

MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION
HELENA, MONTANA

JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT

State of Montana
Project No. F-32-R-4 Name: Helicopter Mountain Lake Survey
Job No. III Title: Mountain Lake Survey - Beartooth Plateau
Period Covered: July 1, 1967 to June 30, 1968

Abstract:

In August 1967, ten mountain lakes were surveyed by helicopter on Lake Plateau of the Absaroka Range in district five. Two lakes contained golden trout populations, and one lake contained rainbow x golden trout. In these two lakes, natural reproduction appeared adequate to support the present fishery. Seven lakes surveyed contained no fish, and all appeared suitable for supporting trout except Cirque Lake which appears too shallow at elevation 8,800 feet to warrant planting.

Recommendations:

Yellowstone cutthroat trout should be planted in Tumble Lake in 1968. Twelve more lakes should be surveyed on Lake Plateau to complete the group. Plants should not be recommended for any of this group until the survey is completed showing species distribution.

Objectives:

The objective is to undertake fisheries surveys on mountain lakes on the Beartooth Plateau in south central Montana which are inaccessible by road. These surveys will serve as the basis for fish management recommendations.

Techniques Used:

A helicopter equipped with floats was used to transport fisheries equipment and workers to the lakes. Maps were constructed and information on tributary streams, shoal areas, weed beds, islands, sounding course and location of experimental gill net set was sketched on each map. Depths were recorded with a Bendix DR - 21 depth recorder, and fish populations were sampled with 125-foot nylon experimental gill nets. Surface to bottom temperatures were recorded with a transistorized resistant thermometer. Survey data for each lake have been entered on standard Montana Fish and Game Department lake and stream survey forms.

Findings:

Ten high mountain lakes were surveyed on Lake Plateau of the Beartooth Mountains, August 2-5, 1967. The elevation of these lakes is 8,150 to 9,600 feet

Table 1. Data on mountain lakes surveyed on Lake Plateau of Absaroka Range in 1967. No fish were taken in these lakes.

Name of Lake	Location	Maximum Depth in Ft	Mean Depth in Ft	Surface Acres	No. of Inlets	No. of Outlets	Elevation in Ft
Cirque Lake	T7S, R13E, Sec 11	15	12	6.8	0	0	8,800
Unnamed Lake	T7S, R13E, Sec 13 & 24	28	16	30.0	0	1	8,600
Unnamed Lake	T7S, R13E, Sec 3	30	20	14.7	0	1	9,250
Unnamed Lake	T7S, R13E, Sec 2 & 3	33	25	12.5	0	1	9,150
Unnamed Lake	T6S, R13E, Sec N 13 & 14	34	20	12.4	0	1	9,400
Unnamed Lake	T6S, R13E, Sec S 13 & 14	48	35	23.7	0	1	9,600
Tumble Lake ¹	T6S, R14E, Sec 6	-	-	28.1	1	1	9,200

¹/ Not sounded

Table 2. Data on mountain lakes surveyed on Lake Plateau of Absaroka Range in 1967. Fish were present in these lakes.

Name of Lake	Location	Maximum Depth in Ft	Mean Depth in Ft	Sur- face Acres	Over- night Net Sets	Catch Per Net	Species	Avg TL (inch)	Avg Wt (lb)	Eleva- tion in Ft
Barrier	T7S, R13E, Sec 1	130	90	42.4	1	21	Rb x Gt ^{1/}	9.0	0.24	8,150
Unnamed	T6S, R13E, Sec 24 & 25	46	25	10.0	1	31	Gt	10.7	0.36	8,750
Lightning ^{2/}	T6S, R13E, Sec 2 & 11	50	-	34.2	1	22	Gt	12.6	0.77	9,150

^{1/}Rb is the abbreviation for rainbow trout, Gt for golden trout.

^{2/}Only partially sounded.

above sea level. Three of ten lakes surveyed contained fish populations. A summary of information collected from these lakes is found in Tables 1 and 2. Standard Montana Fish and Game Department lake survey cards have been prepared and duplicates sent to the Helena office.

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Approved by

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Date: April 26, 1968