

MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PERFORMANCE REPORTSTATE: MontanaPROJECT TITLE: Flathead Lake Fisheries
InvestigationsPROJECT NO: F-33-R-14JOB NO: I-bJOB TITLE: Measure annual trends in re-
cruitment & migration of
kokanee populations & identify
major factors affecting trendsPERIOD COVERED: July 1, 1979 to June 30, 1980

OBJECTIVES

It shall be the objective of this job to determine the relative abundance of kokanee, and to identify the environmental factors affecting population changes.

ACCOMPLISHMENTS

All the procedures outlined for the present segment of this job were accomplished. Population indices for kokanee 10 inches and larger were established for the 1979-80 season. These indices were established by reviewing magnetic tapes collected during the months of July, August and September. Indices for smaller juvenile kokanee were made from tapes collected in October and November. A mid-water trawl was used in conjunction with acoustical surveys to verify fish species and sizes recorded by the hydro-acoustic equipment.

The fish counts resulting from our tape review technique, the direct count on the oscilloscope, and those made by newly developed computer count programs at the University of Washington were found to be comparable.

Fry emigrating from upper river spawning sites were monitored in the Flathead River near Kalispell. The "gulper type" or paddle wheel fry samples affixed on a pontoon barge was tested but failed as an effective method of collecting adequate numbers of fry in the debris laden Flathead River. Fry were monitored using two, one meter diameter, drift nets towed behind a 20 foot jet boat. Towing speed near the river velocity (maximum of 3.0 meter/sec) was maintained for sample periods from five to 15 minutes.

Age composition of mature salmon were calculated from otolith bones collected on nine major spawning sites. The sites represented both river and lakeshore spawning areas. Age analysis was also made on immature salmon using both scales and otoliths. Samples for this analysis were obtained by gill netting, mid-water trawling and creel census.

The findings of this work is on file at the Regional Office and will

be incorporated into the final report.

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Waters Referred to:

Date: June 17, 1981

Flathead Lake	07-6400-03
Flathead River Sec. 02	07-1560-01