-LIVINGSTONE LAKE-
1997 SPRING LITTORAL INDEX NETTING

by

BRETT THOMAS
Summit Environmental Services
and Property Maintenance

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INTRODUCTION

Livingstone Lake is a coldwater lake in Livingstone Township which borders the west boundary of Alqonquin Provincial Park. Water quality and physical characteristics are suitable for lake trout (Salvelinus namaycush) and the lake is currently managed, through supplemental stocking, as a lake trout fishery.

Historically, the lake has been stocked with lake and brook trout (Salvelinus fontinalis). Brook trout stocking has since ceased but occasional fish are caught as they enter the lake from Livingstone Creek which supports a good resident population.

Economically, the lake is one of many that draw anglers to the Dorset area, but more importantly, it provides a source of recreation for a busy tourist lodge located on the lake.

A spring littoral index netting program (SLIN) was tendered in the spring of 1997 to determine the status of the lake trout population and the relative abundance of other species 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 (2 1/2") 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 10 sets (90 min.) were completed over a two day period from May 13,1997 to May 18, 1997. The following chart summarizes catch totals by species.

LIVINGSTONE 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	21 (+ 1 RECAP.)	2.100
smallmouth bass	2	0.200

The capture of 21 lake trout results in an impressive C.U.E. of 2.100 fish/91m of net. Weights ranged from 340g to 2450g with a mean of 1050g. Clipped lake trout represented 18 of the 21 captured which is approx. 86%. Four mortalities occurred. These were small fish with a mean weight of 625g, three of which occurred in one deep set.

Two smallmouth bass (Micropterus dolomieui) were captured in one set for a C.U.E. of 0.200 fish/91m of net with one large specimen weighing 2,175g.

No other species were observed or captured during this netting program.

DISCUSSION

It appears that lake trout abundance in Livingstone Lake is quite high with a C.U.E. of 2.1fish/91m of net. The percentage of clipped fish however, suggests this fishery is very dependent on the district stocking program.

Smallmouth bass are present but abundance is difficult to determine using SLIN as a sampling technique.

Fishing effort on this lake appeared to be very high on the days netting occurred. Five parties were observed on the weekday and at least ten different parties were observed on the long weekend Sunday. Most of this effort were clients of Livingstone Lake Lodge that reported a weekend booking of 40 people, in addition to the seasonal campers at the lodge's trailer park and day trippers.

Discussions with these anglers revealed a very happy group that experience good success rates and also spoke of good bass fishing that supports a four season fishery.

RECOMMENDATIONS

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