Summary of Activities

Date: July 28, 2016

To: Ian Kitch
Sustainable Development –
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Subject: *Olson Lake – Bathymetry & Lake Investigations*

Location: Olson Lake, Porcupine Mountain, MB - 14 U 345916 5817708

Summary: Olson Lake has been managed as a remote rainbow trout fishery since initial stocking which occurred in 1981. Stocking has occurred intermittently since this time with the odd stocking of splake (1986), and with the most recent stocking of rainbows occurring in 2009. In terms of angling quality, not too much is known besides word-of-mouth references and the information from the Master Angler Program. In general, the lake does attract some remote seeking adventurers in both summer and winter, however the general consensus is that the lake has never really "taken off" in terms of a trout destination. In 2016, SVSFE technicians set out to gather some up-to-date baseline information on Olsen Lake. First of all, we aimed to update the government file on the lake through checking access, habitat mapping, modern bathymetric mapping, and water sampling including a mid-summer dissolved oxygen profile. Secondly, we set out to gather an up-to-date fish inventory on Olsen Lake.

To start with, access was assessed and the trail in was in surprisingly good shape, which was promising considering the fact that we hadn't heard from anybody regarding the "shape of the trail" in some time. Also, Olsen possesses a suitable launch area and landing for recreational use. Photos of the trail and launch areas can be viewed below.

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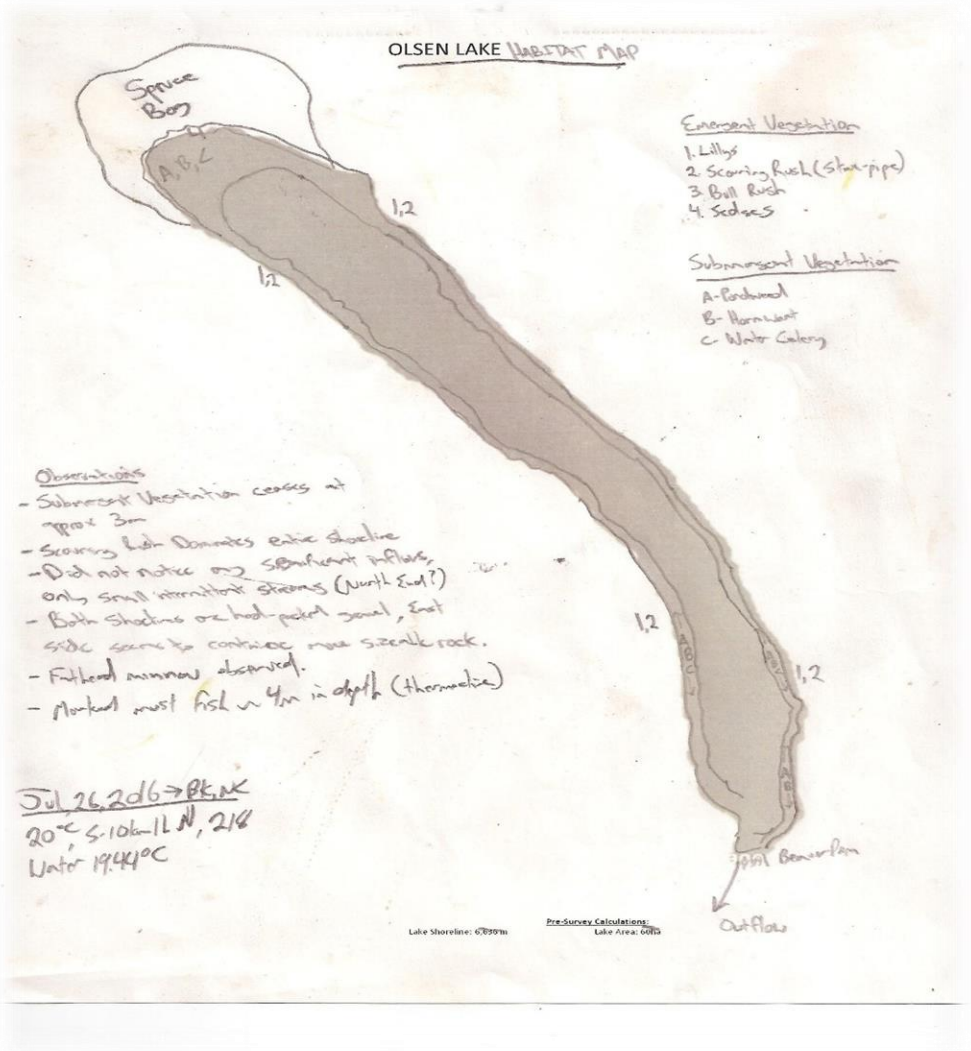
Summary continued: Lake surveys began on July 26th, 2016 with bathymetric mapping. The lake was mapped using a Garmin EchoMap60s using 50 meter transects covering the lake on a east-west orientation. Data points were collected using 0.2m intervals and once the east-west route was complete, additional points were collected on a north-south transection to gather additional depth data. The lake exhibits very little littoral area and has an average depth of approximately 5m; the deepest point was discovered was in the south end and was 6.6m. At current the bathymetric data has not yet been analysed, and we are expecting the map in due time. Habitat maps were created on site. Emergent and Submergent vegetation percentages were documented and aquatic vegetation was identified. The field habitat map can be viewed below.



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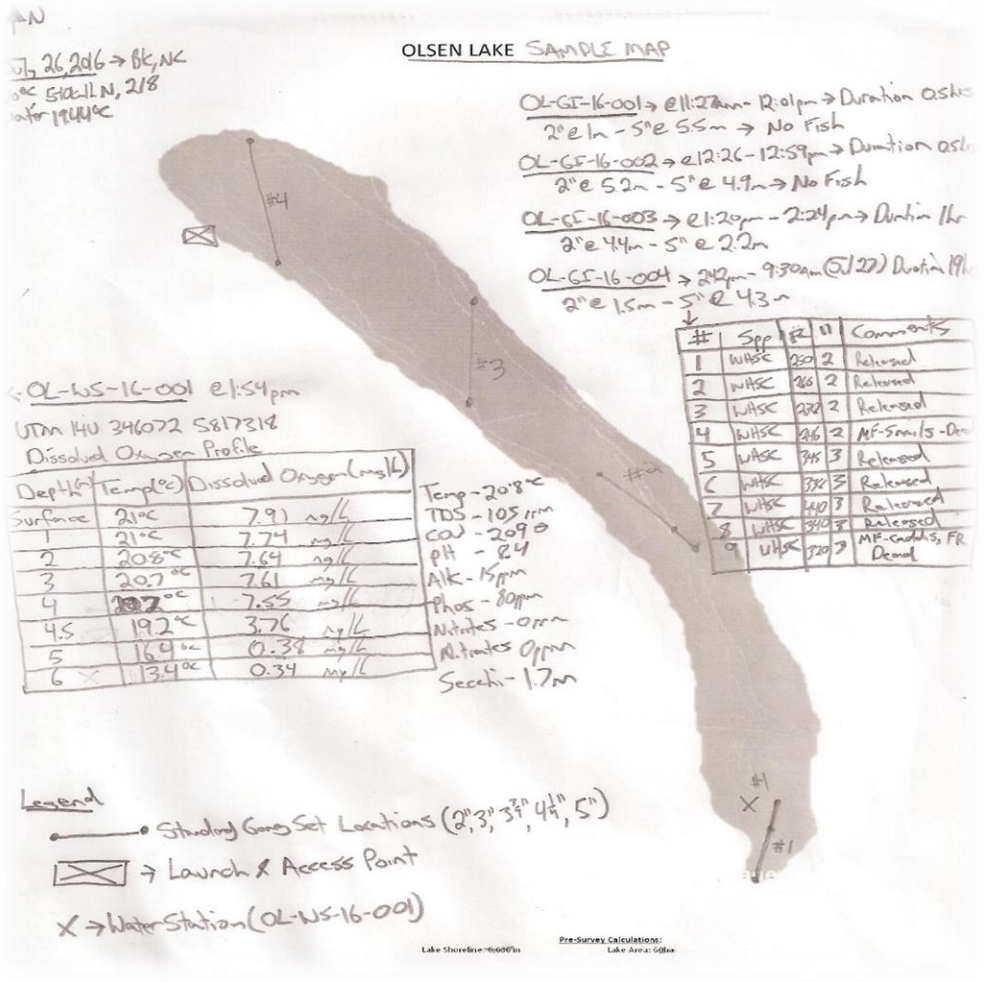
Summary continued: Fish inventory and sampling occurred on July 26th and 27th, 2016. For efficiency purposes the method of capture was a standard gang (2”, 3”,3 ¾”,4 ¼”,5”) set for short set times. Two nets were set for half hour durations, and one net was set for the duration of one hour; no fish were caught. Due to a level of uncertainty regarding the presence of fish in the lake; we opted to fish a net overnight. This was primarily done due to the fact that many “fish resembling” shapes were observed on the sonar while mapping the lake. Also, a dissolved oxygen profile was conducted and basic water parameters were documented over the deepest point of the lake (OL-WS-16-001). A sample map, including results from fish sampling, and water testing can be viewed below.



White suckers ages revealed a small number of fish between the ages of 4-7, with a dominate 5 year age class.

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Discussion/Recommendations: In summary it appears that Olsen Lake has great potential for sport fish species introductions, as the lake is, based on investigations, "sitting empty" at the moment. There is no doubt that there may be a few rainbows currently residing in the waterbody, however with the short assessment we are confident that if these trout were fairing well that we would have "heard otherwise" or would have discovered much more evidence of them. The lake has ideal access, possesses an ideal landing/launching area, has a strong forage base, and has no issues with winter dissolved oxygen (correlating master angler submissions and stocking records), not to mention it is extremely picturesque in nature.

As we know, rainbow trout and white-sucker prey upon a similar forage base, whereas the sucker usually out-competes depending on the productivity of the waterbody. Olsen Lake, being the headwaters of the Birch River and being so remote in the Porcupuine Hills, we can hypothesise the lake has limited productivity without too much further assessment/investigation. With reference to angler discussion and conversations with regional fisheries manager and fisheries biologist, Ian Kitch, we have concluded that rainbow stocking in the past has faired "good not great". This could be due to; lack of committed stocking program in recent years, the interspecific competition with suckers and rainbows, or unsuitable habitat for rainbows. Upon further conversation with Ian, it appears that managing this fishery as a rainbow trout destination be ceased do to limited success in past. That being said, we suggest that Olsen Lake either be issued a new fisheries management objective or a restocking a different game fish species be discussed. As for trout, perhaps a more aggressive piscivorus species such as splake be considered or possibly browns as this would bring a new species to Porcupine Mountain Lakes. If non-salmonid is under consideration (ie. Walleye) managers should be reminded of the lake's connectivity with the Birch River, home to many brook trout.