MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION

JOB COMPLETION REPORT
RESEARCH PROJECT SEGMENT

State of Montana

Project No. F-34-R-1 Name Reservoir Investigations

Job No. III Title Libby Reservoir

Period Covered: March 1, 1967 - June 30, 1967

ABSTRACT:

This report covers work done under this project and its predecessor, state project 2262. Preliminary stream surveys were started on 11 streams flowing into Libby Reservoir. Surveys were completed on six streams of which only two were judged to have some spawning potential for Libby Reservoir. A report on these streams including mitigation measures was submitted to the Bureau of Sport Fisheries and Wildlife, River Basins Branch, Portland, Oregon. Development work was started on a D. C. boat electrofishing system. Several field inspections of railroad relocation construction in the Fisher River-Wolf Creek drainage were made with Corps of Engineers and Bureau of Sport Fisheries and Wildlife personnel.

RECOMMENDATIONS:

No recommendations are included here except to follow plans and job description submitted for Libby Reservoir under project F-34-R-2.

OBJECTIVES:

The Montana Fish and Game Department has asked the Corps of Engineers for certain mitigative measures on the Libby Reservoir project to compensate in part for fishery losses from construction activities and through inundation of the Kootenai River. The objectives of this job are to prepare detailed reports of possible mitigative measures for Libby Reservoir and to keep fishery and habitat losses to a minimum in reservoir construction activities.

TECHNIQUES:

Field inspections were made on construction sites with Corps of Engineers and River Basins personnel of the Bureau of Sport Fisheries and Wildlife to inform the construction agency of methods to minimize fishery losses associated with construction of the reservoir and allied features. Preliminary stream surveys were made or started on streams tributary to Libby Reservoir. These surveys were aimed toward finding streams suitable to support game fish spawning populations from the reservoir. Each of the streams was walked from source to mouth, barriers, physical features such as flow characteristics, bank conditions, silt content of gravel beds, and

abundance of suitable spawning gravel were noted. Estimates were made of each stream's potential to support spawning fish and serve as rearing areas. Sampling by electrofishing gear was carried out to determine species composition and relative population densities.

FINDINGS:

Surveys were started on 11 streams flowing into Libby Reservoir and were completed on six streams. Two streams, Five Mile and Young Creeks, were found suitable for special mitigation measures. A report, "Mitigation for Libby Reservoir, Development of Tributary Streams", has been written and submitted to River Basins Branch, Bureau of Sport Fisheries and Wildlife, Portland, Oregon concerning these two creeks. The report sets forth findings of the stream survey, methods of altering the streams to support spawning population of reservoir game fish, and estimates of man-days of use to be supplied by these two streams.

Several field inspections were held with the River Basins Branch personnel and the Corps of Engineers on the Fisher River-Wolf Creek railroad construction. This project has been very poorly designed from the fishery standpoint. Suggestions were made to the construction agency on how to reduce loss of stream habitat. It appears that some of these suggestions will be followed, particularly those dealing with limiting the initial removal of stream bank vegetation, re-introduction of such bank vegetation, and placement of spoil banks.

A boom electrode was constructed for a boat mounted electrofishing system. Washington Water Power Company manufactured a transformer to change an input of 110 volts a.c. to an output of 0-500 volts d.c. Field tests were started on the system. It was found that the output would have to be fused to at least 1.0 amp and that an ammeter would have to be added to the control panel in addition to the voltmeter. The transformer was returned to Washington Water Power Company for these changes.

Additional field testing of this equipment is scheduled for summer 1967.

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Date June 12, 1967