

2016 Field Survey
Black Lake

SLELO-PRISM Early Detection Surveillance

August 22nd and 25th, 2016

Report prepared by Ashley Gingeleski and Ben Hansknecht on September 7th, 2016



Figure 1. Panorama of Black Lake taken from NYS OPRHP boat launch. Photo by Ben Hansknecht.

Introduction and Background¹

Black Lake is an approximately 4,593-acre freshwater lake located in St. Lawrence County, New York (**Figures 1, 2, and 3**). 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 (**Figure 1**). An unimproved



Figure 2. Black Lake within the SLELO PRISM.



Figure 3. Black Lake and surrounding area.

car-top boat launch is located along State Route 58 near the hamlet of Pope Mills allows 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.

¹ Introduction and Background taken verbatim from the SLELO-PRISM 2012 Black Lake Water Chestnut & Hydrilla Surveillance report, by Greg Chapman and Mike McHale; <http://www.sleloinvasives.org/wp-content/uploads/2012/07/Black-Lake-Final-Report-2012.pdf>

Survey Methods and Observations

In August of 2016, the SLELO Early Detection team surveyed Black Lake for both aquatic and terrestrial invasive species. This was accomplished by means of the rake toss technique, for aquatic species, as well as visual observations. The rake toss method of aquatic plant surveying involves tossing a weighted double-sided rake off either side of one's vessel and using it to uproot vegetation for species identification. Attached to the rake is a rope marked in increments of feet, which is used to calculate water depth during each toss. Visual observations involve scanning both aquatic and terrestrial surroundings for noticeable, defining attributes of target and watch-list species for visual identification.



Figure 4. Early Detection team member Ben Hansknecht brings up vegetation for identification following a rake toss. Photo by Megan Pistolese.

Areas where these survey methods were employed in Black Lake are known as HPAs, or Highly Probable Areas. HPAs are environments where invasive species are likely to be found as a result of certain characteristics, including: high rates of human activity, still water, shallow photic zones. The HPAs surveyed in Black Lake



Figure 5. Highly Probable Areas (HPAs) within Black Lake.

include: Fish Creek into Black Lake (HPA 1), docks and an informal private boat launch (HPA 2), the New York State OPRHP Black Lake Boat Launch (HPA 3), bridges on Route 58 (HPA 4), and a quiet cove near Upper Big Bay (HPA 5) (**Figure 5**).

Each of the five HPAs can contain either rake toss points or areas where visual observations of invasive species are noted. Additional rake toss points were added for the 2016 survey using the criteria for HPAs to supplement those locations chosen by prior surveys of Black Lake in 2012 and 2014. All toss points within the 5 HPAs were reached by boat, except for 033 and 037. Toss points 033 and 037 were accessed from an unimproved car-top boat launch along Route 58.

In addition, some historical toss points were given updated coordinates to accommodate existing field conditions. Historic toss point 033 was performed as a shore toss rather than a rake toss from a boat in the 2016 survey due to close proximity to the original location. Rake toss points and visual observations within the 5 HPAs were marked using a Garmin handheld GPSMAP® 62.

No Prevention “Watch-list” species were found in the 2016 survey.

The following target-list species were determined to be at Black Lake in the 2016 field survey: Eurasian water-milfoil, European frog-bit, and purple loosestrife. Eurasian water-milfoil was found at HPAs 1, 2, 3, and 4. European frog-bit was found at HPA 1. Purple loosestrife was found at HPAs 2 and 4 (**Table 1 and Figures 6, 7, and 8**).



Figures 6, 7, and 8. (Left to right) Eurasian water-milfoil; European frog-bit; purple loosestrife. Photos by Ashley Gingeleski.

In addition to target-list species, the following general species of concern was detected at Black Lake: Zebra mussel. Zebra mussel was found at HPAs 1, 2, 3, and 4.



Figure 9. Fish Creek near toss sites 033 and 037 within HPA 1. Photo by Ashley Gingeleski.

Eurasian water-milfoil and zebra mussel were widely distributed throughout the survey areas within Black Lake. European frog-bit found in this study was concentrated in toss sites within HPA 1 that occurred exclusively in Fish Creek (**Table 1 and Figure 9**).

Previous surveys of Black Lake detected the presence of curly-leaf pondweed and brittle naiad. Brittle naiad was not found in the 2016 survey. In 2012 and 2014, curly-leaf pondweed was found at multiple HPAs. Curly-leaf pondweed begins to recede in size around late summer and early fall.² The 2016 study was conducted in late August and the timing of the survey plausibly explains why curly-leaf pondweed was not found during rake tosses.

The following native species were observed in Black Lake: elodea, eelgrass, algae, stonewort, coontail, fragrant waterlily, small waterwort, Farwell’s water-milfoil, clasping-leaf pondweed, duckweed, and bladderwort.

² Reference provided by the Great Lakes Aquatic Nonindigenous Species Information System:

<http://nas.er.usgs.gov/queries/GreatLakes/FactSheet.aspx?NoCache=6%2F1%2F2010+12%3A12%3A14+PM&SpeciesID=1134&State=&HUCNumber=>

Table 1. Rake tosses at aquatic Highly Probable Areas (HPAs) within Black Lake.

<i>Priority Conservation Area: Black Lake</i>										
<i>HPAs</i>	<i>Toss</i>	<i>Description</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Throw</i>	<i>Depth (ft)</i>	<i># Spp.</i>	<i>#Inv.</i>	<i>Invasives</i>	<i>Visuals</i>
1	033*	Farther from Bridge	44.480935	-75.58393	1	3	4	1	FB	FB
					2	5	5	1	FB	
	034	Near Houses	44.472182	-75.59708	1	2	3	1	ZM	EW
					2	2.2	5	1	ZM	
	036	Cove	44.469828	-75.59902	1	3	2	0		EW
					2	2.9	3	0		
	037	Near Bridge	44.480922	-75.58318	1	5	2	0		FB
					2	4	4	0		
	039**	Cove	44.47454	75.59333	1	4	2	0		FB
					2	1.4	5	1	FB	
2	029	Near Houses	44.482479	-75.64478	1	5	5	2	EW, ZM	PL
					2	5	2	0		
	030	Near Docks	44.481522	-75.64563	1	6	5	2	EW, ZM	
					2	6	3	1	EW	
3	027	Boat Launch	44.509435	-75.61210	1	1.8	5	1	EW	
					2	2	3	1	EW	
	028	Boat Launch	44.510193	-75.61129	1	3	4	2	EW, ZM	
					2	3.1	4	2	EW, ZM	
4	032	Near Other Bridge	44.518678	-75.58940	1	3.5	5	1	ZM	PL, EW
					2	3.7	5	2	EW, ZM	
	038	Near Bridge	44.520427	-75.59124	1	15	2	1	ZM	
					2	15	0	0		
5	031	Quiet Cove	44.472686	-75.60851	1	2.6	4	0		
					2	2.6	6	0		

Key: * = Toss site added in 2016

** = Toss site relocated near historical toss site

EW = Eurasian water-milfoil

FB = European frog-bit

ZM = Zebra mussel

PL = Purple loosestrife

Map of Black Lake HPAs (orange)
and Toss Points (red) with Boat Path (blue)

