

Special Note

The partners of the SLELO PRISM have identified 24 Priority Conservation Areas on which we conduct early detection surveillance on a two year rotation. This report is considered as an addendum to the original field report. The original report is attached to the end of this report.

St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management

2014 Field Survey Addendum to Oneida Lake/ Three Mile Bay WMA SLELO PRISM Early Detection Surveillance

June 26, 27, 30 & July 1 & 2 2014

Report prepared by Elizabeth MacEwen and Sabrina Dreythaler, 7/7/2014



Figure 1. Panoramic view of Three Mile Bay, Oneida Lake. Photo by Sabrina Dreythaler.

Summary

The SLELO-PRISM Early Detection team conducted a survey of Oneida Lake and the Three Mile Bay Wildlife Management Area, focusing on the HPAs that were designated in 2012 (waypoints and travel routes are presented in the survey maps). The species targeted during the aquatic survey included Water Chestnut (*Trapa natans*), Hydrilla (*Hydrilla verticillata*) and other Prevention Watch-list Species and Target Management Species¹. Field crew members Sabrina Dreythaler and Elizabeth MacEwen used the rake-toss method, Figure 2, to survey the submerged vegetation and surveyed visually for these targeted species. During the aquatic surveys if a terrestrial invasive was seen on the shoreline, it was recorded.

Methods were taken to specifically look for Asian Clams (*Corbicula fluminea*) and Rusty Crayfish (*Orconectes rusticus*), which were not targeted in the 2012 survey. This was completed



Figure 2. Typical rake toss results from HPA-6b, dominated by thin leaf pondweed. Photo by Sabrina Dreythaler.

¹ For a list of Prevention Watch- List species and Target Management species, see the SLELO-PRISM 2012–2016 Strategic Plan, pp. 36 – 37.

by manually turning over rocks at HPA-2, HPA-3, HPA-4 and HPA-5. Rusty Crayfish and Asian Clams are likely to be found in aquatic habitats with shallow, well-oxygenated waters and a rocky bottom along the shoreline². These HPAs contained the ideal habitat and it was determined that the species were likely to be seen here if they were present in the region.

The targeted species during the terrestrial survey were the Prevention Watch-list species, such as Mile-A-Minute Vine (*Polyfnum perfoliatum*) and Kudzu (*Pueraria lobata*). Target Management species were also noted when seen. During terrestrial surveys, if an aquatic invasive species was seen along the shoreline, this species was noted.

Observations

Aquatic Survey

There were no occurrences of Prevention Watch-list species during the 2014 aquatic survey. The Target Management species that were found in the survey included Water Chestnut, Eurasian Water Milfoil (*Myriophyllum spicatum*), Purple Loosestrife (*Lythrum salicaria*) and Japanese Knotweed (*Polygonum cuspidatum*). Other aquatic invasive species found included Curly Leaf Pondweed (*Potamogeton crispus*), European Frog-bit (*Hydrocharis morsus-ranae*) and Zebra and Quagga mussels (*Dreissena* spp.). All of these species were also seen in 2012. In 2012 Brittle Naiad (*Najas minor*) was seen at HPA-5, and in 2014 it was not observed.

A total of approximately 1 square yard (1 large garbage bag full) of Water Chestnut was pulled at HPA-1 and HPA-6b. The plants were scattered throughout these HPAs, however areas with higher densities of plants did exist and can be seen as the highlighted areas on figures 3 and 4. The Water Chestnut seemed to be restricted to the same areas where it was in 2012: Big Bay, at the channels off of the Toad Harbor Car-top Boat Launch and in the bay by the South Shore Fishing Access west of I-81.



Figure 3. Water Chestnut coverage at HPA-6b, darker red is higher density.



Figure 4. Water Chestnut coverage at HPA-1, darker red is higher density.

² Asian Clam and Rusty Crayfish habitat information found on the global invasive species database, available online at <http://www.issg.org/database/welcome/>.

There were no occurrences of Rusty Crayfish or Asian Clams. For a complete list of aquatic invasive species occurrences, see tables 1 and 2. There is no table for HPA-2 or HPA-6a because there were no occurrences of invasive species.

Terrestrial Survey

There were no occurrences of Prevention Watch-list Species during the 2014 terrestrial survey.

The Target Management Species that were found included Phragmites (*Phragmites australis*) and Buckthorn (*Rhamnus spp.*). Other invasive species found included Autumn Olive (*Elaeagnus umbellata*), Garlic Mustard (*Alliaria petiolata*) and European Frog-bit. European Frog-bit was found dominating the swamp's edge along the trail in tHPA-2 and dominating the shoreline of the trail in tHPA-1, see figure 5. For a full list of terrestrial invasive occurrences, see Table 3.



Figure 5. EFB dominating the shoreline of tHPA-2.
Photo by Sabrina Dreythaler

Key For All Tables: EFB – European Frog-bit WC- Water Chestnut EWM- Eurasian Water Milfoil
 CLPW- Curly-Leaf Pondweed ZM- Zebra Mussels QM- Quagga Mussels PL- Purple Loosestrife
 BN- Brittle Naiad JK- Japanese Knotweed BT- Buckthorn Spp. PH- Phragmites
 GM- Garlic Mustard AO- Autumn Olive

Refer to subsequent maps for point locations; highlighted points are new rake-toss locations

Table 1. Data collected via rake toss at the aquatic HPAs. (Continued on following page)

Location: HPA-1 (Three Mile Bay WMA car-top launch)								Date: 6/26/14
Point	Latitude Longitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
001	43.241821	1	5.5	1	0			EFB, WC-1 plant pulled
	-76.086855	2		1	0			
002	43.242992	1	5.5	1	0			
	-76.088983	2		1	0			
003	43.244169	1	3	0	0		Visual: WC 1 plant pulled	
	-76.089439	2		2	1	CLPW		
005	43.244826	1	4	1	0		Visual: WC 1 plant pulled, EWM	CLPW, EWM
	-76.088507	2		2	0			
009	43.250271	1	3	3	1	CLPW	Visual: EWM	EWM
	-76.108702	2		3	0			
010	43.251276	1	4	4	1	CLPW		EWM
	-76.109103	2		3	0			
011	43.253548	1	4	3	1	CLPW		EWM
	-76.112858	2		5	1	CLPW		
012	43.256279	1	3	2	1	CLPW		EWM
	-76.118955	2		3	1	CLPW		
013	43.254505	1	7	2	0			EWM
	-76.120045	2		1	0			
014	43.252722	1	8	3	0			EWM, ZM
	-76.116457	2		4	2	EWM, CLPW		
015	43.249455	1	4.5	5	1	CLPW		
	-76.109823	2		2	1	CLPW		
Location: HPA-3 (Cleveland Docks fishing access)								Date: 7/1/14
Point	Latitude Longitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
058	43.231478	1	4	0	0			
	-75.881016	2		3	1	CLPW		
060	43.23116	1	3	1	0			
	-75.881209	2		0	0			
Location: HPA-4 (Godrey Point State Boat Launch)								Date: 7/1/14
Point	Latitude Longitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
054	43.223362	1	4	1	0		Visual: PL large patch on shore, pulled	
	-75.850174	2		1	0			
055	43.22326	1	2	0	0			
	-75.849484	2		0	0			

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Location: HPA-5 (Sylvan Beach canal access)								Date: 6/30/14
Point	Latitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
	Longitude							
047	43.194813	1	2.5	3	1	CLPW		CLPW, EWM, BN
	-75.727988	2		4	1	CLPW		
048	43.194334	1	5	4	0			EWM, CLPW
	-75.726894	2		2	0			
049	43.195219	1	4	4	0			BN
	-75.72747	2		1	0			
050	43.197569	1	2	3	1	CLPW	EFB	EWM
	-75.726437	2		3	1	CLPW		
Location: HPA-6b (South Shore Fishing Access near Route 81 bridge)								Date: 6/27/14
Point	Latitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
	Longitude							
017	43.234938	1	4.5	2	0			
	-76.130365	2		2	0			
021	43.238515	1	6	3	0			
	-76.13315	2		4	1	CLPW		
022	43.235455	1	3.5	2	0			
	-76.130369	2		4	0			
Location: HPA-7 (Bush Rd. State Boat Launch)								Date: 6/27/14
Point	Latitude	Throw	Depth (ft)	# Spp.	# Inv.	Invasive Species Present 2014	Notes 2014	Invasive Species Present 2012
	Longitude							
023	43.162447	1	3	6	0		Visual: EWM	
	-75.926184	2		7	2	CLPW, EWM		
024	43.16096	1	2.5	4	1	CLPW		
	-75.919905	2		4	0			
025	43.167487	1	3	2	1	CLPW		
	-75.927529	2		1	0			
026	43.163503	1	3	7	2	ZM, QM		CLPW
	-75.926855	2		3	2	ZM, QM		

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Table 2. Visual occurrences noted at the aquatic HPAs

Location: HPA-1			Date: 6/26/14
Point	Latitude	Invasive Species Present	Notes
	Longitude		
004	43.24474	WC, CLPW, EFB	More than 10 WC pulled
	-76.089041		
006	43.245193	WC	Pulled 3 plants
	-76.087596		
007	43.245302	WC, EWM, CLPW	Pulled ~20-30 WC plants
	-76.087649		
008	43.249205	JK	Large patch covering point
	-76.108997		
Location: HPA-3			Date: 7/1/14
Point	Latitude	Invasive Species Present	Notes
	Longitude		
059	43.232153	CLPW	Dominating area
	-75.880035		
061	43.231192	JK Zm, QM	Small bush on shore Covering rock on shore
	-75.881355		
Location: HPA- 4			Date: 7/1/14
Point	Latitude	Invasive Species Present	Notes
	Longitude		
053	43.223836	PL	1 plant pulled
	-75.85012		
056	43.223079	PL	Large patch along shoreline
	-75.84695		
057	43.22338	PL, ZM, QM	small patches of dying PL, few ZM/QM
	-75.849546		
Location: HPA-5			Date: 6/30/14
Point	Latitude	Invasive Species Present	Notes
	Longitude		
051	43.193212	JK	Along shoreline
	-75.731051		
052	43.191314	JK	Large patch on peninsula
	-75.732598		
Location: HPA-6b			Date: 6/27/14
Point	Latitude	Invasive Species Present	Notes
	Longitude		
018	43.235331	WC	Pulled ~10 plants
	-76.13117		
019	43.236184	WC	Pulled ~10 plants
	-76.133046		
020	43.236409	EWM	Dominating area
	-76.133252		

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Table 3. Invasive occurrences at the terrestrial HPAs. Continued on following page.

Location: tHPA-1 (Toad Harbor Rd.)			Date: 6/30/14
Point	Latitude	Inv. Spp.	Notes 2014
	Longitude	Present 2014	
027	43.252571	EFB	Along swamp edge, dominating
	-76.07863		
028	43.250642	BT	Few plants on side of trail
	-76.07651		
029	43.251435	BT	A lot of plants, both sides of trail
	-76.07734		
030	43.252467	PH	Few plants growing with cattails
	-76.07937		
Location: tHPA-2 (Shaw Rd.)			Date: 6/30/14
Point	Latitude	Inv. Spp.	Notes 2014
	Longitude	Present 2014	
032	43.2435	EFB	Scattered long shore
	-76.08922		
033	43.243999	PH	Few plants
	-76.08929		
034	43.244393	EFB	Scattered along shore
	-76.08907		
035	43.244545	EFB	Large patch along shore
	-76.08852		
036	43.24442	EFB	Large patch along shore
	-76.08823		
037	43.24379	EFB	Small patch along shore
	-76.08734		
038	43.242278	EFB	Small patch along shore
	-76.08507		
039	43.242099	BT	Small patch
	-76.08499		
040	43.241489	BT	A couple of plants
	-76.08673		

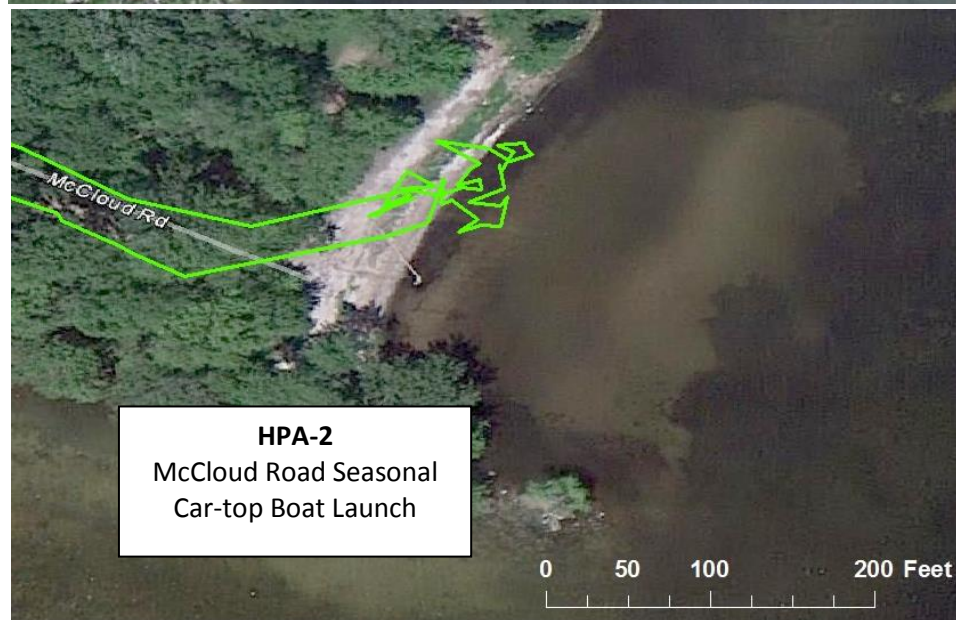
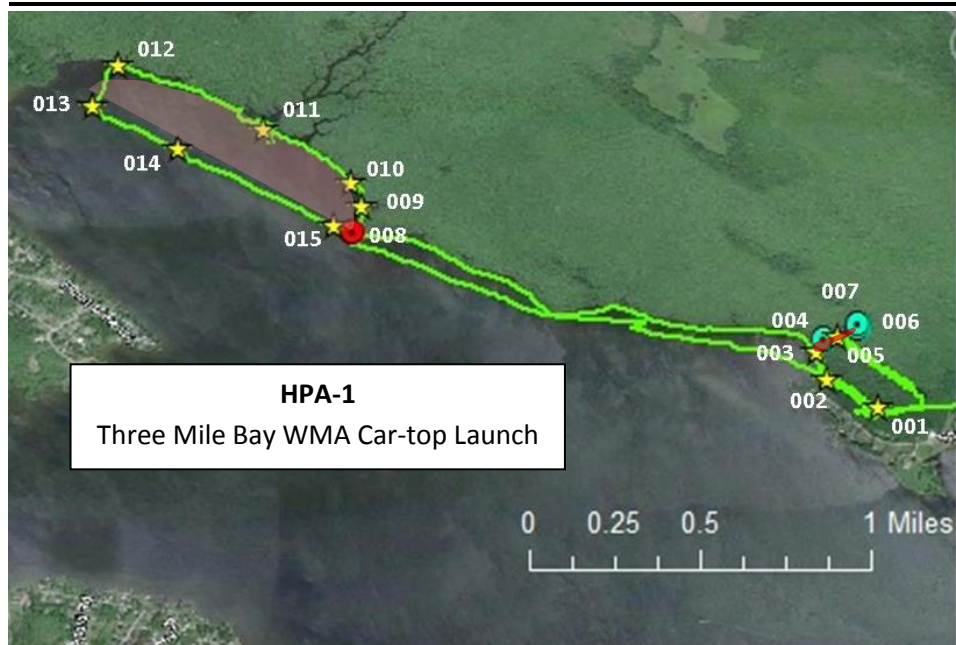
Location: tHPA-3 (McCloud Rd.)			Date: 7/1/14
Point	Latitude	Inv. Spp. Present 2014	Notes 2014
	Longitude		
062	43.243082	GM	Few plants on side of road
	-76.05645		
063	43.242844	PH	Small patch
	-76.05563		
064	43.241609	GM	Few plants on side of road
	-76.0536		
065	43.240822	PH	Large field
	-76.05257		

Location: tHPA-4 (Wheeler Rd.)			Date: 6/30/14
Point	Latitude	Inv. Spp. Present 2014	Notes 2014
	Longitude		
041	43.264596	AO	Quite a few bushes
	-76.05909		
042	43.264523	BT	Large patch
	-76.06005		
043	43.264595	PH	Not dominating
	-76.06038		
044	43.264657	AO, BT	Large patches growing together
	-76.06172		
045	43.265297	BT	Large patch
	-76.06285		
046	43.266905	GM	Large patch
	-76.06518		

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Survey Maps

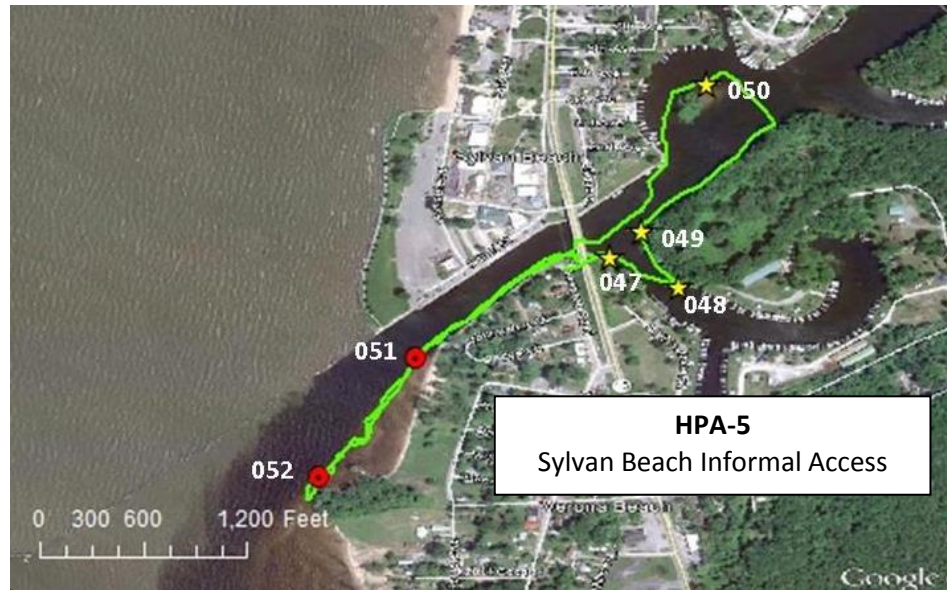
Key for all maps: Blue dots are aquatic visual occurrences. **Red dots** are terrestrial visual occurrences. **Yellow stars** are rake toss points.



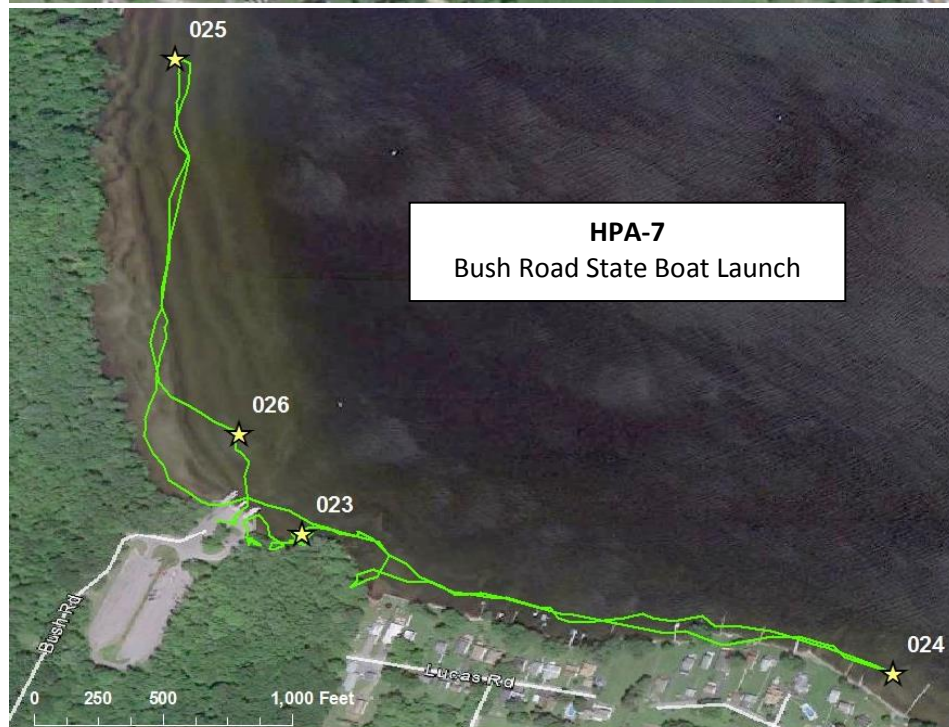
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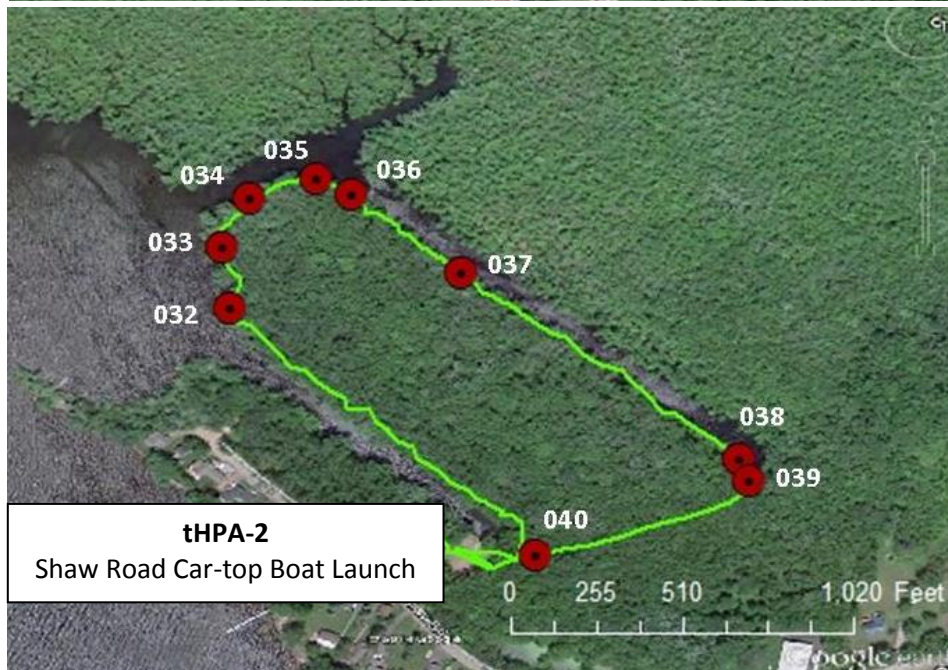
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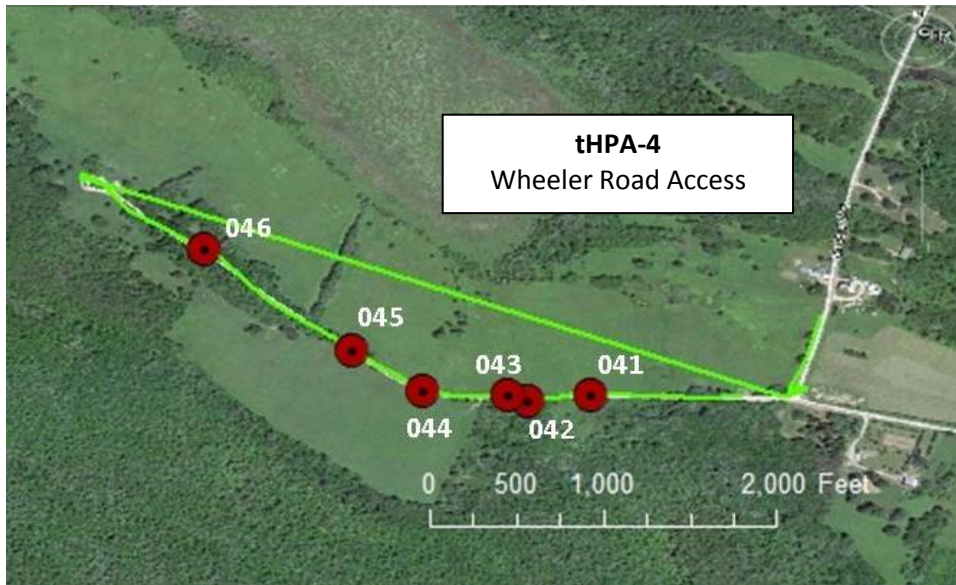
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St. Lawrence Eastern Lake Ontario Partnership for Regional Invasive Species Management

Oneida Lake/Three Mile Bay WMA SLELO-PRISM Water Chestnut & Hydrilla Surveillance 2012

June 18 – 22 (Water Chestnut); August 3 & 7 (Hydrilla), 2012



Figure 1: Panoramic view of Oneida Lake from the McCloud Road seasonal boat launch. Photo by Mike McHale.

Report drafted by Greg Chapman and Mike McHale, 6/26/12. Updated 8/21/12.

Introduction and Background

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, and is an extremely popular fishing and vacationing destination. Despite Oneida Lake's large size, the lake is relatively shallow, with an average depth of 22 feet³.

Although much of the shoreline is heavily developed with camps and cottages, a variety of public access options are available along the shores of Oneida Lake.

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. Access to the lake from the WMA includes a year-round car-top boat launch on Shaw Road, and a seasonal car-top boat launch at the end of McCloud Road. A gate approximately one-half mile from the lake's shore restricts access to this second launch from the Monday before Memorial Day Weekend through the Monday following Labor Day Weekend. Although much of the WMA consists of swamps and marsh, formal terrestrial access is also available from a parking area along Toad Harbor Road and a parking area along Wheeler Road. The Wheeler Road access is utilized by the New York State Department of Health as an Encephalitis Field Laboratory. For an overview of Three Mile Bay WMA, see the attached NYS-DEC map.

Shoreline fishing access is provided by two State Fishing Access Sites at the west end of Oneida Lake; parking for the northern access site is available off County Route 37, and parking for the southern access is off Kathan Road in Brewerton. Along the north shore, the Cleveland Docks Fishing Access Site provides opportunities for shoreline fishing and informal launching of small watercraft. Informal access is also available from a location under the Route 13 bridge in Sylvan Beach at the east end of the lake.

3 Oneida Lake size and depth information obtained from NYS-DEC's Oneida Lake profile, available online at <http://www.dec.ny.gov/outdoor/41034.html> (accessed 6/26/12).

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Two improved concrete boat launches are maintained by the NYS Office of Parks, Recreation and Historical Preservation (OPRHP). The Godfrey Point State Boat Launch is located on the north shore, off Lake Street (Route 49) west of the hamlet of Jewell. On the south shore, the Bush Road State Boat Launch is located off Route 31, east of the hamlet of Bridgeport. Both State Boat Launches are provided free of charge.

For a fee, boats may also be launched from Verona Beach State Park at Oneida's eastern end, and at Oneida Shores County Park along the lake's southwestern shore.

Targeted Locations



Figure 2: Map showing locations of the seven aquatic HPAs surveyed on Oneida Lake.

Aquatic survey efforts were focused on seven Highly Probable Areas (HPAs) that were identified⁴ for Oneida Lake, as follows:

HPA-1: Shaw Road car-top boat launch, Three Mile Bay WMA. Aquatic survey of the area immediately surrounding boat launch. (Survey extended eastward after initial detection of Water Chestnut).

HPA-2: McCloud Road seasonal car-top boat launch, Three Mile Bay WMA. Visual survey of shoreline.

HPA-3: Cleveland Docks Fishing Access, off Route 49 in Cleveland. Aquatic survey of immediate fishing access area.

HPA-4: Godfrey Point State Boat Launch, off Route 49 west of Jewell. Aquatic survey of the area immediately surrounding boat launch.

HPA-5: Sylvan Beach informal access. Aquatic survey of canal under bridge and outlets of two nearby marinas.

HPA-6a: North Shore Fishing Access, off County Route 37 north of Brewerton. Visual survey of shoreline.

HPA-6b: South Shore Fishing Access, off Kathan Road in Brewerton. Visual survey of

4 See Appendix 1 for HPA assignment protocols.

shoreline. Survey extended eastward to aquatic investigation of adjacent small bays after initial detection of Water Chestnut.

HPA-7: Bush Road State Boat Launch, off Route 31 east of Bridgeport. Aquatic survey of the area immediately surrounding boat launch.

Visual terrestrial surveys were also conducted at four additional terrestrial HPAs (tHPAs) within the Three Mile Bay WMA, as follows:



Figure 3: Map showing location of terrestrial HPAs (tHPAs) within Three Mile Bay WMA.

tHPA-1: Toad Harbor Road Parking Area. Visual survey conducted along trail (marked with red blazes) leading to swamp edge.

tHPA-2: Shaw Road car-top boat launch. Visual survey conducted along shoreline trails and at parking lot perimeter.

tHPA-3: McCloud Road seasonal car-top boat launch. Visual survey conducted at parking area and along road beyond access gate to the shoreline.

tHPA-4: Wheeler Road access. Visual survey conducted at parking area and along road leading to NYSDOH Encephalitis Field Laboratory.

Survey Methods and Objectives

A survey targeting Water Chestnut (*Trapa natans*) and other aquatic and riparian invasive species⁵ was undertaken by SLELO-PRISM seasonal employees Mike McHale and Greg Chapman on June 18 through June 21, 2012. Additional terrestrial surveys were conducted within the Three Mile Bay WMA on June 22, 2012.

A subsequent survey targeting Hydrilla (*Hydrilla verticillata*) was undertaken by SLELO-PRISM seasonal employees Mike McHale and Greg Chapman on August 3 and 7, 2012.

At HPAs 1, 3, 4, 5 and 7, additional data detailing submerged aquatic vegetation was collected via rake toss. Rake toss locations were also added during Hydrilla surveillance at HPA-6b. For each rake toss location, a weighted rake was thrown twice, once from each side of the canoe. Submerged aquatic vegetation collected on the end of the rake was then analyzed from each toss, and the total number of species present was recorded, as well as the number and identification of all invasive species present.

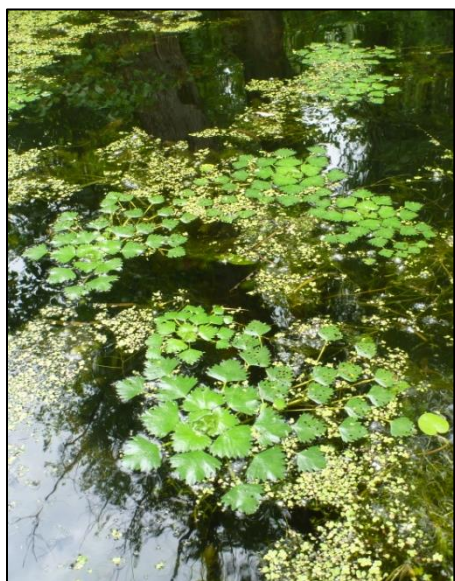


Figure 5: A Water Chestnut occurrence of typical size and density near HPA-1 on June 18, 2012. Photo by Greg Chapman.



Figure 4: Mike McHale (left) and Greg Chapman (right) conducting a rake toss analysis near the Bush Road State Boat Launch, June 21, 2012. Photo by Rob Williams.

Terrestrial surveys within Three Mile Bay WMA were conducted by visually inspecting areas adjacent to roads, trails and parking areas at each tHPA for the presence of invasive species, particularly those identified as high priority (i.e. species included in the Prevention Watch-List and Target Management Species lists in the SLELO-PRISM Strategic Plan).

Invasive species occurrences were recorded using the iMapInvasives Observation Field Form and reported to the iMapInvasives database. A Garmin hand-held GPS unit was used to record invasive species occurrence coordinates, locations of rake tosses as well as tracking the route taken during the survey.

Observations and Actions: Aquatic

During aquatic surveys of the Oneida Lake HPAs, Water Chestnut (*Trapa natans*) was observed to be growing near two locations: HPA-1 (Shaw Road launch)

5 For a list of targeted species, see the SLELO-PRISM 2012–2016 Strategic Plan, pp. 36 – 37.



Figure 6: Photo showing an example of relatively dense Water Chestnut growth, located within a swamp channel north of Big Bay, June 19, 2012. Photo by Greg Chapman.

and HPA-6b (South Shore Fishing Access). After the initial detection of water chestnut, survey areas at both locations were extended to better understand the scope of the plant's establishment.

At HPA-1, the survey was extended to the bays to the east (particularly Big Bay) containing large, calm areas conducive to aquatic plant growth, and the larger channels draining to the lake from the adjacent

swampland. Water Chestnut was observed to be growing generally throughout the area, although often at low densities (see Figure 6, previous page and Figure 8, below). Water Chestnut growth was observed to be

somewhat denser within the swamp channels and in the open areas near these channels' outlets. The most severe areas of Water Chestnut growth were still restricted to isolated patches of thick growth (see Figure 7), and no large continuous mats or large-scale monocultures were observed. See Figure 8 (below) for a visual estimation of Water Chestnut growth near HPA-1.

Some removal of Water Chestnut was undertaken at HPA-1, specifically in the channel and bay nearest to the boat launch and a far dispersed small patch growing in the northwestern portion of Big Bay. Removal efforts were halted after it was determined that the area affected was too large for a two-person team to accomplish efficiently. Approximately one-half of one trash bag of plants were removed.



Figure 7: Map showing extended survey and generalized Water Chestnuts observations east of HPA-1, June 19, 2012. Light red areas contained dispersed small clusters of plants, while darker red areas were observed to contain

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include the Salt City Bassmasters

Figure 8: Water Chestnut observations at HPA-6b. The red area indicates general area in which plants were observed; the green line shows the survey route taken.

supplement to their efforts and as a way of encouraging continued Water Chestnut suppression activities on Oneida Lake.

Water Chestnut was not observed to be growing at other HPAs surveyed. Areas near HPAs 2, 3, 4 and 7 were generally open water with rocky or sandy bottoms, and did not appear to be as generally conducive to aquatic plant growth. Instances of Eurasian Water-Milfoil (*Myriophyllum spicatum*) and Curly-Leaf Pondweed (*Potomageton crispus*) were recorded at several locations, and European Frog-Bit (*Hydrochassis morsus-ranae*) was observed growing in several location near HPA-1. See Tables 1 and 2 for complete survey results.

No Hydrilla occurrences were observed at any Oneida Lake locations during surveys on August 3 and 7, 2012.

Observations: Terrestrial

No species listed on the SLELO Prevention Watch List were observed during the course of the terrestrial survey of four tHPAs within Three Mile Bay WMA. Several terrestrial invasive plants common to our region were observed, including *Phragmites*, Garlic Mustard (*Alliaria petiolata*), Multiflora Rose (*Rosa multiflora*) and Buckthorn (*Rhamnus* sp.) See Table 3 for full survey results.



Figure 9: Mike McHale inspects roadside vegetation at tHPA-2 (McCloud Road) in Three Mile Bay WMA. Photo by Greg Chapman.

more and larger clusters of Water Chestnuts. The green line shows the route taken during the survey.

At HPA-6b, the small bays east of the shoreline fishing access were surveyed. Small, isolated patches of Water Chestnut were observed to be growing in the calm areas near shore and along the east shore of the small nearby island. Only a single plant was observed growing in the calm, weedy area immediately east of the Route 81 bridge, and this plant was removed. No other removal of Water Chestnut was undertaken at this location.

Initial plans to coordinate a Rapid Response event to remove these areas of Water Chestnut growth were halted after further research revealed that several organizations were already engaged in suppressing Water Chestnut growth on Oneida Lake. These groups and organizations Club (focusing removal efforts on the west end of Oneida Lake, particularly Big Bay), the Oneida Shores Rotary Club, the Oswego County Soil and Water Conservation District, and the Oneida Lake Association (focusing efforts on the east end of the lake). Survey data and maps of Water Chestnut observations were provided to these groups as a

Observation Data Tables

Refer to subsequent maps for point locations. Key to abbreviations used in all tables: **EWM**: Eurasian Water-milfoil **CLPW**: Curly-leaf Pondweed **EFB**: European Frog-bit **WC**: Water Chestnut **PH**: Phragmites **BT**: Buckthorn

Table 1: Rake toss results from Oneida Lake HPAs 1, 3, 4, 5 and 7 collected during Water Chestnut surveillance.
(Continued on next page.)

Location: HPA-1 (Three Mile Bay WMA car-top launch) Date: 6/18/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
199	1	8'	3	0		Visual: EFB WC: 1 plant, pulled
	2	8'	0	0		
202	1	5'	2	0		
	2	4'	4	0		
203	1	5'	4	0		
	2	5'	1	0		
205	1	3'	4	1	CLPW	
	2	3'	5	2	CLPW, EMF	
Location: HPA-1 (Three Mile Bay WMA car-top launch) Date: 6/19/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
209	1	7'	2	1	EWM	
	2	7'	2	0		
Location: HPA-3 (Cleveland Docks fishing access) Date: 6/20/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
217	1	10'	2	0		
	2	11'	0	0		
218	1	7'	2	0		
	2	6'	1	0		
Location: HPA-4 (Godfrey Point State Boat Launch) Date: 6/20/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
219	1	5'	1	0		
	2	5'	2	0		
220	1	2'	0	0		Sandy/Rocky bottom

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	2	2'	0	0		Sparse vegetation
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Location: HPA-5 (Sylvan Beach canal access) Date: 6/20/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
221	1	9'	3	0		Visual: CLPW
	2	9'	1	0		
222	1	5'	3	0		
	2	5'	4	1	EWM	

Location: HPA-7 (Bush Rd. State Boat Launch) Date: 6/21/12						
Point	Throw	Depth	# Spp.	# Inv.	Invasive Species present	Notes
224	1	3'	2	0		Visual: CLPW
	2	2'	2	0		
225	1	2'	2	0		
	2	3'	3	0		

Table 2: General invasive species observation points for Oneida Lake aquatic surveys. (*Continued on next page.*)

Location: HPA-1 (Three Mile Bay WMA car-top boat launch) Date: 6/18/12		
Point	Species	Notes
200	WC	1 small plant pulled
201	WC, PH	Pulled several WC Phragmites along shore ~50ft.
204	WC	Multiple plants pulled, scattered single plants along both sides Discontinued pulling due to potential time involved Visual on CLPW
Location: HPA-1 (Three Mile Bay WMA car-top boat launch) Date: 6/19/12		
Point	Species	Notes
206	EFB	
207	EFB, CLPW	
208	WC	
210	WC	Small scattered young plants, hand pulled

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211	WC	Single plant
212	WC	Single plant
213	WC	Small patch
214	WC	Scattered plants throughout area
215	WC	Small patch in channel cove
216	WC	WC scattered throughout channel, Especially thick in coves and small calm side channels

Location: HPA-5 (Sylvan Beach canal access) Date: 6/18/12		
Point	Species	Notes
223	CLPW, EWM	

Table 3: Terrestrial invasive and non-native species observations from tHPAs at Three Mile Bay WMA. (*Continued on next page.*)

Location: tHPA1 (Toad Harbor Rd.) Date: 6/22/12		
Point	Species	Notes
227	European Frog-Bit	Scattered at swamp edge
228	Common Buckthorn	Clusters
229	Common Buckthorn	

Location: tHPA2 (Shaw Rd.) Date: 6/22/12		
Point	Species	Notes
231	Honeysuckle, Common Buckthorn, Coltsfoot	Scattered intances around perimeter of parking lot
233	Common Buckthorn	
234	Phragmites	start of large Phragmites stand
235	Phragmites	end of large Phragmites stand
236	Phragmites	On opposite shore 100 ft
237	Multiflora Rose	25 ft
238	Phragmites	On opposite shore 150ft

Location: tHPA3 (McCloud Rd.) Date: 6/22/12		
Point	Species	Notes
239	Honeysuckle, Bladder Campion, Common Mullein	At parking area perimeter
240	Garlic mustard, Daylilies	Scattered plants along road

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241	Multiflora rose	Cluster
242	Multiflora rose	Custer along road side 100ft
243	Phragmites	50 ft square patch
244	Phragmites	Multiple acres of common reed

Location: tHPA4 (Wheeler Rd.) Date: 6/22/12		
Point	Species	Notes
245	Honeysuckle	
246	Honeysuckle	
247	Multiflora Rose, Honeysuckle	Honeysuckle common along roadside
248	Common Buckthorn	Several bushes
249	Garlic Mustard	Clusters at roadside
250	Multiflora Rose	
251	Autumn Olive	

Table 4: Rake toss data collected during Hydrilla surveillance. Note the addition of points at HPA-1, HPA-5 and HPA-6b; see additional maps for location data. (*Tables continued on next page.*)

Location: HPA-1 (Shaw Rd/Three Mile Bay)							Date: 8/3/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
002	43.24983607	1	8'	5	0		
	-76.10982279	2	8'	4	0		
004	43.25265457	1	4.5'	4	1	EWM	
	-76.11671465	2	4.5'	4	1	ZM	
005	43.25449809	1	6'	3	1	EWM	
	-76.12147775	2	6'	5	1	EWM	
006	43.25619232	1	6'	5	1	EWM	
	-76.11977018	2	6'	4	1	EWM	
007	43.25381999	1	9'	3	1	EWM	
	-76.11291588	2	7'	3	1	EWM	
008	43.25134741	1	5'	5	1	EWM	
	-76.10921452	2	6'	3	1	EWM	
199	43.24179011	1	7'	1	0		
	-76.08714572	2	8'	1	0		

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209	43.2510372	1	5'	5	1	EWM	
	-76.1114892	2	4'	6	1	EWM	

Location: HPA-3 (Cleveland Docks fishing access)							Date: 8/7/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
217	43.23156419	1	4'	3	0		
	-75.88103707	2	4'	2	0		
218	43.23090211	1	6'	1	0		
	-75.8811307	2	6'	1	0		

Location: HPA-4 (Godfrey Point State Boat Launch)							Date: 8/7/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
219	43.22329695	1	3'	1	0		
	-75.8502091	2	3'	1	0		
220	43.22316376	1	3'	0	0		
	-75.84961256	2	3'	2	0		

Location: HPA-5 (Sylvan Beach canal access)							Date: 8/7/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
221	43.19472346	1	4'	4	0		Visual: Brittle Naiad, EWM
	-75.72788218	2	5'	3	0		
222	43.19451249	1	6'	3	0		Visual: EWM, CLPW
	-75.72700166	2	5'	2	0		
223	43.19750626	1	2'	2	0		Visual: EWM
	-75.72642541	2	2'	3	0		
005	43.19528991	1	6'	3	0		Visual: Brittle Naiad
	-75.7274583	2	5'	2	0		

Location: HPA-6b (South Shore Fishing Access near Route 81 bridge)							Date: 8/7/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes

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002	43.23500421	1	4'	4	0		
	-76.1304613	2	4'	4	0		
003	43.23801583	1	5'	3	0		
	-76.133587	2	5'	1	0		
004	43.23547284	1	3'	1	0		
	-76.13032652	2	3'	3	0		

Location: HPA-7 (Bush Rd. State Boat Launch)							Date: 8/7/12
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
224	43.16253712	1	2'	1	0		
	-75.92620254	2	2'	3	0		
225	43.16311296	1	3'	1	0		Visual: CLPW
	-75.92685892	2	3'	3	0		

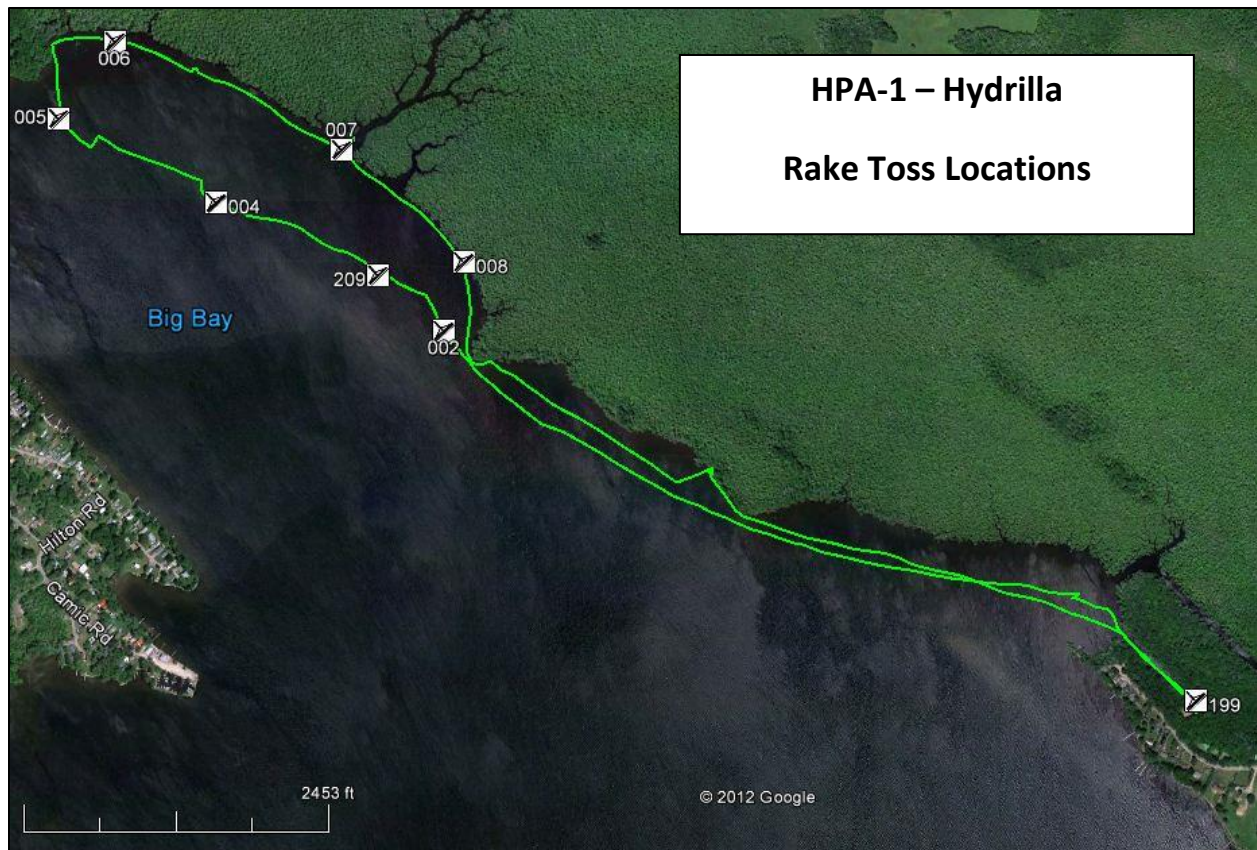
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Survey Maps

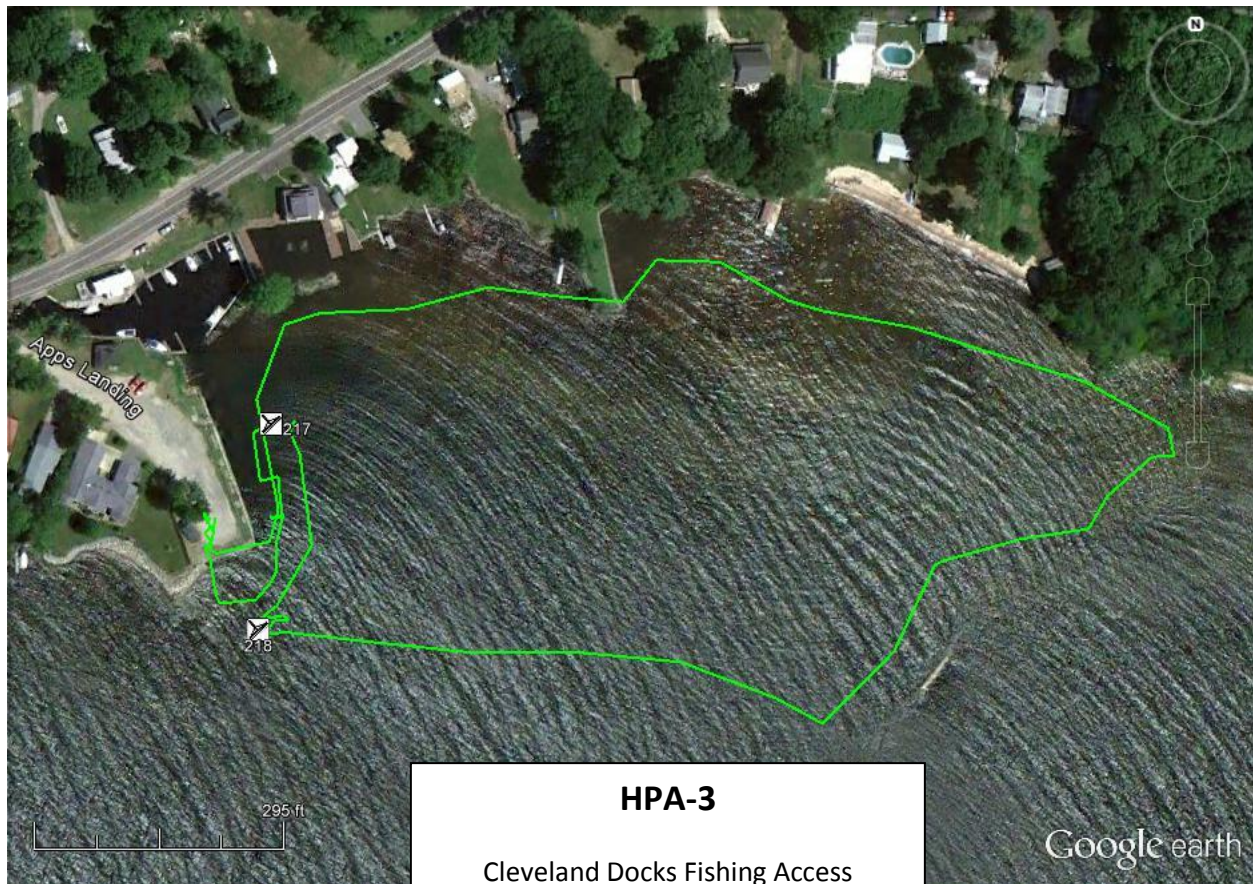


HPA-1 – Water Chestnut & Rake Toss Locations

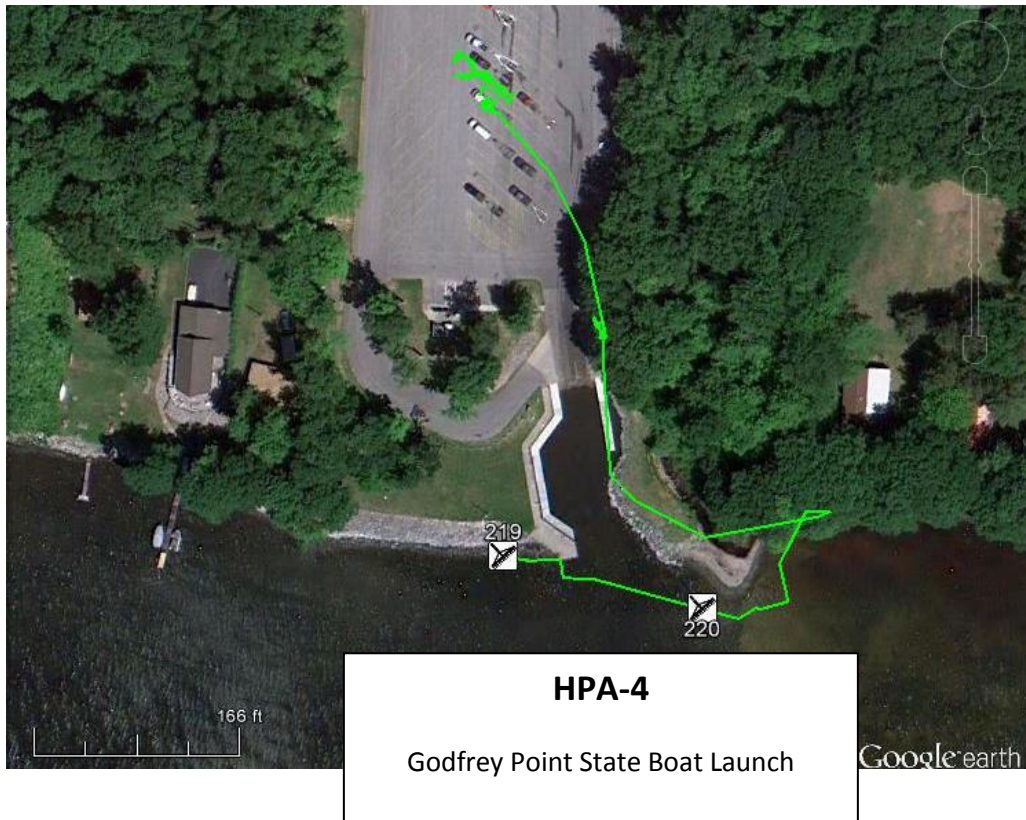
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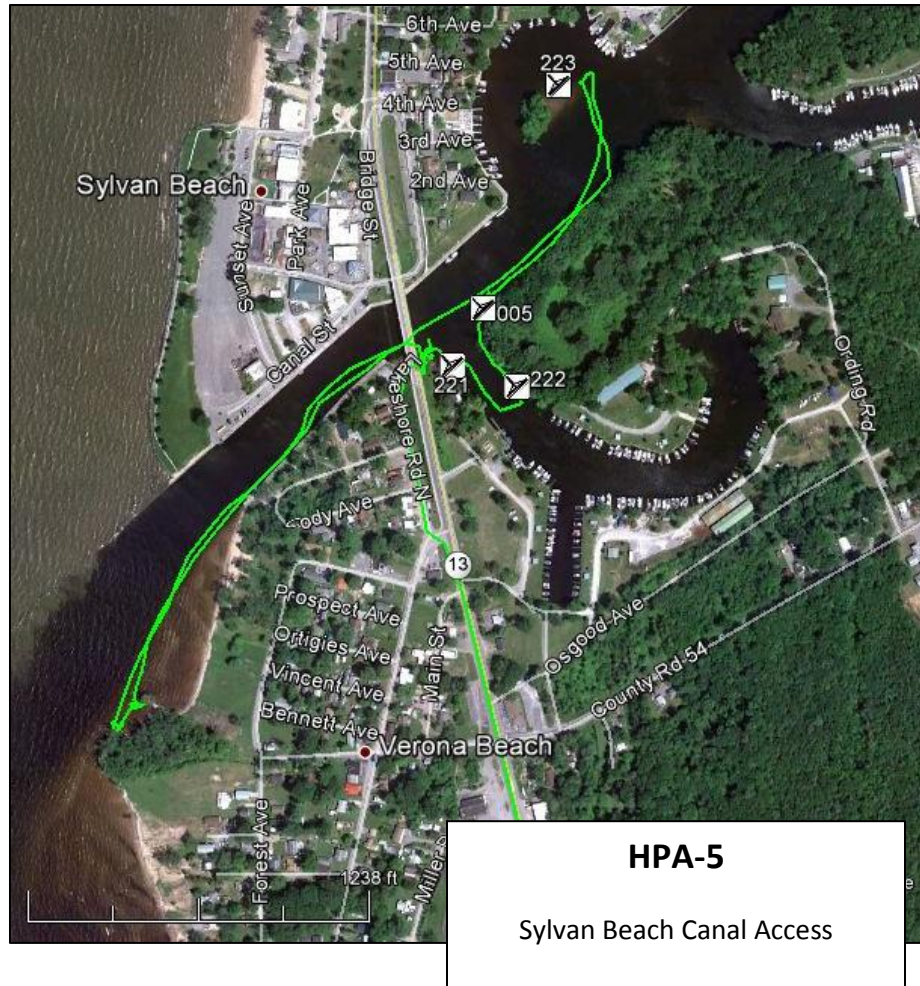
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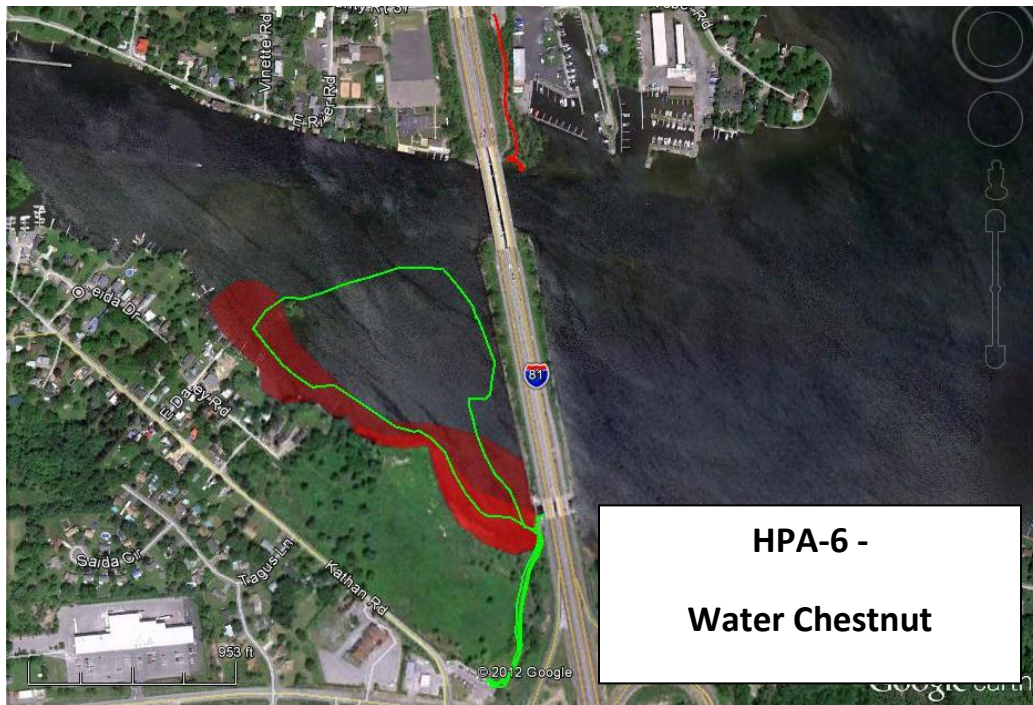
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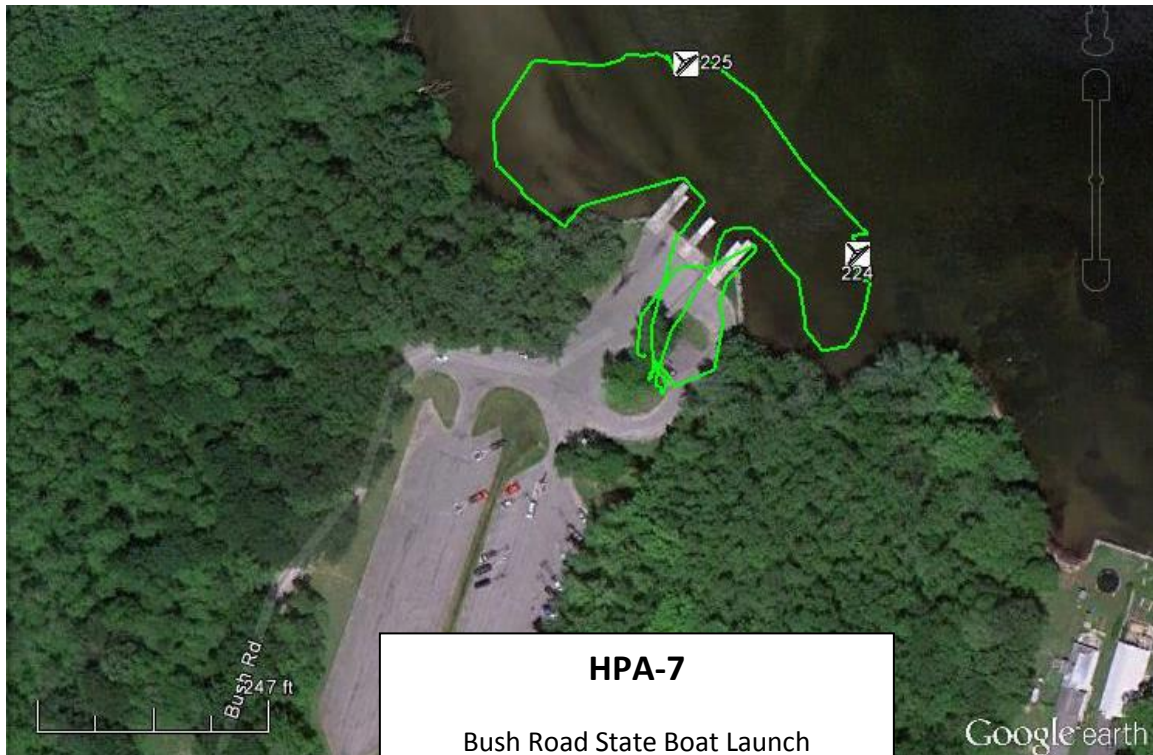
HPA-5

Sylvan Beach Canal Access

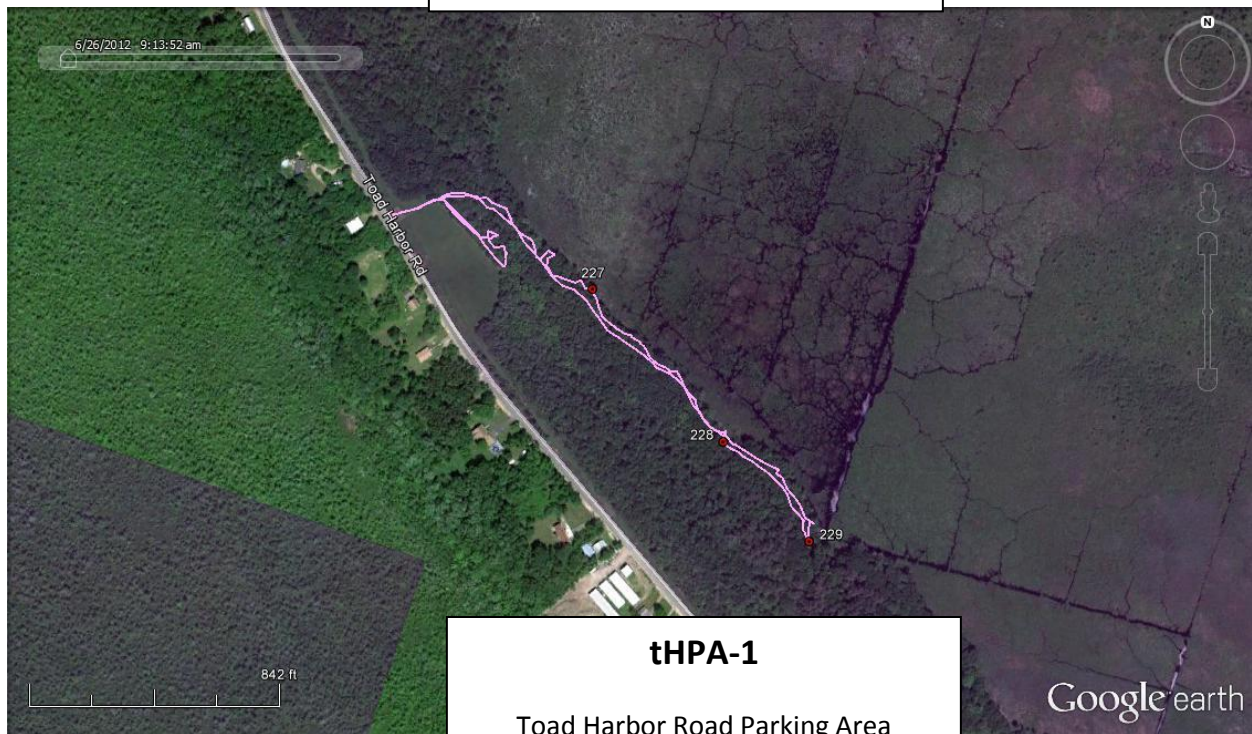
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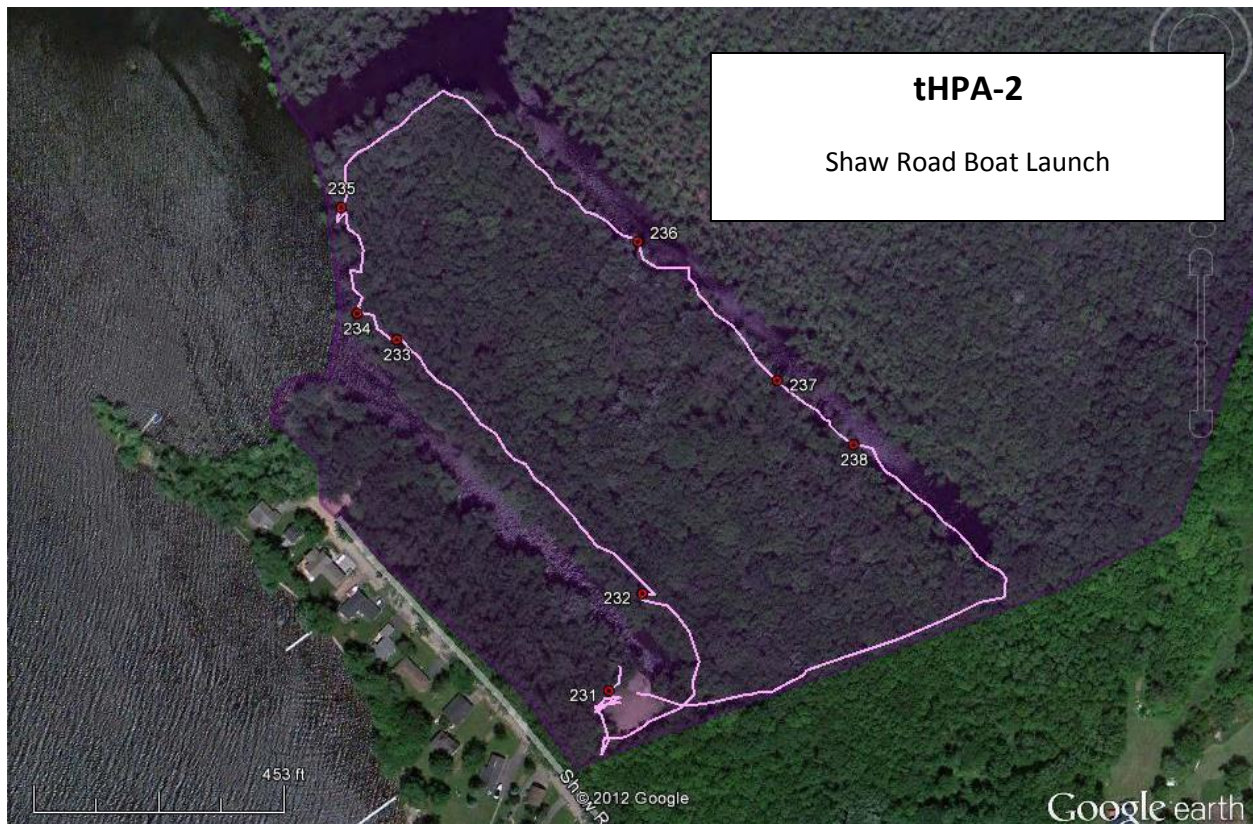


HPA-7
Bush Road State Boat Launch



tHPA-1
Toad Harbor Road Parking Area

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