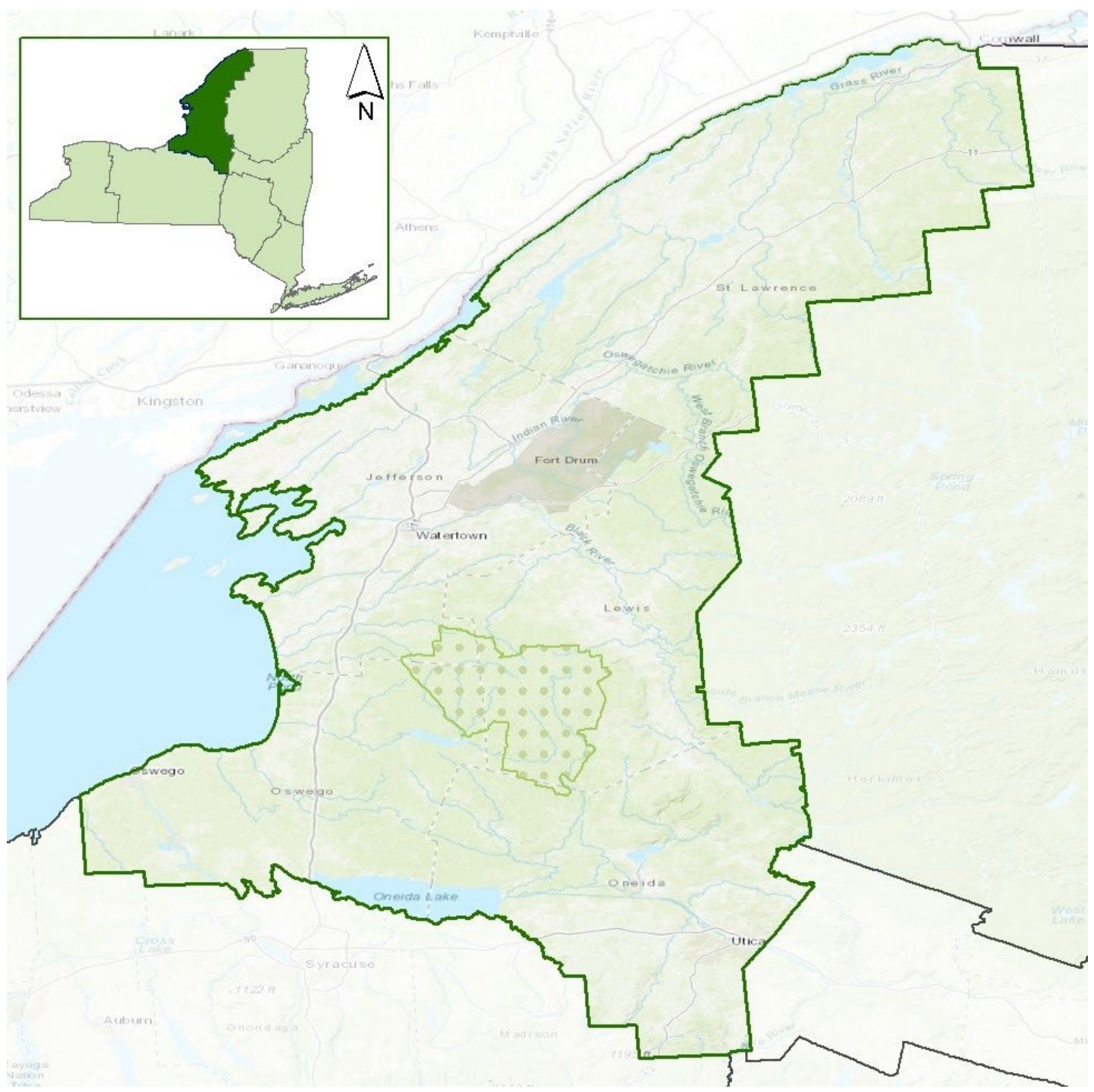
Pollinator Pathway

Spotted Lanternfly Spotters

Tug Hill Forest Restoration

Urban Forest Sustainability Initiative

Watercraft Inspection Steward Program



		Difficulty of Eradication/Cost of Control Abundance (In PRISM plus Buffer)				
		None in PRISM	Low (Eradication/Full containment may be feasible)	Medium (Strategic management to contain infestations and slow spread in PRISM)	High (Established/widespread in PRISM; only strategic localized management)	N/A
Impact (current and future)	Impact Very High or High	Tier 1 <i>Early Detection/Prevention</i> Not in Prism, but within 100 mile buffer or introduction pathway exists. Highest level of early detection survey efforts.	Tier 2 <i>Eradication</i> Present in Prism, but at low abundance with suitable treatment methods available to make eradication feasible within Priority Conservation Areas	Tier 3 <i>Suppression</i> Too widespread for eradication from PRISM, but some areas remain unaffected. Targeted management to suppress the population within Priority Conservation	Tier 4 <i>Local Control</i> Present and widespread throughout PRISM with no chance of eradication. Localized management applied to protect high priority resources like rare plant or recreation	Tier 5 <i>Monitor</i> Species that may or may not be in PRISM but are difficult to respond to or that require more knowledge of.

Asian Long Horned Beetle

Silver, Big Head, Black, and Grass Carp Species
Hydrilla

Kudzu

Mile-A-Minute Vine

Slender False Brome

Spotted lanternfly

Water Lettuce

Water Hyacinth

Water Soldier

Asian Clam

Fanwort

Giant Hogweed

Hemimysis

Porcelainberry

Tench

Black & Pale Swallow-wort

Japanese Knotweed

Japanese Stiltgrass

Hemlock Woolly Adelgid

Oriental Bittersweet

Phragmites/Common Reed

Rusty Crayfish

Spiny Water Flea

Starry Stonewort

Tree-of-Heaven

Water Chestnut

Wild Chervil

Yellow Iris

Common Buckthorn

Curly Leaf Pondweed

Emerald Ash Borer

Eurasian Water Milfoil

European Frogbit

Feral Swine

Glossy Buckthorn

Honeysuckle Spp.

Leafy Spurge

Purple Loosestrife

Round Goby

Spotted Knapweed

Wild Parsnip

Zebra/Quagga Mussel

Asian Jumping Worm

LEGEND:

Insects
Aquatic Species
Mammals
Woody Plants
Graminoids
Forbs
Vines
Subterranean

What is the Pledge to Protect?





**TAKE THE PLEDGE.
GET THE TOOLS.
EARN THE BADGE.**

www.iPledgeToProtect.org

BECOME A PROTECTOR

www.iPledgeToProtect.org

WHAT YOU'LL GET

1. Resources with Simple Actions You Can Take to Protect Your Lands & Waters from Invasive Species
2. Collectable Virtual Badges
3. Access to a Social Media Toolbox
4. Prizes!

Aquatic Restoration Initiative

Restoring Critical Riparian Corridors within the Eastern Lake Ontario Region

**Presentation by Brittney Rogers
Aquatic Restoration and Resiliency Coordinator
The Nature Conservancy and SLELO PRISM**

THE RESTORATIVE CONTINUUM

Improving biodiversity, ecological health, and ecosystem services



REDUCING SOCIETAL IMPACTS

IMPROVING ECOSYSTEM MANAGEMENT

REPAIRING ECOSYSTEM FUNCTION

INITIATING NATIVE RECOVERY

PARTIALLY RECOVERING NATIVE ECOSYSTEMS

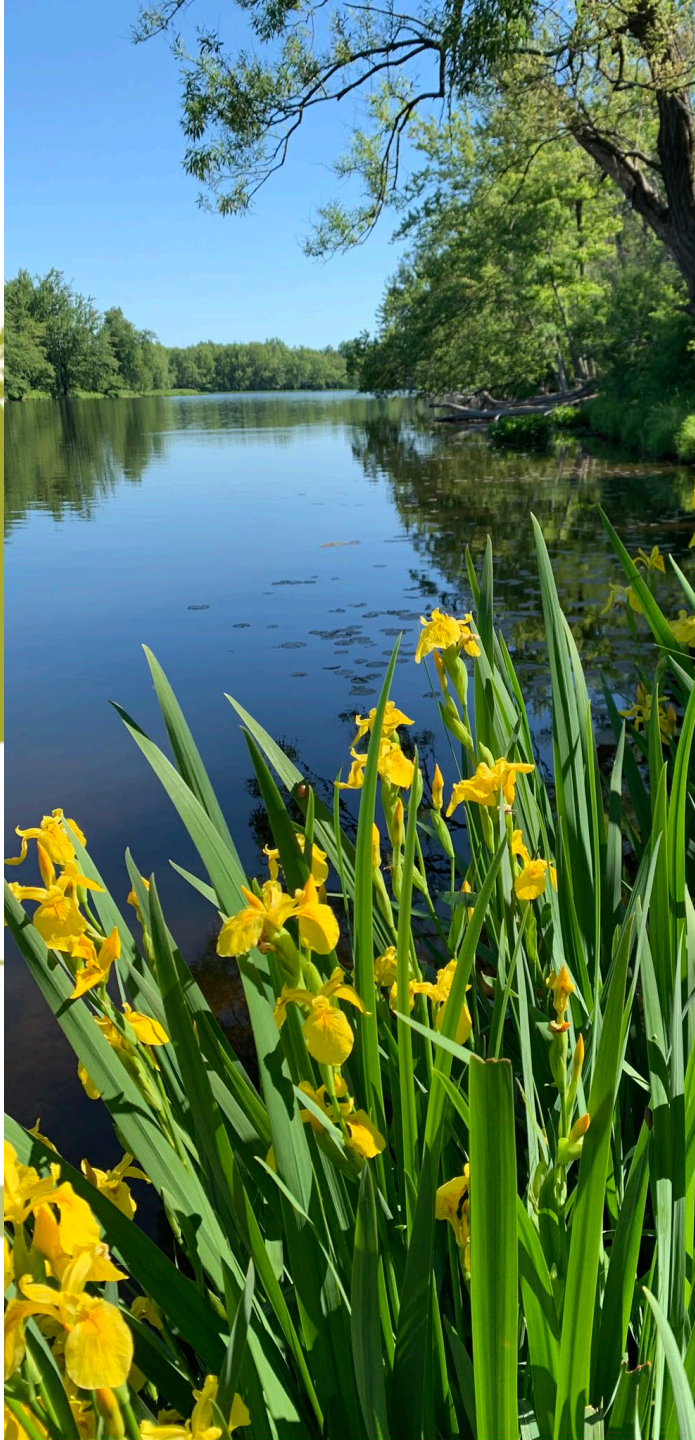
FULLY RECOVERING NATIVE ECOSYSTEMS

REDUCED IMPACTS

REMEDIATION

REHABILITATION

ECOLOGICAL RESTORATION





Ecological Restoration

Effectively and sustainably contributes to:

Protecting biodiversity;

Improving human health and wellbeing;

Increasing food and water security, and

Supporting climate change mitigation,
resilience, and adaptation

Solutions-based and Collaborative Approach

Repairing Ecosystem Function And Initiating Native Recovery

Goal:

- To recreate, initiate, or accelerate the recovery of an ecosystem that has been disturbed, followed by continued monitoring and maintenance

Conditions to consider include:

- Soil
- Water
- Sunlight
- Existing species
- Erosion or destabilization
- Risk and Impact of new invasions

Small scale projects with large scale results:

- 3.5-acre active management within 30-acre area
- Eastern Lake Ontario Tributaries
- Great Lakes Basin
- Migratory Linkages





SOUTH SANDY CREEK

THREE PHASES FOR THIS PROJECT:

- **2020 Phase I:** Initial baseline assessment
- **2021 Phase II:** Reduce impacts via management, initiate remediation
- **2022 Phase III:** Habitat rehabilitation and monitoring

2020 Phase I - Habitat Assessment and Inventory

Study Area:

Sandy Creek

South Sandy Creek

Deer Creek

Methods:

Literature Review

Assessment of

Aquatic and Riparian Species

Visual Observation

Rake Tosses

Horizontal Plankton Net Tows

Aquatic Live Traps

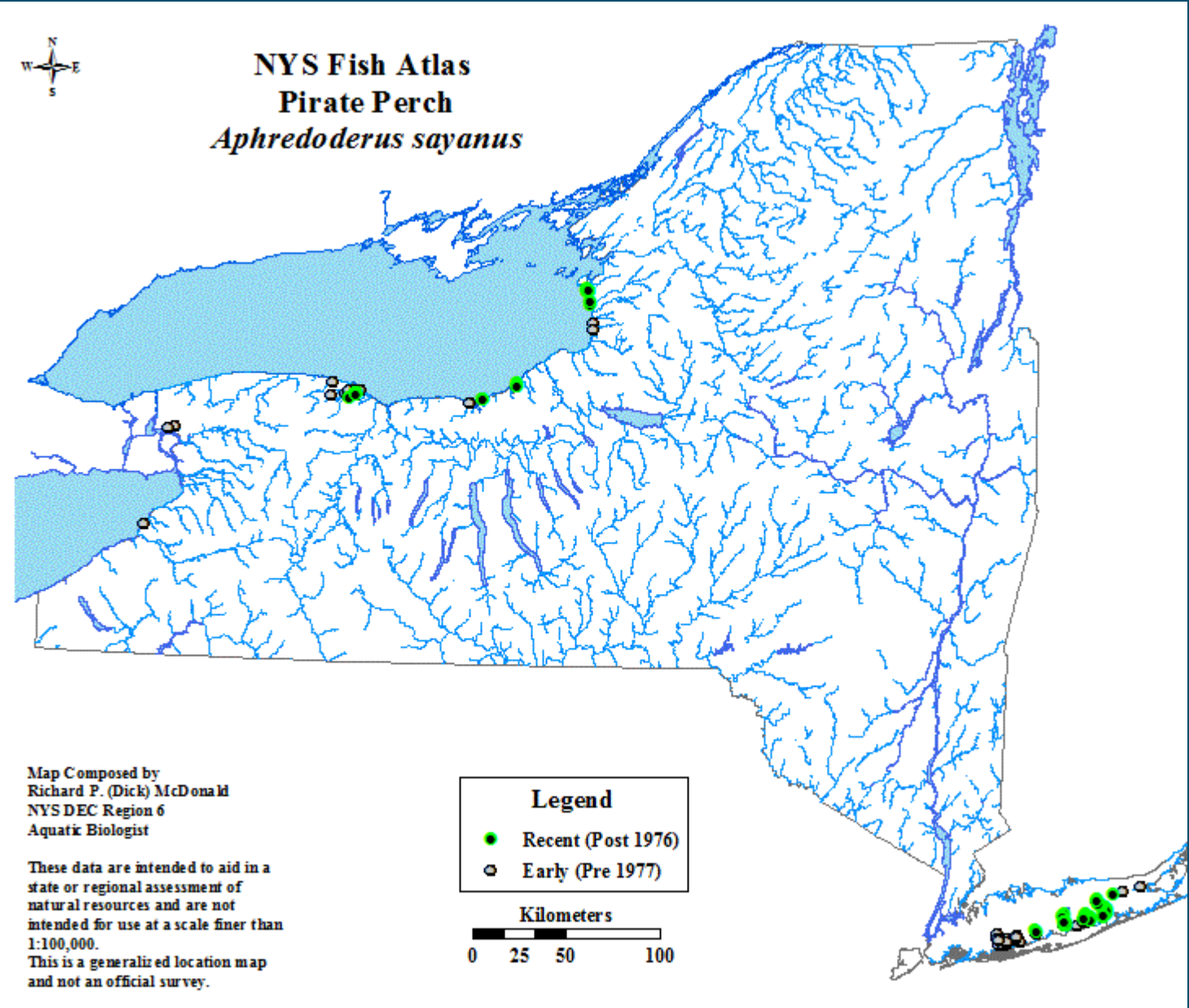
Results:

Complete Analysis of sites

Restoration Recommendations



2020 Phase I - Habitat Assessment and Inventory



2020 Phase I - Habitat Assessment and Inventory

Final Report of Findings



November 2020

Photograph courtesy of The Nature Conservancy

Final Report Phase 1: Aquatic and Riparian Invasive Species Inventory and Habitat Assessment Aquatic Restoration Initiative

This plan was prepared for The Nature Conservancy, as the host organization for the Saint Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management.

The Nature
Conservancy



www.sleloinvasives.org/aquaticrestoration

Drone Mapping – Aquatic Restoration Initiative



South Sandy Creek

2021 Phase II - Riparian Area Management and Remediation

Suppress Invasive Species

Stem and Foliar
Herbicide applications

Mechanical Removal

Native Species Restoration

Interpretive Panel




Aquatic Restoration Initiative Phase II – Management

Treated 3.2 acres of
Phragmites and Japanese knotweed

Invasive Species and Restoration
focused interpretive panel was
designed and is ready for 2022
installation







Protecting Our Waters

SLELO PRISM, Aquatic Restoration Initiative

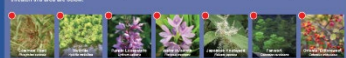
Reed beds, or the stands of reeds and sedges, are some of the most productive wetland ecosystems. They provide food, shelter and nesting for a wide variety of plant and animal life. These areas are critical to maintaining healthy ecosystems, and without them, wetland ecosystems and the services they provide are lost. It is important to protect these habitats from the negative impacts of invasive species on native species such as muskrats, birds, fish, the piping plover, and other wetland species.



With Reeds and Aquatic Invasive Species (RAIS) and climate change impacting the future of the Great Lakes, there is an urgent need to address these issues. Reeds and aquatic invasive species are a major threat to the health of the Great Lakes. Reeds are a critical habitat for many species, and their loss would have a significant impact on the ecosystem. Reeds are also a source of food for many species, and their loss would have a significant impact on the food chain. Reeds are also a source of oxygen, and their loss would have a significant impact on the water quality. Reeds are also a source of carbon, and their loss would have a significant impact on the climate. Reeds are also a source of habitat, and their loss would have a significant impact on the biodiversity. Reeds are also a source of recreation, and their loss would have a significant impact on the economy. Reeds are also a source of culture, and their loss would have a significant impact on the heritage. Reeds are also a source of medicine, and their loss would have a significant impact on the health. Reeds are also a source of art, and their loss would have a significant impact on the creativity. Reeds are also a source of science, and their loss would have a significant impact on the knowledge. Reeds are also a source of technology, and their loss would have a significant impact on the innovation. Reeds are also a source of education, and their loss would have a significant impact on the learning. Reeds are also a source of entertainment, and their loss would have a significant impact on the enjoyment. Reeds are also a source of inspiration, and their loss would have a significant impact on the imagination. Reeds are also a source of hope, and their loss would have a significant impact on the future. Reeds are also a source of love, and their loss would have a significant impact on the heart. Reeds are also a source of life, and their loss would have a significant impact on the world.




Reeds and Aquatic Invasive Species (RAIS) are non-native species whose introduction causes or is likely to cause harm to the environment, economy, and/or human health. RAIS are threatening Eastern Lake Ontario Wetlands. Wetlands provide critical habitat for many species, and their loss would have a significant impact on the ecosystem. RAIS are also a source of food for many species, and their loss would have a significant impact on the food chain. RAIS are also a source of oxygen, and their loss would have a significant impact on the water quality. RAIS are also a source of carbon, and their loss would have a significant impact on the climate. RAIS are also a source of habitat, and their loss would have a significant impact on the biodiversity. RAIS are also a source of recreation, and their loss would have a significant impact on the economy. RAIS are also a source of culture, and their loss would have a significant impact on the heritage. RAIS are also a source of medicine, and their loss would have a significant impact on the health. RAIS are also a source of art, and their loss would have a significant impact on the creativity. RAIS are also a source of science, and their loss would have a significant impact on the knowledge. RAIS are also a source of technology, and their loss would have a significant impact on the innovation. RAIS are also a source of education, and their loss would have a significant impact on the learning. RAIS are also a source of entertainment, and their loss would have a significant impact on the enjoyment. RAIS are also a source of inspiration, and their loss would have a significant impact on the imagination. RAIS are also a source of hope, and their loss would have a significant impact on the future. RAIS are also a source of love, and their loss would have a significant impact on the heart. RAIS are also a source of life, and their loss would have a significant impact on the world.




How you can help prevent the spread of invasive species

- Clean, Drain, Dry at boat launches, marinas, and other water access points.
- Don't dump your boat or trailer in the water, and only use certified bait.
- Skip invasive species in your travels, use certified bait.
- Don't know? Research, only buy bait where you can't buy it.
- Report all invasive species observations to www.mynaturewatch.org.

For more information on the project, scan the QR code below.



The mission of the St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management (SLELO PRISM) is to protect natural resources, biodiversity, and freshwater ecosystems by using a collaborative approach to invasive species management. This approach emphasizes prevention, early detection, rapid response, ecological restoration, and education and outreach.



Native Seed Mix

11 different species spread at treatment sites

Virginia wild rye (*Elymus virginicus*)

Spotted Joy-Pye weed (*Eutrochium maculatum*)

River bulrush (*Scirpus fluviatilis*)

Fox sedge (*Carex vulpinoidea*)

Pennsylvania smartweed (*Persicaria pensylvanica*)

Common soft rush (*Juncus effusus*)

Dark-green bulrush (*Scirpus atrovirens*)

Canada bluejoint grass (*Calamagrostis canadensis*)

Fowl manna grass (*Glyceria striata*)

Common sneezeweed (*Helenium autumnale*)

Green-headed coneflower (*Rudbeckia laciniata*)



Aquatic Restoration Initiative Phase III – Rehabilitation and Monitoring

Monitor for re-growth of
Phragmites and Japanese knotweed
and treat as needed

Continue native species restoration

Conduct site demonstrations at the
public experience event, June 11

Phase III Drone Flights

Long-term monitoring plan



Planned ROV use In project area



Jason Hunter ©



Jason Hunter ©





SLELO PRISM

Saturday June 11th, 2022

9:30am-2:00pm

At The Lakeveiw WMA

South Sandy Creek Car-top Boat Launch

Optional Activities:

- Hands-on Plant Identification
- Guided Walk and Paddle
- Learn about iMapInvasives & iNaturalist Mobile Apps.

Demonstrations on:

- Watercraft Inspection
- Environmental DNA Sampling
- Under Water Remote Vehicle Operation



SLELO PRISM SPECIAL PROJECT - ELO DUNE RESTORATION

THREE PHASES FOR THIS PROJECT:

- **2021 Phase I:** Initial baseline assessment
- **2022 Phase II:** Reduce impacts via management, initiate remediation
- **2023 Phase III:** Potential habitat rehabilitation and monitoring



Recommendations

In addition to the aforementioned invasive species management and restoration project priorities, the Eastern Lake Ontario Dunes Initiative recommends the following actions to achieve a collaborative and comprehensive approach to invasive species monitoring, management, and dune restoration projects:

1. Work with adjacent landowners: Work with neighboring private property owners to monitor, assess, and implement invasive species management and ecological restoration projects, and repeat the study with participating private landowners
2. Conduct private landowner education and outreach especially focusing on Phragmites, pale swallow-wort and additional high priority species.
3. Seek long-term funding, secure and implement (working with agency landowners) an Eastern Lake Ontario Dunes invasive species and restoration strike team.
4. Develop an equivalent of the [Natural Edge Program](#) hosted by Watersheds Canada to work with land owners and land managers on planting native species the dunes system and riparian areas.
5. Establish a native plant nursery for native dune building plants including Champlain beachgrass, and protected species including low sand cherry and sand dune willow.
6. Expand genetics testing American beachgrass populations to identify source populations for future restoration projects.
7. Seek funding, secure, and implement (working with agency landowners) a study to map and manage unmarked social trails to minimize invasive species spreading pathways Map social trails and work to minimize invasive species spread.
8. Repeat the invasive species initiative to identify wetland restoration projects.
9. Identify sites for demonstration projects, develop educational material public tours and workshops for invasive species management and r
10. Establish a platform for online information sharing or in person year land manger staff and interested private landowners to share invasi and success stories, updates, restoration projects, and collaboration

Southwick Beach State Park

Table 7: Invasive Species Observed at Southwick Beach State Park

Species (Common Name, Latin Name)	Present
Giant Hogweed (<i>Heracleum mantegazzianum</i>)	
Porcelain Berry (<i>Ampelopsis brevipedunculata</i>)	
Common Buckthorn (<i>Rhamnus cathartica</i>)	X
Glossy Buckthorn (<i>Rhamnus frangula</i>)	
Japanese Knotweed (<i>Rhynchospora japonica</i>)	
Japanese Stiltgrass (<i>Microstegium vimineum</i>)	
Oriental Bittersweet (<i>Celastrus orbiculatus</i>)	
Pale swallow-wort (<i> Vincetoxicum rossicum</i>)	
Phragmites (<i>Phragmites australis</i>)	
Tree of Heaven (<i>Ailanthus altissima</i>)	
Wild Chervil (<i>Anthriscus sylvestris</i>)	
Yellow Flag Iris (<i>Iris pseudacorus</i>)	
Purple Loosestrife (<i>Lythrum salicaria</i>)	X
Spotted Knapweed (<i>Centaurea stoebe</i>)	X
Wild Parsnip (<i>Pastinaca sativa</i>)	
Amur Honeysuckle (<i>Lonicera maackii</i>)	X
Autumn Olive (<i>Elaeagnus umbellata</i>)	
Common Barberry (<i>Berberis vulgaris</i>)	
Multiflora Rose (<i>Rosa multiflora</i>)	
Queen Ann's Lace (<i>Daucus carota</i>)	X
Tier 2	Tier 3
Tier 4	Not Ranked

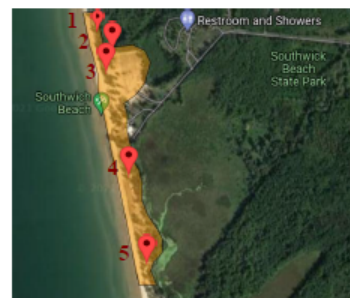
Southwick Beach State Park is a 464 acre dune and wetland area managed by The New York State Office of Parks, Recreation and Historic Preservation. Southwick Beach is directly adjacent to Lakeview WMA.

24.12 acres of dune were mapped and surveyed for presence of invasive species using Survey 123, and iMapInvasives 3.0 in October and November 2021.

The most abundant invasive species found on the dune system includes spotted knapweed and amur honeysuckle. Queen Ann's lace and common buckthorn are also present in lower abundance. Much of the riparian area of the wetland area is inaccessible due to dense shrubs including amur honeysuckle and common buckthorn.

Ecological Restoration Recommendations

Figure 5: Map of Site Recommendations for Southwick Beach State Park



Recommendation 1

Description: Foredune next to Jefferson Park Boundary

Recommendation 2

Description: Foredune north of Parking lot along fencing

Recommendation 3

Description: Dune walkover

Recommendation 4

Description: Foredune in front of beach campsites

Recommendation 5

5 43.587557 -76.199630 Threats: Phragmites and spotted knapweed are poor dune stabilizers and outcompete native species.	Deer Creek riparian area meets back dune	Phragmites (Dense patch along channel shoreline >0.25 acre) Spotted knapweed (sparse clumps)	Cut-stem herbicide application using glyphosate (not as long lasting in soil as imazapyr) to outlying stray plants. Hand pull close to the ground before seed sets in mid to late summer	Spread native beachgrass or wetland community seed mix to augment native seed bank.
---	--	---	---	---

Eastern Lake Ontario Invasive Species

Final Report: November



Prepared for
The Nature Conservancy
SLELO PRISM



Prepared by
Upstate Environment
Eastern Lake Ontario



Dune areas identified with phragmites:

- El Dorado and Black Pond WMA ~.25 acres
- Lakeview WMA ~1acre
- **North Sandy Pond ~1.5 acres (Expanding each year)**
- Sandy Island Beach State Park
- Deer Creek WMA ~.25acres

2022 Project Considerations:

- Location
- Accessibility
- Risk of Spread
- Estimated Cost

Reason for site selection:

- Prioritize dune area north of the channel
- Includes both private and public lands
- Very accessible, population rapidly spreading
- Protects other investments - North Pond Resiliency
- Project Depending on budget, we may be able to approach more than one area but prioritizing this first.

Phragmites at North Sandy Pond





2022 ELOD Phragmites Project will include:

- Assessment (continue mapping from 2021)
- Management and Restoration (to happen simultaneously)
- Long-term Monitoring Plan (Looking ahead 2023-2027)

2022 ELOD Phragmites Project funding:

- Funding from the SLELO PRISM through “special project” funds
- Additional monetary support from WQIP for shrub species
- Additional support of beach grass and dune willow cuttings

Volunteers Needed



Help improve the resiliency of the
Eastern Lake Ontario region

Sign up on our website:
www.sleloinvasives.org/volunteer

COMBATTING
**INVASIVE
SPECIES**
PROTECTS
BIODIVERSITY

MITIGATING
**CLIMATE
CHANGE**
PREVENTS
INVASIVE SPECIES

BIODIVERSITY
MITIGATES EFFECTS OF
CLIMATE CHANGE

Questions and Discussion!

Brittney Rogers, SLELO PRISM
Aquatic Restoration and Resiliency Coordinator
Brittney.Rogers@tnc.org



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

