

JOB COMPLETION REPORT

INVESTIGATIONS PROJECTS

State of MontanaProject No. F-7-R-2 Work Plan No. V Job No. V-ATitle of Job: Effectiveness of Smith Lake Rearing Pond.Objectives:

The primary objectives are to measure the actual annual production of Smith Lake as received from a known number of fry cutthroat planted and to determine the economics of the operation considering the cost of the installation, the cost of the fry, the cost of operation, and the value of the yearling fish produced. As an incidental objective, since each fish must be handled for weighing and measuring, each fish will be marked prior to release into Whitefish Lake. Random creel checks and resort operator reports will indicate the percentage contribution of these fish to the total catch.

Techniques Used:

The inlet stream was diverted starting April 15, 1952, so that most of the spring run-off by passed the pond. The screens at the outlet of the pond were installed this same date to insure further that no trout would go over the spillway in the event of extremely high water coming down the stream. The inlet stream was completely diverted on June 23, and some planks were removed from the rearing pond dam each succeeding day, allowing the rearing pond to drain slowly. From June 26 to 29, the cutthroat trout were captured, right ventral fin clipped, and the fish placed in the stream below the pond. All the trout were measured and 51 were weighed in addition to being measured so that the weights of the remainder could be calculated. After being drained, the pond was left dry until July 15, when water was allowed to enter the pond. On July 31, 25,000 cutthroat trout fry were planted. Posters requesting anglers to report any fin-clipped cutthroat trout caught were distributed to the resort owners on Whitefish Lake and the program was also given publicity in the local newspapers.

Findings:

Of the 29,000 cutthroat trout fry planted in 1951, a total of 1,670 cutthroat trout and 1 eastern brook trout were taken out of the pond. The average length was 7.5 inches with a range of 4.6 to 9.2 inches. The calculated total weight of the cutthroat trout was 226.47 pounds. Manipulation of the headgate on the inlet stream was such that no water went over the spillway of the pond between the time the trout fry were planted and the time of capture. The fill for the dam is evidently porous enough so that the level of the pond can be controlled by controlling the flow of the water at the diversion during high water with the result that no water need go over the spillway.

While no creel census was obtained from Whitefish Lake in 1952, nevertheless it is noteworthy that, in spite of publicity given, no fin-clipped fish were reported caught from Whitefish Lake in 1952.

Analysis and Recommendations:

The number of fish taken from the pond was 5.76 percent of the number planted. The value of the 226.47 pounds of fish produced is \$339.70, based on an amount of \$1.50 per pound, the cost of raising a pound of cutthroat trout at a hatchery. However, on the debit side of the production we have the following:

29,000 fry at \$9.50 per thousand	\$ 275.50
(Cost obtained from Somers Fisheries Station Foreman)	
Law enforcement (Pond is closed to fishing)	28.00
Cost of operation (9 man days)	84.00
Transportation (350 miles at 7¢)	24.50
Expected return on investment (5% of \$5,960.00 which was cost of dam to the Department)	298.00
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Cost of one year's operation	\$ 710.00
Value of fish produced	339.70
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Net yearly loss	\$ 370.30

The theory that any fish escaped over the spillway can be discounted for the past year as the headgate to the diversion was manipulated so that no water went over the spillway of the pond.

It is recommended that this study be continued in the same manner as was done in 1951-52 so that no water will go over the spillway; and the spring run-off be diverted. That is, that the screen be installed at the spillway in the event of extremely high water, and that the spring run-off be diverted at the diversion gate.

Summary:

In July 1951, 29,000 cutthroat trout fry were planted in Smith Lake Rearing Pond. The pond was drained in June, 1952, and 1,670 cutthroat and 1 eastern brook trout were recovered, averaging 7.5 inches in length and weighing 226.47 pounds. Thus 5.76 percent of the fry planted survived. Weighing the monetary value of the fish produced against the cost of the fry planted, the cost of operation, and construction, it was shown that the pond operated at a loss of \$370.30 during the fiscal year 1951-52.

Data and Reports:

The original data is with the fisheries biologist at Kalispell, Montana and the Superintendent of Fisheries in Helena, Montana.

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Approved by _____

Date March 10, 1953