

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 original field report. Current data is attached to the end of the original report.

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

2014 Field Report Addendum to Black Lake Water Chestnut & Hydrilla Surveillance

SLELO-PRISM Early Detection Surveillance

August 28th & 29th 2014

Report drafted by Elizabeth MacEwen and Sabrina Dreythaler



Figure 1. Panoramic view of Black Lake, facing south. Picture by Rob Williams

Summary

In August of 2014, SLELO-PRISM field crew members Sabrina Dreythaler and Elizabeth MacEwen, with assistance from invasive species coordinator Rob Williams, conducted early detection surveillance of Black Lake. The species targeted during the survey included hydrilla (*Hydrilla verticillata*), water chestnut (*Trapa natans*) and other Prevention Watch-List and Target Management Species¹.

Field crew members returned to the HPA's determined in 2012. One new HPA (HPA 5-WP 031) was suggested in a quiet cove on Upper Big Bay (**Figure 2**). Prevailing westerly winds could push plant species from cottages on the southern side of the lake into this quiet cove, where invasive plants could thrive.

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

HPA 1: WP's 033, 034, 036 & 037;
Fish Creek and two coves adjacent to
Fish Creek's outlet on Black Lake

HPA 2: WP's 030 & 029, Docks by
McClear's Cottage Colony

HPA 3: WP's 027 & 028, NYSOPRHP
Boat Launch on Co. Rt. 6

HPA 4: WP's 032, 038, Under bridges
on Route 58

HPA 5: *NEW* WP 031, Quiet cove
on Upper Big Bay

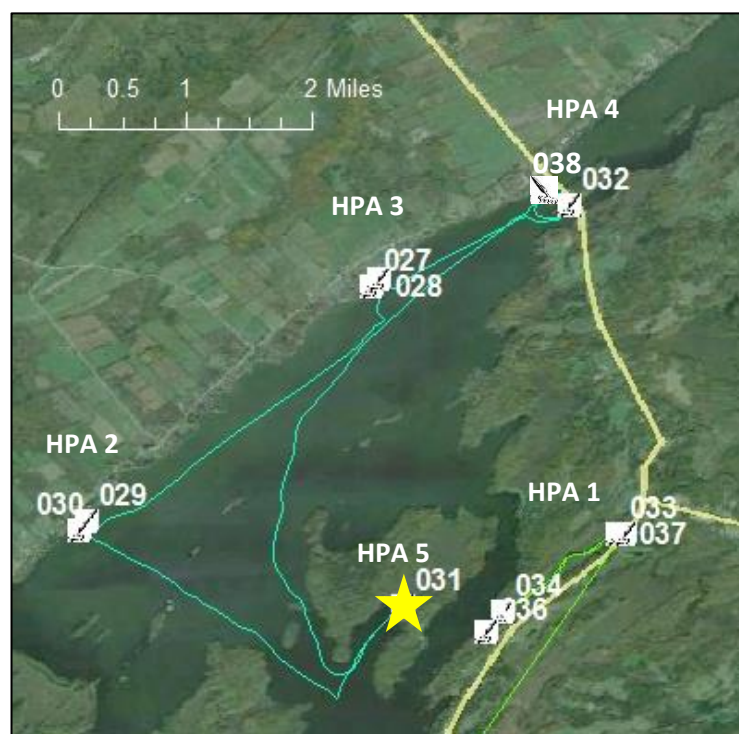


Figure 2. Map of Black Lake with new HPA, shown with star at WP 031

A flat bottomed motor boat was used to bring field crew members to HPA's 2, 3, 4 and 5. In 2012 HPA 4 was visually surveyed by walking the bridges. In 2014 HPA 4 was surveyed from the water in the motor boat. A canoe was used to survey HPA 1. The rake toss method was used along with visual surveillance. Every invasive species occurrence was noted. After data collection, invasive species' occurrences were recorded on the iMap database.

Observations

There were no occurrences of Prevention Watch-List Species or Target Management Species. In 2012 Eurasian water milfoil (*Myriophyllum spicatum*) and phragmites (*Phragmites australis*) were seen. Other invasive species seen in 2014 included zebra/ quagga mussels (*Dreissena* spp.), curly leaf pondweed (*Pontamogeton crispus*) and brittle naiad (*Najas minor*), which were all seen in 2012.

Appendices

Key for Chart

ZM- Zebra/quagga mussels

CLPW- Curly leaf pondweed

BN- Brittle naiad

EFB- European frog-bit

EWM- Eurasian water milfoil

PH- Phragmites

Location: Black Lake							Date: 8/28/14 & 8/29/14		
HPA	WP	Latitude Longitude	Throw	Depth (ft)	# Spp.	# Inv.	Inv. Spp. Present 2014	Inv. Spp. Present 2012	Notes
1	033	44.480935	1	7.5	2	0			
		-75.58393	2		1	0			
1	034	44.472182	1	4.5	2	0		EFB, ZM, CLPW	
		-75.59708	2		4	0			
1	036	44.469828	1	6	3	0		ZM	
		-75.59902	2		3	1	ZM		
1	037	44.480922	1	5.5	3	0			
		-75.58318	2		4	0			
2	029	44.482479	1	3.5	5	1	ZM	EWM, CLPW, ZM	
		-75.64478	2		5	0			
2	030	44.481522	1	4	5	1	ZM	EWM, CLPW	algae bloom occurring
		-75.64563	2		4	1	ZM		
3	027	44.509435	1	2.5	8	2	BN, CLPW	EWM, EFB, CLPW	
		-75.6121	2		7	2	BN, CLPW		
3	028	44.510193	1	3	5	3	ZM, BN, CLPW	ZM	
		-75.61129	2		6	2	ZM, BN		
4	032	44.518678	1	4.5	6	0		PH	pithophora algae mat
		-75.5894	2		8	0			
4	038	44.520427	1	8	0	0		PH	
		-75.59124	2		0	0			
5	031	44.472686	1	4	5	0			NEW HPA- Upper Deep Bay
		-75.60851	2		4	0			

Chart 1. Data collected from rake tosses



Map 1. Survey route around Black Lake, with rake toss locations. Blue line is motor boat survey route; green line is canoe survey route

Original Report

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

Black Lake

SLELO-PRISM Water Chestnut & Hydrilla Surveillance 2012

June 8, 11, 12 & 14 (Water Chestnut); August 8 (Hydrilla), 2012



Figure 1: Surveying of Fish Creek access to Black Lake (HPA-1) on June 8, 2012. Photo by Mike McHale.

Report drafted by Greg Chapman and Mike McHale, 6/15/12. Updated 8/21/12.

Introduction and Background

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.

Public access to Black Lake is provided in several locations. An improved concrete boat launch, maintained by the NYS Office of Parks, Recreation and Historical Preservation

(OPRHP), is located on the northwestern shore of the lake off County Route 6. An unimproved car-top boat launch is located along State Route 58 near the hamlet of Pope Mills allowing access to Fish Creek approximately one mile upstream of the eastern shore of Black Lake. Shoreline fishing and informal launching of small watercraft is possible from a small island where Route 58 crosses a narrow northern section of Black Lake. Although Lonesome Bay State Forest approaches the southern portion of Black Lake, the shoreline itself is private property and public access to the water is not readily available from State Forest lands.



Figure 2: Black Lake and surrounding area.

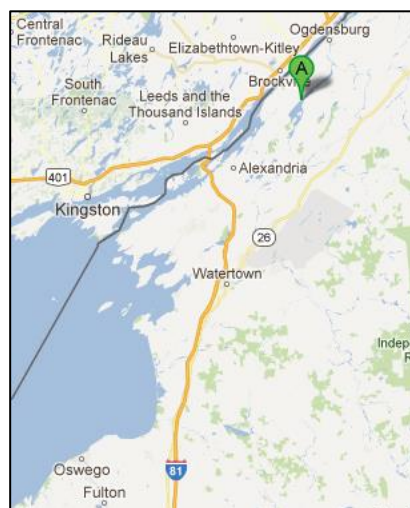


Figure 3: Location of Black Lake within northern New York.

Targeted Locations

Survey efforts were focused on four Highly Probable Areas (HPAs) that were identified² for Black Lake, as follows:



Figure 4: Map showing locations of the four HPAs chosen for Black Lake.

HPA-1: Begins at unimproved boat launch on Route 58 south of the hamlet of Pope Mills, giving access to Fish Creek leading into Black Lake. Survey area includes the length of Fish Creek leading to Black Lake and two quiet coves adjacent to Fish Creek's outlet on Black Lake.

HPA-2: McClear's Cottage Colony & Campground, 2477 County Route 6 on the northwest shore of the lake. Survey area includes the areas immediately surrounding the docks and informal boat launch. Access is by permission of the property owners.

HPA-3: New York State OPRHP Black Lake Boat Launch, located along County Route 6, north of McClear's. Survey area includes the areas immediately surrounding the improved concrete boat launch.

HPA-4: Bridges on Route 58, crossing narrow portion of Black Lake near the hamlet of Edwardsville. Visual survey conducted from both sides of the bridge; informal access to the water may allow for launching of canoe if necessary.

Actions Taken

A survey targeting water chestnut (*Trapa natans*) and other aquatic and riparian invasive species³ was undertaken by SLELO-PRISM seasonal employees Mike McHale and Greg Chapman on June 8, 11, 13 and 14, 2012. Due to time constraints and the large size of the lake, extensive shoreline surveying was halted on June 13 in favor of surveys targeting the HPAs outlined above.

A subsequent survey targeting Hydrilla (*Hydrilla verticillata*) was undertaken by SLELO-PRISM seasonal employees Mike McHale and Greg Chapman on August 8, 2012.

At HPAs 1, 2 and 3, additional data detailing submerged aquatic vegetation was collected via rake toss. 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

² See Appendix 1 for HPA assignment protocols.

³ For a list of targeted species, see the SLELO-PRISM 2012–2016 Strategic Plan, pp. 36 – 37.

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Rob Williams, Coordinator

identification of all invasive species present. Aquatic vegetation samples for both native and invasive species were collected for later positive identification at the office.

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.

After survey work was completed, the canoe and rake used during the survey were treated with a mild bleach solution, cleaned and allowed to thoroughly dry to prevent spreading invasive species to the next water body to be surveyed.

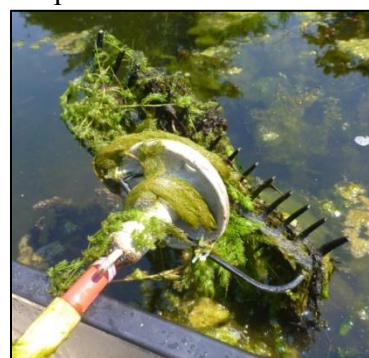


Figure 5: Example of typical results from a rake toss at Black Lake. Photo by Greg Chapman.

Observations



Figures 6 & 7: Eurasian Water Milfoil (*M. spicatum*), top and Curly-leaf Pondweed (*P. crispus*) at Black Lake. Photos by Greg Chapman.

No occurrences of Water Chestnut or Hydrilla were observed during the partial survey of Black Lake shoreline or at any of the four HPAs. See Tables 1 & 2 below for observation and rake toss data for the Black Lake HPAs.

Small patches of European Frogbit (*Hydrochassis morsuranae*) were observed at HPA-1 during the Water Chestnut survey, often floating freely (possibly after being dislodged by boat motors or other disturbances). The small amounts observed and limited spread may indicate that European Frogbit has been only recently introduced to Black Lake. European Frogbit was observed to be much more widespread along the shoreline areas of Fish Creek during the subsequent Hydrilla survey on August 8, however it was still not observed at any other HPA.

Several invasive species were observed to be common in those portions of Black Lake that were surveyed. *Potamogeton crispus* (Curly-leaf Pondweed) was consistently observed in quiet, shallow areas near shore and in quiet coves. *Dreissena* spp. (Zebra/Quagga Mussels) were observed in shallow water with rocky substrates, and were occasionally found attached to submerged vegetation collected during rake tosses.

The presence of Eurasian Water Milfoil (*Myriophyllum spicatum*) has been previously noted in Black Lake⁴. Samples of *M. spicatum* were collected from locations along the northwestern shore of Black Lake (HPAs 2 & 3); however milfoil samples

4 See "Black Lake Eurasian Watermilfoil Management Plan" by Quantitative Environmental Analysis, LLC, 2008. (Available at http://www.weedinfo.blacklakeny.com/FINAL_Black_Lake_milfoil_plan_07_14_08-1.pdf.)

collected from the southeastern shore of Black Lake (HPA-1) are likely Northern Water Milfoil (*M. sibericum*). Additional samples may be collected during a future survey of HPA-1 to better understand the extent of *M. spicatum* in Black Lake.

Data and Survey Maps

Key for all tables: EWM = Eurasian Water Milfoil; CLPW = Curly-leaf Pondweed; ZM = Zebra/Quagga Mussels; EFB = European Frogbit.

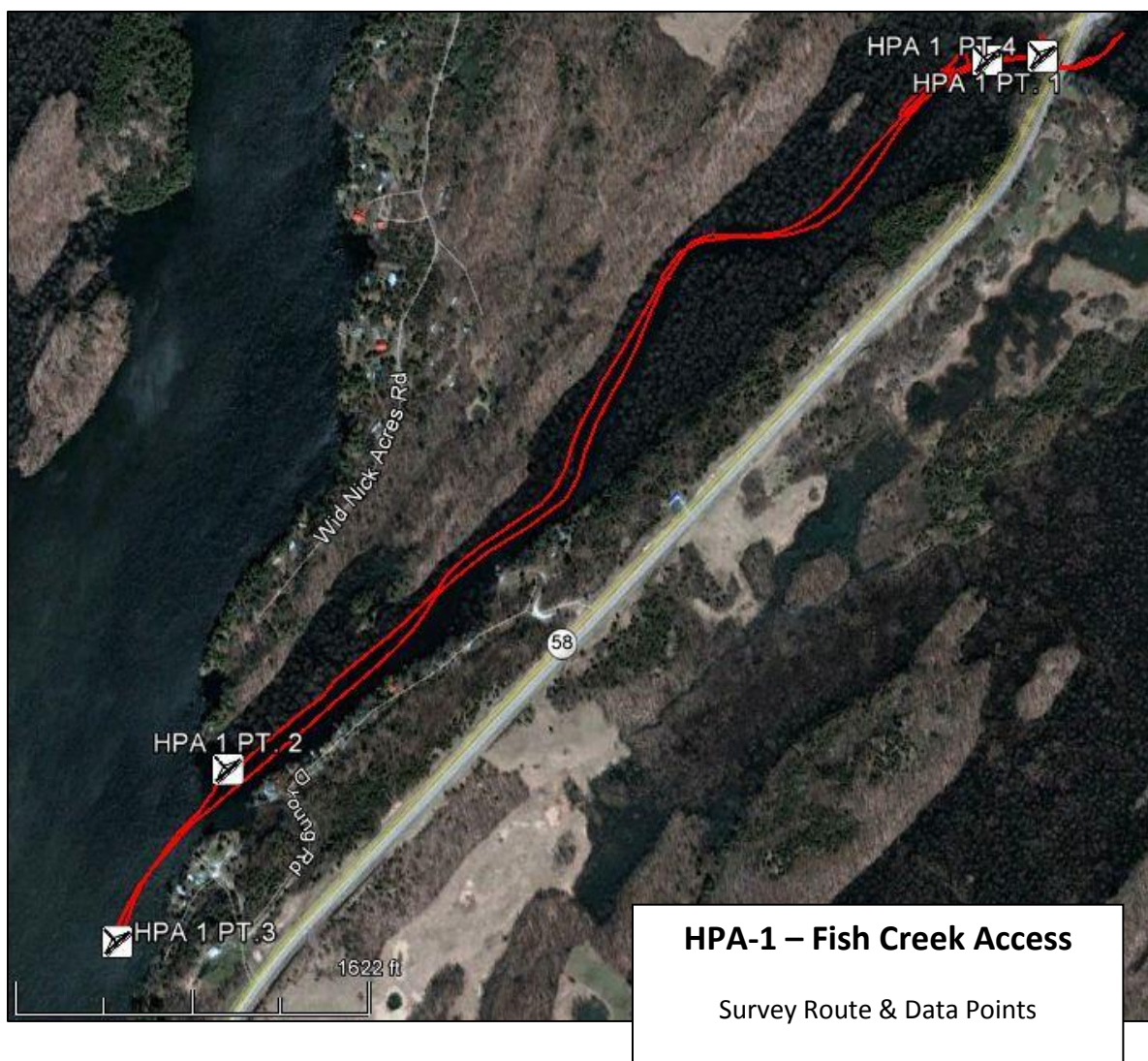
Table 1: Data from Water Chestnut surveillance rake tosses and visual observations at the four Black Lake HPAs.

Location: Black Lake						Date: 6/8, 6/11, 6/13, 6/14/12	
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
HPA 1 Pt. 1	44.48090916	1	8'	1	0		
	-75.58405794	2	9'	2	0		
HPA 1 Pt. 2	44.47206222	1	5'	4	0		Visual: EFB, CLPW
	-75.59734527	2	5'	1	0		
HPA 2 Pt. 1	44.48119892	1	5'	4	1	CLPW	
	-75.64684711	2	6'	3	1	EWM	
HPA 2 Pt. 2	44.48256894	1	4'	2	0		
	-75.64463169	2	4'	3	3	EWM, CLPW, ZM	
HPA 3 Pt. 1	44.5089027	1	4'	2	1	EWM	Visual: EFB, CLPW, ZM
	-75.61188075	2	4'	0	0		
HPA 3 Pt. 2	44.51017122	1	6'	0	0		
	-75.61073025	2	6'	2	1	ZM	
HPA 4 Pt. 1	44.52113592 -75.59162362	Visual: Phragmites					

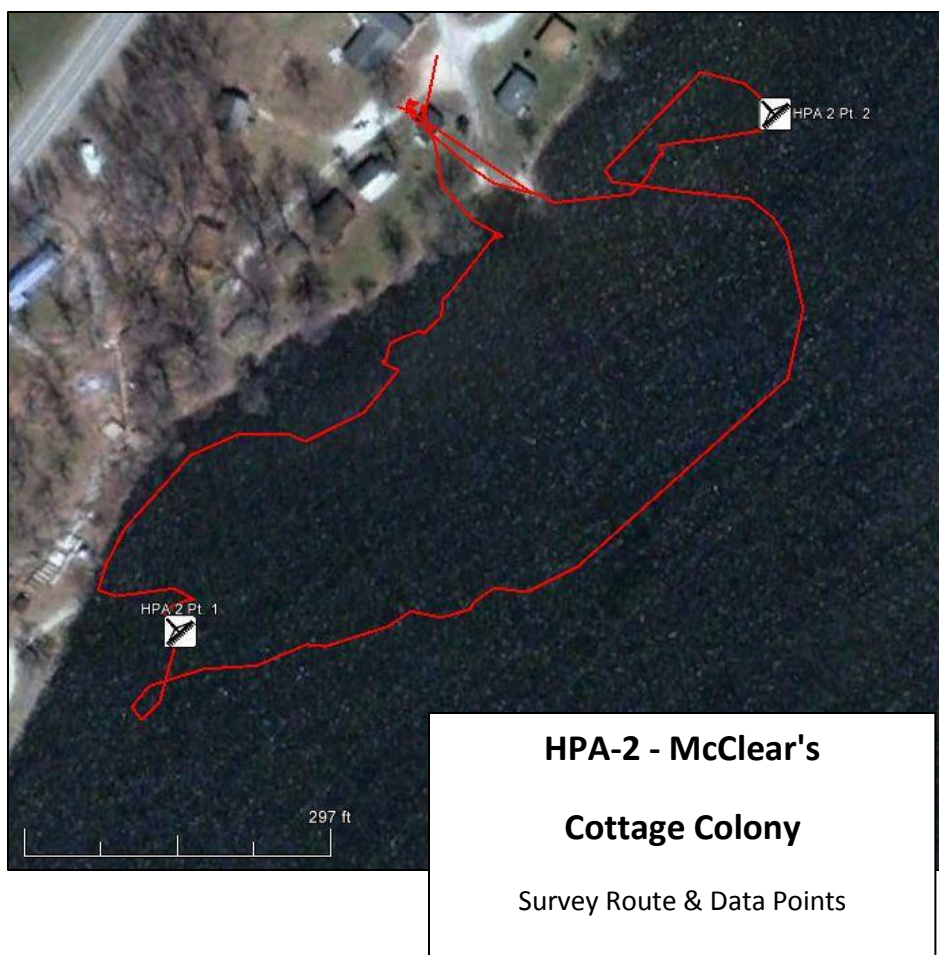
Table 2: Data from Hydrilla surveillance rake tosses at the four Black Lake HPAs. (Continued on next page.)

Location: Black Lake						Date: 8/8/12	
Point	Lat/Long	Throw	Depth	# Spp.	# Inv.	Invasive Spp. present	Notes
HPA 1 Pt. 1	44.48090916	1	6'	0	0		
	-75.58405794	2	7'	0	0		
HPA 1	44.47206222	1	2'	3	1	ZM	

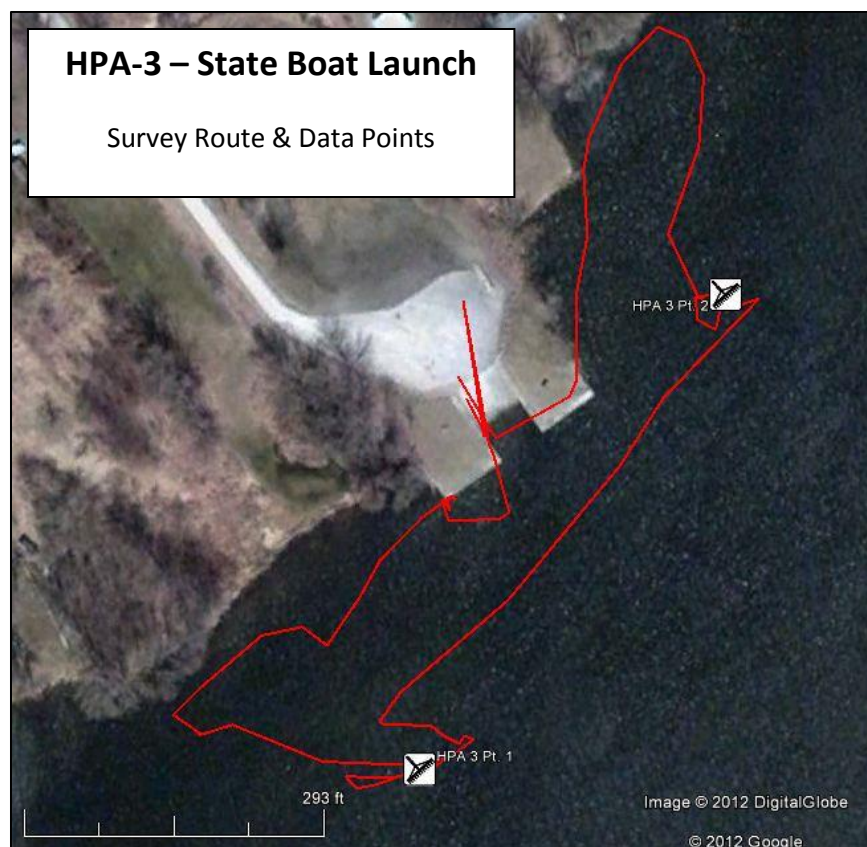
Pt. 2	-75.59734527	2	2'	2	0		
HPA 1 Pt. 3	44.46991486	1	7'	3	1	ZM	
	-75.59927772	2	5'	2	1	ZM	
HPA 1 Pt. 4	44.48095626	1	6'	0	0		
	-75.58309754	2	7'	0	0		
HPA 2 Pt. 1	44.48119892	1	5'	4	2	EWM, ZM	
	-75.64684711	2	5'	4	2	EWM, ZM	
HPA 2 Pt. 2	44.48256894	1	4'	4	1	ZM	
	-75.64463169	2	4'	4	2	EWM, ZM	
HPA 3 Pt. 1	44.5089027	1	10'	4	2	EWM	
	-75.61188075	2	7'	2	1	EWM, ZM	
HPA 3 Pt. 2	44.51017122	1	6'	3	1	EWM	
	-75.61073025	2	6'	4	2	EWM, ZM	



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HPA-4 – Route 58 Bridges

Survey Route and Data Point

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