-OXBOW LAKE-
1997 SPRING LITTORAL INDEX NETTING

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INTRODUCTION

Oxbow Lake is a coldwater lake in Finlayson Township located approx. 21 km NE of the Town of Huntsville. Water quality and physical characteristics are suitable for lake trout (Salvelinus namaycush) which have been supported for many years through supplementary stocking.

A spring littoral index netting (SLIN) project was tendered in the spring of 1997 to determine the status of the lake trout population and the relative abundance of other species to provide information to support future management decisions.

METHODOLOGY

The standard method for index netting was duplicated from lake trout synthesis. Reference was necessary for data comparisons with more intensive sampling conducted by fisheries assessment units.

Fishing gear was small-mesh monofilament gill net dyed a light green in colour. Each gill net gang (91m) was comprised of six 15.2m panels tied at the brail loops. A gang was comprised of panels of the same mesh size, either 38mm (1 1/2"), 51mm (2"), or 64mm (21/2") stretched mesh. Nets were 2.4m tall.

The survey was completed during daylight hours before surface temperatures reached 13 degrees Celsius. The shoreline was broken into sectors of equal length and sampled randomly for 90 minutes. Gangs of different mesh size were used in sequence and set perpendicular to shore. Nets were fished for a minimum of 40 sets or the capture of 20 lake trout, which ever occurred first. Over-night sets would only be employed at the completion of the SLIN program to collect fish required for the minimum sample size of 20 lake trout.

Data collected from target species included total length, fork length, round weight, fin clips, and scale samples. Stomach samples, otoliths, and sex was obtained from mortalities. Non-target species were counted and weighed by species.

RESULTS

A total of 19 sets (90 min.) were completed over a 3 day period from May 24,1997 to May 28, 1997. The following chart summarizes catch totals by species.

OXBOW LAKE SPRING LITTORAL INDEX NETTING SUMMARY
AND CATCH PER UNIT EFFORT (C.U.E.)

SPECIES	NUMBER OF FISH CAUGHT	C.U.E. (FISH/91m OF NET)
lake trout	22	1.158
lake whitefish	12	0.632
round whitefish	8	0.421
smallmouth bass	3	0.158
rainbow smelt	6	0.316
common white sucker	6	0.316

The capture of 22 lake trout resulted in a C.U.E. of 1.158 fish/91m of net. Weights ranged from 260g - 5,310g with a mean of 2,326g. Clipped lake trout represented 19 of the 22 fish captured indicating 86% of the fish sampled were of hatchery origin. No mortalities occurred which is largely due to the size of these fish.

Lake whitefish (Coregonus clupeaformis) and round whitefish (Prosopium cylindraceum) were well represented in the catch. A total of 12 lake whitefish and 8 round whitefish resulted in C.U.E.'S of 0.632 and 0.421 fish/91m of net, respectively.

Six rainbow smelt (Osmerus mordax) were captured for a C.U.E. of 0.316 fish/91m of net with one large specimen measuring 225mm total length.

Three smallmouth bass (Micropterus dolomieui) were captured for a C.U.E. of 0.158 fish/91m of net and a mean weight of 1,122g.

Common white suckers (Catostomus commersoni) rounded out the species diversity with a total of six specimens and a C.U.E. of 0.316 fish/91m of net.

DISCUSSION

It appears that lake trout abundance in Oxbow Lake is good, but largely the result of the district stocking program. The mean weight of the sampled fish is not surprising due to the many species of forage available in the lake.

Lake whitefish are plentiful with all but one fish weighing under 500g.

Round whitefish are also present but not in the huge numbers usually associated with other lake trout lakes that often contain small populations of native lake trout and/or show poor survival of stocked fish.

The capture of six rainbow smelt in such large mesh suggests their abundance is relatively high.

Smallmouth bass are present but abundance is difficult to determine using SLIN as a sampling technique. The mean weight is of interest to the angling community.

Two angling parties were observed in boats and one from shore during the three days on the lake (including one weekend day). None of these parties exerted much effort (1 hr. or less)!

RECOMMENDATIONS

If consistent with current management strategies, continue to stock with lake trout and manage with normal seasons and regulations.