

Summary of Activities

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Conservation & Water Stewardship

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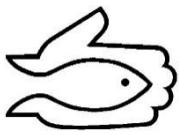
Subject: Beaver Lake

Location: Beaver Lake, Duck Mountain Provincial Park, 14U 373176 5740308

Summary of Activities: Beaver Lake has been a project lake for SVSFE and Fisheries Branch since initial walleye introductions in 2011. Beaver Lake has a long management history with limited success regarding different fish species introductions. In 2011, a new management plan was initialized when lake managers decided to stock adult walleye and closely monitor success. Since 2011, SVSFE and Fisheries Branch have stocked adult walleye on an annual basis via the Beautiful Walleye Transfer and initiated a protected slot regulation on the lake. In 2013 it was recognized that Beaver Lake did not possess suitable walleye habitat and therefore funds were acquired from RCFPP (Recreational Fisheries Conservation Partnership Program) to create two artificial spawning shoals on Beaver Lake. SVSFE has extensively been monitoring walleye populations, survival, growth rates, stock response, natural recruitment success, angling quality, and even conducted a very intensive spawning habitat assessment and monitoring in the spring of 2014 (See Integrated Walleye Enhancement Project FEF Project 13-063).

In summary, 2014 results from SVSFE's Beaver Lake assessments determined that populations were much lower than stocking rates suggesting high harvest. Walleye growth is very high, natural recruitment is occurring, and angling quality was very high based on recapture submissions and creel surveys. Suggestions following 2014 assessments were to continue natural recruitment success as the walleye continually mature. It was also determined that there is a need for more information on angling pressure, quality, and harvest.

In 2015 as an attempt to monitor natural recruitment, one fine mesh trap net was set for a duration of 21 hours; results were negative. A very significant catchment (n=63) of 2+, or 3+ walleye were captured from subsequent sub-adult stocking from 2013 and 2014. Unfortunately, only 1/64 walleye were a mature size which is concerning. As we know one trap net is not population representative, and increased angler submissions would be beneficial at this point. At current, there is really only one seining location at Beaver Lake. In 2013, SVSFE located one young of the year (YOY), no YOYs in 2014, and no this year (2015) seining. It became apparent that a new method of capturing YOYs be identified and utilized at Beaver Lake, hence the utilization of a trap net in 2015.



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On the week of September 8th 2015, Fisheries Branch biologist Ken Kansas came to the area with the very efficient YOY walleye catchment tool; Fish Futures' electrofishing boat. In the past, launching this vessel at Beaver Lake was a concern; needless to say the boat was launched and loaded at Beaver Lake on the evening of September 8th without an issue. The protocol agreed upon was to dip and sample everything with emphasis on YOY walleye. Walleye were measured and weighed and rough fish/forage were strictly counted. The scope was to gather a full inventory of the lake including forage. A total of five random transects were chosen for full habitat representation. Unfortunately, no YOY walleye were discovered. In terms of adult/sub-adult walleye a total of 38 fish were captured equating to a CPUE of 52.76 fish per hour shocking. Of these fish, the mean length was 294mm, and only one fish was in the designated protected slot at 480mm. In terms of forage, it appears that Beaver Lake is extremely healthy in regards with a perch CPUE of 952 fish/hour shocking. Many age classes of white sucker were discovered, along with presence of longnose dace and fathead minnows.

Suggestions/Recommendation: For the second consecutive year, SVSFE was unsuccessful in determining natural recruitment success in Beaver Lake. Perhaps reasoning behind this would be lack of a mature population do to high fishing pressure. Through methods of trap netting and electrofishing for YOY SVSFE captured a total of 102 adult walleye and only 2% of these fish were deemed protected under current regulations. Suggestions are to continue to stock adult walleye through the Beautiful Lake Walleye Transfer, monitor fishing quality through voluntary creel surveys, and continue low effort recruitment assessments for the next few years.



Figure: Beaver Lake Walleye 2015