OAK GROVE FORK HABITAT IMPROVEMENT PROJECT

1988 ANNUAL REPORT

by

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Prepared for

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U.S. Department of Energy
Bonneville Power Administration
Division of Fish and Wildlife
Agreement No. DE-A179-84 BP16726
Project No. 84-11

April 1, 1989

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INTRODUCTION

The Lower Oak Grove Fork of the Clackamas River is a fifth-order tributary of the Clackamas River drainage supporting depressed runs of coho and chinook salmon, and summer and winter steelhead. Habitat condition rating for the Lower Oak Grove is good, but smolt production estimates are below the average for Clackamas River tributaries. Limiting factors in the 3.8 miles of the Lower Oak Grove supporting anadromous fish include an overall lack of quality spawning and rearing habitat.

Beginning in 1986. measures to improve fish habitat in the Lower Oak Grove were developed in coordination with the Oregon Department of Fish and Wildlife (ODF&W) and Portland General Electric (PGE) fisheries biologists. Prior to 1986, no measures had been applied to the stream to mitigate for PGE'S storage and regulation of flows in the Oak Grove Fork (Timothy Lake. Harriet Lake). Catchable rainbow trout are stocked by ODF&W two or three times a year during the trout fishing season in the lowermost portion of the Oak Grove Fork near two Forest Service campgrounds (Ripplebrook and Rainbow).

The 1987 field season marked the third year of efforts to improve fish habitat of the Lower Oak Grove Fork and restore anadromous fish production. The efforts included the development of an implementation plan for habitat improvement activities in the Lower Oak Grove Fork. post-project monitoring, and maintenance of the 1986 improvement structures. No new structures were constructed or placed in 1987.

Fiscal year 1988 brought a multitude of changes which delayed implementation of plans developed in 1987. The most prominent change was the withdrawal of the proposed Spotted Owl Habitat Area (SOHA) which overlapped the Oak Grove project implementation area. Another was the change in the Forest Service biologist responsible for implementation and design of this project.

DESCRIPTION OF STUDY AREA

The Oak Grove Fork is a major. fifth-order, anadromous-fish producing tributary of the Clackamas River. Basin area is 140 sq. miles and mainstem length is 21 miles. Flow entering the Clackamas, however. is less than 10% of the river's low flow due to nearly complete diversion of the Oak Grove Fork at Harriet Dam to the Three Lynx Power Station Complex. Seepage through the dam combines with several second-order tributaries for a low flow discharge of 15 cfs. A 15 ft. fall at RM 3.8 has historically limited anadromous fish migration, but the lower stream supports runs of chinook and coho salmon, and winter and summer steelhead.

The salmon populations in the Lower Oak Grove Fork are currently very depressed. with no scheduled introductions or supplementary smolt outplants. Smolt production is presently estimated to be below average for a Clackamas River tributary. Although spawning habitat is of marginal quality and low in quantity. averaging only 130 square yards per stream mile, anadromous fish production is primarily limited by rearing habitat quantity and quality. Previous habitat inventories also show the stream to have limited pool, deep glide, and off-channel habitats.

Plans for 1988 and 1989 were developed to improve habitat conditions for natural production of coho salmon and steelhead trout. Additional planning is scheduled to occur in 1989 with project implementation taking place in the 1990 and 1991 field seasons. The proposed activities will be similar to those accomplished in 1986 in RM 0.25 to 0.75 of the Lower Oak Grove Fork. These included boulder placement in a 1650 ft. section of the stream immediately below the Hwy 224 bridge crossing and the development of an 1100 foot side channel (1825 sq. yards of rearing ponds) by placement of a diversion structure located 2000 feet upstream from the bridge.

The two main criteria used for selecting project reaches were access for materials and equipment, and the presence of channel characteristics having high potential for application of enhancement techniques (wide flood plain with side channels). The withdrawal of the proposed SOHA from the Lower Oak Grove work reach will result in more of the standing trees being available for enhancement work.

METHODS AND MATERIALS

Implementation Plan

Habitat inventories of the Lower Oak Grove Fork were conducted in 1982. Surveys were again conducted in 1987 specifically to identify stream reaches having high improvement potential with equipment access. The channel was walked twice: the first time to map all reaches. the second time to measure distances, widths, and to flag the priority treatment reaches. In addition, an extensive ground survey of the adjacent upslope areas on both sides of the stream was conducted to locate available wood sources and areas of potential sensitivity to equipment access and operation. Similiar surveys will once again be done in 1989 to determine high priority reaches with suitable access.

Previously. the potential SOHA status of the stream and adjacent side slopes limited the types of equipment and materials to be used in the improvement activities, Now that this reach is no longer being considered for SOHA designation, other options are available.

Project reaches will be separated by treatment needs, assigned project reach identification listings, and scheduled for implementation to meet logistic constraints for rehabilitation of the Lower Oak Grove Fork.

Maintenance

No maintenance was required in 1988 on any of the instream structures. the mainstem diversion/control structure. or side channel sills placed in 1986 Vegetation planted in 1987 is well established, and no further work is necessary for the area disturbed by 1986 project implementation.

Monitoring

No monitoring occurred in 1988 to determine salmonid density counts. Base-level monitoring in 1989 will consist of taking photos at designated stations to track structure performance and general habitat changes over time

RESULTS AND DISCUSSION

Implementation Plan

The implementation plan for the Lower Oak Grove Fork was completed in 1987 by consultation and coordination with the ODF&W district and PGE fisheries biologists. The two stream walks were effective in allowing the project fisheries biologist (Forest Service) to fully review the lower drainage basin while specifically locating project areas meeting the improvement activity criteria. The plan identified two specific reaches to be worked in 1988 and 1989. Due to the change in SOHA designation, this plan will be updated in 1989.

Both stream reaches under consideration have existing roads (logging spurs) extending down from a Forest Service maintained "arterial" road. the 4630, to 1000 feet or less distance from the stream. The side slopes of the lower immediate drainage basin are generally steep (20 to 70%), but the south side is noticeably steeper and without access spurs descending into the basin.

Both reaches exhibit wide channels that are contained only partially by the occasional south side bedrock sidewall. Old flood plains only a few feet above the existing channel are extensive. Side channels are common. but most are non-flowing except during the highest flow events. Each has very good potential for development of rearing habitat through sill log placement. Gravel bars are common, but recruitment of gravel from the bars is also limited to high flow events. Downed woody material, especially whole logs, arc abundant in much of the adjacent upland areas. older flood plains, and side channels. These materials can now be used since the work reach is no longer being considered for SOHA designation.

The implementation plan provides an opportunity to review out-year project emphasis areas for further increasing the natural runs of anadromous fish in the Lower Oak Grove. An area of major significance discussed in the plan was a need for coordinated efforts to review the benefits of establishing regulated minimum flows from Harriet Lake to the Lower Oak Grove.

SUMMARY AND CONCLUSIONS

The plan developed in 1987 identified the anadromous fish habitat improvement potentials and deficiencies of the Lower Oak Grove Fork of the Clackamas River. In 1987 the area was being considered for designation as a SOHA, placing restrictions on certain activities in the plan. The area is no longer being considered for a SOHA and the plan will be revised to reflect the change during the 1989 field season. Implementation of the Oak Grove enhancement project will take place during the 1990 and 1991 field seasons.

SUMMARY OF EXPENDITURES

1988 EXPENDITURES

Personnel

Travel/Per Diem

Training

Contract Costs

Expendable Equipment

GA Overhead

Total Project Costs