

**St. Lawrence - Eastern Lake Ontario  
Partnership for Regional Invasive Species Management  
2012  
Annual Report**

*Prepared By*

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Central and Western New York Chapter of  
The Nature Conservancy



**Restoring & Protecting  
The ecological integrity of the eastern Lake Ontario Basin and Northern New  
York's natural & cultural resources from the threat of invasive species.**



## **About SLELO – PRISM**

The St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management is one of eight partnerships in New York State, encompassing St. Lawrence, Jefferson, Oneida, Lewis and Oswego counties outside of the Adirondack Park.

Our mission is to protect native habitats, biodiversity, natural areas, parks and refuges, freshwater resources, farmland and open space by using a collaborative and integrated approach to invasive species management. The emphasis of these activities are on prevention, early detection, rapid response and education.

Copies of this report can be obtained  
from the SLELO-PRISM website at:

**[www.sleloinvasives.org](http://www.sleloinvasives.org)**

Under the menu item:

Resources & Links / Downloads / 2012 Annual Report

## **Acknowledgements**

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## **A Special Thanks To**

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The Central and Western New York Chapter of The Nature Conservancy  
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Leslie Surprenant

The New York State Department of Environmental Conservation,  
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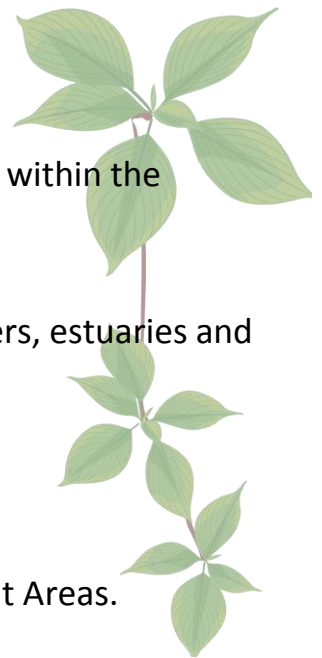
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The numerous partner organizations and interested individuals whom continue to contribute their expertise, time and resources to the development of this PRISM and to our accomplishments and successes.

## 2012 Strategic Measures Summary (Accomplishments)

*SLELO Partners strive to protect the ecological integrity of the Eastern Lake Ontario Basin and Northern New York's natural & cultural resources from the threat of invasive species. In 2012 partners of the SLELO-PRISM collaborated on making the following accomplishments, a.k.a. strategic measures;*

- ❖ Together we helped to protect 150,000 acres of core forest on Tug Hill by establishing an Invasive Species Prevention Zone, I.S.P.Z.
- ❖ We have significantly reduced the human health threats posed by Giant Hogweed by treating 141 sites.
- ❖ We have helped to restore 50.02 acres of globally rare Alvar Communities on the eastern Lake Ontario coastline (both coastal and inland).
- ❖ We have restored 19.52 acres of rare coastal fen habitat.
- ❖ Worked towards restoring 3.6 acres of freshwater dune barrier system within the Eastern Lake Ontario Coastline.
- ❖ Worked towards restoring over 230 acres of freshwater resources (rivers, estuaries and embayment's) within the Great Lakes watershed.
- ❖ Restored 0.39 acres of wetland habitats.
- ❖ Restored 5.8 acres of important habitats found in Wildlife Management Areas.
- ❖ Together our partners, through various initiatives, have helped to prevent the spread of aquatic and terrestrial invasive species throughout our region.



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## Collaboration & Partnerships

In conservation we more frequently realize the benefits of working together to achieve a goal. Establishing a set of goals, objectives and strategies requires expertise. Achieving the same requires collaboration. The SLELO partners have established a strong sense of collaboration. This collaboration is perhaps one of the leading components of our PRISM's success since our formal inception.<sup>1</sup>

As a Partnership we bring to the table diverse expertise in the fields of conservation, biology, ecology and combinations of each discipline. Our varying fields of expertise combined with a mutual appreciation for our purpose and mission coupled with our sense of collaboration compliments our success. Our efforts cannot be realized, however, without the support we receive from the Central and Western New York Chapter of The Nature Conservancy as our "host organization", the support we receive from, iMapinvasives, the New York Invasive Species Clearinghouse at Cornell University and from the New York State Office of Invasive Species Coordination.

## Strategic Approach

During our strategic planning phase, our partners recognized the importance of linking our specific strategies to our objectives and subsequently linking our objectives to our goals. More importantly our partners recognized that by following this approach we increase the likelihood of success. **This report reflects our first year accomplishments in direct relation to the seven goals identified by our partners.** Additionally, this report addresses the frequent question "what are our measurables"? I hope you will be as pleased as I am with the partners of the SLELO PRISM.

*"I can't speak highly enough about our partners. They are interested in the subject matter, there is a tremendous amount of expertise within the partnership, they are engaged, motivated and work extremely well together. I am impressed by what our partners have accomplished".*

Rob Williams  
PRISM Coordinator



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<sup>1</sup> Refer to Appendix A: for a list of current PRISM participants.



## Goal 1 – PREVENTION

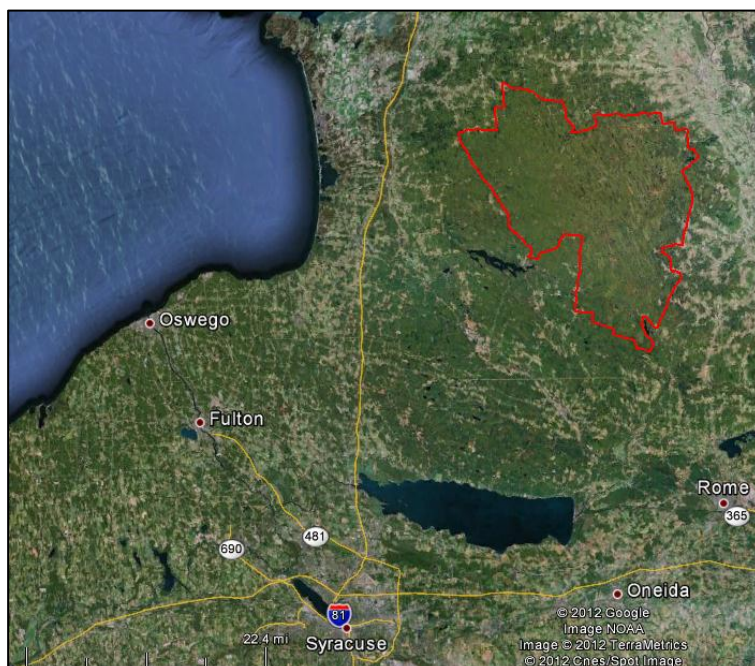
## Our Accomplishments

Prevent the introduction of invasive species into the SLELO PRISM including target conservation and priority areas.

### TUG HILL- I.S.P.Z.

New York State's Tug Hill Region is a 2,100 square mile area situated between Eastern Lake Ontario and the Black River Valley, and includes lands in Jefferson, Lewis, Oneida and Oswego counties. The largely undeveloped area includes important wetland and forested habitats, as well as an abundance of ponds and lakes. Numerous streams and rivers have their headwaters located within the Tug Hill, and Tug Hill's watersheds are important sources of clean water for Oneida Lake and Lake Ontario in addition to providing high-quality aquatic and riparian habitats.

Within the larger Tug Hill region lies the Tug Hill Core Forest, comprised of nearly 150,000 acres of nearly contiguous forested lands. This large forested tract provides a variety of recreational opportunities, and managed forestry operations on both public and privately held lands, provides employment and helps support the area's rural economy.<sup>2</sup> The core forest also provides valuable habitat for a variety of game species, as well as 29 rare animals and 70 rare plant species.<sup>3-4</sup>



**Figure 1: The boundary of the Tug Hill Invasive Species Prevention Zone (in red) within central/northern New York.**

In 2012 representatives from the Tug Hill Commission and the SLELO partnership, established an Invasive Species Prevention Zone (I.S.P.Z.) around the perimeter of the 150,000 acre core forest (Figure 1) with the intent to prevent new invasive species from entering the area.

<sup>2</sup> Wright, Lorna. 2012 Personal Communication.

<sup>3</sup>Tug Hill demographic and ecological information summarized from the "Tug Hill Forest Owner's Handbook," published in 2004 by The Nature Conservancy's Northern New York Project Office.

<sup>4</sup> Greg Chapman and Mike McHale, 8/27/12.Field Report. The Nature Conservancy.



## EARLY DETECTION SURVEILLANCE IN PRIORITY CONSERVATION AREAS:

In order to quickly, consistently and effectively monitor large areas for the emergence of invasive species, SLELO-PRISM has developed protocols for identifying Highly Probable Areas (**HPAs**) or locations where invasive species are most likely to arrive and/or establish themselves. As a prevention measure, this protocol was effectively used to conduct early detection surveillance on nine priority conservation areas including; **Whetstone Reservoir, Black Lake, Oneida Lake/Three Mile Bay Wildlife Management Area, Salmon River Estuary, Chaumont Bay, Shoreline Dunes, Selkirk State Park, Tug Hill and Mud Bay**. Since this component overlaps with another goal (Early Detection/Rapid Response, they will be discussed in more detail later in this report.

## FOREST PEST PREVENTION:

SLELO sponsored three citizen science events for forest pest education & outreach. Two events for the Oswego Tree Stewards Club and one event at the Great Bear Recreation facility in Fulton NY (Figure 2,3).

Both events focused on awareness and community preparedness for the threats posed by the Emerald Ash Borer, the Asian Long-horned Beetle and the Hemlock Woolly Adelgid. Three forest pests that threaten our regions trees. In 2012 a total of 52 volunteers participated in these events placing awareness tags on 35 Ash Trees.

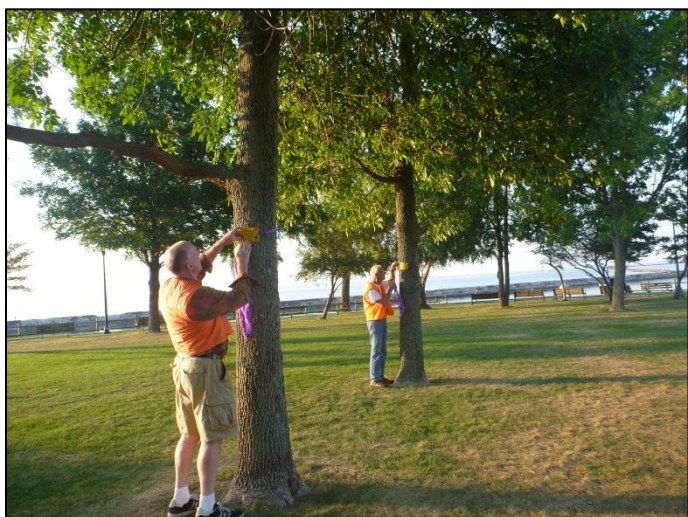


Figure 2: Volunteers tagging Ash Trees at Breitbeck Park.



Figure 3: Volunteers tagged two dozen Ash Trees at the Great Bear Recreational Area in Fulton New York.

## PATHWAY MITIGATION

In our Strategic Plan, SLELO partners identified eleven pathways in which invasive species enter our region. As a prevention effort PRISM partners highlighted or “*called out*” two pathways to include;

### Ports of Entry

Many invasive species enter the United States each year in cargo, mail, and passenger baggage or as contaminants of commodities. In today’s global marketplace, the volume of international trade brings increased potential for these invaders to enter our country. Agricultural produce, nursery stock, cut flowers, and timber can harbor insects, disease-causing microorganisms, slugs, and snails (APHIS 2010). These pests can also hitchhike on containers, crates, or pallets and enter the SLELO region via ports of entry (POE’s). In the SLELO region direct POE’s include; the St. Lawrence River, Oswego Harbor, Henderson Harbor, Cape Vincent and international roadways extending from Canada and the Fort Drum Military installation. One gap identified in this pathway was the need to disseminated invasive species information along the Route 81 corridor.

### Fishing and Bait:

Biologists have recognized “bait bucket introductions” as a common means of spreading aquatic invaders. One example is the Rusty Crayfish (*Orconectes rusticus*). Native to the central and midwest United States, the Rusty Crayfish has spread to other states to include New York, Massachusetts, New Jersey and Pennsylvania. This species was likely spread by anglers who transported them for use as fishing bait, largely via bait buckets. In 2012 PRISM partners established dialog on this pathway which resulted in targeted outreach among the angler community.

## INCLUSION OF A PREVENTION COMPONENT IN EDUCATION & OUTREACH MATERIALS

In 2012 a seasonal Education/Outreach Coordinator was hired to develop in cooperation with SLELO’s Education & Outreach Committee materials that would help educate the public on invasive species issues. Our partners recognized the need to include spread prevention measures in most, if not all of our educational materials.

## Goal 2 – EARLY DETECTION & RAPID RESPONSE

Rapidly detect new and recent invaders and eliminate all individuals within a specific area. ED/RR is the next highest priority after prevention.

### *Our Accomplishments*

Timing is critical when responding to the initial detection of an emerging invasive species in an area. Early Detection and Rapid Response (ED/RR) – spotting and responding to the invasion of an unwanted plant, animal or other organism before it can gain a foothold – is often the key first step in effectively managing and possibly eradicating a newly-arriving invasive species. Prior to the 2012 field season, SLELO partners developed an ED/RR protocol. This protocol outlined two types of early detection along with three response levels. Copies of this protocol can be obtained by contacting the SLELO-PRISM Coordinator.

In 2012 early detection surveillance was conducted on the following priority conservation areas with a total of three rapid responses being completed.

#### **Whetstone Reservoir**

Whetstone Reservoir is a 161-acre freshwater artificial water body located within Whetstone Gulf State Park and the Lesser Wilderness State Forest in the eastern Tug Hill region of New York. Water supplied by the Whetstone Creek inlet at the western end of the reservoir is retained by a small concrete dam at the northeastern end of the water body. This site was surveyed in 2012 using our HPA protocol.

#### **Black Lake**

Black Lake is an approximately 4,593-acre freshwater lake located in St. Lawrence County, New York. The lake is regularly utilized for fishing and as a vacation destination, and large portions of its shoreline are developed with cottages and camps. This site was surveyed in 2012 using our HPA protocol.

#### **Oneida Lake/Three Mile Bay Wildlife Management Area**

Oneida Lake is a large freshwater lake located in Oneida, Onondaga and Madison counties, New York. With a surface area of approximately 50,894 acres, it is the largest lake located completely within New York. A large portion of the northwestern shore of Oneida Lake remains undeveloped as part of the 3,939-acre Three Mile Bay Wildlife Management Area. Using HPA protocol resulted in an early detection and rapid response.

### Rapid Response

A new population of water chestnut plants was detected on the northwest corner of Oneida Lake near the WMA. SLELO coordinated a rapid response event with The Salt City Bass Masters Club, The North Shore Rotary Club, The Oswego SWCD and NYS Sea Grant.

### Salmon River Estuary

The Salmon River Freshwater Estuary is defined as that portion of the lower Salmon River that is directly influenced by the lake levels of nearby Lake Ontario. This braided portion of the river is bordered by emergent marsh, riverine wetlands and shrub swamps, and is recognized as important fish spawning habitat as well as a staging area for steelhead and salmon preparing for their annual spawning runs. Additionally, the variety of wetland habitats within the estuary are important for birds and other wildlife, including several threatened bird species.<sup>5</sup> In 2012 populations of Japanese Knotweed were detected and mapped along with an early detection of European Frogbit. In addition, SLELO partners participated in a Water Chestnut removal effort from the estuary.

### Chaumont Bay

Chaumont Bay is a large bay on the northeastern shore of Lake Ontario, west of the village of Chaumont and east of Point Peninsula in western Jefferson County, New York. The large, sheltered bay is a popular fishing, sailing and vacationing destination, and much of the shoreline is developed with camps, cottages and several marinas. Within the larger Chaumont Bay area are several smaller named bays, including Three Mile Bay, Sawmill Bay, Long Bay and Guffin Bay (Figure 4).



Figure 4. SLELO field crew and GLRI field crew hand harvesting Water Chestnuts from Guffin Bay.

### Rapid Response

A new population of Water Chestnut plants (*Trapa natans*) was detected and a rapid response effort was conducted removing a total of 3 cubic yards of plants.

<sup>5</sup> Information regarding the definition, extent and ecological importance of the Salmon River Estuary summarized from the Salmon River Watershed Natural Resources Assessment (McGee 2008) , pages 35, 36 and 57 – 69. Available in two parts online at [http://www.dec.ny.gov/docs/regions\\_pdf/srwasa.pdf](http://www.dec.ny.gov/docs/regions_pdf/srwasa.pdf) and [http://www.dec.ny.gov/docs/regions\\_pdf/srwasb.pdf](http://www.dec.ny.gov/docs/regions_pdf/srwasb.pdf).

## Shoreline Dunes

The Eastern Lake Ontario Dunes are located along a 17 mile stretch of Lake Ontario's eastern shoreline, north of the Salmon River outlet and south of the Stony Creek outlet. In addition to being a unique ecological resource within New York State, the dunes serve an important role as a natural barrier, protecting inland wetlands and uplands from storm surges and strong winds coming off the lake. Birds utilize the dunes and the protected wetlands as an important stopover during their annual migrations, and the natural sandy beaches attract tourism and recreational use by humans as well.

## Selkirk State Park

Two populations of Japanese Stilt Grass were detected in Oswego County: One along Rainbow Shores Road along the border of Deer Creek Marsh Wildlife Management Area, and a second within Selkirk Shores State Park along both sides of a main park road, extending somewhat into a nearby wooded area.

### Rapid Response

Due to the small size of both populations, a rapid response event resulted in the removal of 1.5 cubic yards of stilt-grass from this site.

## Tug Hill

A visual survey of the Tug Hill Invasive Species Prevention Zone perimeter was conducted in 2012 by SLELO-PRISM field crew members. The survey aimed to detect any occurrences of SLELO-PRISM prevention species, specifically Emerald Ash Borer (EAB) (*Agrilus planipennis*), Hemlock Woolly Adelgid (HWA) (*Adelges tsugae*), Asian Long-horned Beetle (*Anoplophora glabripennis*), Mile-A-Minute Vine (*Persicaria perfoliata*) and Kudzu (*Pueraria montana* var. *lobata*), none of which were detected.

## Mud Bay

Mud Bay is an approximately 200-acre bay on the northeastern shore of Lake Ontario, south of the village of Cape Vincent in Jefferson County, New York. In 2012 a survey targeting water chestnut (*Trapa natans*) and Hydrilla (*Hydrilla verticillata*) and other aquatic invasives was undertaken.



## Goal 3 – CONTROL OF INVASIVE SPECIES

## *Our Accomplishments*

Control invasives using three basic levels of control; **ERADICATION** – to eliminate all individuals and the seed bank; **CONTAINMENT** – contain established infestations to prevent spreading; **SUPPRESSION** – reduce the density of invasives to promote & restore native growth.

### **Treated 141 Giant Hogweed Sites:**

Giant Hogweed (Figure 5), is considered to be not only invasive, but poses a threat to human health. The sap from this plant can cause severe burns to skin. In 2012, partners of the SLELO-PRISM collaborated to control 141 giant hogweed sites with each site containing numerous plants. Two methods of control were effective to include; cut-stump and herbicide application.



**Figure 5: Giant Hogweed**

### **Treated 53 Swallow-wort sites in several priority areas:**



**Figure 6: Swallow-wort**

Swallow-worts (Figure 6), are problematic wherever they become established. In 2012, SLELO's licensed pesticide applicator treated fifty three sites. Sites included: Perch River WMU @ Cooke Road, Eldorado/Black Pond, Mud Bay, Three Mile Creek WMU/Couch Easement, Chaumont Barrens Nature Preserve, Lakeview Wetlands, Black River Trail, Mud Bay, Renshaw Bay, Southwick Beach. Methods used in 2012 included; herbicide application and hand digging.

### **Removed 1.5 cubic yards of Japanese Stilt grass:**

Early detections of Japanese Stilt-grass (Figure 7) were observed and treated in 2011 by the field team working under the Great Lakes Restoration Initiative (GLRI). The sites located at (Selkirk State Park & Deer Creek WMA) were subsequently treated by the SLELO field team in 2012. SLELO seasonal employees hand pulled 1.5 cubic yards of Stilt grass in 2012.



**Figure 7: Japanese Stilt-grass**



### **Assisted with the control of 209+ acres of Water Chestnuts:**



**Figure 8: Allied Biological Applying aquatic herbicide to water chestnut plants in the Oswego River.**

Partners of the SLELO PRISM assisted with the control of just over 209 acres of Water Chestnut plants on the Oswego River by way of the SLELO Special Projects. Partners at the Oswego County Soil & Water Conservation District contracted with Allied Biological to apply aquatic herbicides to Water Chestnut plants in 2012 (Figure 8). This project was partially funded via SLELO Special Projects.

In addition, volunteers participated in a “hand-pulling” event in the Salmon River Estuary.

### **Assisted with the control of Glossy Buckthorn at two priority sites:**

Partners of the SLELO PRISM assisted with the control of Glossy Buckthorn (Figure 9), on two sites to include the Silver Lake Fen and on land near the Happy Valley WMA by way of the SLELO Special Projects. At Silver Lake 19.52 acres of Glossy Buckthorn plants were treated using a “cut-stump” herbicide treatment.<sup>6</sup>

Within the Happy Valley Wildlife Management Area, Glossy buckthorn was found to be present on county managed forest lands. This invasive species out competes native vegetation threatening forest sustainability and creating inhospitable environments for most wildlife. In 2012 via SLELO Special Projects, approximately 4.0 acres of dense buckthorn was treated using systemic herbicides.<sup>7</sup>



**Figure 9: Glossy Buckthorn**

<sup>6</sup> Bonnano, S. and G. Spak. 2012. Silver Lake Glossy Buckthorn Field Report. TNC, Pulaski, NY.

<sup>7</sup> Chevrolotti, J. 2012. Glossy Buckthorn Control Project 2012. Oswego County SWCD.

## Goal 4 – EDUCATION & OUTREACH

## *Our Accomplishments*

Increase public awareness and understanding of invasive species issues.

Educating the general public on various issues related to invasive species is at the forefront of any long term management effort. Increasing the stakeholders' awareness of invasive species, negative impacts, and strategies for limiting negative impacts is a goal of SLELO's educational efforts. Accomplishments in 2012 include;

### **Public Information Sessions:**

In 2012 five public information sessions were organized. One session in each of the PRISM counties resulted in reaching approximately 180 people and 4 organizations (Figure 10).

### **Citizen Science Events:**

As previously mentioned, three citizen science events targeted at Emerald Ash Borer, Asian Long horned Beetle and Hemlock Woolly Adelgid were completed in 2012. One at the Great Bear Recreational Area in Fulton, New York and two in cooperation with the Oswego Tree Stewards group.



**Figure 10: Partners Sue Gwise (L) and Rebecca Miller (R) presenting at our public info sessions.**

### **Distributed over 700 Brochures:**

In 2012 two informational brochures were developed and distributed to a broad audience. One brochure titled "Spread The Word – About Invasives" was revised and distributed and another titled "Fishing Is Great – Be Careful With The Bait" was created and distributed.

### **Supported Sea Grant's Boat Launch Steward Program:**

Partners from New York Sea Grant have developed an effective boat launch steward program. In 2012 SLELO partners were supportive of and encouraged this program.

### **Exhibited at Conferences and Public Events:**

Volunteers from the SLELO PRISM attended several conferences and exhibited at local events including; 2012 Local Government Conference sponsored by the Tug Hill Commission, the Salmon River Fish Hatchery's Open House and the Oswego County Conservation Field Days.

## Goal 5 – COOPERATION

## *Our Accomplishments*

Facilitate opportunities for sharing resources, including funding, personnel, equipment, information, and expertise.

Working together towards a common cause is perhaps one of the SLELO partner's strong points. During our first year our partners developed a strong sense of cooperation. 2012 highlights under this goal include:

- Established a collaborative approach to strategic planning and work-plan development (Figure 11).
- Established a cooperative forum at monthly meetings.
- Established a "Special Projects" RFP process open to partners.
- Established a "calendar of events" on our website.
- Invite partners to participate - volunteer at events/exhibits & public speaking (Figure 12).
- Created an interactive website for partners.



**Figure 11: Partners participate in collaborative strategic planning and work plan development efforts.**



**Figure 12: SLELO partners cooperate on various events. Shown here are representatives from Sea Grant working with SLELO staff to educate Morrisville State College students.**

## Goal 6 – INFORMATION MANAGEMENT *Our Accomplishments*

Collect, utilize, and share information regarding surveys, infestations, control methods, monitoring, and research

Providing and sharing information in a way that is informative and easily accessible, is an important aspect of regional collaboration. As an effort to manage and share information among SLELO partners and publically, and to maintain continuity in reporting, our partners undertook several initiatives in 2012 to include:

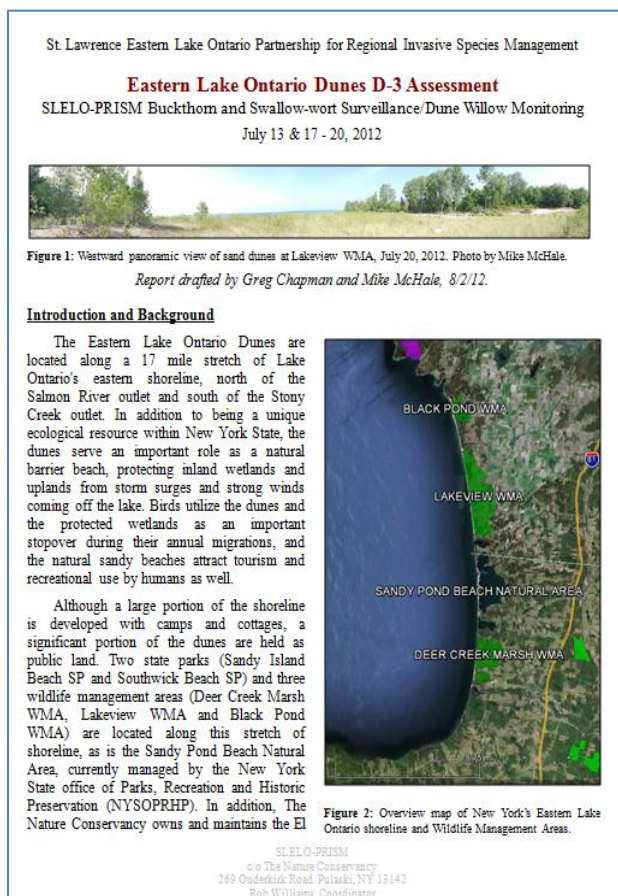
### Creation and posting of standardized Field Reports:

Reports prepared by SLELO field crews, project sponsors and the program coordinator are prepared in

such a way as to be technical and functional. Technical to the extent that accurate, detailed information is included and functional in that follow-up work can (if needed) be conducted on all sites. Reports include; locations, descriptions, GPS coordinates, early detections and rapid response information.

Reports are posted to the SLELO website for subsequent viewing, (Figure 13).

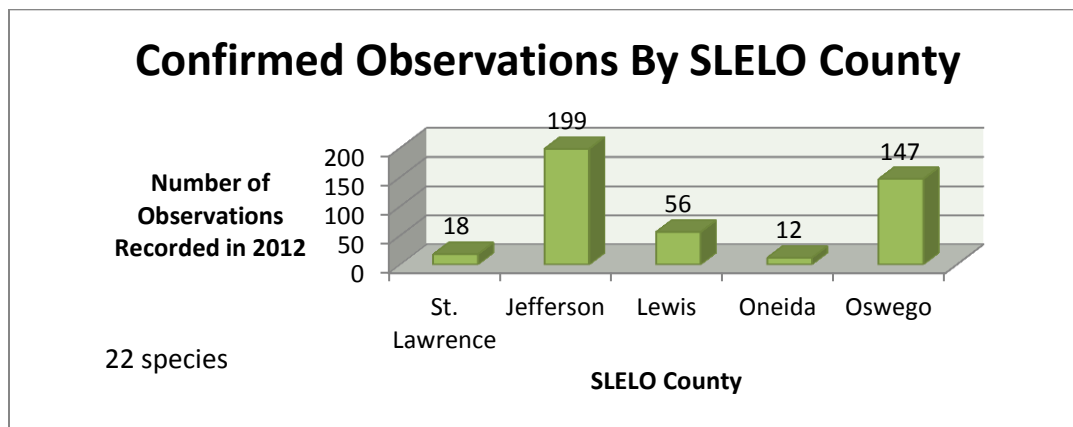
In 2012, sixteen (16) technical field reports were developed and posted to the SLELO website. Included are reports prepared by the SLELO field crew, the program coordinator and partner representatives reporting on special initiatives.



**Figure 13: Example of Detailed Field Report**

### **iMapinvasives:**

iMapinvasives is an effective database used for collecting invasives species information. In 2012 training was provided to SLELO partners and guests. In addition, 532 invasive species observations were confirmed and reported into iMap. (Figure 14) shows confirmed observations by SLELO county.



### **SLELO Website & Resource Directory:**

The SLELO website has become an important medium for managing and sharing information. The site is used to: announce partner meetings, display field reports, share information on invasive species management and has many other informational benefits. In 2012 a “Resource Directory” was added to the site as a way to make available partner resources.

### **IPMDAT:**

In the spring of 2012, training was provided to SLELO partners and guests on the use of the Invasive Plant Management – Decision Analysis Tool (IPMDAT) developed by The Nature Conservancy. The purpose of the Invasive Plant Management Decision Analysis Tool is to assist The Nature Conservancy (TNC), as well as partner agencies and organizations, in deciding if an invasive plant management project is likely to be successful. A successful invasive plant management project should not only control an invasive plant, it should also achieve conservation goals such as maintaining or restoring the viability/health/resilience of desired species, natural communities, and/or ecosystem processes (Zimmerman et.al. 2011).

In 2012 the PRISM partners encouraged the use of the IPMDAT for all control projects occurring within the boundaries of the SLELO region.



## Goal 7 – SITE RESTORATION (a.k.a. Strategic Measures)

Develop and implement effective restoration methods by reducing the impact of invasive species on ecosystem processes and in areas that have been degraded by invasive species.

### *Our Accomplishments*

Restoring and protecting the biodiversity of unique habitats and cultural resources from the negative impacts posed by invasive species is perhaps the core purpose for our work. This in addition to sustaining habitat which supports rare, threatened or endangered species is at the forefront of what we do. A wide variety of invasive species are problematic for many sectors of our society including ecosystem impacts on both natural systems and managed systems such as forests, our food supply, including not only agriculture but also harvested wildlife, fish and shellfish and our man made environments, including landscaping, infrastructure, industry, gardens, and pets. Invasive species have implications, too, for recreation and for human health. In the SLELO region, invasive species are having a negative effect on sensitive ecosystems (lands and waters) and are causing economic harm and public health concerns.<sup>8</sup>

We are continuously challenged with producing results (or strategic measurables) for the work we do. Linking our work to natural resources benefits is an important element that should continually be recognized. Included below are notable “measurables” as the result of the work completed in 2012 by the SLELO partnership;

- ❖ **Together we helped to protect 150,000 acres of core forest on Tug Hill by establishing an invasive species prevention zone, I.S.P.Z. around the perimeter of the core forest .**
- ❖ **We have significantly reduced the potential human health threats posed by Giant Hogweed by treating 141 sites.**
- ❖ **We have helped to restore 50.02 acres of globally rare Alvar Communities on the eastern Lake Ontario coastline (both coastal and inland).**

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<sup>8</sup> Taken from SLELO Strategic Plan 2012.



- ❖ We have restored 19.52 acres of rare “Fen” habitat<sup>9</sup>.
- ❖ Worked towards restoring 3.6 acres of freshwater dune barrier system within the Eastern Lake Ontario Coastline.
- ❖ Worked towards restoring over 230 acres of freshwater resources within the Great Lakes Watershed.
- ❖ Restored 0.39 acres of wetland habitats.
- ❖ Restored 5.8 acres of important habitats found in WMA’s (Wildlife Management Areas <sup>10</sup>).
- ❖ Together our partners, through various initiatives, have helped to prevent the spread of aquatic and terrestrial invasive species throughout our region.



**Above left:** Chaumont Alvar Barrens - one of the last examples of alvar grasslands in the world. Alvar barrens are highly unique, prairie-like landscapes that rest atop a foundation of partially exposed limestone bedrock



**Above right:** The Tug Hill Invasive Species Prevention Zone is located northeast of Redfield, NY on the Tug Hill Plateau. This biologically diverse area covers portions of Jefferson, Lewis, Oneida, and Oswego counties. A variety of habitats, including mixed forestlands, wetlands, and farmlands, are present and provide a home for native plant and animal species.

<sup>9</sup> Fens are minerotrophic peatlands, whose water chemistry is influenced by the underlying mineral rocks and soils.

<sup>10</sup> Areas managed by partners at the New York State Department of Environmental Conservation.

## ADDITIONAL ACCOMPLISHMENTS

Deliverables that help us to meet our contractual obligations and deliver invasive species management.

### Eastern Lake Ontario Dunes D-3 Assessment:

The Eastern Lake Ontario Dunes are located along a 17 mile stretch of Lake Ontario's eastern shoreline. In addition to being a unique ecological resource within New York State, the dunes serve an important role as a natural barrier, protecting inland wetlands and uplands from storm surges and strong winds coming off the lake. Birds utilize the dunes and the protected wetlands as an important stopover during their annual migrations, and the natural sandy beaches attract tourism and recreational use by humans as well. In 2012 seasonal field crews conducted a dune assessment consisting of three components to include; Glossy Buckthorn surveillance, swallow-wort surveillance and a Dune Willow assessment.

Glossy Buckthorn Assessment (Figure 15): For the 7.51 miles of back dune shoreline that was visually surveyed, a total of 157 occurrences of Glossy Buckthorn were recorded.

Swallow-wort Surveillance: A single large patch of Swallow-wort was observed growing at Lakeview WMA, north of a boardwalk leading from the Lake Ontario Shore to Lakeview Pond.

Dune Willow Insect Feeding: A total of 270 Dune Willow shrubs (*Salix cordata*) were inspected (58 at Sandy Pond Beach Natural Area and 212 at Black Pond WMA/El Dorado Nature Preserve. A native beetle (*Disonycha alternate*)(Figure 16), was observed feeding heavily on the Dune Willow.



Figure 15: Glossy Buckthorn (*Rhamnus frangula*)



Figure 16: (*Disonycha alternate*)



## Japanese Knotweed Assessment and Feasibility Analysis

The Salmon River and its estuary (Figure 17), located along the eastern shore of Lake Ontario, is a valuable cultural and natural resource worthy of protection from the habitat-altering impacts of invasive species. As a cultural resource, the Salmon River is a multi-million dollar fishery hosting in excess of 100,000 angler visitors annually. Angling enthusiasts travel from numerous regions across the United States and Canada, as well as from throughout the world, to fish the river.



Figure 17: Salmon River Estuary

This 17-mile river system is rich in habitat and diversity and provides, both in the upstream reaches and within the estuary, spawning and nursery grounds for pacific salmon (Chinook, Coho and Steelhead) and the native Atlantic salmon. A variety of birds, including several state-protected marsh birds, utilize the emergent marshlands and swamps within the estuary as seasonal nesting and feeding areas. State-protected birds that have

been observed nesting within the estuary include threatened species such as pied-billed grebes (*Podilymbus podiceps*) and least bitterns (*Ixobrychus exilis*), as well as the endangered black tern (*Chidonias niger*) (Chapman and Williams 2012).

The increasing presence of Japanese knotweed, an aggressive invasive plant present within the Salmon River corridor and estuary, has the potential to negatively impact the economic and ecological values of the Salmon River and Salmon River Estuary.

In 2012, the SLELO field crew completed a Japanese Knotweed Assessment and Feasibility Analysis on the Salmon River and Estuary. As a result of this effort, SLELO partners are considering the implementation of a Salmon River Initiative that includes three components; Japanese Knotweed suppression, native plant restoration and education and outreach. A copy of this report is available from [www.sleloinvasives.org](http://www.sleloinvasives.org).

Part of this effort included the conducting of test plots to determine the most effective means to control knotweed (Figure 18). The result – stem injection of a Glyphosate-based herbicide.



Figure 18: Seasonal employee Mike Parks testing knotweed treatments.

## 2012 Special Projects

As part of our agreement with NYSDEC, The Nature Conservancy will be utilizing funding for work that will allow projects to be completed that would not otherwise be possible. The overall intent of this effort is to supplement the great work that is already being done by our partners and seasonal staff. In 2012 the following “Special Projects” were implemented;

### **Glossy Buckthorn Control on managed forest lands within the Happy Valley Wildlife Management Area:**

The project site is located on property managed as part of a sustainable forest management plan within the Happy Valley Wildlife Management Area. In certain areas glossy buckthorn has formed dense thickets and threatens the forest by out-competing native plants, including tree seedlings, for nutrients, light and moisture. This project involved the suppression of this species with chemical treatment. The elimination of this population is important as it is within 1 mile of bog turtle habitat (rare and endangered species) and glossy buckthorn is an aggressive invader of fens, bogs and meadows. Project sponsor – Oswego County Soil & Water Conservation District.

### **Silver Lake Fen Glossy Buckthorn Project:**

Silver Lake, located in Oswego County, supports 2 New York endangered species that depend on open fen habitat: bog turtle and bog buckmoth. The target species for this project was glossy buckthorn which has been found in certain areas of the Silver Lake Fen. This was an early detection and rapid response project that resulted in the restoration of 19.52 acres of fen by treating glossy buckthorn populations. Project sponsor – Sandra Bonanno and George Spak.

### **Water Chestnut Control on the Oswego River:**

The target species for this project is Water Chestnut which has been found in several areas on along the Oswego River. Over 209 acres of Water Chestnut plants have been the focus of efforts to reduce this plant population which currently impedes recreation, aesthetics and water resource integrity. The suppression of these populations will remove a potential seed source which could be spread throughout Lake Ontario from this



**Figure 19: Aquatic herbicide application via air-boat on the Oswego River.**

source. In 2012, 209 acres of Water Chestnut plants were treated using a combination of chemical treatments (Figure 19) and hand removal. Project sponsor – Oswego County Soil & Water Conservation District.

### **Invasive Species Handbook:**

Several years ago, a publication was prepared by The Nature Conservancy titled “Invasive Species Handbook”. This booklet has been a very popular and useful tool for numerous activities related to the identification and control of invasive species. Although the booklet covers terrestrial invasive plants, the original did not cover aquatic invasive species nor did it reflect forest pests. The partners of the SLELO PRISM identified an important need to revise and reprint this publication to include the aforementioned gaps. Project sponsor – SLELO partners.

### **State Route Corridor Roadside Invasive Species Inventory:**

One of our PRISM’s priority pathways for invasive species introduction and spread includes “roads and corridors”. During our field crews travels to priority conservation areas and as a means by which to maximize their observations, a roadside invasive species inventory was undertaken. Roadsides were visually surveyed for the presence of terrestrial prevention species<sup>11</sup> that could be confidently identified while travelling at a reduced speed. A Garmin handheld GPS unit was used to record observation coordinates. No species included on the SLELO-PRISM Prevention Species list were observed.

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<sup>11</sup>For a list of prevention species, see the SLELO-PRISM 2012–2016 Strategic Plan, pp. 36 & 37.

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#### Figures with accompanying photo credits:

Cover:	Glossy Buckthorn. Rob Routledge, Sault College. Bugwood.org
Figure 1:	Tug Hill I.S.P.Z. Map created by Mike McHale, 2012
Figure 2:	Breitbeck Park Volunteers. Sarah Conley, 2012
Figure 3:	Forest Pest Volunteers. Photographer unknown, 2012
Figure 4:	Guffin Bay Volunteers. Greg Chapman, 2012
Figure 5:	Giant Hogweed. Public Domain, Photographer unknown.
Figure 6:	Swallow-wort. Public Domain. Photographer unknown.
Figure 7:	Japanese Stilt-grass, Mat Levine, 2012.
Figure 8:	Allied Biological, Rob Williams, 2012.
Figure 9:	Glossy Buckthorn. Rob Routledge, Sault College. Bugwood.org
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Figure 18:	Photo of Mike Parks. Greg Chapman, 2012
Figure 19:	Allied Biological Air Boat. Rob Williams, 2012

**Appendix A: List of Current PRISM Participants (A=active/I=interested)**

Beck, Lynette Lundy	(I)	Seaway Trail
Billhardt, Nichelle	(A)	Lewis Co. SWCD
Bonanno, Sandy	(A)	Oswego Co. EMC & Dune Pjct.
Breheny, Kate	(A)	Save The River Org
Bunce, Ron	(I)	Oneida County Ext.
Caddik, Jennifer	(A)	St. Lawrence Save the River Org.
Carter, Star	(I)	Thousand Island Land Trust
Chairvolotti, Joe	(I)	Oswego SWCD
Dehollander, John	(A)	Oswego County Soil and Water
Covey, Julie	(I)	Ontario Bays Initiative, Consultant
Drosse, Richard	(A)	Oswego Co. Env. Mgnt.Council
Durant, Michael	(I)	Lewis County SWCD
Freese, Robert	(A)	DEC Pesticides Unit
Garret, Linda	(A)	Tug Hill Tomorrow Land Trust
Gwise, Sue	(A)	Jefferson Co. Cooperative Extension
Harvill, Jennifer	(A)	Tug Hill Commission
Hetzler , Paul	(A)	St. Lawrence Coop. Extension.
Holzworth, Casey	(I)	NYS Parks, Req. & Historic Pres.
Hughes, Tom	(I)	NYS Parks, Req. & Historic Pres.
Levine, Mat	(A)	The Nature Conservancy
Malinowski, Kate	(A)	Tug Hill Commission
Malitz, Christina	(I)	Fort Drum Military Installation
Martin, Russell	(A)	St. Lawrence County SWCD
Mazzochi, Irene	(A)	NYS DEC Region 6
Miller, Rebecca	(A)	NYS DOT Region II
O'Neill, Chuck	(I,A)	Extension NYS - I.S. Clearing house
Pappa, Mary	(A)	The Nature Conservancy
Parton, Bonnie	(A)	NYS DEC Region 7
Penney, Mary	(A)	NYS Sea Grant
Rainbolt, Ray	(I,A)	Fort Drum Military Installation
Schell, J.J.	(A)	Oswego Co. Extension
Smith, Gerry	(I,A)	Audobon, CNY Chapter
Smolka , Bob	(A)	NYS Parks & Req.
Surprenaunt, Leslie	(I)	DEC Invasive Pgm. Coord.
Tibbetts, Nic	(I,A)	Jefferson Co. SWCD
Williams, Rob	(A)	The Nature Conservancy