

# Memorandum

TO : Regional Director (AFR)  
John Byrne through Ron Iverson

DATE: December 24, 1985

FROM : Project Leader  
Dworshak FAO

SUBJECT: Annual Report

Attached is the 1985 Annual Report for Dworshak Fisheries Assistance Office.



William H. Miller

cc:

John Wolflin - Boise Field Office - Ecological Services FWS  
Ken Higgs - LSRCF Coordinator  
Dave Bruhn - Hagerman NFH  
Wayne Olson - Dworshak NFH  
Joe Lientz - Dworshak FHC  
John Byrne - R.O.

Annual Report  
1985

Dworshak Fisheries Assistance Office

by  
William Miller  
Project Leader

„ Dan Diggs  
Assistant Project Leader

U.S. Fish and Wildlife Service  
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## INTRODUCTION

The Dworshak Fisheries Assistance Office (DFAO) personnel were primarily kept busy during 1985 conducting an IHN-water supply study, further developing the HATCH database system, overseeing an adult steelhead outplanting program, and working on needed project proposals for Dworshak broodstock evaluation and a fry/fingerling outplanting evaluation. In addition to the above DFAO coordinated the LSRCF hatchery evaluation work and assisted other agencies in doing needed field and hatchery work relative to the management of upper Snake River salmon and steelhead. A summary report of the various studies and research work being done at the Idaho federal hatcheries was also completed.

Personnel changes occurred during 1985 with the addition of Ralph Roseberg to our staff. Ralph replaced Susan Espinosa and is in charge of the data entry for HATCH. Sandy (Rubrecht) Noble, rejoined our staff this year and supervised the IHN off-site rearing study. Sandy wrapped this project up in September and is now going to graduate school part-time in Corvallis, Oregon.

## ACTIVITIES

### IHN-Water Supply Study, Dworshak NFH

Infectious hematopoietic necrosis virus (IHNV) is the causative agent of infectious hematopoietic necrosis disease (IHN) and has caused extensive losses of steelhead fry (Salmo gairdneri) at Dworshak National Fish Hatchery (DNFH) since 1982. In coordination with the Idaho Department of Fish and Game (IDFG) we conducted a study to determine the possible source of the virus in DNFH's water supply. DNFH's water supply is pumped from the North Fork of the Clearwater River with Dworshak Dam and Reservoir approximately 1/2 mile upstream from the hatchery intake pumps. We sampled the fish population of Dworshak Reservoir, the Reservoir tributaries, and the 1/2 mile of the North Fork Clearwater River to determine the occurrence of IHNV in fish in the water supply system. We also reared steelhead trout in experimental tanks at three locations on the water supply: 1) Reservoir water, 2) North Fork of Clearwater River water and 3) Hatchery water after going through the complex pumping and piping system of the hatchery.

We sampled 2167 fish from Dworshak Reservoir, its tributaries and the North Fork Clearwater River. Twelve species were captured with kokanee salmon (Oncorhynchus nerka) being the most common. Of all the fish sampled and analyzed for IHNV, only 13 specimens of spawning kokanee taken from reservoir tributaries were found to have IHNV. These tributaries are 50 to 60 miles upstream of DNFH. Additional analysis of the IHNV found in the kokanee is being conducted to determine the strain of IHNV. Since there are at least

four recognized strains of IHNV, it is important to determine if the strain found in Dworshak Reservoir kokanee is the same one that is infecting DNFH steelhead trout.

In the experimental rearing tank portion of the study, only steelhead fry reared in the hatchery water supply system contracted IHNV. One of four tanks in the hatchery water supply exhibited the high mortality rate associated with IHN disease. The fish in the experimental tanks on reservoir water and those on North Fork Clearwater River water did not contract IHNV.

Results from this study indicate that IHNV is in the water supply of DNFH. Further analysis of reservoir and river water is needed. However, we concluded that Dworshak Reservoir water would be the best supply for the new Clearwater Hatchery. A final report was prepared for this study.

#### Evaluation of Dworshak NFH Adult Steelhead Outplanting Program, 1985

The record return of adult steelhead trout (Salmo gairdneri) to Dworshak NFH in 1985 permitted an extensive adult outplanting program. In cooperation with Idaho Department of Fish and Game (IDFG), the Nez Perce tribe and Dworshak and Kooskia National Fish Hatcheries, our office coordinated the trucking of 8,503 adult steelhead to six streams in the Clearwater River drainage for natural spawning. As a follow-up to this outplanting program, we collected data on late summer steelhead fry in outplanted streams and compared this information to streams which were not outplanted and to 1984 preplanting data where possible. Data was collected by doing snorkel counts of fish in selected transects. IDFG had data on some of the outplanted streams. Our office collected the snorkel count information on the remainder of the outplanted streams.

Results from this first year's late summer fry density in outplanted streams suggest that streams in the lower reaches of the Clearwater River or those that have very low summer flows, such as Potlatch River and Lawyers Creek, did not benefit from adult steelhead outplanting from DNFH. Almost no fry were found in these streams. Other streams with more uniform flows benefited significantly from outplanting in terms of late summer steelhead fry densities. We plan to follow-up on this work in 1986 to determine overwinter survival of fry in the outplanted streams. A report was prepared and distributed on this project.

#### Bacterial Kidney Disease (BKD) Study

Dworshak FAO activities in the BKD studies wound down this year. As a result of information obtained in previous years of the study,

Dworshak NFH is now individually spawning pairs of spring chinook salmon (SCS) and rearing progeny separately according to the parents BKD disposition. Rearing performance data for BY-83 SCS BKD positive and negative groups were entered into the HATCH database; BY-84 information is still on HATCH forms. We will continue this tracking with BY-85 SCS.

We provided Ted Bjornn, BKD study principal investigator, with a progress report on BKD negative/positive groups in the fall of 1984. He is incooperating this, along with his report on the effectiveness of Erythromycin in controlling BKD, in an overall BKD progress report. In the future, we will provide Dr. Bjornn with information and analysis of BKD positive/negative group performance, upon request.

### LSRCP Hatchery Evaluation

We held several meetings with production personnel of Hagerman and Dworshak NFH's to discuss the progress of their respective LSRCP programs, identify problems and coordinate other state and LSRCP activities that affect their programs. In addition, we gathered their input for a five-year LSRCP hatchery evaluation plan for the two hatcheries. No serious problems were identified in either program in FY-84. If there were, our meetings are the forum in which we discuss them, formulate solutions or special studies and assign responsibilities between the hatchery and our office in solving them. The only active program we have in problem resolution is with Hagerman where we are developing a standard system to document and measure the onset and severity of fin erosion. We are trying out a system to develop a fin erosion index which we feel will eventually be used as part of an overall smolt quality index. We also presented an analysis of demand versus hand fed fish feeding trials for Hagerman steelhead at the annual coordination meeting. Basically, the demand fed fish performed equal to hand fed fish justifying the continued use of the demand feeders.

All marking programs were coordinated by Dworshak FAO with IDFG; the marking, and usually, the funding agency (through LSRCP money). None of Dworshak's LSRCP SCS were marked in FY-85. However, the BY-84 SCS were coded-wire tagged by IDFG in the first quarter of FY-86. Hagerman steelhead were marked in FY-85. These marked groups are to verify smolt to adult survival rates, sport, commercial and Indian fishery contribution rates as well as answer some biological questions on size and site of release and stock performance.

We completed a five-year LSRCP hatchery evaluation plan for the LSRCP Coordinator's office. In the plan we outlined all activities, marking programs and special studies we believe are necessary to continue the ongoing evaluation of LSRCP hatchery success for Dworshak and Hagerman NFH's.

Each agency operating LSRCP hatcheries was responsible for development of a plan for their evaluation studies in FY-86 through FY-90. We also assisted the LSRCP office in development of the final draft of the LSRCP hatchery evaluation guidelines. It should be distributed to all participating agencies early in 1986.

### HATCH Database

After two years of planning and development on paper, the HATCH database entered the computer era this year. The Compaq Model 3 microcomputer with a 30 megabyte hard disk was installed on June 7, 1985. An initial period of learning the dBASE III software and exploring its potential preceded data entry. Considering it was a learning year for all of us, the amount of data entered and retrieved for users was a promising start.

Dworshak FAO has responsibility for HATCH data collection and coordination at the three FWS hatcheries in Idaho: Dworshak, Kooskia and Hagerman. A report discussing some of the basics of the HATCH system operation and design, status of data ascension for FWS Idaho hatcheries, accomplishments and HATCH plans for FY-86 was recently completed and distributed to all HATCH FAO's, and cooperators.

Major accomplishments of HATCH for 1985 were:

1. Developing the network of data source people and defining their responsibilities.
2. Establishing computer file structures and testing end products.
3. Demonstration of HATCH usefulness to users.
4. Entry of an encouraging amount of data onto the computer for BY-83, 84 and 85 spring chinook, steelhead and rainbow trout reared at our three Idaho hatcheries.

We expect more progress in FY-86 with data entry and development of data report formats to assist in retrieving and analyzing this mountain of information.

## Coded-Wire Tag Report

We are just now wrapping up the 1985 revision of our Coded-Wire Tag Studies Summary Report. We recently received the 1985 CWT recovery information for our hatchery racks, Clearwater and Snake River sport fisheries and Zone 6 Indian fisheries from IDFG. This will enable us to complete this year's review. Last year's report was our first attempt to collate and present summary information for all CWT studies involving FWS hatcheries in Idaho. This year's report will update the earlier report with recovery information for 1984 and 1985.

In the past, an interested reviewer may have had to go to ten different reports published by one of several agencies, depending on who the principal investigator was, in order to get an appraisal of a particular study. We feel our report is a useful reference document for anyone interested in the history and general results of all past and present CWT studies on FWS fish from Idaho and one we will continue each year.

### COORDINATION WITH OTHER AGENCIES

The DFAO is the focal point of coordinating FWS fishery programs in Idaho with the Idaho Fish and Game Department and Indian tribes, (Nez Perce, Shoshone-Bannock, Coeur d' Alene and Duck Valley tribes). We coordinated the collection and collation of coded-wire tagging data recovered for 1984 and 85 from salmon and steelhead released from federal hatcheries in Idaho. Our office coordinated the outplanting of 8,503 adult steelhead and smolt releases from Dworshak, Kooskia and Hagerman NFH's.

For the past two summers, we participated with the Idaho Fish and Game Department in a Bonneville Power Administration (BPA) study of stream habitat improvement projects. Several agencies, including the Forest Service, Bureau of Land Management, and Idaho Fish and Game are working on solutions to habitat problems involving grazing, mining, logging, irrigation withdrawals, and fish migration barriers. These habitat programs have limited production of anadromous fish stocks in Idaho. The Northwest Power Act has made these research monies available through BPA in order to enhance anadromous fish runs impacted by the hydroelectric dam system in the Columbia Basin. Under the state evaluation study, we assisted in a program to determine if fish biomass had responded positively to habitat improvement techniques such as log weir pool enhancement structures as boulder cover placements. This evaluation program will be continued by the State in 1986.

Project Leader, Miller, is on the Idaho Anadromous Fish Habitat Enhancement Coordination Committee which was just formed this past year. This committee reviews all the Idaho project proposals for

anadromous fish habitat enhancement under the Columbia River Basin Fish and Wildlife Program. The committee attempts to reach a consensus on enhancement projects to be endorsed for the coming year and submits their recommendations to the Northwest Power Planning Council and the Bonneville Power Administration.

Coordination with the Indian tribes was on a very low level during 1985. Three Nez Perce tribal fishery proposals were reviewed and various meetings were held with the tribal fishery staff on coordinating outplanting work from Dworshak NFH. One trip was made to the Duck Valley Reservation and various correspondence involved management of their two stocked trout reservoirs. Coordination work with the Shoshone-Bannock and Coeur d' Alene tribes was limited to telephone request for information.