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MONTANA STATE DEPARTMENT OF FISH AND GAME
FEDERAL AID IN FISH RESTORATION SECTION

HELENA, MONTANA

Job Completion Report
Development Project

State of Montana

Name Central Montana Fishery Study

Project No. F-24-D-15

Title Statewide Lake and Stream Rehabilitation
Deadman Basin Reservoir

Period Covered: September 15, 1958 to April 30, 1959

ABSTRACT:

One hundred and twenty gallons of an emulsion concentrate of toxaphene containing six pounds actual technical toxaphene per gallon was applied to Deadman Basin Reservoir in Wheatland County on September 30, 1958. At time of treatment the reservoir had been drawn down to a low of approximately 23,500 acre feet. Carp and suckers were the principal fish killed. As soon as the water is determined to be non-toxic it will be planted with rainbow trout.

OBJECTIVES:

To remove or decimate as completely as possible the existing fish population from Deadman Basin Reservoir and the supply canal to it from the Musselshell River. The reservoir and supply canal are located in Wheatland County, Montana. Because of construction work done on the fill, the reservoir was drawn down to an exceptionally low level. As soon as the water is considered free of toxicant it will be planted with rainbow trout.

TECHNIQUES USED:

During the last of September and the first of October, 1958, Deadman Basin Reservoir was treated with 120 gallons of an emulsion concentrate of toxaphene containing six pounds actual toxaphene per gallon.

The emulsion was pumped with a hand pump from the supply barrels to supply tanks mounted in a seventeen-foot boat.

Application was accomplished by pumping water from the stern of the boat with a motor driven unit and adding toxicant through an accurately controlled valve on the suction side of the pump. From the pump the mixture was delivered below the water surface on both sides of the box of the boat.

Five small reservoirs along the supply canal were treated by dragging sacks of a commercial fish toxicant behind a small boat and by use of fire fighting type back pumps.

FINDINGS:

The Deadman Basin Reservoir has contained in excess of 35,000 acre feet normally, however, in 1958 it was drawn down to a low of slightly more than 23,500 acre feet. With the new construction on the fill it will be possible to impound in excess of 75,000 acre feet.

Because of the relatively small amount of toxicant (1/100 of 1 ppm.) to be applied to the reservoir, a system had to be devised to prevent the toxicant from being pumped too rapidly. A drip type valve on a by-pass circuit was incorporated into the pumping system which made possible a very precisely controlled system. The material was applied into a flow of approximately 25 gallons per minute and pumped into the reservoir over a period of fourteen hours continuous operation.

Carp (Cyprinus carpio) and suckers (Catostomus sp.) were the predominant fish killed in the reservoir. Rainbow trout (Salmo gairdneri)and Kokanee (Oncorhynchus nerka) were observed in small numbers. Other fish killed included dace (Rhinchthys sp.) and several species of minnows common to the area.

The application of toxicant in the reservoir and supply canal was accomplished during September and October 1958.

Several gill net sets,made over prolonged periods since toxicant application, have caught no fish.

Checks will be made of toxicity in the reservoir and when suitable for planting, rainbow trout fingerlings will be planted at state expense.

RECOMMENDATIONS:

It is recommended that a follow-up investigational study be made to determine the success of establishing a fishable population by planting rainbow fingerlings.

DATA AND REPORTS:

The original data and reports are in the fisheries office of the Fish and Game district headquarters in Great Falls.

Prepared by Nels A. Thoreson

Date July 21, 1959

Approved by George D. Holton
Assistant Coordinator