

Summary of Activities

Date: September 30, 2015

To: Ian Kitch
Conservation & Water Stewardship

From: Holly Urban & Brock Koutecky
Swan Valley Sport Fishing Enhancement
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Subject: North Steeprock and Bell Lake OTC Detection 2015

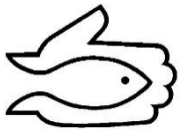
Location: North Steeprock, Porcupine Provincial Forest, 14U 339062 5829802
Bell Lake, Porcupine Provincial Forest, 14U 347702 5822479

Summary of Activities: On the evening of September 7th 2015 SVSFE conducted the third and final year of OTC analysis on both Bell and North Steeprock Lakes. OTC detection is a method used to determine success of walleye fry stocking and natural recruitment success. The method has been used throughout the province to determine efficient walleye fry stocking rates; which is the objective for these two project lakes. Information pertaining to North Steeprock and Bell Lakes, OTC analysis, and previous year OTC information please refer to Integrated Walleye Enhancement Project: Part 1 (Pr. 13-063).

On the evening of September 7th, 2015 SVSFE technicians along with Fisheries Biologist, Captain Ken Kansas sampled both North Steeprock and Bell Lake YOY walleye for analysis. The method of capture was electrofishing and the transect locations were chosen based on success from previous years. In North Steeprock and Bell Lake a total of 114, and 82 walleye were captured respectfully. On September 8th, fish were sampled, and otoliths were sent to the lab for analysis.

At current, results have only been received for 2013 sampling on both lakes. In 2013, total sample sizes for North Steeprock Lake and Bell Lake were 114 and 38 respectively. Because this study is dependent on efficacy OTC trials conducted at the Whiteshell Hatchery, we can only trust 0+ fish which were 71 and 5 in North Steeprock and Bell respectively. Analysis concluded that in North Steeprock Lake 37/71 (52%) had no mark and therefore were naturally recruited. In Bell Lake 4/5 (80%) fish had no mark and were therefore naturally recruited.

In 2014, walleye catchment was n=186 for North Steeprock and n=46 for Bell Lake. In 2015 catchment was n=114 for North Steeprock and n=82 for Bell Lake. SVSFE is eager to receive results from 2014 and 2015 with greater samples sizes than that of 2013; especially for Bell Lake. Results are expected to help determine more efficient stocking rates for North Steeprock and Bell Lakes. The recommended objective from fisheries branch is to stock lakes with walleye fry that need supplemental assistance due to high harvest rates and/or low to nil natural reproduction, and therefore making fry more available to lakes that require supplemental stocking. Detailed guidelines based on overall results can be viewed on the next page (page 2) of this summary.



Summary of Activities

Subject: North Steeprock and Bell Lakes OTC Analysis 2015

Guidelines for future management (based on at least 2 year OTC analysis) were provided by Regional Biologist Ken Kansas. Guidelines are as follows (Kansas, 2014):

- Lakes that showed 10-20% natural recruitment should be stocked annually, with 0+ assessments done after 4/5 years to confirm stocking success.
- Lakes that showed 25-75% should be stocked every second year with follow up 0+ assessments
- Lakes that showed 75%+ should not be stocked with walleye fry and left to natural recruitment with subsequent regulations to assist (i.e. slot limits)
- Lakes that show a low catch of walleye in general likely have some kind of environmental and/or, species composition and/or, forage at life stage problem.
 - In this case, fingerling stocking should be a serious consideration with follow up non-lethal survey protocols (NLSP) after 2-3 years of such.



Figure: *Electrofishing Vessel*