

MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION

#6
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#85038

Job Progress Report

State Montana

Project No. F-32-R-9

Name Helicopter Mountain Lake Survey

Job No. I-b

Title Mountain Lake Survey - Flint Creek Range
and Rock Creek Drainage

Period covered: July 1, 1972 to June 30, 1973

ABSTRACT

Seventy-seven mountain lakes were surveyed in the Flint Creek Range and Rock Creek drainage in western Montana. Fish populations were sampled with experimental gill nets. Of 65 lakes surveyed in the Flint Creek Range, 42 contained fish. In the Rock Creek drainage 9 of the 12 lakes surveyed had fish present. Gill net summaries and physical characteristics of the lakes are included in the report.

BACKGROUND

The recreational use of our mountain lakes is continuing to increase as more people are entering the sport of backpacking into the mountainous areas of the West. Hikers and backpackers invariably go to lakes where fisheries resources are available. To inform the public and subsequently to disperse recreational use of these fisheries resources, it is necessary to obtain information on the status of our mountain lakes with respect to the current and potential fisheries management opportunities. This project will provide additional information on many unsurveyed lakes in western Montana.

OBJECTIVES

The objective of the job is to conduct fisheries surveys on mountain lakes which are inaccessible by road and which lie outside wilderness or primitive area boundaries.

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 aquatic vegetation, tributary stream locations and other pertinent information. A Lowrance Fish Locator 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.

Surveys were made on 65 lakes in the Flint Creek Range and 12 lakes in the Rock Creek drainage. Gill nets were set in all lakes except those considered through aerial observation or on-site investigation to be unsuitable for management.

Abbreviations for fish species used in this report are:

Rb - rainbow trout
Ct - cutthroat trout of undetermined origin
WsCt - westslope cutthroat trout
Yct - Yellowstone cutthroat trout
RbxCt - rainbow-cutthroat hybrid
DV - Dolly Varden
Eb - brook trout
LL - brown trout
Wf - mountain whitefish
FSu - longnose sucker

FINDINGS

Flint Creek Range

Of the 65 lakes surveyed in the Flint Creek Range, 42 contained fish, 7 were recommended for introductions, and 16 were observed either from the air or on-site and determined unsuitable for management. A summary of the lakes surveyed showing the location, size, elevation, depth and fisheries information is presented in Table 1.

Shallow lakes determined unsuitable for management are given in Table 2. Lakes not yet surveyed or scheduled for additional surveillance are listed in Table 3. Those lakes currently unsurveyed will be placed on a priority list to insure a complete up-to-date survey in this mountain range.

Figure 1 shows the naming or numbering system used to identify lakes during this survey.

Rock Creek Drainage

Of the 12 lakes surveyed in the Rock Creek drainage, 9 contained fish. A summary of the lakes surveyed showing the locations, size, elevation, maximum depth, and fisheries information is presented in Table 4. These lakes, with the exception of George Lake and the Potato Lakes which remain to be surveyed, are all the lakes found outside the boundaries of the Anaconda-Pintlar Wilderness Area in the Rock Creek drainage.

Table 1. Survey data collected on mountain lakes in the upper Clark Fork drainage in 1972. (Lakes surveyed in previous years are also included)

Lake (code number)	Location		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in		Size range (inches)	Avg. size (inches)
	T	R S				overnight gill net set (No. in parentheses)			
Albicaulis (06-7296)	7N	12W 23, 26	7700	16.6	+57	Rbx Ct (8) Rb (12)	8.2-11.7 6.0- 9.4	9.7 7.8	
Alpine (06-7315)	7N	12W 25	7900	22.5	+29	Rb (1)	14.7	14.7	
Altoona (06-7324)	8N	12W 34	7620	1.8	+16	Y Ct (8)	8.3-12.7	10.0	
Big Thornton (06-9367)	6N 6N	12W 24 12W 19	7450	30.6	+25	Rb (17)	5.7-11.6	9.4	
Big Pozega ^{3/} (06-9006)	6N	12W 11	7520	52	+104	Rb (26) ^{5/} Ct (25) Rbx Ct (53)	6.8-14.0 7.0-11.7 5.1-22.0	10.2 10.3 9.5	
Bohn (06-7410)	7N	11W 34	7100	29.9	+15	Eb (1) Wsc Ct (1)	16.3 11.0	16.3 11.0	
Bowman #2 (06-7457) ^{1/}	7N	11W 31	8500(est)	10.0(est)	+25	Rb (11) Ct (26)	8.6-13.1 8.1-12.0	10.2 10.0	
Caruthers (06-7524)	7N	11W 20, 29	7925	23.5	+34	Wsc Ct (22) ^{4/}	5.5- 8.9	7.4	
Copper Creek #1 (06-7562)	7N	13W 25, A	7475	14.3	+31	Eb (42)	6.5- 9.9	7.9	
Copper Creek #2	7N	13W 24, D	7400	3.7	+18	Eb (55)	6.1- 8.7	7.5	
Copper Creek #3	7N	13W 24, A	7080	12	+35	Eb (10) Wsc Ct (7) Rb (1) Rbx Ct (24)	6.2-10.0 6.7- 7.5 6.9 6.1- 9.8	8.1 7.2 9.6 7.5	

Table 1. (cont'd)

Lake (code number)	Location		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in overnight gill net set (No. in parentheses)		Size range (inches)	Avg. size (inches)
	T	R S							
Dead (06-7619)	7N	12W 26	7650	8.3	+27	Yct (12)		14.3-16.8	15.8
Dolus #1 (06-7638)	8N	11W 29, B C	7800	3.6	+62	Wsc (9)		6.7-11.0	9.2
Dolus #3	8N	11W 29, A D	7350	4.6	+13	Rbxct (11) LL (2)		7.5-10.7 14.3-15.4	9.0 14.9
Dolus #4	8N	11W 28	6560	14.3	+82	LL (4) Rbxct (3)		9.5-13.5 9.0-10.5	13.0 9.9
Dora Thorn (06-7676)	7N	12W 19	7360	6.1	+20	Ct (22)		6.7-16.8	11.1
Elbow	7N	11W 18	7550	12.0	+10	Rb (9)		5.7-12.8	10.1
Fisher (06-7809)	6N	12W 3, 4	7350	30.6	+36	Yct (12)		7.4-11.3	10.1
Fred Burr (06-7885)	6N 13W 1 6N 12W 6		7475	161	+88	Rbxct (3) Rb (1)		13.2-14.3 13.7	13.2 13.7
Goat Lake (06-8037)	7N	11W 30	8075	12.0	+18	Wsc (19) Rbxct (6)		7.3-11.7 7.5-12.6	8.8 9.1
Gold Creek Lakes (06-8094) ^{2/}	8N	12W 14, D D	7300	30-35	+30	FSu (not netted) Rb			
Green (04-6600) ^{3/}	6N	12W 10	7680	13	+34	Rb (15) ^{5/} Ct (6) Rbxct (15)		6.3-17.6 8.9-17.1 7.4-17.2	12.2 12.1 11.4
Hunters (06-8216)	6N	12W 13	7740	8.7	9	- (0)		-	-
Little Pozega	6N	12W 14	7580	12.0	+17	Rb (34)		5.8-14.8	8.9

Table 1. (cont'd)

Lake (code number)	Location T R S		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in		
						overnight gill net set (No. in parentheses)	Size range (inches)	Avg. size (inches)
Little Racetrack (06-8174)	6N	12W	5	7480	23	Rb (13) RbxGt (3)	9.9-17.4 7.1-8.2	12.1 7.6
Little Thornton	6N	11W	19	7560	42	Rb (2)	16.1-16.2	16.2
Lower Boulder	7N	12W	20, A	7360	+50	Yct (6)	17.1-22.0	20.0
Lower Elliott (06-8540)	7N	11W	29	7900	+83	Wsgt (30)	6.1-9.1	7.9
Martin (06-8607)	7N	11W	16, 17, 20, 21	8700	+50	Ct (2)	7.1-13.2	10.2
Meadow #1 (06-8683)	6N	12W	2, D	7500	+50	RbxGt (2)	13.4-14.3	13.9
Meadow #2 (06-8684)	6N	12W	2, C	7625	+38	Rb (7) ¹⁴ / ₁ RbxGt (1)	9.8-14.0 11.3	11.3 11.3
Meadow #3 (06-8685)	6N	12W	3	7725	+25	Rb (2)	9.7-12.3	11.0
Meadow #4 (06-8686)	6N	12W	10, AA	7800	+20	- (0)	-	-
Meadow #5 (06-8687)	6N	12W	10, AB	7800	+12	Rb (4)	10.0-13.6	12.4
Meadow #1	7N	12W	1, B,C,D	7900	+25	- (0)	-	-
Meadow #4 (06-8664)	8N	12W	36, C	7200	+19	RbxGt (28)	6.8-14.0	9.8
Mtn. Ben (06-8778)	7N	11W	30	8350	+58	RbxGt (12) ¹⁴ / ₁	7.0-15.3	10.2
Mud Lake (06-8854)	7N	12W	28	7440	+17	Rb (4)	16.0-17.8	16.8

Table 1. (cont'd)

Lake (code number)	Location		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in overnight gill net set (No. in parentheses)		Size range (inches)	Avg. size (inches)
	T	R S							
Powell (06-8987)	7N	10W 18	6250	8.5	40	LL (6) FSu (19)	11.3-15.3 7.0-12.9	13.5	13.5
Racetrack (06-9044)	7N	12W 32	7425	35	82	Eb (7)	11.0-14.0	12.3	12.3
Rainbow (06-9063) ^{2/}	8N	12W 14, 5, A	7300	20	35	Rb (1)	15.7	15.7	15.7
Rock Creek (06-9082)	8N	11W 23, 26, 27	5800	177	110	Rb (2) ^{5/} Eb (3) Wf (41) FSu (294)	11.8-12.4 6.8-7.2 7.3-12.4 6.5-14.0	12.1 7.5 8.9 -	12.1
Ryan (06-9120)	7N	11W 33	7920	5.5	10	Eb (5)	15.6-18.1	17.1	17.1
Sidney (06-9185)	7N	12W 19	7450	14.7	53	Rb (1)	13.0	13.0	13.0
Stewart (06-9253) ^{3/}	7N	13W 16	-	-	36	Rb (13) ^{6/}	9.7-11.2	10.5	10.5
Thompson (06-8056)	7N	12W 1	7950	13.8	48	Eb (55)	6.3-9.1	7.9	7.9
Trask #2	7N	12W 13 A, D	8040	3.7	35	- (0)	-	-	-
Trask #3	7N	11W 13 B	8080	10.1	20	- (0)	-	-	-
Trask #4	7N	11W 18 C, B	7880	6.4	14	Eb (21)	7.8-10.1	9.3	9.3
Trask #5	7N	11W 18 D, C	7600	14.7	17	Eb (37)	6.6-9.3	8.4	8.4
Trask #6 (06-8208)	7N	11W 18 D, D	7525	23	74	Eb (51)	6.7-7.9	7.4	7.4

Table 1. (cont'd)

Lake (code number)	Location		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in		
						overnight gill net set (No. in parentheses)	Size range (inches)	Avg. size (inches)
Trask #7	7N	11W 18	7550	6.2	+26	Eb (46)	6.5-11.6	8.2
Twin Peaks (06-9465)	6N	13W 2	7800	7.5	+33	- (0)	-	-
Upper Elliot (06-8797)	7N	11W 21	8200	73.0	+55	WsCt (31)	6.2-8.9	7.6
Upper Swamp Gulch (06-9640)	7N	13W 24 C	7550	3.7	+12	- (0)	-	-

1/Surveyed in 1962

2/Surveyed in 1968

3/Surveyed in 1971

4/Two overnight sets5/Three overnight nets set6/Two overnight nets set

Table 2. Mountain lakes considered marginal or unsuitable for fish management in the Flint Creek Range.

Lake	Location			Surface acres
	T	R	S	
Copper Creek #4	7N	12W	18	4.0
Dolus #2	8N	11W	29 A, B	1.8
Doney	8N	11W	14, 15	27.6
Goat Mtn. #1	7N	12W	12 B, B	6.5
Goat Mtn. #2	7N	12W	12 C, B	8.0
Little Goat	7N	11W	19, 20, 29, 30	2.8
Lower Swamp Gulch	7N	13W	24 B	1.4
Meadow #2 (Rock Cr.)	8N	12W	35 D, A	7.6
Meadow #3 (Rock Cr.)	7N	12W	3	5.5
Tolean	8N	12W	25	8.0
Trask #1	7N	12W	13	3.5
Unnamed	7N	11W	29 D, B	+4.0
Unnamed	8N	12W	27	+4.0
Unnamed	7N	11W	10	+4.0

Table 3. Lakes not surveyed or scheduled for additional surveillance in the Flint Creek Range.

Lake	Location			Surface acres
	T	R	S	
Bowman #1	7N	11W	31 D	-
Bowman #3	7N	11W	31 A, C	-
Hidden	6N	13W	26	-
Goldberg Res.	9N	12W	26	-

Table 4

Lake (c)
Abundant
Emerline
Fish (c)
Fuse (c)
George
Green (c)
Kaiser
Little
Medici
Moose
Mud (c)
Stony
Whetst

Table 4. Survey data collected on mountain lakes in the Rock Creek drainage in 1972.

Lake (code number)	Location		Elevation (feet)	Surface acres	Max. depth (feet)	Fish species captured in overnight gill net set (No. in parentheses)		Size range (inches)	Avg. size (inches)
	T	R S							
Abundance	4N	18W 1	7300	3.6	+4	Ct	(41)	6.0- 9.5	10.2
Emerine (06-7795)	5N	16W 8	7800	2.5	+25	-	(0)	-	-
Fish (06-7805)	4N	17W 14	6800	15.1	+44	-	(0)	-	-
Fuse (06-7904)	6N	17W 27, B	7500	13.2	+37	Gr	(55)	6.8-12.6	9.3
George (06-7942)	4N	14W 14		5.1		Not surveyed			
Green Canyon (06-8151)	4N	16W 31	7500	8.0	+51	Rb	(3)	17.0-23.5	19.6
Kaiser (06-8360)	4N	15W 18	5900	11.7	+22	DV	(1)	15.4	15.4
						Ct	(3)	9.8-10.2	10.1
						Rb	(1)	9.3	9.3
						FSu	(58)	7.5-14.2	-
						Eb observed in outlet			
Little Fish (06-8436)	4N	17W 23, B	6900	8.9	+31	Ct	(48)	6.2-10.5	8.2
Medicine (06-8702)	4N	17W 2	6700	71.8	+31	Ct	(22)	5.9-13.5	10.1
Moose (06-8759)	4N	16W 36	6000	21.1	+26	DV	(6)	7.3-32.0	18.0
						Eb	(1)	6.0	6.0
						FSu	(78)	6.0-11.0	-
Mud (06-8873)	6N	17W 32	7200	4.4	+34	Ct	(6)	6.3- 7.1	6.6
						DV	(2)	7.3-10.8	9.1
Stony (06-9272)	6N	17W 16	7200	11.5	+24	Ct	(9)	6.3-12.4	9.8
Whetstone (06-9728)	4N	16W 29	7800	14.5	+52	-	(0)	-	-

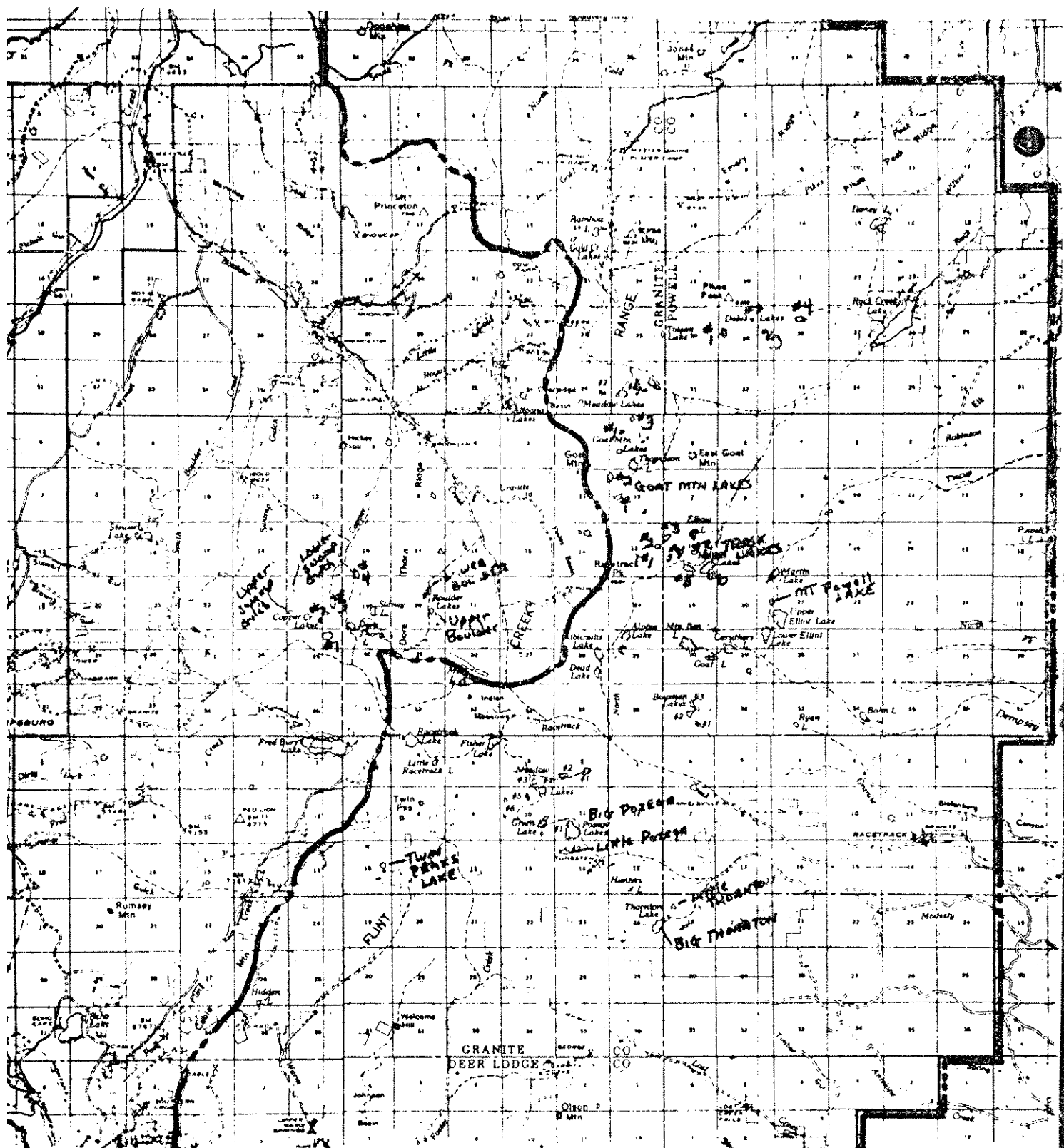


Figure 1. Map showing naming system for mountain lakes during 1972 lake surveys in the Flint Creek Range.

Several small, shallow, unnamed lakes were observed from the air but were not suitable for management.

RECOMMENDATIONS

Flint Creek Range

Lake

Bohn - marginal for spawning - plant every third year with WsCt

Hunters - shallow - introduce Arctic grayling

Meadow #1 (Rock Cr.) - introduce Arctic grayling

Meadow #4 (Racetrack Cr.) - plant every third year with WsCt

Mud - plant every third year with WsCt

Ryan - plant every third year with WsCt

Trask #2 - plant every third year with WsCt

Trask #3 - plant every third year with WsCt

Twin Peaks - introduce Arctic grayling

Upper Swamp Gulch - introduce WsCt

Rock Creek Drainage

Lake

Emerine - plant every third year with WsCt

Fish - plant every third year with WsCt

Whetstone - plant every third year with WsCt

Prepared by Ron Marcoux

Date September 22, 1972

Waters referred to: Lakes listed in Tables 1 - 4.