

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 2013 and 2015. The previous reports are attached to the end of this report.

**2017 Field Survey
Addendum to
Mud Lake**

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

**SLELO-PRISM Early Detection Surveillance
July 19 & 21, 2017**

Report prepared by Bryna Daykin and Alicia Wood, 7/24/2017

Survey Methods and Observations

Mud Lake (Redwood, NY) was surveyed in July of 2017 by the SLELO Early Detection Team (**Figure 1**). 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 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. The location of each HPA was marked using a handheld Garmin GPSmap 60CSx.

No ‘Prevention “Watch-list” Species’ were found in the 2017 survey.

The aquatic HPAs 1-7, 11 and 13 (Figure 2) examined in 2013 and 2015 were resurveyed. Aquatic HPAs 8-10 were removed as they were located in the center of the lake and appeared not to be HPAs. The duck hunting stand located at HPA 12 was falling apart and no longer seemed to be used so this HPA was removed. HPA 14 was removed as it no longer appeared to be an HPA. All three terrestrial sites from 2013 and 2015 were



Figure 2: Duck hunting stand at HPA 13. Photo taken by Alicia Wood.

resurveyed, although they were renamed (HPA 1 became HPA 20, HPA 2 became HPA 1, HPA 3 became HPA 7). These were renamed due to overlap between aquatic and terrestrial HPA numbers. Additional HPAs (15-19) were added to the 2017 survey, at locations which were deemed to be HPAs (Table 1; Table 2; Figure 3). In addition, the higher waters seen in 2017 did not affect this lake due to the presence of a water level control structure found near HPA 1.



Figure 3: Survey route for the aquatic and terrestrial HPAs of Mud Lake. The yellow line indicates the driving route taken to get to each terrestrial HPA, while the blue line indicates the canoe route taken to get to each aquatic HPA.

Green dots were surveyed terrestrially, blue dots were surveyed aquatically, while red dots were surveyed both terrestrially and aquatically.

The following ‘Target Management Species’ were found during the 2017 field survey (**Table 1; Table 2**): Eurasian water milfoil (*Myriophyllum spicatum*) and common buckthorn (*Rhamnus cathartica*). The following ‘General Species of Concern’ were also found (**Table 1; Table 2**): European frogbit (*Hydrocharis morsus-ranae*), honeysuckle (*Lonicera spp.*) and spotted knapweed (*Centaurea maculosa*).



Figure 4: Eurasian water milfoil found in Mud Lake. Photos taken by Bryna Daykin.

Eurasian water milfoil was found at all aquatic survey sites except for HPAs 15 and 18. This plant species was found in dense patches throughout the lake (**Figure 4**). Common buckthorn was found at HPAs 1 and 7. European frogbit was found at HPAs 1, 5, and 15 in small amounts. Honeysuckle was found at HPAs 1, 7 and 20. Spotted knapweed was found at HPAs 7 and 20 (**Figure 5**).



Figure 5: Spotted knapweed found at Mud Lake. Photos taken by Alicia Wood and Bryna Daykin.

Table 1: Descriptions, coordinates, and invasive species sightings at each HPA at Mud Lake.

| HPA | Habitat Description | Latitude | Longitude | Invasive Species |
|-----|--|----------|-----------|------------------|
| 20 | Town Park with ATV Trail | 44.29756 | -75.80192 | SK, HS |
| 1 | Rooftop Boat Launch Near Water Level Control Structure | 44.29638 | -75.80190 | CB, HS |
| 7 | ATV Trail Near Beach | 44.29390 | -75.80215 | SK, CB, HS |

Key: CB = Common Buckthorn, SK = Spotted Knapweed, HS = Honeysuckle spp.

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

| HPA | Habitat Description | Latitude | Longitude | Throw | Depth (ft) | # Total Sp. | # Inv. | Inv. Type | Visuals |
|-----|--|----------|-----------|-------|------------|-------------|--------|-----------|--------------|
| 1 | Rooftop Boat Launch Near Water Level Control Structure | 44.29638 | -75.80190 | 1 | 3 | 4 | 1 | EWM | EWM, FB |
| | | | | 2 | | 6 | 1 | EWM | |
| 2 | Cove with Slow Moving Water | 44.29752 | -75.80855 | 1 | 3 | 4 | 0 | | EWM |
| | | | | 2 | | 2 | 1 | EWM | |
| 3 | Cove with Slow Moving Water | 44.29439 | -75.81171 | 1 | 5 | 5 | 1 | EWM | EWM |
| | | | | 2 | | 5 | 1 | EWM | |
| 4 | Cove with Slow Moving Water | 44.29368 | -75.81396 | 1 | 4 | 6 | 1 | EWM | EWM |
| | | | | 2 | | 5 | 1 | EWM | |
| 5 | Cove with Slow Moving Water | 44.29181 | -75.81577 | 1 | 3 | 4 | 1 | EWM | FB |
| | | | | 2 | | 3 | 0 | | |
| 6 | Cove with Slow Moving Water | 44.28736 | -75.80825 | 1 | 3 | 4 | 0 | | EWM |
| | | | | 2 | | 3 | 1 | EWM | |
| 7 | Beach near ATV Trail | 44.29390 | -75.80215 | 1 | 6 | 4 | 1 | EWM | EWM |
| | | | | 2 | | 4 | 1 | EWM | |
| 11 | Cove with Slow Moving Water | 44.28797 | -75.81317 | 1 | 3 | 5 | 0 | | no invasives |
| | | | | 2 | | 4 | 1 | EWM | |

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|----|-----------------------------|----------|-----------|---|-----|---|---|-----|--------------|
| 13 | Duck Hunting Stand | 44.28938 | -75.81470 | 1 | 4 | 4 | 0 | | EWM |
| | | | | 2 | | 1 | 0 | | |
| 15 | Cove with Stagnant Water | 44.29759 | -75.80210 | 1 | 3 | 4 | 1 | FB | FB |
| | | | | 2 | | 4 | 0 | | |
| 16 | Cove with Slow Moving Water | 44.29051 | -75.81595 | 1 | 2.5 | 6 | 0 | | EWM |
| | | | | 2 | | 6 | 1 | | |
| 17 | Duck Hunting Stand | 44.29762 | -75.80741 | 1 | 3 | 6 | 1 | EWM | EWM |
| | | | | 2 | | 7 | 1 | EWM | |
| 18 | Cove with Slow Moving Water | 44.28530 | -75.81090 | 1 | 4.5 | 3 | 0 | | no invasives |
| | | | | 2 | | 3 | 0 | | |
| 19 | Cove with Slow Moving Water | 44.28603 | -75.80947 | 1 | 3 | 9 | 1 | EWM | EWM |
| | | | | 2 | | 6 | 0 | | |

Key: FB = European Frogbit, EWM = Eurasian Water Milfoil

In addition to the invasive species found at Mud Lake, a native freshwater sponge was found which we believe to be a *Spongilla* spp. (**Figure 6**). This sponge was pulled up during a rake toss at HPA 19. Additionally, native flat-leaved bladderwort (*Utricularia intermedia*) was found during this survey. This species resembles the ‘Prevention “Watch-list” Species’ Carolina fanwort (*Cabomba caroliniana*), and hasn’t been seen before at other sites surveyed (**Figure 7**).



Figure 6: Freshwater sponge found at HPA 19. Photo credit Alicia Wood.



Figure 7: Flat-Leaved Bladderwort found at Mud Lake. Photos taken by Alicia Wood.

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