Ref ID: 71224

MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION

Job Progress Report

State: Montana

Project No.: F-32-R-10

Job No.: I-b

Covered: July 1, 1973 to June 30, 1974

Name: Helcopter Mountain Lake Survey

Title: Mountain Lake Survey - Anaconda-Pintlar Range (Outside Wilderness Area)

ABSTRACT

Seventeen lakes were surveyed in the non-wilderness portion of the Anaconda-Pintlar Range in western Montana. Fish populations were sampled with experimental gill nets. Of the seventeen lakes sampled, eleven had fish present. Physical characteristics of the lakes and fish species captured are presented. Recommendations are made for planting barren lakes suitable for introductions.

BACKGROUND

Recreational use of our mountain lakes continues to increase as back-packing becomes more popular in mountainous areas of the West. Lakes which have desirable fish populations attract people. Therefore, to effectively manage both people use and the fisheries, it is necessary to have information on the fisheries resources in our mountain lakes. This project will provide updated information of previously surveyed lakes and information on many unsurveyed lakes in western Montana.

OBJECTIVES

The objective of this job is to conduct fisheries surveys on mountain lakes which are inaccessible by road and lie outside the wilderness are boundary of the Anaconda-Pintlar Range on the west side of the divide.

TECHNIQUES

A pontoon equipped helicopter was used to transport fisheries workers and survey equipment to and from the lakes. Lake survey information was recorded on Montana Fish and Game Department lake survey forms. Sketches were made of each lake surveyed. The sketches show shoreline profiles, beds of emergent

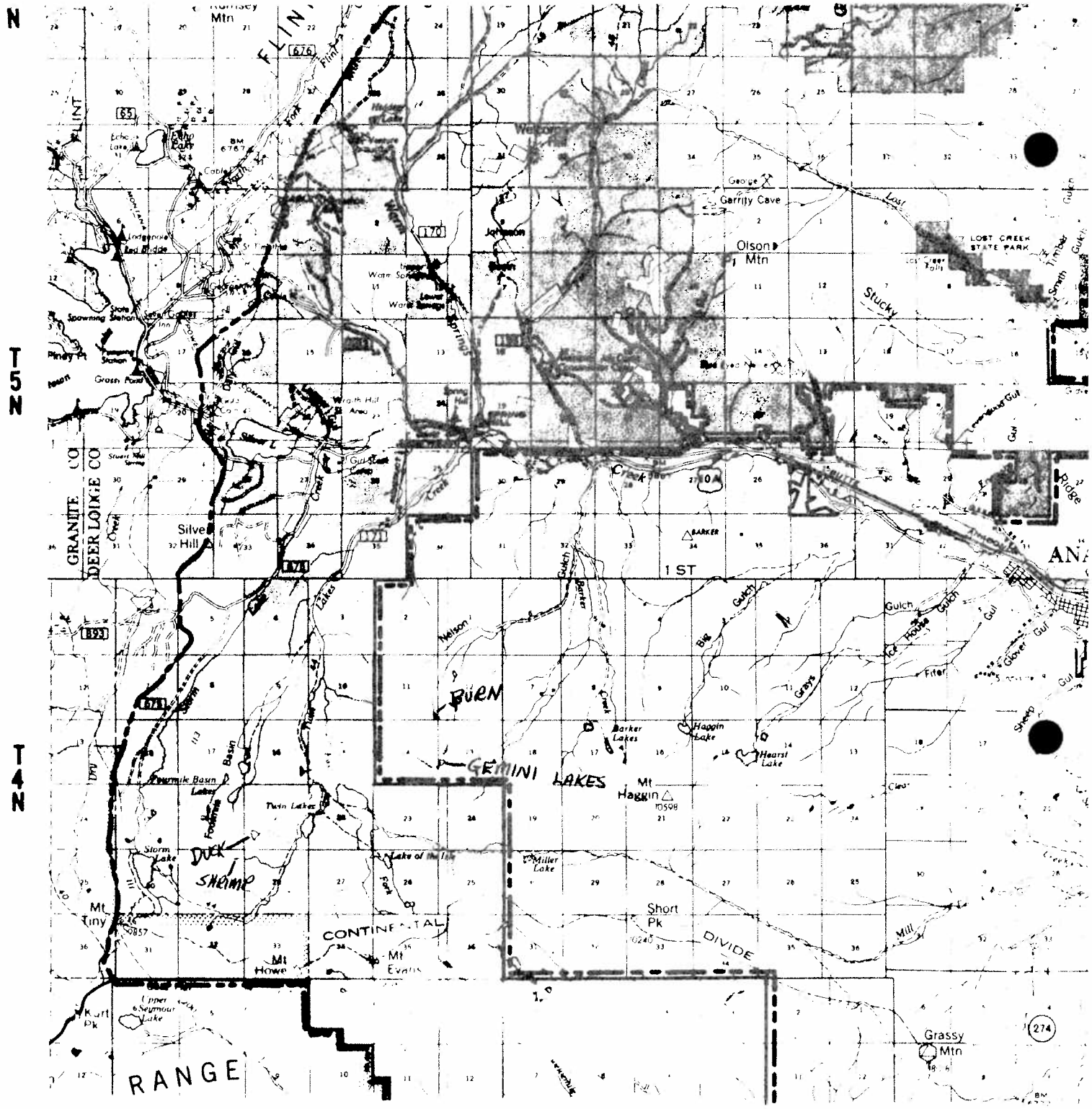

Figure 1. Map showing location of lakes surveyed in the non-wilderness portion of the Anaconda-Pintlar Range near Anaconda in 1973.

Table 1. Survey data collected on mountain lakes in the Upper Clark Fork drainage in 1973

Lake (code Number)	Location T R S	Elevation (Feet)	Surface acres	Maximum Depth (feet)	Fish Species Captured in Overnight Gill Net Set	Size Range (inches)	Average Size (inches)
Barker Lake (Lower) (06-7334-3)	4N 12W 17B	4800	11 2/	± 4	None		
Barker Lake (Upper) (06-7334-3)	4N 12W 17A	8200	8	±35	Rb (2) 1/	12.0-15.9	13.9
Burn (06-7484-03)	4N 13W 11D	8200	4.5	±11	YCt (1)	22.3	22.3
Duck (06-7680-03)	4N 13W 21C	8250	6	±18	None		
Fourmile #3 (06-7866-3)	4N 13W 16C 17D	7950	18	±82	Eb (30) RbXGt (2)	6.3-8.7 8.7-9.0	7.8 8.8
Fourmile #4 (06-7866-3)	4N 13W 20A	8400	16	±61	None		
Fourmile #5 (06-7866-3)	4N 13W 17CD	8150	4.5	±22	None		
Gemini (Lower)(06-7990-03)	4N 13W 13C	8750	1.5	±19	YCt (9)	7.3-11.6	9.8
Gemini (Upper)(06-7990-03)	4N 12W 13,14	8760	1	±15	None		
Haggin (06-8170-3)	4N 12W 16A	8200	13	Not obtained	Rb (9) RbXCt (2) Ct (3)	6.8-12.6 9.0-11.6 11.0-12.1	10.8 10.3 11.5
Hearst Lake (06-8189-3)	4n 12W 15AD	8100	44	Not obtained	Rb (9)	7.0-17.4	10.2
Lake of the Isle (06-8256-3)	4N 13W 26B	8150	12	±29	Ct(7) CtXGt(6)	6.6-16.1 7.5-12.9	11.2 11.0
Mill Creek Lake (06-8721-3)	4N 12W S19	8300	9.6	± 4	No net set - fish observed from air		
Shrimp (06-9180-03)	4N 13W 29A	8875	1.5	±14	None		
Storm Lake (06-9291-3)	4N 13W 30	8200	65	±60	Rb (8) Ct (3)	9.4-14.8 7.8-12/4	12.6 10.0

Table 1. (Cont'd).

Lake (code number)	Location T R S	Elevation (feet)	Surface acres	Maximum Depth (feet)	Fish Species Captured in Overnight Gill Net Set	Size Range (inches)	Average Size (inches)
Lower Twin Lake (06-8588-3)	4N 13W S22	7550	±8	±42	Ct (10)	9.5-13.3	11.4
					DV (6)	9.0-15.9	13.1
					Eb (1)	8.6	8.6
Upper Twin Lake (06-9652-3)	4N 13W 21,22	7600	±30	±41	Ct (8)	7.8-11.9	10.5
					RbXCt (3)	8.5-11.2	10.1
					DV (1)	12.8	12.8

1/ Number captured in parentheses

2/ Approximate surface acres

aquatic vegetation, tributary stream locations and other pertinent information. A Bendix Sonar Depth Finder was used to obtain depths on transects across the lakes. This information was plotted on the sketch maps. Standard 125-foot long experimental (graduated mesh) monofilament gill nets were set overnight to sample fish populations.

Abbreviations for fish species used in this report are:

Rb - rainbow trout
Ct - cutthroat trout of undetermined origin
YCt- Yellowstone cutthroat trout
Gt - Golden trout
DV - Dolly Varden
Eb - Brook trout

FINDINGS

Of the seventeen lakes surveyed, eleven contained fish, four were scheduled for introductions, and two were determined unsuitable for management. A summary of the lakes surveyed showing the location (See Figure 1), size, elevation, depth and fisheries information is presented in Table 1.

Upper Gemini and lower Barker Lake were determined unsuitable for management due to their shallow depth. Lakes recommended for introductions are shown in Table 2. Because only one large Yellowstone cutthroat trout was found, Burn Lake was also recommended to be planted.

Table 2. Lakes recommended for planting in the non-wilderness portion of the Anaconda-Pintlar Range.

Lake (Code)	Location	Species Recommended
Burn (06-7484-03)	4N 13W 11D	Arctic grayling
Duck (06-7680-03)	4N 13W 21C	Westslope cutthroat
Fourmile #4 (06-7866-3)	4N 13W 20A	Westslope cutthroat
Fourmile #5 (06-7866-3)	4N 13W 17CD	Westslope cutthroat
Shrimp (06-9180-03)	4N 13W 29A	Westslope cutthroat

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Date: June 3, 1974

Waters referred to: Lakes listed in Table 1.