

INVASIVE SPECIES & VOLUNTEER STEWARDSHIP



FLOWERING RUSH, *Butomus umbellatus*

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Education and Mapping Invasive Species

During 2015, over 75 trained volunteers hiked **THOUSAND ISLANDS LAND TRUST** preserves as Stewardship Volunteers. Volunteers monitored trail attributes and recorded sighting of invasive species using GPS technology.

Invasive Species & Volunteer Stewardship

EDUCATION AND MAPPING INVASIVE SPECIES

Background

The Thousand Islands Land Trust (TILT) is a non-profit organization working to conserve the natural beauty, diverse wildlife habitats, water quality and outdoor recreational opportunities of the Thousand Islands region, for present and future generations. Located in Clayton, New York, TILT works with private landowners, community and government leaders and organizations, and foundations to conserve open space: wetlands, agricultural properties, grasslands, forests, shorelines, islands and shoals, all of which are located within the St. Lawrence River watershed.

To continue our mission of conserving these important habitats, TILT developed the Stewardship Volunteer Program in 2014. The foundation of the program was to engage volunteers on a deeper level, encouraging first-hand participation in conservation while offering an opportunity to learn about the natural resource issues impacting the Thousand Islands region. Through routine visits to preserves, volunteers collect key information on wetland health, trails conditions, invasive and native species, and overall health of the land. During the first summer of the program in 2014 over 50 volunteers were trained to monitor TILT preserve trails. Hence, Stewardship Volunteers offer an essential means to ensure conservation of TILT's over 8,500 acres of land.

In 2015, with the assistance a SLELO-PRISM grant, the Stewardship Volunteer program expanded to all seven TILT Preserves. Volunteer records of invasive species at four of these preserves also went digital as volunteers used a GPS and iPads to mark trails and invasive species locations along the trails. In addition, in-depth identification guides on key native and invasive species were created to aid volunteers in their search for flora and fauna negatively impacting the St. Lawrence River ecosystem.

In 2015, our goals were to:

- Develop enhanced invasive species educational materials for Stewardship Trainings.
- Recruit an additional 50 volunteers in 2015 including teens, college students and local and seasonal residents.
- Conduct invasive species assessment, mapping and monitoring of the Otter Creek Preserve, Foster-Blake Preserve, Ingerson Preserve (Rivergate Trail), and Chippewa Bay Preserve using GPS technology.

Methods

To achieve our goals we:

- Shifted our part-time, seasonal Volunteer Program Coordinator to a part-time, year-round employee.
- Hired a part-time intern over the summer to assist with planning and presentation of Stewardship Volunteer trainings.
- Scheduled and presented eight Stewardship Volunteer trainings between April- August which included all seven of TILT's Signature Preserves.

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- Scheduled and presented two invasive species field trips, one to Carleton Island and the other to Grenadier Island, for volunteers to learn more about invasive species and potential ways to manage them.
- Stewardship Volunteer Coordinator and Stewardship Coordinator attended iMap training.
- Added additional Stewardship Volunteer training focused on iMap training.
- Created additional materials for the Stewardship Volunteer Training to include how to use iMap.
- Developed Thousand Islands region specific invasive species booklets (both a land and aquatic version to give volunteers a more in-depth knowledge of invasive species impact water quality).
- Designed a flyer about the program and training specific flyers to be shared at community events and in community stores.
- GPSed trails at Foster-Blake, Ingerson, Otter Creek and Chippewa Bay Preserves.
- Created invasive species maps of four preserves using GPS data collected by iPads and GPS.
- Share events and achievements of the Stewardship Volunteer trainings through eblasts.
- Sent press releases of events and achievements to local newspapers.

Results

Over 75 newly trained Stewardship Volunteers in 2015 provided valuable information about wetland health, trail conditions, presences or absence of invasive and indicator species, and overall health of the land. The information gathered by these volunteers aided TILT in establishing an ecological baseline for preserves and deepened staff's understanding of how the health of each preserve contributes to the region's water quality, recreational opportunities and scenic beauty of the region.

We started by developing enhanced invasive species educational booklets. Three booklets were created to highlight terrestrial and aquatic invasive species, along with indicator species found in the absence of non-native flora and fauna. Each booklet highlights ten key species potentially found in the Thousand Islands region and pinpoints essential identification characteristics to insure proper identification by volunteers. These booklet became a key part of the Stewardship Volunteer Trainings.

We hosted nine training sessions during the 2015 summer, including six trail trainings, two tributary monitoring trainings, and one iMap training. The 78 volunteers trained this year spanned all ages and included both seasonal and year around residents, along with Scouts and Jefferson Rehabilitation Center clients.

The Stewardship Volunteer trail trainings took place at five of TILT's preserves (Foster-Blake, Grindstone Nature Trail, Zenda Farms, Ingerson Preserve- Rivergate Trail, and Chippewa Bay) and educated community members on how to monitor the trails and natural resources of these lands. Combined, the volunteers offered more than 400 hours of service and provided over 50 monitoring reports which assisted staff greatly in identifying areas requiring additional conservation efforts.

In addition, tributary monitoring trainings were presented at Otter Creek Preserve and Crooked Creek Preserve. Those in attendance learned about the importance of how tributaries and wetlands serve as a water filters and how to monitor waterways obstructions, indicator and invasive species, and basic water quality.

Once trained, volunteers were offered opportunities to expand their natural resource knowledge by participating in field trips, Stewardship Days, and attending an iMap training. TILT hosted volunteering outings to Carleton Island and Grenadier Island to educate volunteers about the history and management of swallow-wort. During the trips, resources were shared on how to identify invasive species, particularly swallow-wort, and ways individuals may help to manage invasive species. Participants also ventured into the field to see first-hand the impact of invasive species on the landscape and how community members are working together to restore native habitats. The trip to Grenadier Island fostered the

creation of a community group which plans to tackle the swallow-wort on the Island in collaboration with TILT. We are currently planning a cost shared swallow-wort management program with them.

Staff also held a Stewardship Day at Chippewa Bay in the spring. Participants cleaned up the existing trail and marked a new trail so community members and visitors to the Thousand Islands Region may partake in the natural beauty of the river and experience why it is so important to conserve and protect the St. Lawrence River. Unfortunately, the second Stewardship Day schedule in September was canceled due to inclement weather.

Lastly, the iMap training expanded upon the traditional trail monitoring training to showcase how to record invasive species locations using iPads/GPS and explained the importance this ecological data has on TILT's ability to control and prevent the spread of invasive species. Once trained, volunteers assisted staff using the iPads and GPS in the field to collect invasive species locations at four preserves: Foster-Blake Woods Preserve, Ingerson Preserve (Rivergate Trail), Otter Creek Preserve and Chippewa Bay Preserve. Invasive species identification was focused on ten species. Table 1 indicates which species we found at each of these four preserves. Also, as a part of the Tributary Stewardship Training we found some

TABLE 1: Key invasive species found at each of the four surveyed preserves.

Invasive Species	Foster-Blake Woods Preserve	Ingerson Preserve (Rivergate Trail)	Otter Creek Preserve	Chippewa Bay Preserve
Common Buckthorn	X		X	
Common Reed				X
Garlic Mustard	X	X		X
Giant Hogweed				
Honeysuckle	X	X	X	X
Japanese Knotweed				
Purple Loosestrife			X	
Swallow-wort				
Yellow Iris			X	X
Wild Parsnip		X (Not at Preserve, but on the trail)		

aquatic invasive species, including Eurasian watermilfoil, curly-leaved pondweed, purple loosestrife, and flowering rush. Following the collection of the field data, the information was downloaded into ArcGIS and maps were generated in concert with graphic software to summarize volunteer and staff efforts (Figure 1-4).

FIGURE I: Chippewa Bay Preserve invasive species map.

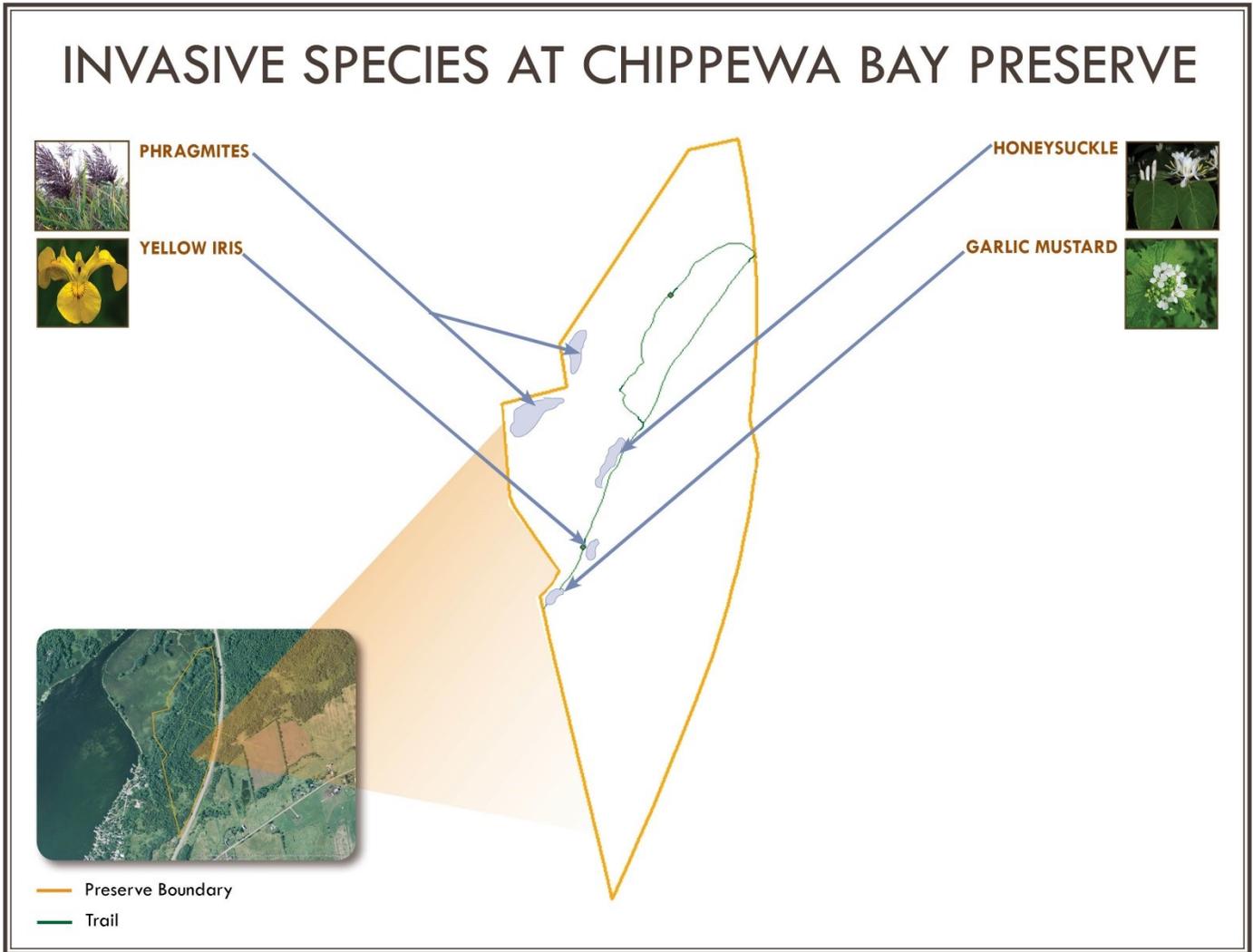


FIGURE 2: Foster-Blake Woods Preserve invasive species map.

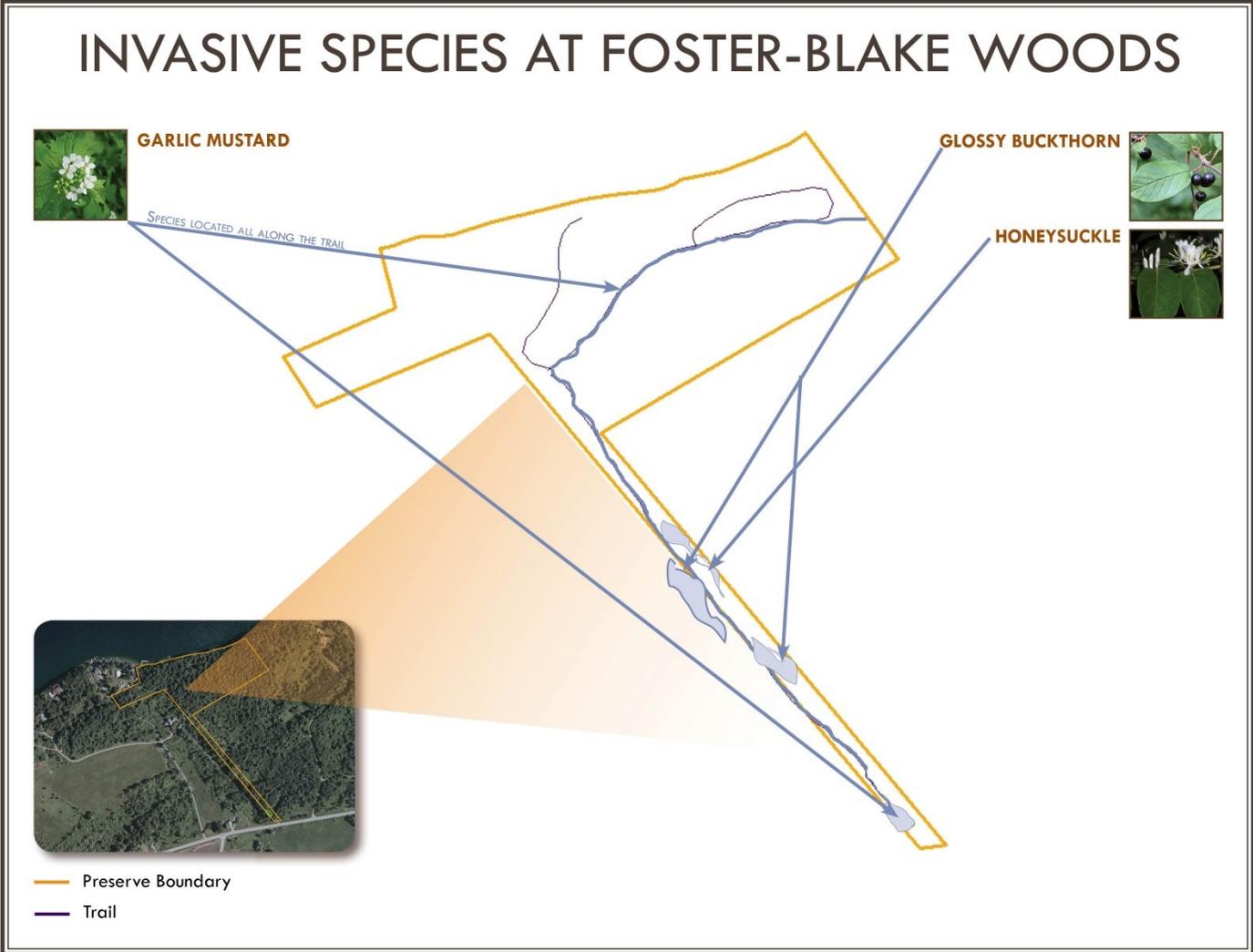


FIGURE 3: Ingerson Preserve (Rivergate Trail) invasive species map.

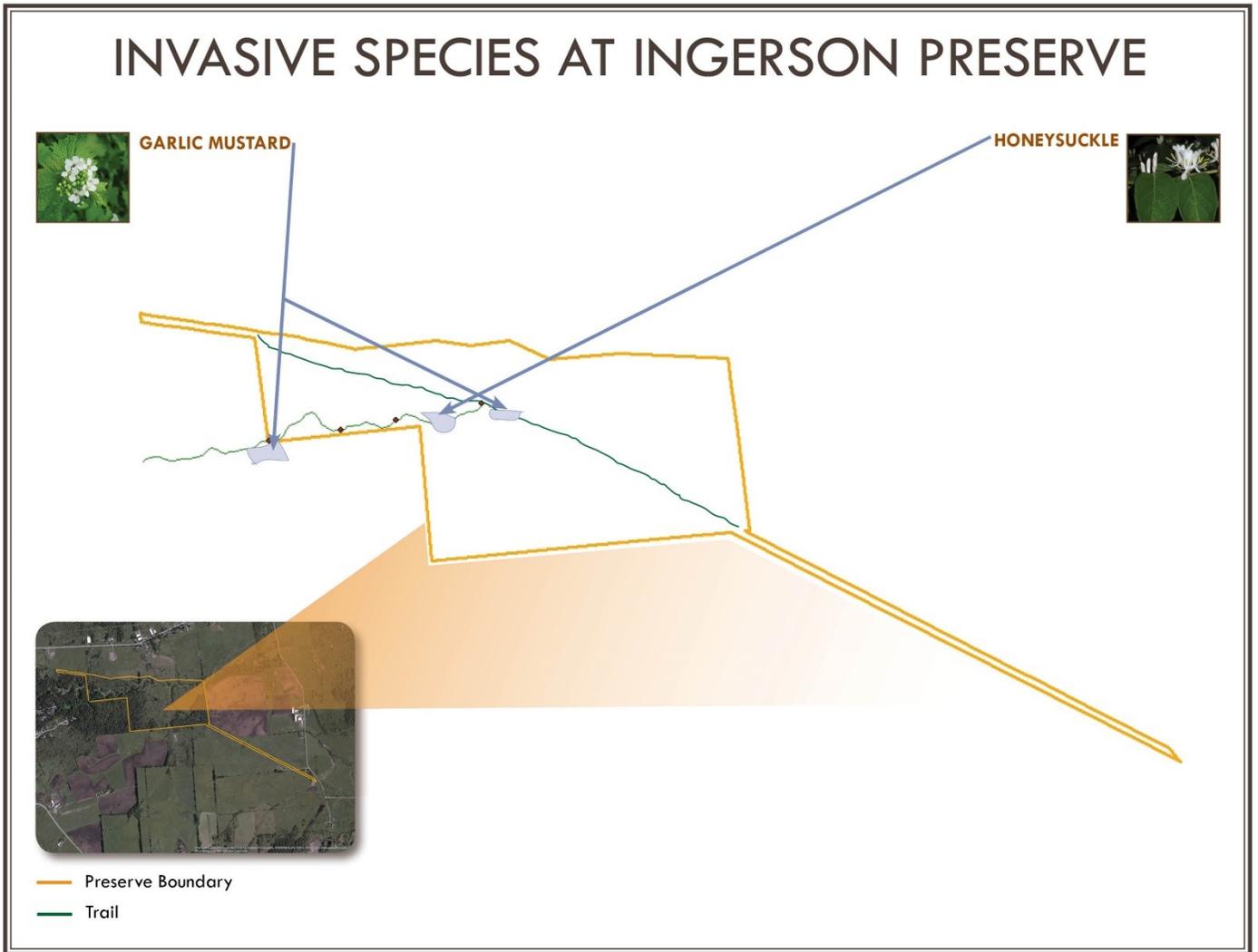
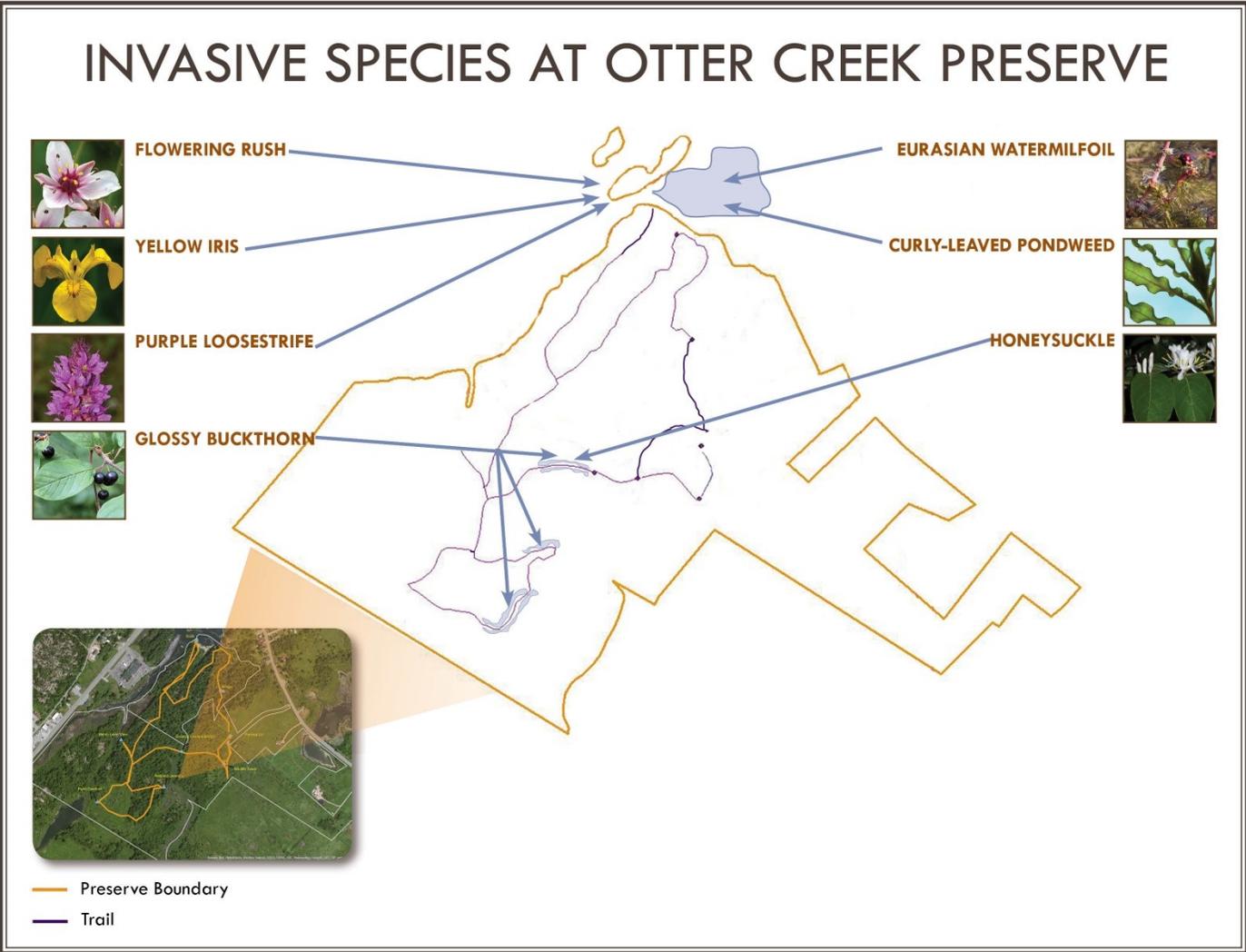


FIGURE 4: Otter Creek Preserve invasive species map.



Evaluation

As with any endeavor we try to continually improve and expand upon our efforts by evaluating our programs. There was an overwhelmingly positive response to the trainings by participants. Based on anonymous evaluations all felt the goals, materials and training were in line with conservation efforts needed to protect our natural resources, particularly the St. Lawrence River.

"It is a great way to learn about an area, meet new friends, and give back to the community by volunteering. I love the mission of TILT and it is something that motivates me- to conserve and preserve this beautiful garden of the Great Spirit." 2015 VOLUNTEER

Many of tributary volunteers look forward to the program expanding next year to include all five preserve waterways and for the monitoring to include more in-depth water quality assessment beyond visual inspection. Volunteers also had a high desire for more educational, social opportunities on a routine basis, so we will be working to develop a monthly volunteer event to foster a community among volunteers. The last lessons we garnered over the course of this project dealt with mapping the invasive species. We learned volunteers should have simultaneously recorded location data and iMap information. We will be working over the winter to upload all the invasive species sighting by volunteers into the iMap database and plan to streamline this process for the 2016. And, since many of the invasive species travel along hiking trail pathways we hope to work on preventing further spread of non-native flora by installing invasive species brush-off stations at preserve trail heads.

Conclusion

The Volunteer Stewardship Program is important because of the educational benefits it has for area residents and visitors and its' ability to assist TILT in early detection and prevention of invasive species. The Thousand Islands region hosts thousands of visitors annually and this program helps bring awareness to the importance of St. Lawrence River watershed. Additionally, the watershed benefits from the Stewardship Volunteers as the information they gather allows TILT staff to not only assess ecological health of the land and water, but also take steps towards controlling and preventing the spread of invasive species. Lastly, the Stewardship Volunteer Program fosters the next generation of stewards by encouraging and expanding opportunities for youth and families to engage in conservation of the land.

As Margaret Mead noted, *"Never doubt that a small group of thoughtful, committed citizens, can change the world; indeed, it's the only thing that ever has."*

Budget

Budget Category	Proposed Total	Requested	Proposed Matched	Actual Grant expenditures
Personnel Services/ Staff Time	\$26,730	\$2000	\$24,730 TILT operating fund	\$2224.68
Materials & Supplies	\$4190	\$4190	\$0	\$3960.52
Contractual Services	\$0	\$0	\$0	\$0
Printing & Postage	\$150	\$150	\$0	\$154.80
Travel	\$200	\$200	\$0	\$200
Other	\$200	\$200	\$0	\$200
Total	\$33,780	\$6,740	\$24,730	\$6,740

The slight variation in expenses for equipment arose from being able to find some better deals/sales for some of the equipment purchased. The balance of funds was transferred to the salaries line item.