MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION

JOB PROGRESS REPORT
RESEARCH PROJECT SEGMENT

State Montana

Cooperators Washington Power Company

Project F-34-R-5 Title Reservoir Investigations

Job No. I-a Title Noxon Rapids-Cabinet Gorge Reservoirs

Period Covered July 1, 1970 to June 30, 1971

ABSTRACT

An upstream trap was fished in Prospect Creek from October 22 through November 19, 1970 and one large female brown trout (Salmo trutta) was captured. Kokanee fry (Oncorhynchus nerka) were planted in the Clark Fork River about four miles upstream from Noxon Rapids Reservoir and 420 burbot (Lota lota) were transplanted from Clark Canyon Reservoir into the upper end of Noxon Rapids Reservoir.

BACKGROUND

Noxon Rapids and Cabinet Gorge Reservoirs are "run-of-the-river" hydroelectric impoundments owned and operated by Washington Water Power Company. The Company and Montana Fish and Game Department have cooperated in fishery studies on the two impoundments since 1956. Extensive planting of the two reservoirs with rainbow trout (Salmo gairdneri) failed to provide a sustained fishery probably because of downstream movement of the planted fish. Brown trout fry reared in an incubation channel have not increased the numbers of this species appreciably in Noxon Rapids Reservoir.

OBJECTIVES

The objectives of this job were: (1) plant, hatch and release large numbers of cutthroat trout fry (Salmo clarki) into Noxon Rapids Reservoir from the Prospect Creek incubation channel; (2) trap and enumerate brown trout entering Prospect Creek for spawning; (3) determine suitability of kokanee and burbot for introduction into either reservoirs.

PROCEDURES

Cutthroat trout were not available from Montana's hatchery system for rearing in the Prospect Creek incubation channel. It appeared that cutthroat eggs would not be available for several years and maintenance of the channel was discontinued. Washington Water Power Company was advised to drop the lease on the area.

An upstream trap was installed in Prospect Creek for the period of October 22 through November 19, 1970. Fish caught were identified and released upstream after lengths and sex were recorded for brown trout.

A literature study was made on the feasibility of planting burbot and kokanee into the reservoir system. Discussions were also held with the conservation agencies of the states of Idaho, Oregon, and Washington about plans to introduce burbot into Noxon Rapids Reservoir. The concurrance of these three agencies was sought and obtained before burbot were moved into this reservoir.

FINDINGS

The upstream trap installed in Prospect Creek October 22, 1970 was fished continuously through Novemeber 19, 1970. One 10 pound female brown trout was caught the last day of trap operation. Several trips were made to the creek after trap removal to observe spawning. No activity was noted.

Brown trout fry were first released from the Prospect Creek incubation channel in spring 1966 and should have spawned in the fall of 1970. Few have returned to Prospect Creek. No brown trout were observed in other tributaries checked for spawning activity. Many local anglers were contacted throughout the year and stated they had not caught any brown trout from the reservoir although several anglers reported they had heard of a few being caught. It appears that brown trout fry releases will not produce a sport fishery or a trout population in Noxon Rapids Reservoir.

May 7, 1971, burbot were transplanted into the upper end of Noxon Rapids Reservoir. A total of 425 fish ranging in size from 10 to 20 inches had been live trapped in Clark Canyon Reservoir near Dillon, Montana and trucked to Noxon Rapids, a distance of about 300 miles. Mortality during the haul was five fish. Forty-five overnight fyke net sets caught 700 burbot but high winds and waves partially destroyed the holding pen allowing 275 fish to escape.

A kokanee planting program was initiated for Noxon Rapids Reservoir when 400,000 swim-up fry were released into the Clark Fork River about 4 miles upstream from the reservoir. Experimental plants are planned for four successive years.

The successful establishment of a kokanee fishery is uncertain due to the inherent character of these fish to move downstream to large lakes or the ocean. Planting upstream in the Clark Fork River may alleviate this problem. Other adverse factors will be the reservoir's rapid exchange rate affecting both both downstream migration and fish-food production, plus water temperatures generally several degrees higher than that preferred by kokanee.

RECOMMENDATION

The upstream trap should be operated in fall of 1971 to further substantiate the success or failure of sustaining a brown trout fishery. Limited reservoir sampling should be started in spring of 1973 or 1974 to determine the success of planting burbot and kokanee.

Prepared by Joe E. Huston

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Waters referred to:

5-8512-5
5-5698-1
5-9328-5