

JOB COMPLETION REPORT
INVESTIGATIONS PROJECTSState of MontanaProject No. F-7-R-7Name Northwestern Montana Fishery StudyJob No. IVTitle Survey of Cutthroat Trout Fishery
in the Flathead River and Tributaries
Above Flathead LakePeriod Covered May 1, 1957 to April 30, 1958

Abstract:

Main emphasis was directed toward a study of the Middle Fork of the Flathead River. This was due to the anticipated construction of Spruce Park Dam. A two-way trap was constructed on the river just above the mouth of Bear Creek. A total of 209 Dolly Varden trout were tagged. They were captured by crews at the trap through sampling streams with the electric shocker method and by fishing while floating the river. Nine fish were recovered, of which four were caught in Flathead Lake. These four fish traveled from 96 to 117 miles. A total of 38 cutthroat trout were tagged and two were recovered within 600 yards of place of tagging.

Population studies indicated that the river above the mouth of Bear Creek contained only native species: Dolly Varden trout, cutthroat trout and mountain whitefish.

Objectives:

The Flathead River and tributary streams above Flathead Lake have provided in the past an extensive fishery on cutthroat trout. This has declined until at present it is almost non-existent. However, it was found in past years that there is a fairly good run of Dolly Varden trout into some of the smaller tributaries of the North Fork River. During the past year, very little information was obtained on the cutthroat trout due to lack of time and equipment. The objectives of this investigation are to determine the extent of cutthroat spawning area, time and distance of movement, nature and time of recruitment, to the lake, and to develop management measures so that a future fishery can be assured in this area. As an incidental objective, the same information will be obtained on Dolly Varden trout; however, emphasis will be placed on the cutthroat trout.

With the proposal of the Bureau of Reclamation's Spruce Park Dam on the Middle Fork of the Flathead River, the emphasis of the study was directed toward this area this past year.

Techniques Used: Proper sized boats were not available again, but even if they were, we were short of gear. Material for various kinds of traps were purchased but no traps were made. At the present time, a pirate trap of $\frac{1}{4}$ -inch mesh is being constructed and it is hoped that it will be in operation this spring. Another pirate trap of $\frac{1}{2}$ -inch mesh is almost completed.

A fish barrier of 3/4-inch grating was installed in the Middle Fork of the Flathead River and operated for three and one-half months. This weir was located about 100 yards above the mouth of Bear Creek and was constructed by wiring steel grates to metal posts driven into the stream bed. Both an upstream and downstream trap were installed so that movements in either direction could be noted. The upstream trap was completed July 9, 1957, and trout were in it the following morning. Each individual trout was tagged, sexed, measured and weighed and placed either above or below the barrier, depending upon which trap it was caught in. The trap was washed out on October 10.

Findings:

It was found that the water was too high to install a fish barrier until the first part of July, and even then there was a great deal of difficulty in getting it installed. It was also realized that a large majority of the migratory fish had already moved upstream. Most of the fish entering the traps were Dolly Varden trout and some unusual observations were made. A concentration of 52 Dolly Varden trout were observed below the trap on July 20. These fish apparently would enter the upstream trap at night and move out when daylight would appear. These fish were caught in the next few days at night in the trap. A total of 209 Dolly Varden and 38 cutthroat trout were tagged. These fish were tagged at the trap and by a Fish and Wildlife Service crew that surveyed the Middle Fork River above the trap. (Table I). Above the trap they were captured.

Table I

The number of trout tagged in the Middle Fork of the Flathead River in 1956 and 1957.

<u>Species</u>	<u>1956</u>	<u>1957</u>
Dolly Varden	4	209
Cutthroat	2	38

By members sampling the tributary streams with the electric shocking device and by fishing while floating the river, starting at Shaffer Meadows, of the 213 Dolly Varden trout tagged in 1956 and 1957, 10 have been recovered. They were recaptured from Spruce Park to Flathead Lake (Table II).

There is no question that Dolly Varden trout from Flathead Lake migrate up the Middle Fork River to spawn. Of the 209 trout tagged in 1957, 30 were later found dead either on the trap racks or in the stream above, and one tag was obtained from a sportsman without any information. One fish recaptured was tagged going upstream, a few days later was caught in the downstream trap.

Subtracting the mortalities, there were available for recapture in Flathead Lake and the Middle Fork River 178 fish tagged in 1957, of which 9 were caught. This is a return of about five percent, which is a good return. One Dolly Varden tagged in 1956 was caught the same year. It is reported here as it was not included in last year's report.

Table II

Recovery of Dolly Varden Trout Tagged in the Middle Fork of the Flathead River
in 1957
From Flathead Lake and Tributaries

Tag No.	Date Tagged	Location	Sex	Length: Wt.	Date Caught	Location	Length: Wt.	Distance from Place Tagged
F7-74	7-17-'57	Bear Creek	F	25.0 : 6.0	7-28-'57	Mouth of Paola Cr.	Unk	Unk : 9 mi. downstream
F7-82	9-29-'57	Bear Creek	M	22.0 : 6.7	10-6-'57	Spruce Park	Unk	Unk : 6 mi. upstream
F7-88	7-30-'57	Bear Creek	F	21.0 : 4.5	8-2-'57	Mouth of Java Cr.	Unk	Unk : 1 mi. downstream
F7-298	9-13-'57	Bear Creek	F	26.1 : 6.5	2-22-'58	Flathead Lake	Unk	Unk : 8.0 : 103 mi. downstream
F7-302	7-15-'57	Vinegar Creek	F	27.0 : 10.3	7-25-'57	Below Bear Creek	28.0	Unk : 9 mi. downstream
F7-345	9-17-'57	Bear Creek	M	23.5 : 3.0	1-13-'58	Flathead Lake	24.0	Unk : 4.0 : 96 mi. downstream
F7-351	9-26-'57	Bear Creek	M	27.6 : 7.0	3-1-'58	Flathead Lake	Unk.	Unk : 9.0 : 108 mi. downstream
50666	8-5-'57	Bear Creek	M	19.2 : 3.3	9-8-'57	Mouth Kootenai Creek	Unk	Unk : 29 mi. downstream
50900	8-15-'57	Granite Creek	M	21.0 : 2.7	2-15-'58	Flathead Lake	Unk	Unk : 117 mi. downstream (released)
50613	7-21-'56	Granite Creek	?	Unk : 3.0	7-28-'56	Three Forks	Unk	Unk : 4.0? : 5 mi. upstream

A total of 38 cutthroat trout were tagged in 1957. One fish was caught 600 yards below the trap and another was caught in the vicinity of the trap. The cutthroat trout marked ranged from 7 to 16.5 inches in length.

Several streams were sampled by the electric shock method above Spruce Park by workers from the Fish & Wildlife Service. The data is included here so the 1957 information on the Middle Fork Drainage will be more complete.

Table III

Number and Kinds of Fish Captured in Some Streams in the
Middle Fork Drainage Above Spruce Park

Stream	Number		
	: Dolly Varden :	Cutthroat :	Mountain Whitefish
Granite Creek			
Section A	: 13	: 0	: 1
Section B	: 13	: 0	: 0
Section C	: 10	: 0	: 3
Section D	: 9	: 0	: 0
Long Creek	: 16	: 6	: 1
Twenty-five Mile Creek	: 5	: 0	: 0

Stations sampled were approximately 150 feet long. The stations sampled in Granite Creek were scattered over an area of about seven miles.

A station in Bear Creek was sampled and 7 Dolly Varden, 4 eastern brook and 2 mountain whitefish were captured.

The fish trap was washed out on October 10, caused by a blocking of the racks from leaves of the deciduous trees.

Recommendations: It is recommended that efforts be made toward the original objective this coming year and some effort be made to get information on cutthroat trout. With the equipment in the process of being constructed, it is hoped that some of the objectives will be realized.

The fishing season, starting on June 15 on this river to allow sufficient time for cutthroat trout spawning purposes, is beginning to be felt in the lower reaches of the river and in Flathead Lake as there is an increase in catch of this species.

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Date April 23, 1958

