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

Salmon River Estuary
Hydrilla and Water Chestnut Assessment

SLELO-PRISM Early Detection Surveillance
June 4, 2013

Figure 1: Panoramic view of Salmon River Estuary near Selkirk Shores State Park boat launch, photo taken by Mike McHale

Report prepared by Mike McHale and Logan West, 6/11/2013

Introduction and Background[1]

The Salmon River is an important sport fishing destination located in Oswego County, New York (Figure 2) and passes through the villages of Pulaski and Altmar. Populations of Chinook, Coho and Atlantic salmon, steelhead and brown trout are maintained both through annual stocking and management focused on enhancing natural reproduction of these fish within the river. Public fishing access is plentiful along the approximately 14 miles of the lower river downstream of the Lighthouse Hill Dam, where much of the land is accessible through Public Fishing Rights easements, and these areas see heavy fishing pressure during the fall salmon and spring steelhead runs.

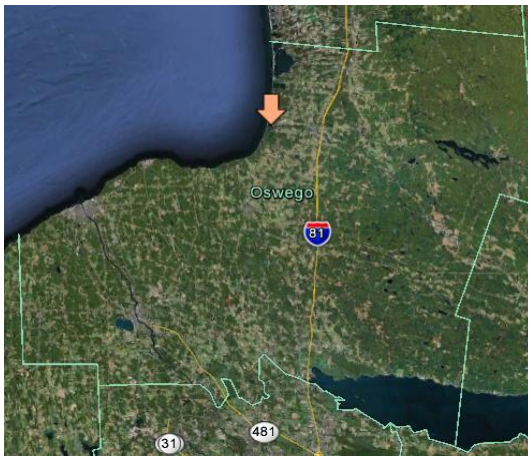

Figure 2: Location of Salmon River Estuary in the Eastern Lake Ontario region of New York

Figure 3: Overview map of the Salmon River Estuary and surrounding area.

[1] Introduction and Background taken verbatim from SLELO-PRISM 2012 Salmon River Estuary Knotweed Assessment, by Greg Chapman and Mike McHale; http://www.sleloinvasives.org/wp-content/uploads/2012/07/Salmon-River-Estuary-Knotweed-Assessment1.pdf

The Salmon River Freshwater Estuary (Figure 3) is defined as that portion of the lower river that is directly influenced by the lake levels of nearby Lake Ontario. The estuary extends east from the Salmon River's outlet into Lake Ontario to approximately 1200 feet east of the State Route 3 bridge. This braided portion of the river is bordered by emergent marsh, riverine wetlands and shrub swamps, and is recognized as important fish spawning habitat as well as a staging area for steelhead and salmon preparing for their annual spawning runs. Additionally, the variety of wetland habitats within the estuary are important habitat for birds and other wildlife, including several threatened bird species[2].

Public access of the Salmon River Estuary is possible from both a NYSDEC handicapped-accessible fishing platform off Route 3, and the Pine Grove Boat Launch off Pine Grove Road, maintained by the NYS Office of Parks, Recreation and Historic Preservation.

Survey Methods and Objectives

In June of 2013, SLELO-PRISM field crew members Logan West and Mike McHale conducted early detection surveillance targeting aquatic invasive species Hydrilla (*Hydrilla verticillata*) and Water Chestnut (*Trapa natans*) on June 4, 2013. In preparation, a map indicating the high probability areas (HPA's) was created (Figure 4). HPA's are areas where human activities or site conditions increase the probability that invasive species will be detected and/or become established.

Figure 4: Map showing locations of the five Salmon River Estuary HPA's.

HPA-1: Port Ontario handicap accessible fishing dock.

HPA-2: Narrow water channel with multiple private docks and a private marina.

HPA-3: Area with stagnant to slow moving water in which site conditions create suitable invasive species habitat

HPA-4: The Pine Grove boat launch is an area with high human movement.

HPA-5: Upstream of Pine Grove Boat Launch.

[2] Information regarding the definition, extent and ecological importance of the Salmon River Estuary summarized from the Salmon River Watershed Natural Resources Assessment (McGee 2008) , pages 35, 36 and 57 – 69. Available in two parts online at http://www.dec.ny.gov/docs/regions_pdf/srwasa.pdf and http://www.dec.ny.gov/docs/regions_pdf/srwasb.pdf.

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

Crew members utilized a canoe and a Garmin handheld GPSMAP® 62 to track the travel route and record waypoints where rake tosses were conducted (Figure 5). Rake toss data is collected by throwing a weighted rake attached to a rope into the water to obtain benthic vegetation samples to determine what species are present in that location. Once the samples are collected, the species are identified, recorded, and determined to be either invasive or non-invasive.

Figure 5: Locations of the 11 rake tosses performed in the Salmon River Estuary. Since Hydrilla and Water Chestnut tend to grow in shallower (littoral) waters, the field crew stayed near the shore line while collecting rake toss data and visually looking for these aquatic invasive species.

Observations

Upon canoeing along the perimeter of the estuary, taking samples and assessing conditions at each HPA, it was determined that Hydrilla was not present in the area. However, sparsely scattered juvenile Water Chestnut plants were observed in HPA's 3,4, and 5. **There were no 'Prevention "Watch-List" Species' found in the area;** and the 'Target Management Species' that were observed in the area include: Water Chestnut, Eurasian Water Milfoil, Purple Loosestrife, Japanese knotweed and Frogbit spp. A summary of species observed at various rake toss points is presented in (Figure 6).

Figure 6. Summary of Species Observed at **Rake Toss** Points.

Location: Salmon River Estuary. Points refer to **rake-toss** points							Date: 6/4/2013
Point	**Latitude Longitude**	**Throw**	**Depth (ft)**	**# Spp.**	**# Inv.**	**Invasive Spp. Present**	**Notes**
2	43.57035	1	3	0	0		
	-76.1878	2		0	0		
3	43.5695	1	5	1	0		
	-76.1923	2		0	0		
4	43.56748	1	2	2	0		Visual: PL, FB, WC
	-76.1963	2		1	0		
5	43.5724	1	2.5	0	0		Visual: JKW, FB
	-76.199	2		1	0		
6	43.57458	1	8	0	0		
	-76.2025	2		2	0		
7	43.56895	1	3	2	0		Visual: FB
	-76.2041	2		1	0		
8	43.56725	1	2	3	0		Visual: CLPW WC
	-76.2029	2		4	0		
11	43.56358	1	3	1	0		Visual: CLPW, FB
	-76.1953	2		2	0		
12	43.56557	1	2.5	1	0		
	-76.1964	2		0	0		
13	43.5678	1	3	0	0		Visual: JKW
	-76.1868	2		0	0		
14	43.56889	1	5	0	0		Visual: JKW
	-76.1856	2		0	0		

Key: PL = Purple Loosestrife, FB = Frogbit spp., WC = Water Chestnut,
JKW = Japanese Knotweed CLPW = Curly Leaf Pondweed

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