

HABITAT IMPROVEMENT PROJECT

Fishery Division



OREGON STATE GAME COMMISSION
1634 S. W. Alder Portland 5, Oregon

NUMBER 3

STATE OF OREGON
OREGON STATE GAME COMMISSION

P. W. Schneider, Director

FEDERAL AID TO FISH RESTORATION
COMPLETION REPORT

State-Wide Fishery Rehabilitation
Malheur Reservoir and Tributaries Segment
F-20-D-18

By
Lawrence E. Bisbee
Aquatic Biologist

NUMBER 3

State Oregon
Project No.: F-20-D-18
Date: December 20, 1963

COMPLETION REPORT

State-wide Fishery Rehabilitation Malheur Reservoir and Tributaries Segment

Period Covered: December 4, 1962 to November 8, 1963

ABSTRACT

Malheur Reservoir located in Malheur County, Oregon, was chemically treated with liquid rotenone on October 11, 1962 to eliminate an abundant population of black crappie and a smaller population of finescale suckers and redbreasted shiners.

Tests for toxicity indicated the reservoir had detoxified prior to December 4, 1962.

A progress report outlining the actual chemical treatment was distributed as Habitat Improvement Project, Fishery Division, Oregon State Game Commission, Number 1.

The reservoir was restocked in 1963 with 270,845 rainbow trout fingerling weighing 1,363 pounds. A fishery developed by late July and continued until the end of the trout season on October 31, 1963. It was estimated that a total of 2,300 anglers fished the reservoir in 1963.

Fish population studies were conducted and some problem areas were re-treated with rotenone.

Restocking

Restocking was delayed until the spring runoff because of the extremely low pool through the winter. Stocking of fingerling rainbow trout commenced on April 2, 1963.

Individual releases are listed in Table 1.

Table 1

Rainbow trout releases completed in Malheur Reservoir in 1963

<u>Date</u>	<u>Number</u>	<u>Pounds</u>	<u>Number per pound</u>
April 2, 1963	50,220	324	155
April 3, 1963	50,200	324	155
May 1, 1963	100,425	515	195
July 21, 1963	70,000	200	350
TOTALS	270,845	1,363	

Growth rates for the fingerling rainbow trout were good and compared favorably with previous years in spite of an increased stocking schedule initiated in 1963. There was, however, a noticeable decrease in the growth rate during the late summer as the reservoir was drawn down. Growth rate data is presented in Table 2.

Table 2

Growth data of fry and fingerling trout stocked in
Malheur Reservoir, 1963

Stocking Information		Growth Data		
Species Stocked	Rainbow Trout	Date Sampled	July 6, 1963	October 11, 1963
Date Stocked	April 2, 1963 May 1, 1963	Method	Gill net, Trap net	Gill net, Trap net
Number Stocked	100,420 100,524	Growth period	2 - 3 months	5 - 6 months
Size Stocked	2.5 inches	Number fish in sample	323	334
Weight Per Pound	155 195	Maximal length	9.3 inches	10.9 inches
		Minimal length	5.3 inches	7.3 inches
		Average fork length	6.7 inches	8.8 inches
		Maximal weight	6.6 ounces	7.3 ounces
		Minimal weight	1.2 ounces	2.8 ounces

Creel Census

Anglers began fishing Malheur Reservoir in late July, 1963. Angling pressure increased steadily as the summer progressed and stories of the fishing success were repeated in several communities. The first anglers checked were interviewed on July 20, 1963. Seven anglers had fished seventeen hours and had taken 24 rainbow trout 6 to 8 inches in length. For the period ending August 20, a total of 116 anglers were checked with an average catch of 4.9 fish per angler and 1.3 fish per hour.

For the first season ending October 31, 1963, a total of 342 anglers were checked who had taken 1,825 rainbow trout for an average of 5.3 fish per angler and 1.62 fish per hour. It is estimated that a total of 2,300 anglers visited Malheur Reservoir for the short 1963 season.

Fish Population Studies

Fish populations in the reservoir were sampled by nets on two separate occasions. Results of the investigations are presented in Table 3.

Table 3

Results of fish population studies in Malheur Reservoir for 1963							
Date	No. of net sets		Species taken	No. fish in sample		Size Range (Inches)	Per cent of catch
	Gill net	Trap net		Gill net	Trap net		
July 6, 1963	5	1	Rainbow	323	106	5.3 - 9.3	100.0
Oct. 11, 1963	3	1	Rainbow	149	185	7.3 - 10.9	97.1
			Finescale Sucker	3	7	5.6 - 6.7	2.9

Ten finescale suckers were caught in the nets on October 11, 1963. No small rainbow from the July 21, 1963 stocking were collected in the October trap net set to indicate the degree of survival.

Stream Checks and Re-treatment of Willow Creek

A check for trash fish re-infestation on Willow Creek, the main tributary, was done August 2, 1963. A ten-mile section of stream from the Bronson Ranch to the Locey Ranch was spot-checked at one-mile intervals using rotenone. A small number of shiners and dace were found below Miller Springs one mile above the Bronson Ranch. Spot checks in all other areas revealed no fish. No checking was done above the town of Ironsides. (See map in Progress Report.)

During the latter part of August, Miller Springs and one and one-quarter miles of stream below the springs were re-treated to eliminate the small population of trash fish found earlier by spot checking. The treatment resulted in the finding of no fish in Miller Springs and only one shiner, ten dace and two suckers in the section of stream below the spring. Four more checks were made between the Bronson Ranch and Malheur Reservoir. No fish were killed in the upper three areas checked but trout began to appear in the area checked nearest the reservoir.

Future Fishery

Population studies indicate that the 1964 fishery should be excellent for rainbow trout in the 10 to 14-inch size range.

Financial Statement

Project Approval	\$ 11,420.00
Estimated Expenditures	15,000.00

Approved by:

James W. Goin, Jr.
Federal Aid Coordinator

Lawrence E. Bisbee
Aquatic Biologist

Robert L. Borovicka
Coordinating Biologist