

MONTANA STATE DEPARTMENT OF FISH AND GAME  
FEDERAL AID IN FISH RESTORATION SECTION  
HELENA, MONTANA

JOB COMPLETION REPORT  
INVESTIGATIONS PROJECTS

State of Montana

Project No. F-7-R-3

Work Plan No. IV

Job No. IV-A

Title of Job: Establishing measures of Abundance of Cutthroat Trout in Ashley Lake.

Abstract:

A total of 395,512 cutthroat trout eggs were taken from 308 fish entering the four spawning traps of Ashley Lake. The number of cutthroat trout planted back into the lake was 203,360 fry, 20,990 3-inch trout and 17,400 4-inch trout for a total of 241,750 fish. Creel census indicated a catch of .07 cutthroat trout and .29 kokanee per fishing hour. There was a slight increase in the number of trout entering the traps over that of the previous years.

Objectives:

At one time the cutthroat trout were abundant in Ashley Lake and little effort was required to catch a limit. Due to faulty management the numbers have dwindled to a dangerous low. This lake is used for spawn taking, and traps are operated on four tributaries. Records of the past years show that few trout were planted back into the lake. The purpose of this project is to determine the relative abundance of trout in this lake that the effects of corrective management may be noted.

Techniques Used:

During the spawn taking operations in April, May and June, a record of the number of trout entering the traps was recorded by the caretakers at the traps. Eggs were taken approximately once each week by personnel of the Somers Fisheries station. All of the trout in the traps at the end of the spawning operations were jaw tagged. Information on length and weight was taken during the tagging operation. Creel census was taken on the opening day and attempted at various times throughout the summer.

Findings:

A description of the lake has been made in Job Completion Reports F-7-R-1 and F-7-R-2, Work Plan IV-A. On April 9, 1953, racks were placed in the spawning traps of the four tributary streams to prevent movement of trout beyond the traps. Traps were installed on May 1 and the first fish captured were in Cottonwood Creek on May 2. Trout captured in Cottonwood Creek and Fish Creek were hauled to the trap in Rand Creek. The traps were operated until June 10, when all of the trout in the traps in Green Mountain Creek and Rand Creek were jaw-tagged. According to records kept by caretakers stationed at the traps, the following is a summary of trout which entered the traps in the four streams:

Cottonwood Creek	27 Males	22 Females	
Fish Creek	2 Males	2 Females	9 sex not determined
Green Mountain Creek	38 Males	45 Females	23 sex not determined
Rand Creek	44 Males	44 Females	52 sex not determined
Total	111 Males	113 Females	84 sex not determined

Records show only 78 suckers entering all traps. A total of 395,512 eggs were taken from trout captured in the traps, for 63 days of trap operation which amounted to 6278 eggs per day. For the season the number of trout captured per day of trap operation was 7.5 fish.

A number of various sized trout were planted in the lake during the year. The following is a list of the cutthroat trout planted:

Fry	203,360
3-inch	20,990
4-inch	17,400
Total	241,750

A total of 218 trout were tagged in 1953. Fourteen trout were captured that were previously tagged, one that was tagged in 1951 and thirteen in 1952. The lengths and weights of these fish at time of tagging and recovery are presented in Table I. One of the fish tagged in 1951 was caught by an angler in 1953 and one fish tagged in 1952 was also captured by an angler in 1953. Eleven of the fish tagged in 1953 were caught by anglers during the summer. There were reports of more trout being caught but the tags were lost by the anglers.

The condition factor (C) of the 231 trout measured averaged 39.5.

Creel census data are available for the opening day of fishing on Ashley Lake; no anglers were contacted during the remainder of the fishing season. A total of 69 anglers were contacted the first day of fishing. In 375 hours of fishing, 28 cutthroat trout and 108 kokanee were caught making a catch of .07 trout and .29 kokanee per hour. The combined catch per hour was .36 fish.

#### Analysis and Recommendations:

Since this job has not been concluded this report is necessarily a job completion report of the past year. The downward trend in the number of female trout entering the traps and the total number of eggs taken has finally stopped. There was a slight increase of both from that of the last year. It is hoped that the year 1952 was the low ebb for the lake (Figure 1). An encouraging observation was the presence of a number of small trout in the traps during the spawning season. This was not observed in the two previous years.

Information on returns of jaw-tagged fish indicate a rapid growth in some cases (Table I) especially when the trout tagged was about 16 inches long. The returns are still too meager to formulate any conclusions on the spawning fish as to their longevity and whether individual trout spawns each year. The returns on all trout caught were from Ashley Lake and none were reported from the drainage below the lake.

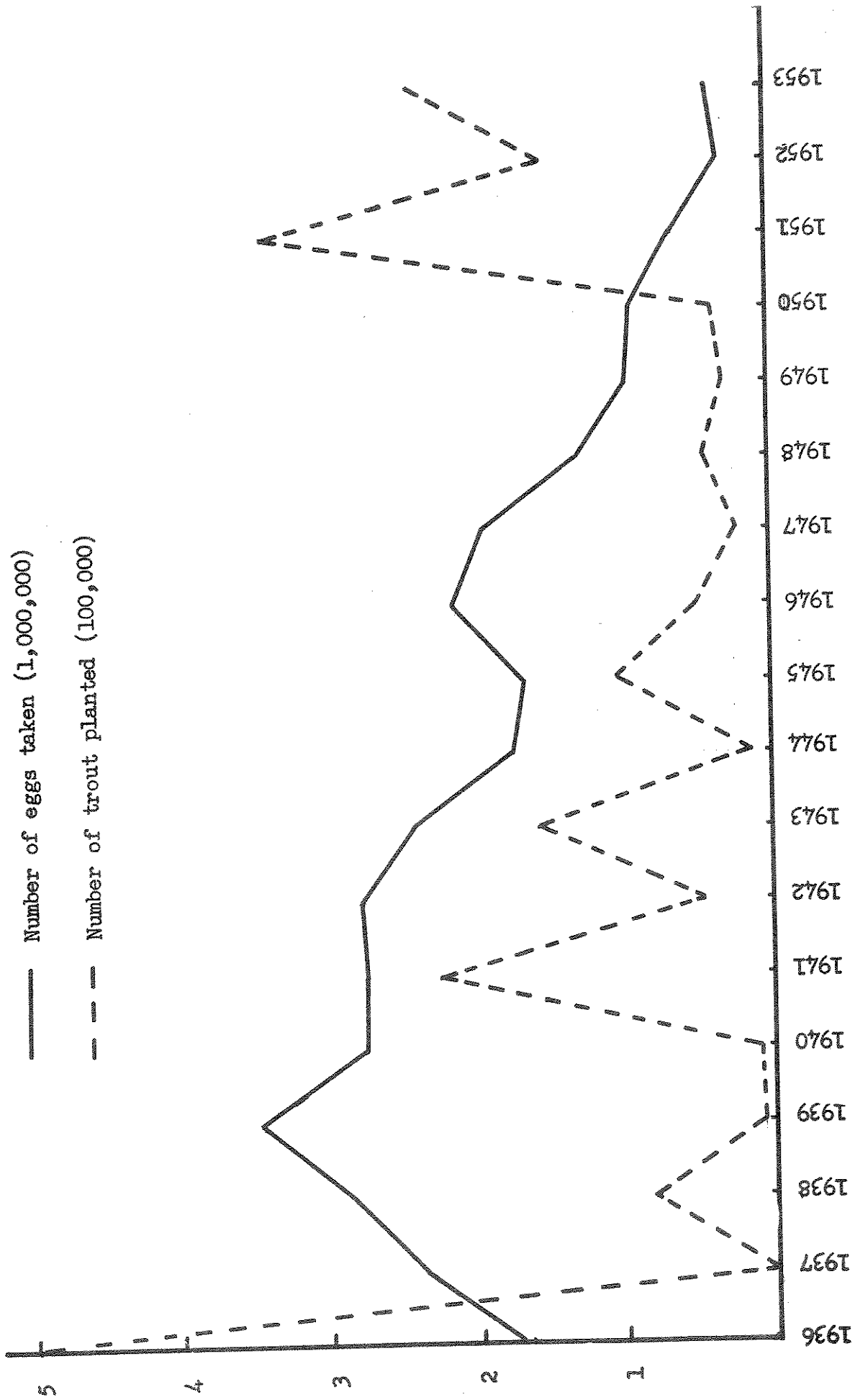


Figure 1. Number of cutthroat trout eggs taken and number of cutthroat trout planted in Ashley Lake from 1936 through 1953.

The plant of trout into the lake still falls short of the recommended 100 fry per acre or a total of 300,000 for the lake.

It is recommended that this project be continued for two more years.

Table I. Lengths and weights of cutthroat trout tagged and recovered in Ashley Lake in the years 1951, 1952 and 1953.

Tag Number	1951		1952		1953	
	Length	Weight	Length	Weight	Length	Weight
50044			18.5*	2.18**	18.9	2.38
50060			18.6	4.94	19.4	3.92
50103			20.1	2.72	21.5	3.14
50106			18.6	2.54	19.2	3.86
50107			19.5	2.40	21.4	3.40
50116			20.5	3.44	21.9	4.14
50119			19.9	3.18	21.4	4.14
50167			17.3	1.72	18.4	2.00
50179			22.0	4.84	21.8	4.48
50195			19.6	3.00	21.5	4.56
50196	15.4	1.44	18.5	2.94		
50198			20.9	3.68	21.8	3.70
50234	16.8	1.75			24.2	7.00
50238			13.8	0.84	21.8	4.00
1017	15.5	1.25	18.9	2.50		

\* Total length in inches.

\*\* Weight in pounds.

#### Summary:

A total of 308 cutthroat trout entered the traps during the 63 days of trap operation, of which 111 were females, 113 males and 84 were unclassified. The number of eggs taken was 395,512. The number of cutthroat trout planted into the lake was 203,360 fry, 20,990 3-inch trout and 17,400 4-inch trout for a total of 241,750. Creel census indicated a catch of .07 trout per hour for the opening day of the fishing season. There was a slight increase in both the number of trout entering the traps and the number of eggs taken over that of the past year.

#### Data and Reports:

The original data and related reports are with the project leader at Kalispell, and with the Fish and Game Department in Helena, Montana.

Prepared by Frank A. Stefanich Approved by \_\_\_\_\_

Date April 19, 1954