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

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 to be considered as an addendum to the field reports from 2012, 2014 and 2016.

2017 Field Survey
Addendum to
Oneida Lake / Three Mile Bay WMA

Figure 1: Panoramic view of Oneida Lake. Photo taken by Alicia Wood.

SLELO-PRISM Early Detection Surveillance
August 7, 9, 11, 15-17th, 2017

Report prepared by Bryna Daykin and Alicia Wood, 8/25/2017

Survey Methods and Observations

Oneida Lake and the Three Mile Bay Wildlife Management Area were surveyed in August of 2017 by the SLELO Early Detection Team (**Figure 1**). A special focus was put on the northeastern corner of Oneida Lake, at the outlet of Fish Creek (HPA 5). Emphasis was placed on examining this area for Carolina fanwort (*Cabomba caroliniana*). In 2014, Carolina fanwort was found in Kasoag Lake, which connects to Oneida Lake through Fish Creek. Fanwort in Kasoag Lake was chemically treated by the Kasoag Lake Association. The special focus in the 2017 survey was placed to ensure that the Carolina fanwort had not spread to Oneida Lake. The survey involved examining highly probable areas (HPAs) for both invasive terrestrial and aquatic species. To determine which aquatic species were present at HPAs, the rake toss method was used. For this, a double sided rake was tossed off both ends of the canoe (or from land) to collect aquatic vegetation. The vegetation attached to the rake was identified and determined to be invasive or native. Visual observations were used for both aquatic and terrestrial surveying to find and identify invasive species at the HPAs. Multiple rake tosses were conducted at each HPA. The location of each HPA was marked using a handheld Garmin GPSmap 60CSx.

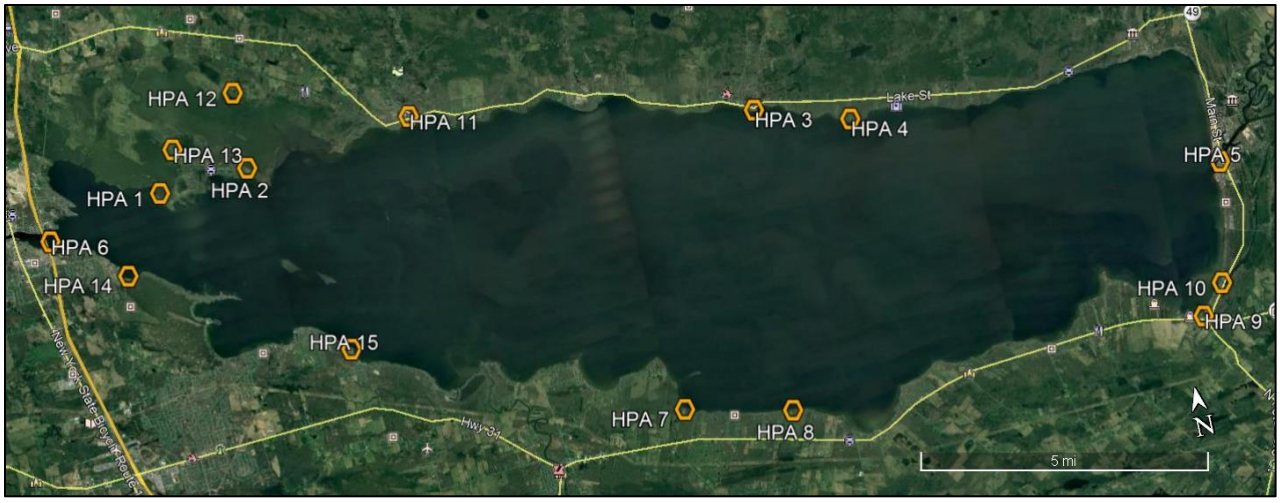

Figure 2: Map of the 15 HPAs surveyed on Oneida Lake.

The seven aquatic and four terrestrial HPAs examined in 2012, 2014 and 2016 were resurveyed in 2017 (**Figure 2**). Terrestrial HPAs (tHPA) were resurveyed, consolidated and renamed in 2017 (tHPA 1 became HPA 13, tHPA 2 became a part of HPA 1, tHPA 3 became a part of HPA 2, and tHPA 4 became 12). These were renamed due to overlap between aquatic and terrestrial HPA numbers. Additionally, HPAs 3-7 were surveyed terrestrially for the first time by the 2017 Early Detection Team. Six new sites (HPAs 8-11, 14, 15) were surveyed terrestrially and aquatically in 2017, as they were deemed to be HPAs (**Figure 2**). Note that higher waters were observed in 2017 compared to previous years. This change in water depth may have affected the observations during the survey.

The following 'Prevention "Watch-List" Species' were found during the field survey (Table 3; Figure 10): rusty crayfish (*Orconectes rusticus*). The following 'Target Management Species' were additionally found (**Table 1; Table 2**): purple loosestrife (*Lythrum salicaria*), common buckthorn (*Rhamnus cathartica*), glossy buckthorn (*Frangula alnus*), Eurasian water milfoil (*Myriophyllum spicatum*), water chestnut (*Trapa natans*), Japanese knotweed (*Fallopia japonica*), and phragmites (*Phragmites australis*). The following 'General Species of Concern' were also found during the survey (**Table 1; Table 2**): European frogbit (*Hydrocharis morsus-ranae*), wild parsnip (*Pastinaca sativa*), and coltsfoot (*Tussilago farfara*), honeysuckle (*Lonicera spp.*), spotted knapweed (*Centaurea stoebe*), curly leaf pondweed (*Potamogeton crispus*), zebra mussel (*Dreissena polymorpha*), quagga mussel (*Dreissena rostriformis bugensis*), brittle naiad (*Najas minor*), and starry stonewort (*Nitellopsis obtusa*). In addition to this, the invasive species multiflora rose (*Rosa multiflora*), red osier dogwood (*Cornus sericea*), and Japanese beetle (*Popillia japonica*) were found during the survey **(Table 1; Table 2)**.

Common buckthorn was found at HPAs 1, 6, 8 and 14-15. Glossy buckthorn was seen at HPAs 7 and 8. This plant was pulled at HPA 7 as it was found in a small enough patch. Multiflora rose was observed at HPAs 1 and 7-8. It was additionally seen on the walk down to HPA 2 (N 43.23980, W 76.05219). Coltsfoot was observed at HPAs 1, 6-8 and 15. Spotted knapweed was seen at HPAs 2, 5-8, 10, 13 and 15. Wild parsnip was found at HPAs 6 and 8. Japanese knotweed was observed at HPAs 1, 5, 7 and 10. Honeysuckle was seen at HPAs 5-8, 12 and 15. Phragmites was found at HPAs 1, 6 and 14 (**Figure 3**). Purple loosestrife was observed at HPAs 1-4, 6-8, 10 and 14. All of the purple loosestrife plants seen at HPA 10 were hand pulled, as only three were found.

Figure 3: Phragmites found at Oneida Lake. Photo taken by Alicia Wood.

European frogbit was observed at HPAs 1 and 5. Eurasian water milfoil was seen at HPAs 1, 5-9, 11 and 14. Curly leaf pondweed was found at HPAs 1, 5 and 6. Water chestnut was observed at HPAs 1 and 9. Many of these plants were hand pulled at HPA 1, but were left at HPA 9 as they were too densely packed. Brittle naiad was found abundantly at HPA 5 (**Figure 4**). Starry stonewort was observed at HPAs 1, 6-7 and 14 (**Figure 5**). Numerous Japanese beetles were seen at HPA 5. Zebra mussels were found at HPAs 1, 6-8 and 15. Quagga mussels were found at HPAs 6, 8 and 14.

Figure 4: Brittle Naiad found at Oneida Lake. Photos taken by Alicia Wood and Bryna Daykin.

Figure 5: Starry Stonewort found at Oneida Lake. Note the star shaped white tuber in the right photo. Photos taken by Alicia Wood.

Rusty crayfish were found at HPAs 4-6, 11 and 14 (Figure 6; Figure 7; Figure 8; Figure 10). Rocks were flipped in shallow areas and crayfish were then caught using a small net. These were then thoroughly examined by the Early Detection Team to determine if they were native or invasive. Pictures of those believed to be invasive were then sent to a crustacean expert[1] for confirmation.

Figure 6: Ventral view of a male (left) and female (right) Rusty Crayfish found in Oneida Lake. Photos taken by Rob Williams and Bryna Daykin.

Rusty crayfish (*Orconectes rusticus*),
Prevention "Watch-List" Species
were found in the 2017 survey of Oneida Lake.

The rusty crayfish taken from Oneida Lake were all adults and were collected from opposite ends of the lake suggesting that this species has been in the lake for several years.

[1] Chris Pennuto, Buffalo State College

Figure 7: Rusty Crayfish found in Oneida Lake. Note the rusty colored spot on the side of the carapace in the left photo, and the black bands on the tips of the claws in the right photo. Photos taken by Alicia Wood.

Figure 8: Dorsal view of a female Rusty Crayfish from Oneida Lake. Photo taken by Alicia Wood.

In addition to the invasive species found at Oneida Lake, a notable native species within the SLELO-PRISM known as magnificent bryozoan (*Pectinatella magnifica*) was found at HPA 5 (**Figure 9**). This species lives in a large colony on the surface of a gelatinous mass secreted by the individuals in the colony. This is one of the few bryozoan species found in freshwater.

Figure 9: Colony of Magnificent Bryozoan found at Oneida Lake. Photo taken by Alicia Wood.

Table 1: Descriptions, coordinates, and invasive species sightings at each terrestrial HPA at Oneida Lake. New HPAs and HPAs terrestrially surveyed for the first time in 2017 are highlighted in yellow.

HPA	Point	Habitat Description	Latitude	Longitude	Invasive Species
1 Toad Harbor Fishing Access	057	Parking Area and Trailhead	43.24156	-76.08739	CB, MFR, CF, PH
2 McCloud Road – Three Mile Bay WMA	058	Parking Area	43.24382	-76.05744	SK, PL
	059	Camping Area/ Water Access	43.23919	-76.05039	SK, PL
	060	Camping Area	43.23989	-76.05138	SK, PL
3 Cleveland Docks Fishing Access	061	Parking Area	43.23178	-75.88162	PL
4 Godfrey Point Boat Launch	062	Parking Area	43.22401	-75.85028	PL
5 Sylvan Beach Canal Access	063	Parking Area/ Fishing Access	43.19469	-75.72884	JKW, SK, JB
6 Fishing Access Near I-81 Bridge	064	Parking Area/ Trail Leading to Fishing Access	43.24111	-76.13047	CB, CF, HS, PL, SK, PH, WP
	065	Parking Area/ Trail Leading to Fishing Access	43.23275	-76.13077	HS, SK, WP, PL, PH, CB, CF
7 South Shore Oneida Lake Boat Launch Site	066	Parking Area	43.16173	-75.92739	GB, HS, SK, MFR, JKW, PL, CF
8	067	Parking Area	43.15597	-75.89178	GB, HS, PL, CF,

Chapman Park					CB, MFR, WP, SK
9 Marion Manor Marina	068	Parking Area	43.15872	-75.74559	none
10 Fishing Access Near Route 13 Bridge	069	Parking Area/ Fishing Access	43.16484	-75.73728	PL, SK, JKW
11 DEC Fish Hatchery	070	Parking Area	43.24821	-75.99820	none
12 Wheeler Road – Three Mile Bay WMA	071	Parking Area	43.26464	-76.05670	HS
	072	Open Field use for Target Practice	43.26550	-76.06416	HS
	073	End of Driving Loop	43.26796	-76.06702	HS
13 Toad Harbor Road – Three Mile Bay WMA	074	Parking Area	43.25293	-76.08055	SK
14 Muskrat Bay Fishing Area	075	Parking Area/ Fishing Access	43.22381	-76.10522	PL, PH, CB
15 Joseph F. William Memorial Park	076	Parking Area	43.19466	-76.03527	CF, CB, HS, SK,

Key: WP = Wild Parsnip, JKW = Japanese Knotweed, SK = Spotted Knapweed, CB = Common Buckthorn, GB = Glossy Buckthorn, CF = Coltsfoot, JB = Japanese Beetle, HS = Honeysuckle, PL = Purple Loosestrife, PH = Phragmites, MFR = Multiflora Rose

Table 2: Descriptions, coordinates, and invasive species sightings at aquatic HPAs at Oneida Lake. New HPAs aquatically surveyed for the first time in 2017 are highlighted in yellow.

HPAs	Point	Habitat Description	Latitude	Longitude	Throw	Depth (ft)	# Total Spp.	#Inv.	Invasive Type	Visuals
1 Toad Harbor Fishing Access	001	Near Car Top Boat Launch	43.24167	-76.08710	1	7	2	0		none
					2		6	0		
	002	End of Channel	43.24231	-76.08492	1	7	8	1	FB	none
					2		8	1	EWM	
	003	End of Channel	43.24532	-76.08750	1	2.5	7	1	EWM	FB, PL
					2		7	1	FB	
	004	Cove	43.24532	-76.09286	1	1.5	7	1	EWM	WC
					2		5	0		
	005	Cove	43.24905	-76.10612	1	1.5	7	2	EWM, SS	FB, PL
					2		8	2	EWM, SS	
	006	Near Hunting Stand	43.24940	-76.10886	1	2.5	6	1	EWM	EWM, PL, JKW
					2		9	3	EWM, ZM, CLP	
	007	Mouth of Tributary	43.25316	-76.11115	1	3	5	0		EWM, FB, WC
					2		10	2	EWM, FB	
	008	Near Hunting Stand	43.25362	-76.11264	1	2.5	5	0		EWM, WC
					2		7	1	EWM	
	009	Mouth of Tributary	43.25430	-76.11229	1	3.5	11	2	FB, EWM	PL, FB, WC
					2		6	0		
	010	Cove	43.24296	-76.08997	1	3	6	1	EWM	EWM

					2		5	0		
3 Cleveland Docks Fishing Access	011	Off Fishing Dock Near Marina	43.23169	-75.88126	1	5	0	0		PL
					2		0	0		
	012	Off End of Fishing Dock	43.23111	-75.88132	1	2	1	0		PL
					2		2	0		
4 Godfrey Point Boat Launch	013	Near Boat Launch	43.22368	-75.84994	1	2	1	0		PL
					2		1	0		
	014	End of Dock	43.22336	-75.84995	1	2	0	0		none
					2		0	0		
	015	Near Mouth of Tributary (Creek)	43.22337	-75.84953	1	1	0	0		none
					2		1	0		
5 Sylvan Beach Canal Access	016	Near Boat Launch/ Fishing Area	43.19491	-75.72820	1	1.5	3	0		EWM **fr.**, BN
					2		3	0		
	017	End of Marina Channel	43.19241	-75.72656	1	4	2	0		FB
					2		5	1	EWM	
	018	End of Marina Docks	43.19455	-75.72409	1	3	2	0		none
					2		2	0		
	019	End of Channel	43.19497	-75.72470	1	2	2	1	BN	BN
					2		3	0		
	020	Cove	43.19433	-75.72659	1	1.5	4	0		EWM
					2		4	0		
	021	Slow Moving Water Near Log	43.19504	-75.72742	1	2.5	4	1	BN	EWM, HS, BN
					2		5	1	BN	
	022	Slow Moving Water Near Log	43.19709	-75.72412	1	3	1	0		EWM, JKW
					2		2	1	EWM	
	023	Boat Launch	43.19714	-75.72165	1	6	1	0		EWM
					2		2	0		
	024	End of Marina Channel	43.19741	-75.72097	1	6.5	3	1	EWM	BN **fr.**, EWM
					2		3	0		
	025	Middle of Channel Near Houses	43.20231	-75.71961	1	4	3	0		none
					2		3	0		
	026	Cove	43.20092	-75.72109	1	1.5	5	1	BN	BN
					2		4	1	EWM	
	027	Near Boat Launch	43.20113	-75.72213	1	6	5	0		none
					2		3	0		
	028	Middle of Channel	43.19896	-75.72397	1	2	1	0		none
					2		3	1	CLP	
	029	Near Boat Launch	43.19778	-75.72562	1	8	0	0		EWM
					2		2	0		
	030	Middle of Channel Near Docks	43.20042	-75.72558	1	4.5	3	1	BN	EWM
					2		2	1	EWM	
	031	Middle of Channel	43.20098	-75.72514	1	1.5	2	0		FB, EWM
					2		3	1	EWM	
	032	Near Island	43.19756	-75.72656	1	2	1	0		none
					2		1	0		
6	033	Fishing	43.23925	-76.13021	1	5.5	2	0		EWM

Fishing Access Near I-81 Bridge		Access			2		3	1	EWM	
	034	Near Fishing Platform	43.23936	-76.13095	1	8	0	0		EWM
					2		0	0		
	035	Dense Vegetation	43.23848	-76.13100	1	8	4	1	EWM	EWM
					2		7	3	EWM, ZM, QM	
	036	Dense Vegetation	43.23667	-76.13092	1	3	6	1	QM	none
					2		5	1	EWM	
	037	Cove/ Near Fishing Platform	43.23502	-76.13058	1	3	7	1	QM	none
					2		6	2	QM, ZM	
	038	Near Fishing Platform	43.23496	-76.12920	1	3	2	0		EWM, SS
					2		5	2	EWM, SS	
	039	Cove Near Private Marina	43.23979	-76.12952	1	3	4	0		EWM
					2		5	2	EWM, CLP	
7 South Shore Oneida Lake Boat Launch Site	040	End of Dock	43.16259	-75.92664	1	2	2	0		none
					2		3	1	EWM	
	041	End of Dock	43.16275	-75.92686	1	1.5	5	0		PL
					2		2	0		
	042	Cove	43.16278	-75.92754	1	1	4	1	EWM	none
					2		4	1	EWM	
	043	Cove	43.16225	-75.92617	1	1.5	7	3	EWM, ZM, SS	PL
					2		7	3	EWM, ZM, SS	
	044	Cove	43.16226	-75.92635	1	1.5	6	2	EWM, SS	PL, JKW
					2		6	2	EWM, SS	
8 Chapman Park	045	End of Dock/ Fishing Access	43.15715	-75.89093	1	5.5	0	0		EWM **fr.**
					2		0	0		
	046	Fishing Access off Dock	43.15677	-75.89089	1	1.5	4	1	EWM	EWM **fr.**
					2		7	3	EWM, QM, ZM	
9 Marion Manor Marina	047	End of Dock	43.15848	-75.74568	1	3	4	0		EWM, WC
					2		7	1	EWM	
	048	Boat Launch	43.15792	-75.74530	1	2.5	4	1	EWM	EWM, WC
					2		5	1	EWM	
10 Fishing Access Near Route 13 Bridge	049	Fishing Access	43.16463	-75.73734	1	2	2	0		PL
					2		3	0		
11 DEC Fish Hatchery	050	Fishing Access	43.24815	-75.99852	1	1	3	0		none
					2		4	1	EWM	
	051	Fishing Access Near Route 49 Bridge	43.24806	-75.99842	1	2	2	0		none
					2		0	0		
14 Muskrat Bay Fishing Area	052	Fishing Access	43.22423	-76.10482	1	1.5	5	0		EWM, SS, PL, ZM
					2		5	1	QM	
	053	Dense Vegetation	43.22414	-76.10452	1	2	9	1	SS	SS, EWM
					2		9	1	SS	

	054	Dense Vegetation	43.22401	-76.10462	1	1.5	9	0		none
					2		5	0		
15 Joseph F. William Memorial Park	055	Pier with Fishing Access	43.19529	-76.03458	1	1.5	3	0		none
					2		2	0		
	056	End of Pier with Fishing Access	43.19539	-76.03436	1	3	2	0		none
					2		4	1	ZM	

Key: SS = Starry Stonewort, BN = Brittle Naiad, FB = European Frogbit, EWM = Eurasian Water Milfoil, CLP = Curly Leaf Pondweed, ZM = Zebra Mussel, QM = Quagga Mussel, WC = Water Chestnut, PL = Purple Loosestrife, JKW = Japanese Knotweed, HS = Honeysuckle, **fr.** = fragment

Table 3: The coordinates of Rusty Crayfish found at Oneida Lake, and the HPAs they were found within.

RUSTY CRAYFISH		
HPA	**Latitude**	**Longitude**
4	43.22348	-75.84959
5	43.19486	-75.72854
6	43.23942	-76.13024
11	43.24791	-75.99822
14	43.22415	-76.10479

Figure 10: Locations where Rusty Crayfish were found at Oneida Lake.

Survey Maps

Note that in the following figures (**Figures 11-27**) the light blue line indicates the canoe route taken to get to each aquatic point. Each aquatic point is marked with a dark blue dot. Green lines indicate the walking route taken for the terrestrial surveys. Each terrestrial point is marked

with a dark green dot. Red stars (**Figures 15-18, 23 and 26**) indicate locations where rusty crayfish were found.

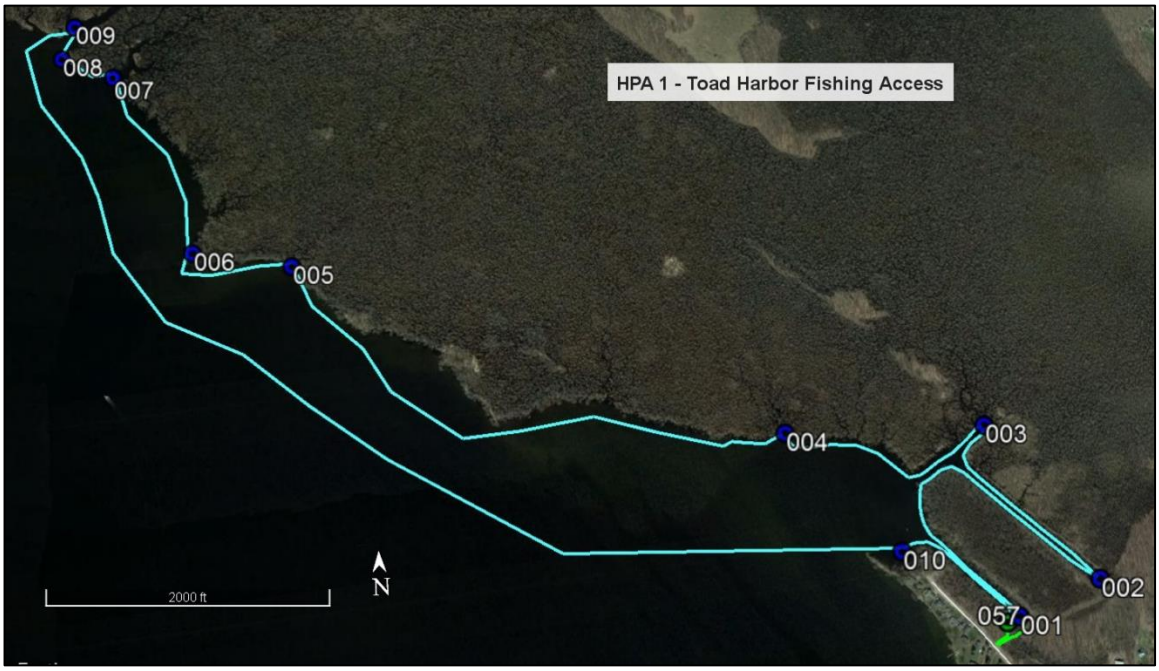

Figure 11: Aquatic survey route for HPA 1 at Oneida Lake.

Figure 12: Terrestrial survey route for HPA 1 at Oneida Lake.

Figure 13: Terrestrial survey route for HPA 2 at Oneida Lake.

Figure 14: Terrestrial survey route and aquatic survey points for HPA 3 at Oneida Lake.

Figure 15: Terrestrial and aquatic survey routes for HPA 4 at Oneida Lake.

Figure 16: Aquatic survey route for HPA 5 at Oneida Lake.

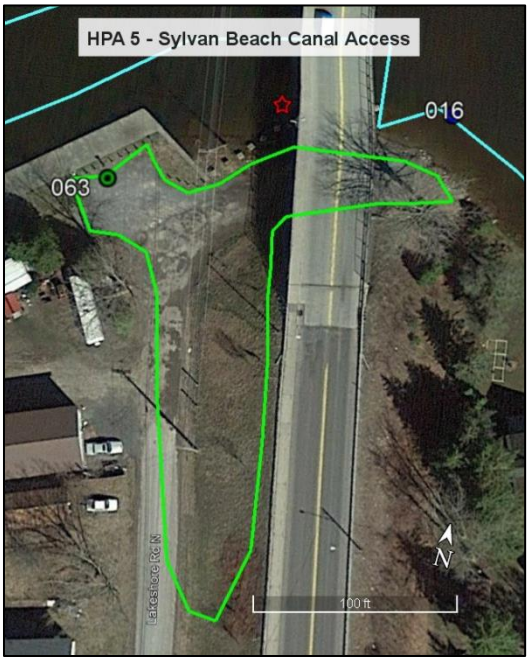

Figure 17: Terrestrial survey route for HPA 5 at Oneida Lake.

SLELO-PRISM
c/o The Nature Conservancy
269 Ouderkirk Road. Pulaski, NY 13142
Rob Williams, Coordinator

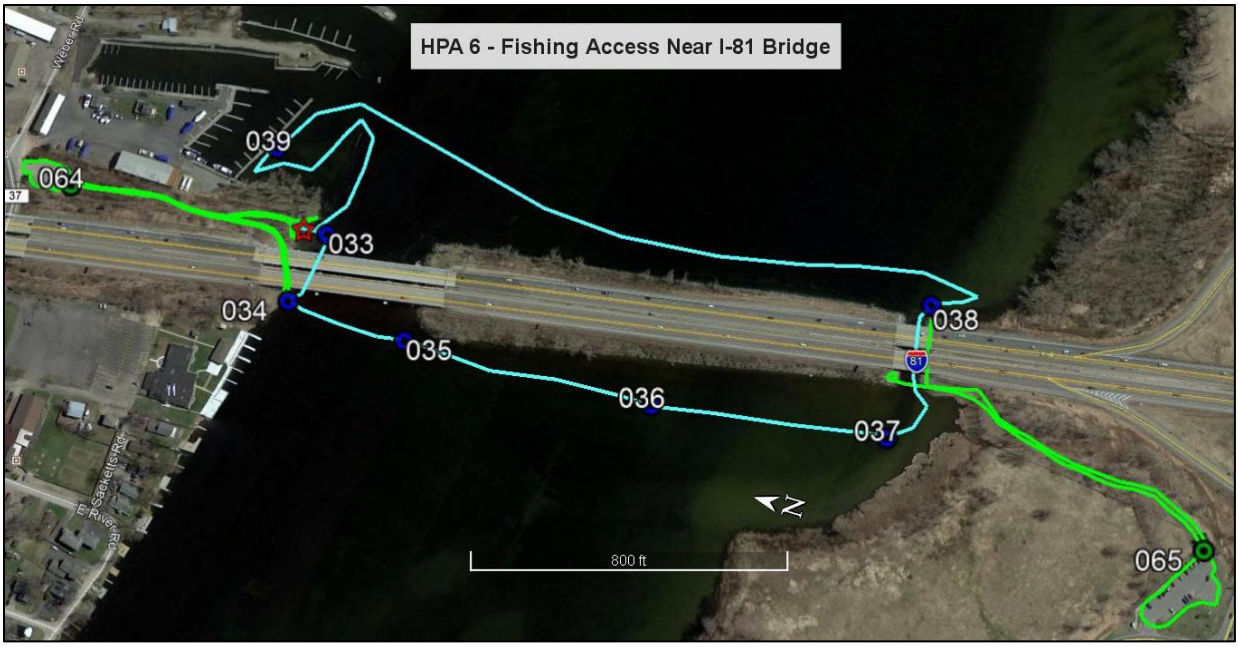

Figure 18: Terrestrial and aquatic survey routes for HPA 6 at Oneida Lake.

Figure 19: Terrestrial and aquatic survey routes for HPA 7 at Oneida Lake.

Figure 20: Terrestrial survey route and aquatic survey points for HPA 8 at Oneida Lake.

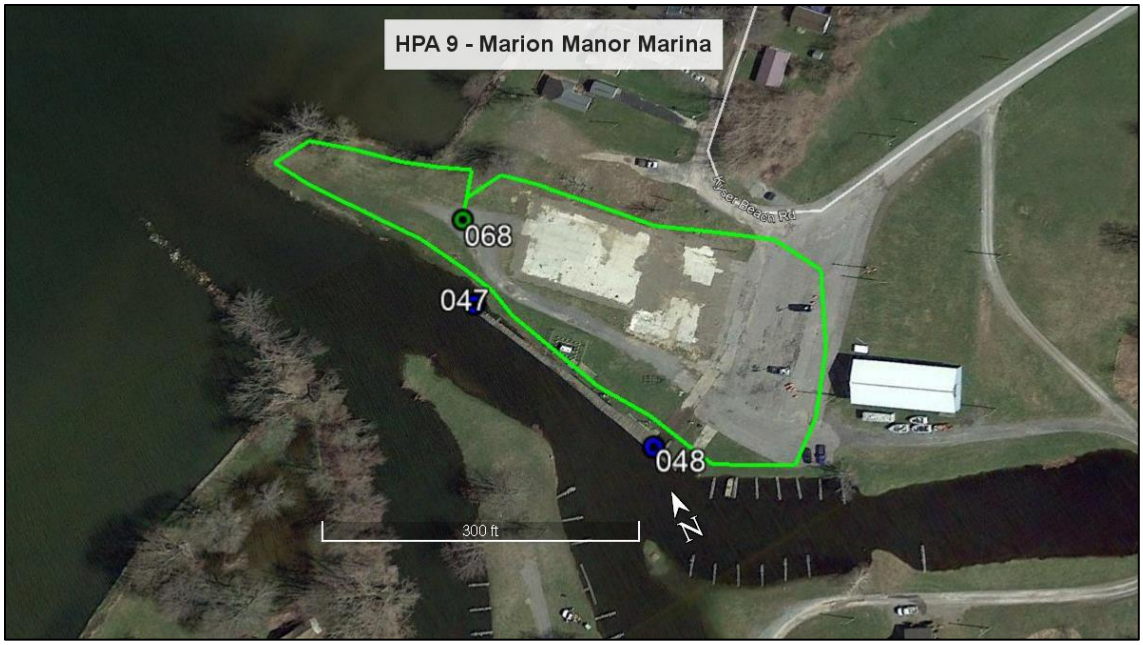

Figure 21: Terrestrial survey route and aquatic survey points for HPA 9 at Oneida Lake.

Figure 22: Terrestrial survey route and aquatic survey points for HPA 10 at Oneida Lake.

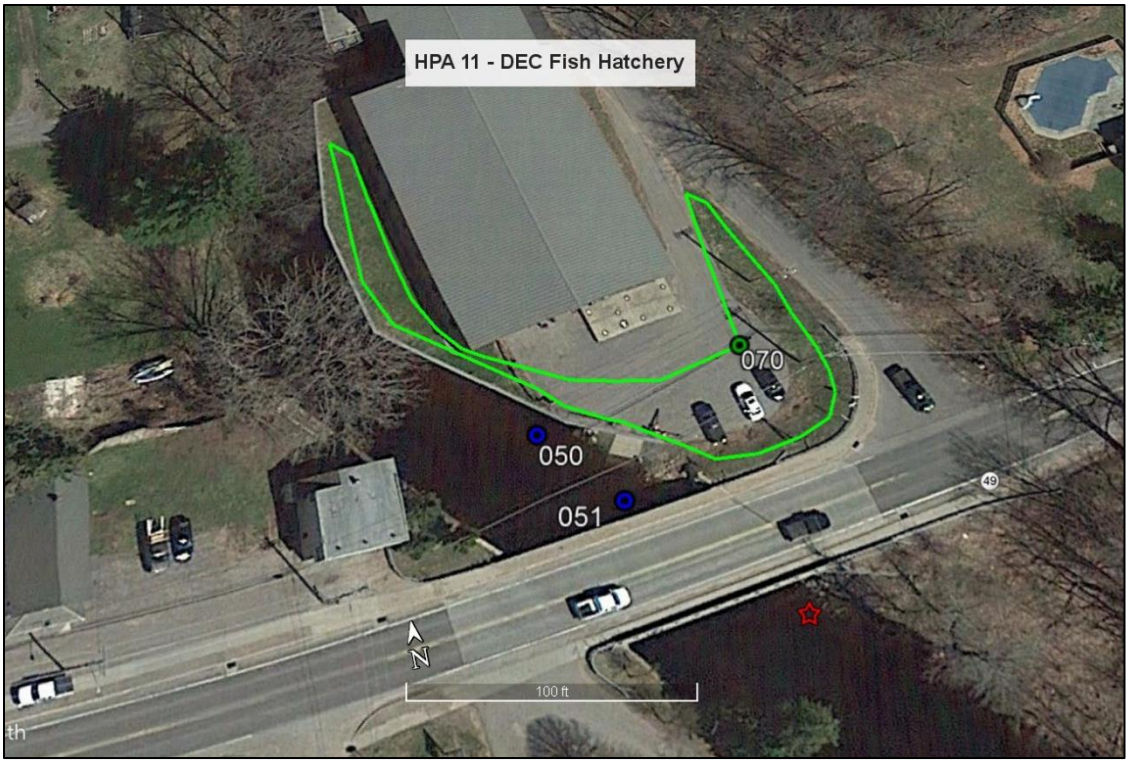

Figure 23: Terrestrial survey route and aquatic survey points for HPA 11 at Oneida Lake.

Figure 24: Terrestrial survey route for HPA 12 at Oneida Lake.

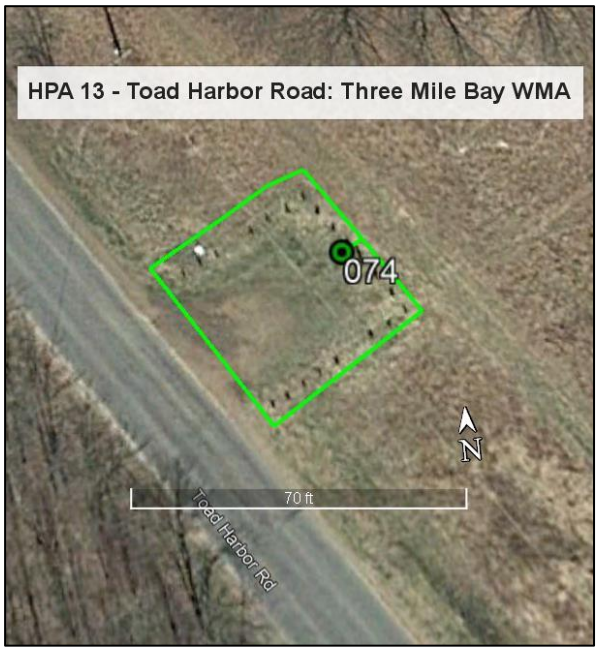

Figure 25: Terrestrial survey route for HPA 13 at Oneida Lake.

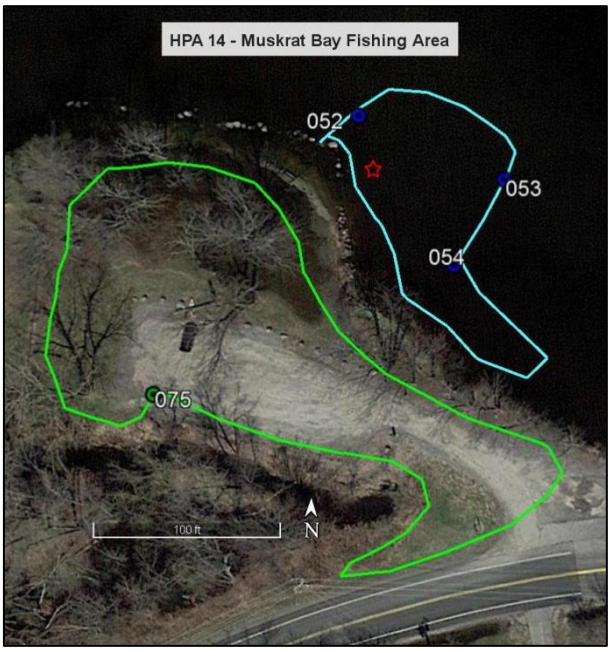

Figure 26: Terrestrial and aquatic survey routes for HPA 14 at Oneida Lake.

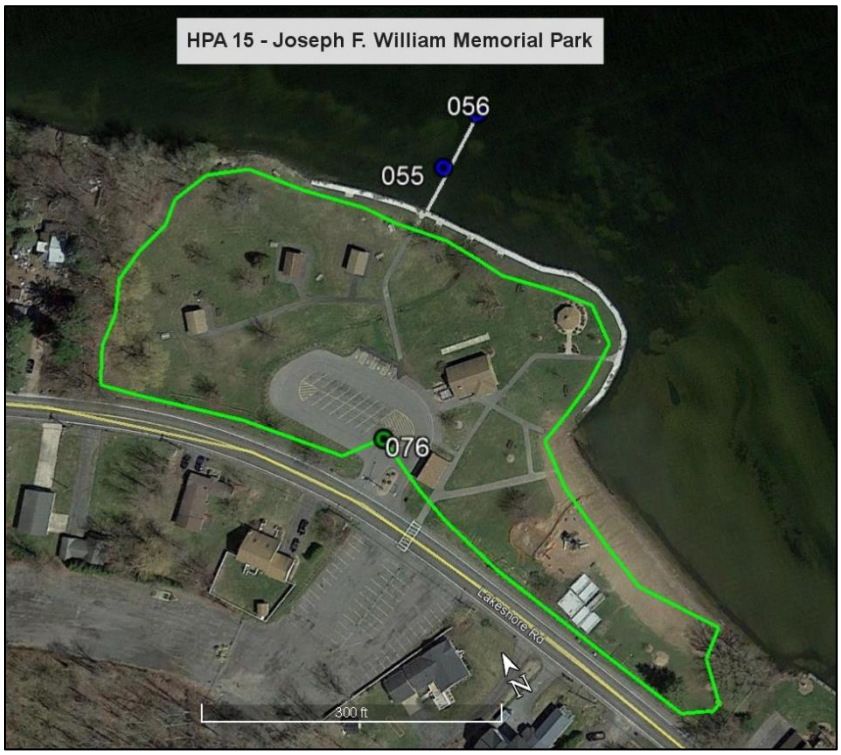

Figure 27: Terrestrial survey route and aquatic survey points for HPA 15 at Oneida Lake.