

# IDAHO

## DEPARTMENT OF FISH AND GAME

Jerry M. Conley, Director

FEDERAL AID IN FISH RESTORATION

Job Performance Report, Project F-73-R-8



Subproject II: Anadromous Fish Investigations  
Study I: Anadromous Fish Research Supervision and Planning  
Job No. 3: Anadromous Fish Computerized Data System  
Job No. 4: Anadromous Fishery Research Supervision and Planning

by

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TABLE OF CONTENTS

Page

**Job No. 3: \_ Anadromous Fish Computerized Data System**

ABSTRACT ..... 1

INTRODUCTION ..... 2

OBJECTIVE ..... 2

METHODS ..... 2

RESULTS ..... 2

    Telephone Survey ..... 2

    Coded Wire Tagging ..... 4

    Chinook Salmon Redd Counts ..... 4

    Fish Inventory System..... 4

    Columbia and Snake River Dam Counts..... 4

LIST OF TABLES

Table 1. Status of computerized anadromous data bases . . . . 3

LIST OF FIGURES

Figure 1 Example of coded wire tagging data report ..... 5

Figure 2. Example of chinook salmon redd count report ..... 6

Figure 3. Examples of fish inventory reports ..... 7

Figure 4. Example of daily and accumulative anadromous fish dam counts for a single year ..... 8

Figure 5. Example of daily summaries of anadromous fish dam counts for a 10-year period..... 9

**Job No. 4: . Anadromous Fishery Research Supervision and Planning**

ABSTRACT ..... 10

INTRODUCTION ..... 11

OBJECTIVES ..... 11

METHODS ..... 11

RESULTS ..... 11

JOB PERFORMANCE REPORT

State of: Idaho

Name: ANADROMOUS FISH INVESTI -  
GATIONS

Project No.: F-73-R-8

Title: Anadromous Fish  
Computerized Data  
System

Subproject No.: 11

Study No. 1

Job No.: 3

Period Covered: 1 March 1985 to 28 February 1986

**ABSTRACT**

The development of a centralized anadromous fish data base was initiated to provide for a more efficient and timely manner of storage, manipulation and dissemination of data. Ten categories of anadromous data were identified and five of these were implemented during the project year.

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## INTRODUCTION

The restoration of the severely depleted anadromous fish (salmon and steelhead) runs into Idaho has been a task of great magnitude and has required constant cooperation of many state, federal and private entities. Because of the many agencies involved in the overall management of these species, data collection and dissemination of this information can be an arduous and quite often untimely task.

A centralized anadromous fish data base will provide for a more efficient and timely manner of storage, manipulation and dissemination of data.

## OBJECTIVE

To develop a computerized anadromous data system for use by salmon and steelhead management and research personnel.

## METHODS

Anadromous data from Department files and appropriate annual reports were gathered and assimilated into 10 groupings.

These data were entered into DBASEII files, and report format programs were developed to provide appropriate reports when the data are requested.

## RESULTS

Ten categories of anadromous fish data were developed during the project year (Table 1). Status of each is at differing levels of completeness and was dependent on immediate need. Five programs were implemented during the year although complete documentation has not been completed for all.

Information regarding the use of each program can be obtained by contacting the Fisheries Bureau, Idaho Department of Fish and Game, Boise, Idaho.

### Telephone Survey

To obtain statewide estimates of the Idaho sport fishery for anadromous fish, a program was developed to utilize telephone survey data. Information provided includes harvest by river section, fish released by river section, numbers of resident and nonresident anglers and days fished.

Table 1. Status of computerized anadromous data bases.

Program	Data assimilated	Data entered to date	Output formatted	Implemented	Documented	Completion date
Habitat inventory	Yes	No	No	No	No	1/1/87
Smolt productivity	Yes	No	No	No	No	1/1/87
Adult escapement	Yes	No	No	No	No	1/1/87
Harvest files	Yes	Yes	No	No	No	7/1/86
Fish planting records	Yes	Yes	No	No	No	7/1/86
Sport harvest estimates	Yes	Yes	Yes	Yes	No	8/1/86
Coded wire tagging	Yes	Yes	Yes	Yes	No	7/1/86
Chinook salmon redd counts	Yes	Yes	Yes	Yes	Yes	1/1/86
Inventory system	Yes	Yes	Yes	Yes	Yes	1/1/87
Dam counts	Yes	Yes	Yes	Yes	No	7/1/86

### Coded Wire Tagging

A coded wire tag data base was developed in which each tag number is entered and information reported includes history of the tag group and where each fish carrying that tag was captured (Fig. 1).

### Chinook Salmon Redd Counts

Spring and summer chinook salmon spawning ground redd counts since 1951 on 46 trend areas have been filed on a data base. Report outputs consist of listing annual redd numbers by trend area and a summary for a specified period of time (Fig. 2).

### Fish Inventory System

Data from Department files and annual reports have been categorized into creel and fish population information. Data through 1984 have been entered into a data base. Report summaries are shown in Fig. 3.

### Columbia and Snake River Dam Counts

Daily dam count data bases for both steelhead trout and chinook salmon were developed. Counts at Bonneville, McNary, Ice Harbor and Lower Granite dams for the period 1960 to present have been entered. Reports from the data base include daily and cumulative counts for each dam (Fig. 4) and daily cumulative summaries for each dam for the past 10 years and a run size predictor equation based on previous years' counts (Fig. 5).

-----  
 DATACODE: 50636            SPECIES: STLHD            HATCHERY OF RELEASE: HAGERMAN            SITE OF RELEASE: PAHSIMEROI R  
 -----  
 RELEASE YEAR: 80            TOTAL GROUP RELEASE: 41571 TOTAL TAG RELEASE: 39825            PURPOSE OF RELEASE: IDCCSR  
 -----

LOCATION	TYPE RECOVERY	NUMBER OBSERVED	
PAHSIMEROI	HATCH RACK	11	
OREGON ZON 3	EXPERIMENT	1	
OREGON ZON 6	INDIAN GILL	1	
SALMON SEC 2	SPORT FISH	2	
		1 OCEAN TOTAL	15
PAHSIMEROI	HATCH RACK	97	
OREGON ZON 6	INDIAN GILL	19	
DESCHUTES R	SPORT FISH		
L GOOSE	VOLUNTARY		
L GRANITE	SPORT FISH		
SALMON SEC 1	VOLUNTARY	6	
SALMON SEC 2	VOLUNTARY	2	
SALMON SEC 2	SPORT FISH		
SALMON SEC 4	SPORT FISH	2	
SALMON SEC 5	VOLUNTARY	5	
SALMON SEC 5	SPORT FISH	4	
SALMON SEC 6	VOLUNTARY	2	
		2 OCEAN TOTAL	141
PAHSIMEROI	HATCH RACK	6	
		3 OCEAN TOTAL	6
		GRAND TOTAL	162

5

Figure 1. Example of coded wire tagging data report.

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*****
*
* REDD COUNT FROM 1980 TO PRESENT FOR AMERICAN RIVER *
*****

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YEAR	SPECIES	COUNT
1980	SPRING CHINOOK	7
1981	SPRING CHINOOK	12
1982	SPRING CHINOOK	21
1983	SPRING CHINOOK	9
1985	SPRING CHINOOK	23

The Average for 5 Years of Record 14.40

Figure 2. Example of chinook salmon redd count report.



IDAHO 1985 DAILY STEELHEAD DAM COUNTS

12/02/85

MO	DA	BONND	BONNC	BSTEE	MCNAD	MCNAC	ICED	ICEC	LGRAD	LGRAC
==	==	=====	=====	====	=====	=====	=====	=====	=====	=====
06	01	188	8116		21	21	5	5	4	4
06	02	224	8340	0	66	87	6	11	4	8
06	03	254	8594	0	45	132	2	13	1	9
06	04	221	8815	0	43	175	3	16	1	10
06	05	234	9049	0	42	217	2	18	6	16
06	06	211	9260	0	38	255	1	19	2	18
06	07	202	9462	0	86	341	1	20	4	22
06	08	228	9690	0	31	372	0	20	3	25
06	09	182	9872	0	26	398	0	20	2	27
06	10	236	10108	0	0	398	4	24	2	29
06	11	238	10346	0	51	449	2	26	3	32
06	12	273	10619	0	56	505	4	30	1	33
06	13	306	10925		74	579	3	33	3	36
06	14	362	11287	0	71	650	6	39	1	37
06	15	381	11668	0	72	722	6	45	3	40
06	16	387	12055	0	111	833	3	48	5	45
06	17	404	12459	0	111	944	4	52	2	47
06	18	449	12908	0	94	1038	7	59	2	49
06	19	474	13382		111	1149	9	68	5	54
06	20	640	14022	0	108	1257	8	76	3	57
06	21	617	14639	0	123	1380	11	87	3	60
06	22	777	15416	0	224	1604	11	98	3	63
06	23	797	16213	0	202	1806	19	117	7	70
06	24	542	16755	0	166	1972	17	134	8	78
06	25	521	17276	0	125	2097	30	164	9	87
06	26	663	17939	0	127	2224	24	188	5	92
06	27	545	18484	0	129	2353	28	216	8	100
06	28	672	19156	0	175	2528	8	224	0	100
06	29	885	20041	0	247	2775	16	240	14	114
06	30	889	20930	0	190	2965	56	296	23	137
07	01	912	21842	i >	248	3213	43	339	7	144
07	02	1084	22926	0	165	3378	37	376	14	158
07	03	1139	24065	0	206	3584	30	406	9	167
07	04	1543	25608	0	169	3753	45	451	11	178
07	05	1771	27379	0	241	3994	43	494	18	196
07	06	1865	29244	0	320	4314	65	559	27	223
07	07	2116	31360	0	215	4529	73	632	9	232
07	08	2232	33592	0	237	4766	105	737	17	249
07	09	2796	36388	0	241		84	821	10	259
07	10	1987	38375	0	272	5279	86	907	21	280
07	11	2342	40717	0	588	5867	91	998	14	294
07	12	2787	43504		553	6420	112	1110	12	306
07	13	3038	46542		337	6757	115	1225	26	332
07	14	2628	49170	o	626	7383	122	1347	35	367
07	15	3158	52328	0	348	7731	81	1428	20	387
07	16	3371	55699	0	627	8358	116	1544	26	413
07	17	2972	58671	0	948	9306	17	1561	48	461
07	18	3344	62015	0	994	10300	104	1665	40	501
07	19	3703	65718	0	416	10716	167	1832	35	536
07	20	3063	68781	0	482	11198	179	2011	3e	574

Figure 4. Example of daily and accumulative fish dam counts for a single year.

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*                               IDAHO DEPARTMENT OF FISH AND GAME                               *
*                               DAILY CUMMULATIVE SUMMARIES                               *
*                               FOR STEELHEAD                                           *
*                               A-RUN ON BONNEVILLE DAM                                 *
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DATE	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
08-06	65419	91981	51884	55943	50708	92924	71108	100293	139973	153702
08-07	66729	93656	52953	57694	52156	94746	73264	102115	143405	160053
08-08	68127	95215	54000	59254	54738	97802	75790	105125	146516	167776
08-09	69552	96341	55069	60992	57365	100112	77682	107731	149795	173555
08-10	70827	97505	55914	62722	59817	102015	80087	110343	153141	177962
08-11	72868	98243	56578	64323	61722	104009	81769	112870	156658	182148
08-12	74691	98847	57403	65831	63823	105842	83554	115959	160251	186406
08-13	76246	99576	57847	67569	65729	107756	84732	117824	162528	192362
08-14	77846	100055	58202	69105	67437	108656	86537	120410	164753	196661
08-15	79216	100466	58533	70229	68970	109452	87839	122380	166877	200281
08-16	80764	100721	58886	71408	70733	110135	89609	125302	169101	204310
08-17	82052	101036	59356	72460	72012	110831	91012	127472	171807	208139
08-18	82967	101352	59733	73539	73482	111779	92605	129429	175120	212809
08-19	84173	101853	60244	74508	74472	112945	93776	131660	178549	216948
08-20	85435	102445	60823	75550	75921	114035	95063	134573	180571	221046
08-21	86640	103220	61408	76255	77333	115428	96762	135151	182964	225427
08-22	88004	103951	62015	77030	79270	116963	98455	136901	184951	230254
08-23	89416	104575	62616	77980	80809	118406	99982	139603	186844	236945
08-24	90900	105109	63280	78763	82840	120184	101698	142009	187999	244437
08-25	92370	105763	64232	79503	85010	121785	103159	144768	189368	251721

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*****
*                               IDAHO DEPARTMENT OF FISH AND GAME                               *
*                               DAILY DAM COUNT SUMMARY                               *
*                               FOR                                                     *
*                               REGRESSION ANALYSIS                                    *
*                               USING                                                    *
*                               BONNEVILLE DAM ON                                     0801 *
*****

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YEAR	CUMULATIVE TOTAL	RUN TOTAL
1975	47834	71586
1976	58303	92370
1977	81818	105763
1978	46971	64232
1979	47830	79503
1980	43464	85010
1981	81203	121785
1982	60691	103159
1983	82278	144768
1984	118995	189368
1985	126307	251721

Y-INTERCEPT = -16352.048899989200      SLOPE = 1.87149524  
 R-SQUARE = 0.9063385976130740  
 THE PREDICTED FISH YEAR RUN SIZE = 245625

Figure 5. Example of daily summaries of anadromous fish dam counts for a 10-year period.

JOB PERFORMANCE REPORT

State of: Idaho Name: ANADROMOUS FISH INVESTI-  
GATIONS  
Project No. : F-73-R-8 Title: Anadromous Fishery  
Subproject No. : 11 Research Supervision  
and Planning  
Study No. 1  
Job No. : 4

Period Covered: 1 March 1985 to 28 February 1986

**ABSTRACT**

I provided supervision and administrative support for five research projects during this study period. All permanent anadromous fishery researchers were given performance evaluations. I reviewed and edited annual reports for each of these projects. The anadromous fishery research subsection participated in two field exercises on the Clearwater and upper Salmon rivers.

Author:

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## INTRODUCTION

This project involves supervision and coordination of anadromous research studies.

## OBJECTIVES

To provide administrative support and supervision to field biologists on anadromous projects.

To plan the anadromous fishery research program.

## METHODS

Coordinate with Department and outside agency personnel to plan future anadromous research studies.

## RESULTS

Five research projects were under my supervision during this study period. Projects funded by the Lower Snake River Compensation Program (LSRCP) were South Fork Salmon River, LSRCP Fish Hatcheries Evaluation, and Statewide Anadromous Fish Harvest. Other projects include Smolt Monitoring and Coordination funded by the Bonneville Power Administration and Indicators of Salmon and Steelhead Production funded by the Northwest Power Planning Council.

As the Department's coordinator with the Lower Snake River Compensation Program, I attended two meetings with other agency coordinators to discuss development and progress of the LSRCP projects. I also prepared a five-year plan (1986-1990) for LSRCP evaluations in Idaho.

I assisted in preparing the Idaho Power Company five-year (1986-1990) evaluation plan for their anadromous fish hatcheries in Idaho (Pahsimeroi, Niagara Springs, Rapid River and Oxbow hatcheries).

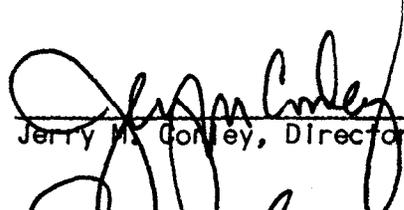
As a subsection, the anadromous fishery researchers participated in two field exercises during the year. In April we toured the smolt monitoring facilities on the Clearwater, Salmon and Snake rivers. In August we toured the LSRCP facilities on the upper Salmon, East Fork Salmon and South Fork Salmon rivers.

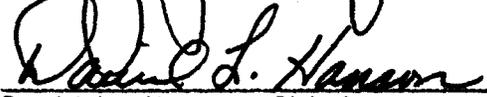
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