

NB: 336464

## FLATHEAD RIVER BASIN FISHERIES SURVEY

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### Objectives

The objectives were (1) to identify streams in the North Fork Flathead River drainage that are used for spawning by adult migrant fish populations and for rearing of young, and (2) to determine whether suckers (*Catostomus* spp.) spawning in lower Logging and Quartz creeks are from the Flathead River system or from lakes within these two drainages.

### Methods

Field work done in Glacier National Park during 1978 consisted of electrofishing, fish trapping, hook-and-line sampling, and a survey of westslope cutthroat trout (*Salmo clarki*) redds. Downstream and upstream wire mesh traps were placed in Starvation, Kishenehn, and Camas creeks. Downstream traps were placed in Ford and Anaconda creeks. All traps were placed within 100 m of the mouths of the streams. In addition, maximum-minimum thermometers were placed at the trap sites in Kishenehn, Ford, Anaconda, and Camas creeks to record daily temperatures.

### Results and Discussion

Trapping results are listed in Table 1. High water resulting from heavy rains reduced trapping efficiency throughout the season.

Electrofishing was done in the section of Starvation Creek immediately above the downstream trap to remove a school of mountain whitefish (*Prosopium williamsoni*) from above the trap site and place them below the trap site, as it was apparent that they were trying to move downstream. This was done to prevent the mortality that results when large numbers of whitefish move into a trap. Results of the electrofishing were: 149 mountain whitefish (18-36 cm in length), 4 cutthroat trout (10-13 cm), and 2 mature Dolly Varden (57 cm and 74 cm) (*Salvelinus malma*).

Electrofishing was also conducted on Kishenehn Creek on 4-5 October, beginning about 0.4 km north of the Montana-British

Table 1. Results of fish trapping in streams tributary to the North Fork Flathead River, Glacier National Park, 1978.

Location	Species	Numbers caught	Length (cm)
<u>Starvation Creek</u>			
Downstream trap (12 July - 31 Aug.)	Mountain whitefish	60	10-36
	Cutthroat trout	38	10-24
	Dolly Varden	41	10-37
	Lake trout ( <i>Salvelinus namaycush</i> )	1	28
Upstream trap (25 July - 31 Aug.)	Mountain whitefish	14	18-25
	Dolly Varden	15	46-76
	Arctic grayling ( <i>Thymallus arcticus</i> )	1	22
<u>Kishenehn Creek</u>			
Downstream trap (29 July - 31 Aug.)	Mountain whitefish	12	25-36
	Cutthroat trout	15	18-23
Upstream trap (27 July - 31 Aug.)	Mountain whitefish	99	15-33
	Cutthroat trout	19	13-20
	Dolly Varden	9	56-71
<u>Ford Creek</u>			
Downstream trap (12 July - 31 Aug.)	Mountain whitefish	2	24-28
	Cutthroat trout	3	15-20
<u>Anaconda Creek</u>			
Downstream trap (1 Aug. - 21 Aug.)	Fine-scale sucker	2	12-15
	Mountain whitefish	2	6-13
	Cutthroat trout	4	13-16
	Dolly Varden	3	15-18
<u>Camas Creek</u>			
Downstream trap (2 Aug. - 23 Aug.)	Fine-scale sucker	1	12
	Mountain whitefish	72	13-36
	Cutthroat trout	24	10-21
	Dolly Varden	1	18
Upstream trap	Mountain whitefish	17	18-30
	Squawfish ( <i>Ptychocheilus</i> sp.)	1	39
	Cutthroat trout	4	10-20

Columbia border. All of the stream in British Columbia and about one-third of the stream in Glacier were sampled. Results of the shocking were: 25 mountain whitefish (5-16 cm), 35 cutthroat trout (5-29 cm), and 59 Dolly Varden (5-20 cm). The 29-cm cutthroat was tagged. No adult Dolly Varden were observed, and only 2 Dolly Varden redds were found in Kishenehn Creek.

Hook-and-line sampling and a general habitat survey were conducted on Spruce Creek on 28 July. About 4 km of the creek were sampled directly above its mouth. Approximately 20 cutthroat trout were caught; all were 13-18 cm in length. All were caught in the upper part of the surveyed section. Four suckers and possibly some fry of unidentified species were observed about 100 m above the mouth of the stream. The lower section of Spruce Creek appears to have poor trout habitat because of shallow water, high silt content, and inadequate cover, but the habitat improves further upstream, where the velocity increases and more pools and cover exist for the fish. Gravel size appears good for cutthroat spawning in this upper section.

A survey of cutthroat trout redds was conducted on Akokala Creek in mid-June. A 4-person crew hiked into the Teepee Flats area and walked downstream to the mouth. Only 1 possible cutthroat redd was found, about 100 m below Teepee Flats. No fish were observed during the survey. Observations of fish and redds were hindered because of high water and turbidity.

Scale samples and length measurements were taken on Dolly Varden and cutthroat trout caught in the traps or shocked. The scales are presently being analyzed for growth and age.

#### Plans For 1979

Field work will continue.

