BIOLOGICAL BOARD OF CANADA

MANUSCRIPT REPORTS OF THE BIOLOGICAL STATIONS

No.190D

Title

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In 1937 the Fish Culture Branch of the Department of Fisheries supplied sufficient netting to construct a shallow-water trap in lake Annis, N. S. The trap was tended by the boys at camp Moosewa. Approximately 13,000 fish, largely white perch, were removed from the lake by this means. The trap was reconstructed in 1938, but high water, due to the wet season and damming of the outlet, prevented the capture of many fish, at least up to August.

In 1938 the Department supplied netting for three traps to be constructed in Milo lake, at Yarmouth, N. S. This work was sponsored by the Yarmouth branch of the Nova Scotia Fish and Game Protective Association. The traps were in the process of c construction in early August while the writer was in the Yarmouth district. There are no data available to us to indicate how effective these traps have been in capturing perch, for which they were primarily intended.

It would be practically impossible to eliminate all the undesirable fish from a lake by nets and traps. However, if the method is extensively enough applied the fish stock should be materially reduced. This implied a number of traps in one lake, or much netting by seines or gill-nets. It also implies a continued effort, not only over the period of one year but over several consecutive years. For instance, it would appear questionable that the operation of one trap in lake Annis would have

an appreciable effect upon the white perch population of that lake, in spite of the fact that about 13,000 fish were removed in one season, and these mainly white perch. It must be remembered that lake Annis covers several hundred acres, and as indicated by the trap results must support a very large population of these fish. In Milo lake, which has an area of approximately 200 acres, three traps similar to the one in lake Annis and as efficient, should, on the other hand, have considerable effect upon the stock of such species as are readily taken in this type of trap, if, to reiterate, they are operated for a sufficiently long period.

Milo lake is the lowest of a chain of lakes. It is suggested that in order to expedite the removal of fish from this lake it be isolated from the others, insofar as possible fish migrations from alek to lake are concerned. This could be accomplished by a barrier at the bridge which leads to the Canadian Pacific hotel and which spans the stream at a point where Milo is connected to the second lake by a short channel. The barrier might easily be constructed, but would be more difficult to maintain at all seasons.

If we consider that Milo lake has been isolated in the above fashion and that the three traps have operated continuously for at least two years during the open season, the perch population, along with other species, might be depleted sufficiently to warrant stocking with trout. (How one would determine whether enough fish had been removed is debatable. Possibly we could use the data obtained from those lakes that have been treated with poison in this region as a basis to estimate the fish population in Milo,

and then, when the number of fish removed by the traps approached this estimation, consider that we had a rough gauge to go by.) Planting with yearling trout would appear indicated. The older fish could immediately take advantage of the reduction in fish stock and predator action would be largely avoided.

This procedure might prove satisfactory as means to establish a trout population in the lake, but it does not take into consideration any angling. In order to maintain the trout stock in the face of angling, continued planting would be required. In addition, continued removal of undesirable species, which would be predators and competitors of trout, would be necessary. If angling is permitted, and no further check is placed against the unwanted species, we would shortly arrive at a condition which now exists in the lake and which we are attempting to alter.

Once a large number of fish, for example, perch, are removed from the lake, reproduction and survival among the remaining stock of this species would be more successful, since both the predator and competitor action has been reduced. Thus, planting with yearling or older trout is once again indicated. These older trout could take the place and assume the role of the removed fish and as a result curtail any marked increase in the remnants of the perch stock.

It is obvious from what has been written that the use of nets and traps as a measure of predator control calls for an extensive and lengthy program. It is also obvious that only conjectures can be advanced as to the probable result of this procedure in such a habitat as Milo lake. Moreover it is appreciated that the cost involved may be considerable.

Nevertheless, the fact that we know little concerning the

efficacy of a procedure of this type as a fish cultural measure requires our serious attention. It is probable that the use of nets and traps will be advanced continually in the future as a means of controlling undesirable fish, particularly in those lakes in the Maritimes that are too large for applying the poisoning method in an economical and practical way. Netting in Cultus lake for the removal of predators and competitors of young sockeye salmon appears to be giving favourable results. The same basic problem is involved in our Maritime lakes, although the conditions and objects may be somewhat different.

As a result of our considerations, we advance that it would be desirable to take Milo lake as a test area, and continue the procedure as now started and above tentatively outlined. It would seem best, however, to limit experiments of this nature to the one lake until more knowledge of the procedure has been gained.

M. W. Smith,
November 2, 1938.