

MONTANA FISH AND GAME DEPARTMENT
FISHERIES DIVISION
HELENA, MONTANA

JOB COMPLETION REPORT
DEVELOPMENT PROJECT

State of Montana

Project No. F-24-D-36

Name Statewide Lake and Stream Rehabilitation

Alva-Inez Area

Period Covered: June 30, 1965-July 1, 1966

Abstract:

Alva and Inez Lakes in west central Montana, containing 68,704 acre feet of water and 24 miles of tributaries, were rehabilitated in the fall of 1965. This area, known as the Upper Clearwater, is located approximately 60 miles northeast of Missoula, Montana. Approximately 8,500 gallons of emulsifiable rotenone were applied by boat and helicopter. This treatment was to remove pumpkinseed (Lepomis gibbosus), yellow perch (Perca flavescens), northern squawfish (Ptychocheilus oregonensis) and peamouth (Mylocheilus caurinus). Westslope cutthroat fry were planted in the spring of 1966, and at time of writing this report (May 1967), are furnishing excellent fishing.

Objectives:

To remove as completely as possible the existing fish populations in the Clearwater River drainage between Rainy Lake and the fish barrier below Inez Lake. To reestablish a fishable westslope cutthroat population.

Techniques Used:

On September 20-21, 1965 Alva and Inez Lakes and their tributaries were treated with 1 ppm emulsifiable rotenone. The main lakes were treated by three power boats dispensing toxicant through underwater venturies. Littoral zones and marsh areas within the project area were treated by boom spraying from a helicopter. The remaining running water areas were treated with 20% rotenone dispersible powder. No toxicant was applied above the upper limits of warm water fish in the tributaries. A total of 8,415 gallons of emulsifiable and 900 pounds of 20% rotenone dispersible powder were applied.

Findings:

Considerable difficulty was experienced in acquiring the necessary amount of toxicant. The original supplier could only furnish about half of the required amount in time for the project, the remainder had to be procured from another supplier very late in the season.

Pre-treatment surveys determined that rough fish, excluding suckers, were confined to the lakes and the lower ends of their tributaries. Good populations of cutthroat trout (Salmo clarki Richardson) and Dolly Varden (Salvelinus malma Walbaum) were left undisturbed in the upper portions of the tributaries. The following is a list of common names, abbreviations used, and scientific names of fish killed in descending order, by number observed.

<u>Common Name</u>	<u>Abbreviation</u>	<u>Scientific Name</u>
Yellow perch	YP	<u>Perca flavescens</u> (Mitchill)
Pumpkinseed	PS	<u>Lepomis gibbosus</u> (Linnaeus)
Common sucker	C Su	<u>Catostomus commersoni</u>
Largescale sucker	C Su Col	<u>Catostomus macrocheilus</u> Girard
Northern squawfish	SQ	<u>Ptychocheilus oregonensis</u> (Richardson)
Peamouth	CRC	<u>Mylocheilus caurinus</u> (Richardson)
Longnose sucker	F Su	<u>Catostomus catostomus</u> (Forster)
Kokanee	KOK	<u>Oncorhynchus nerka</u> (Walbaum)
Mountain whitefish	Wf	<u>Prosopium williamsoni</u> (Girard)
Cutthroat trout	Ct	<u>Salmo clarki</u> Richardson
Dolly Varden	Dv	<u>Salvelinus malma</u> (Walbaum)
Rainbow trout	Rb	<u>Salmo gairdneri</u> Richardson

Scientific and common names are those listed in the American Fisheries Society Special Publication #2, 1960.

Post-treatment work included gill netting to test the completeness of kill. Gill net sets in both lakes during the detoxification period caught no fish. Live cages with test fish were used in each lake to determine when the lakes detoxified. No fish were caught in gill net sets in both lakes until June of 1966. Inez Lake had detoxified by November 16, 1965. Alva Lake did not clear until December 15 of this same year. Approximately 250,000 1-2 inch westslope cutthroat were stocked after this clearing period.

In June of 1966 two 24 hour experimental gill net sets were made in Alva Lake. Ten westslope cutthroat trout ranging in length from 4.4 to 10.4 inches and one Dolly Varden 12.4 inches long were taken. Seven longnose suckers ranging in length from 8.2-12.2 inches were also caught. One 8 inch Dolly Varden and one westslope cutthroat 9.3 inches in length were taken in the Inez Lake set.

At the time of writing this report fishing is excellent in both lakes for westslope cutthroat ranging in length from 10.0-16.0 inches. Further studies will be conducted and reported under the F-12-R project.

Prepared by Boyd R. Opheim

Approved by George D. Helton

Date June 1, 1967