



# Annual Report

FISCAL YEAR 1974

Dworshak National Fish Hatchery  
(Hatchery)

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DIVISION OF FISH HATCHERIES

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## INTRODUCTION

The Dworshak National Fish Hatchery was designed and built to replace the spawning and nursery area denied to the North Fork steelhead trout by the construction of the Dworshak Dam. During the year rainbow trout, kokanee, and cutthroat trout were released into the 53 mile long Dworshak Reservoir. This fiscal year included the initial release of cutthroat trout as part of the reservoir mitigation requirement.

The Dworshak National Fish Hatchery is located on the point of land at the confluence of the North Fork and the Middle Fork of the Clearwater River near the unincorporated town of Ahsahka, Idaho. The hatchery site is approximately three miles west of Orofino, Idaho, on State highway 7 on the north bank of the Clearwater River, approximately 8,000 feet downstream from Dworshak Dam.

The distribution area of this station includes the Dworshak reservoir and its tributaries as mitigation for fisheries under Inland Fisheries, Federal Reservoirs. The anadromous fisheries program distribution area includes the Clearwater River watershed and to lesser degree the Salmon River watershed.

During the year because of the large egg take it was possible to contribute to anadromous management programs which would have otherwise been seriously curtailed. The Niagara Springs Hatchery which was built by Idaho Power and operated by Idaho Department of Fish and Game experienced an IPN epizootic. The stock on hand was killed and the hatchery disinfected. Stock from the Dworshak National Fish Hatchery was transferred to this hatchery so that the Salmon River steelhead management program would not be too adversely affected.

At the beginning of the fiscal year contracts were in force which had converted the fifty-six ponds which were on raw water to reuse systems at a cost of 3.54 million dollars. The completion of this alteration resulted in three reuse systems for the rearing programs instead of one which was originally constructed. These were placed in operation during the fiscal year.

Even though construction was in progress a total of over 3.75 million smolts were released. Approximately 300,000 smolts were hauled by National Marine Fisheries Services for testing the slotted gates on the dams of the lower Snake River. There appeared to be very little difference between the fish reared in the three systems.

The latest systems are upflow filter design with plastic media. The original system was downflow with gravel and oystershell media.

As with any new construction many system malfunctions occurred. One of the more serious results occurred after the pressure sand filters for systems II and III failed allowing raw water and filter media to enter the systems. Shortly thereafter, Ichthyophthirius was again diagnosed in the hatchery, first in systems II and III and then in system I. It is thought that the infection entered through the malfunction of the pressure sand filters into systems II and III and thence by birds to system I.

The ponds of systems II and III were carried at a low level for flushing action. Ponds in system III were treated semiweekly with formaldehyde but system II was not treated. There appears to be little reinfection in systems II and III. Satisfactory control was experienced in both systems. System I was placed on raw water, was treated semiweekly with formaldehyde and control was achieved in the affected stock. However, the introduction of rainbow trout into system I at a later date resulted in a high incident of infection.

Egg collections from steelhead trout started in late March and ended the first week of May. Approximately 7,900 adults were handled. Of these, over 2,000 were transported to the upper tributaries for natural spawning. There are indications that steelhead of Dworshak National Fish Hatchery origin ascended many of the other tributaries for spawning. An excellent steelhead fishing season was experienced on the Snake River and the Clearwater River below the hatchery.

The now record steelhead for Washington was caught near Steptoe Canyon on the Snake River. This fish weighed 35 pounds 1 ounce. Tetracycline mark analysis showed that this fish originated at the Dworshak National Fish Hatchery.

During the fiscal year the visitor load was somewhat less than the previous year. This reduction is probably attributable to the gasoline shortage accompanied by higher prices. Tour guides were available during the summer season to assist with the public relations program.

Higher than normal precipitation occurred during the winter and spring. In some areas runoff reached a high of record due to the larger than

normal snowpack.

Two inspections were made by Fish Hatchery Division personnel. December 20-21, 1973, Mr. Paul Handy, Assistant Regional Supervisor, Division of Fish Hatcheries, inspected the station. The spring inspection was made by Mr. Marvin Smith, Regional Supervisor, Division of Fish Hatcheries, on May 1-2, 1974. On April 22, 1974, Mr. Jack Ford, Assistant Secretary of the Army, accompanied by Colonel Conover, Walla Walla District Engineer, and Colonel Marshall of the Portland Division of the Corps of Engineers visited the Dworshak National Fish Hatchery. Several foreign visitors as well as interested professional people visited the station.

At the end of the year almost all current construction contracts were substantially completed. Certain future contracts are yet to be let. The completion contract will include facilities for effluent treatment as well as visitor facilities and correction of problems encountered in the makeup water supply to the incubators and system No. 1 is expected to be in operation during the next fiscal year. A smaller contract to correct deficiencies in the aeration system of the water treatment facility is to be let in the very near future.

## COOPERATION WITH OTHER AGENCIES

The staff of the Dworshak National Fish Hatchery cooperated with the U. S. Army Corps of Engineers in many relationships. During the completion of the phase II contract placing all the ponds into three reuse systems coordination was necessary so that full production could be carried on during this period. The spawn taking of kokanee at Breakfast Creek was assisted by the use of Corps facilities. Stocking of some areas in the Dworshak Reservoir was achieved through use of Corps barge and tug. Distribution trucks were loaded onto the barge and stocking was accomplished at the mouths of several streams flowing into the reservoir.

Personnel of the Fish and Wildlife Service cooperated closely with the personnel of the Idaho Department of Fish and Game in the management of the Dworshak Reservoir. The biologist for Idaho Department of Fish and Game established the management program and the Dworshak National Fish Hatchery made every attempt to fill the requirements of this program. Two coordination meetings were held during the year. The first was held November 29, 1973 and May 1, 1974 was the second.

The Dworshak National Fish Hatchery made its new laboratory facilities available for use by the Corps of Engineers, Idaho Department of Fish and Game, the University of Idaho, and the U. S. Forest Service. Studies of interest to all agencies have been carried on including water quality, limnology, and sedimentation.

## FISH CULTURAL OPERATIONS

Fiscal year 1974 was one of the most productive years this station has experienced, partially due to completion of Phase II construction, which allowed environmental control of all ponds, and partially due to experience gained from past years on methods of disease control.

Over 883,000 pounds of fish food was fed during the year for an overall conversion of 1.84, considerably better than previous years.

### Steelhead

Spawning began on February 20, one month earlier than in 1973 which in turn was earlier than in 1972. A summary of brood year 1974 steelhead is as follows:

Spawned females	4,164
Spawned males	980
Unspawned adults planted	2,204
Mortality	<u>562</u>
Total fish in run	7,910

Total eggs taken	26,047,748
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An aeration tank was installed in the incubator room to alleviate nitrogen saturation in the egg trays.

A fungus problem occurred in the latter part of the incubation period in which trays of eggs would be almost completely smothered in two or three days. There did not seem to be any pattern to the affected trays but more of a random selection. White spot was the major cause of fry mortality.

All three of the reuse water systems were used this year, but not without problems. System I was temporarily changed to single pass river water in November because of a greater incidence of Ichthyophthirius than the other systems. In March, it was necessary to put untreated river water in systems II and III because of an electrical failure.

Apparently with the raw water in November, Sanguinicola was introduced. Infected fish showed gill hemorrhage and subsequent fungus infection. This made handling difficult and increased mortality.

A summary of steelhead distribution is as follows:

<u>Number</u>	<u>Weight</u>	<u>Release Sight</u>
3, 864, 000	457, 000	Dworshak National Fish Hatchery
4, 241, 000	15, 500	Idaho Fish and Game Department
302, 000	135	University of Idaho
230, 000	3, 000	Lolo Creek
400	47	Oregon Game Commission

The steelhead planted in Lolo Creek in December suffered a high mortality due to cold shock.

#### Rainbow

Rainbow spawning at Dworshak National Fish Hatchery was delayed from September 13 to September 28 while the brood fish were being treated with sulfamerazine and furoxone for redmouth. The quality of the eggs was extremely poor and their diet was changed to Oregon Moist Pellet.

There were several shipments of eggs received:

2, 752, 000 from Ennis National Fish Hatchery  
500, 000 from California Fish and Game Department

Distribution into Dworshak reservoir is summarized below:

<u>Number</u>	<u>Size</u>	<u>Weight</u>
1, 894	0. 5/16	3, 720
141, 000	29	4, 879
928, 558	103	9, 028

#### Cutthroat

Cutthroat trout brood stock at Dworshak produced approximately 4, 000 green eggs of which about 100 hatched. Washington State Game Department shipped 162, 000 eyed eggs, out of which 2, 000 fish were held for future brood stock and 45, 463 were planted into Dworshak reservoir.

A problem occurred in these fish with Sanguinicola and fungus, similar to the steelhead as already mentioned.

#### Kokanee

The Dworshak spawning crew was at Anderson Ranch Reservoir from October 1 to October 9 and took 130, 000 eggs. A hastily conceived trap was set up on September 14 on Breakfast Creek and was operated until removed by a flood, on October 3. During this time 500, 000 eggs were taken. A small number of kokanee entered the holding

ponds at the hatchery and these were also spawned. From the total number of eggs taken, 217,288 fish survived to release in June, 1974 into Breakfast Creek.

111,000 late kokanee eggs were received from the Washington Game Department but all were lost to Ichthyophthirius.

#### Small Mouth Bass

105,000 small mouth bass were received and planted into Dworshak reservoir.

#### Public Relations

Walter Harris attended the Boy Scout Jamboree at Farragut State Park, Idaho. Displays were set up at the Orofino and Lewiston fairs, as usual, except that adult kokanee were added.

The system of using three tour guides for the summer months is still working out very well, but the visitor load was less than previous years.

#### Feed System

The computer program was updated again by John Schultz and is operating with more flexibility. The growth and feed formulas can be adjusted as the requirements of the fish change.

A problem occurred when the water in the return channel in System III got into the valve diverter relays and froze the relays.

Computer Election Service, of Berkeley, California, were here to program the computer for vote counting, as a service to Clearwater County.

## Hatchery Biologist Activities

### Diagnostic Services

The hatchery biologist's staff is responsible for disease diagnosis at three federal hatcheries--Dworshak, Kooskia and Hagerman. Assistance is also provided to other federal hatcheries, the Idaho Fish and Game Department and commercial hatcheries when requested.

### Hatchery Classification

Two wild brood stocks were examined prior to shipment of eggs to Dworshak. Kokanee brood stock from Dworshak Reservoir in Northern Idaho and Cutthroat brood stock from Kings Lake in Washington were found to be disease-free.

The classification of the three federal hatcheries in Idaho is as follows:

<u>Hatchery</u>	<u>Classification</u>	<u>Date</u>
Dworshak	B-BK-BR	1-1-74
Kooskia	B-BK	1-1-74
Hagerman	B-SB-BR	1-1-74

### Adult Steelhead Evaluation

The 1974 steelhead spawning season totalled 7,910 adult steelhead. Bone and scale samples were taken from 130 marked fish and 412 unmarked fish. Marks, sex and lengths were recorded on all marked fish with weights also being recorded for every tenth fish. All unmarked fish were recorded by sex. Also, every tenth unmarked fish was measured for length and weight.

There were 17 marked fish under 28 inches in length out of 1105 total fish. The majority of marked fish returning would be two- and three-ocean fish.

Prior to the 1974 release, 108,000 steelhead were marked by the use of liquid nitrogen to apply a cold brand.

### Fish Cultural Management

The separate reconditioning systems are now being operated at Dworshak National Fish Hatchery. System I is made up of 25 ponds and eight downflow rock and oyster shell biological filters. Systems II and III are made up of 25 and 34 ponds with upflow filters containing plastic medium (Norton rings). All three systems are provided with pre-treatment facilities that include electric grids, sand filters and ultraviolet radiation.

A monitoring program was initiated to determine the degree of Ichthyophthirius, a parasite common to the Dworshak reconditioning systems. Some degree of control of "Ich" has been apparent through the use of the upflow biological filter system due to its settling capacities.

### Environment

Monitoring of all systems and effluents has been continued for the following water analysis parameters:

- Oxygen
- Temperature
- pH
- Ammonia
- Nitrite
- Nitrate
- Suspended Solids
- Settleable Solids

Monitoring was initiated to determine the effectiveness of biological filtration on fish hatchery effluents with regards to pollution abatement.

SAFETY

Monthly Staff Safety Meetings were held during the year covering a wide range of Safety oriented topics. In addition to the monthly meetings, tailgate sessions were held as needed to orient new employees and cover new job situations. Two movies were shown and discussions were held covering defensive driving subjects.

Four DI-134s were filed covering accidents which occurred during the year.

Five unscheduled fire drills were held during the year.

There have been 363 man days of lost time accident free operation through June 30, 1974.

## MAINTENANCE AND REPAIR

Preventive maintenance and repairs accounted for most maintenance costs during the year. Charges to maintenance cost codes, with a few exceptions, were for personnel costs and for acquisition of materials and equipment necessary in conducting the maintenance program.

Breakdown repair work included major overhaul of five aerators and one reuse pump.

After many delays the Corps of Engineers has completed specifications for modifying the aerators and contract work should begin in the near future.

Major breakdown of the new electrode boilers occurred and repairs were made under warranty provisions by the supplier.

There were 195 system alarms outside of normal working hours. Many of the faults initiating the alarms would have resulted in serious harm to the equipment or fish if standby personnel had not corrected the problems promptly.

CONSTRUCTION

The U. S. Corps of Army Engineers contract DACW68-72-7-0179 was substantially completed during the fiscal year. The object of this construction was to place the remaining ponds on reuse. Two additional reuse systems were involved. The items listed in the contract are as follows:

Mechanical Building No. II, 67'6" x 81'	
Reinforced concrete covered with troweled marble---	\$553,000.00
Laboratory Building, 42' x 60'	
Reinforced concrete and concrete block, covered with troweled marble ---	\$128,800.00
Generator Building, 27' x 27'	
Reinforced concrete covered with troweled marble--	\$ 63,700.00
Reuse facilities, pumping plant, aeration and sludge disposal building, reinforced concrete fillers 88' x 309' with additional pond structure, 26' x 194' x 17' high ---	\$1,749,000.00
Piping, paving	<u>\$1,045,100.00</u>
Total ---	\$3,540,000.00

The above figures do not reflect all the change orders and contractor claims which may alter the amounts somewhat.

## BROODSTOCK AND SPAWNING OPERATIONS

(See Fish Hatchery Manual Section 4438a for Instructions)

No.	ITEM	ANADROMOUS OR WILD TROUT - Indicate Species			DOMESTICATED TROUT - Indicate Species		
		3-D-STT	3-D-KOE		3-D-Rbt		
1.	NUMBER OF FEMALES STRIPPED	4,164			799		
2.	TOTAL WEIGHT OF FEMALES				1,598		
3.	NUMBER OF MALES STRIPPED	980			391		
4.	TOTAL WEIGHT OF MALES				704		
5.	NUMBER OF GREEN EGGS TAKEN	26,047,748	629,252		1,034,864		
6.	EGGS TAKEN PER POUND OF FEMALES				648		
7.	EGGS TAKEN PER FEMALE	6,255	700		1,295		
8.	NUMBER OF EYED EGGS PRODUCED	14,558,080	387,750		364,755		
9.	EGG SURVIVAL: PERCENT TO EYED STAGE	75.2 %	61.6 %	%	35.2 %	%	%
	PERCENT TO HATCHING	60.5 %	58.1 %	%	24.2 %	%	%
	PERCENT TO FEEDING	55.8 %	49.3 %	%	21.3 %	%	%
10.	LABOR COST	6,795	1,944		7,778		
11.	NON-LABOR COST	1,292	1,174		2,738		
12.	TOTAL COST	8,087	3,118		10,516		
13.	CREDIT CURRENT YEAR WEIGHT GAIN OF LOT ( lbs. @ \$ )						
14.	ADJUSTED TOTAL COST (Item 12 minus Item 13)						
15.	DEBIT CURRENT YEAR WEIGHT LOSS OF LOT ( lbs. @ \$ )						
16.	ADJUSTED TOTAL COST (Item 12 plus Item 15)						
17.	COST PER THOUSAND EYED EGGS	.56	8.0¢		28.83		

DISTRIBUTION DATA AND COSTS

(See Fish Hatchery Manual Section 4438b for Instructions)

PART 1 - COSTS

SPECIES	DISTRIBUTION COSTS			FISH DISTRIBUTED		AVERAGE COSTS
	Labor	Non-Labor	Total	Pounds	Number	
	(1)	(2)	(3)	(4)	(5)	
PONDFISH	999	160	1,159	596	105,000	Per M. 11.04
TROUT	1,138	2,746	3,884	21,910	1,334,203	Per lb. .177
ANADROMOUS	4,047	2,148	6,195	*481,199	*3,808,656	Per lb. .0129
TOTALS	6,184	5,054	11,238	*503,705	*5,247,859	

PART 2 - DISTRIBUTIONS

SPECIES	TRANSFERS TO OTHER NFH's		TRANSFERS TO STATES		OTHER DISTRIBUTION	
	Pounds	Number	Pounds	Number	Pounds	Number
	(1)	(2)	(3)	(4)	(5)	(6)
PONDFISH					596	105,000
TROUT					21,910	1,334,203
ANADROMOUS					*481,199	*3,808,656
TOTALS					503,705	5,247,859

PART 3 - TRIP DATA

SPECIES	NUMBER OF TRIPS			POUNDS PER TRIP			NUMBER PER TRIP		
	Transfers	Other	Total	Transfers	Other	Total	Transfers	Other	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
PONDFISH		2	2		298	298		52,500	52,500
TROUT		28	28		783	783		47,655	47,655
ANADROMOUS		48	48		**1361	**1361		**7,010	**7,010
TOTALS		78	78						
AVERAGE					**1126	**1126		**22,765	**22,765

PART 4 - MILEAGE AND SPECIES DELIVERIES

ITEM	PONDFISH	TROUT	ANADROMOUS	TOTAL
MILES TRAVELED	540	508	3,442	4,490
AVERAGE NUMBER OF MILES PER TRIP				58
NUMBER APPLICATIONS (species delivered) THIS YEAR	1	3	1	5
NUMBER FARM POND DELIVERIES				
NUMBER INDIVIDUAL FARM PONDS INVOLVED				

PONDFISH DISTRIBUTED, 6" and larger: \_\_\_\_\_ POUNDS \_\_\_\_\_ NUMBER \*over

\*\*Includes only those fish distributed by truck.

PART 5 - FISH DISTRIBUTED BY OTHER HATCHERIES OR AGENCIES

SPECIES	FISH DISTRIBUTED		NAME OF DISTRIBUTING AGENCY
	Pounds	Number	
STT	435	304,581	University of Idaho
STT	28,139	287,539	National Marine Fisheries Service
STT	47	400	Oregon Fish Commission --Corvallis
STT	15,490	4,242,136	Idaho Fish & Game Department
			*Totals of Part I, Col. 4&5, Form 3-102 equals Col. 4, Form 3-103 plus bass distributed. Part I, Col. 4&5, Form 3-102 anadromous includes distribution of adult steelhead trucked 4,150 fish and 49,722 lbs.; trucked sub-adult steelhead of 332,330 fish 15,606 lbs.; and pumped smolt steelhead of 3,472,176 fish weighing 415,871 lbs.
TOTAL			
	44,111	4,834,656	

Bureau of Sport Fisheries and Wildlife  
**SALMONIDAE PRODUCTION**  
 (Fish and Eggs)

(See Fish Hatchery Manual Section 4438c for Instructions)

(1) Species	(2) ON HAND JULY 1		(3) Received During Year		(4) Total Distribution		(5) ON HAND JUNE 30		(6) Total Production in Pounds
	Number	Weight	Number	Weight	Number	Weight	Number	Weight	
<b>Cutthroats:</b>									
O-C-S-6X	930	158	---	---	---	---	2,500	420	262
3-UWA-36	161,912	21	---	---	45,463	2,285	---	---	2,264
<b>Sub Total</b>	<b>162,842</b>	<b>179</b>	<b>---</b>	<b>---</b>	<b>45,463</b>	<b>2,285</b>	<b>2,500</b>	<b>420</b>	<b>2,526</b>
<b>Rainbow:</b>									
O-E-F-10X	6,721	8,297	---	---	1,897	3,720	2,700	8,100	3,523
3-E-37X	---	---	250,000	72	16,000	2,441	---	---	2,369
3-D-38X	---	---	1,034,868	---	52,376	1,526	---	---	1,526
4-E-47	---	---	2,501,906	307	915,179	9,182	---	---	8,875
4-YCA-48	---	---	500,000	85	86,000	757	---	---	672
<b>Sub Total</b>	<b>6,721</b>	<b>8,297</b>	<b>4,286,774</b>	<b>464</b>	<b>1,071,452</b>	<b>17,626</b>	<b>2,700</b>	<b>8,100</b>	<b>16,965</b>
<b>Kokanee:</b>									
3-UID-35X	---	---	629,252	---	217,288	1,999	---	---	1,999
4-UWA-45	---	---	111,000	24	---	---	---	---	-24
<b>Sub Total</b>	<b>---</b>	<b>---</b>	<b>740,252</b>	<b>24</b>	<b>217,288</b>	<b>1,999</b>	<b>---</b>	<b>---</b>	<b>1,975</b>
<b>Steelhead:</b>	<b>13,668,410</b>	<b>5,025</b>	<b>14,558,080</b>	<b>---</b>	<b>16,097,312</b>	<b>528,354</b>	<b>---</b>	<b>---</b>	<b>*523,329</b>
<b>Sub Total</b>	<b>13,668,410</b>	<b>5,025</b>	<b>14,558,080</b>	<b>---</b>	<b>16,097,312</b>	<b>528,354</b>	<b>---</b>	<b>---</b>	<b>*523,329</b>
									(473,607)
(Bass not included here.)									(495,073)
<b>TOTALS</b>	<b>13,837,973</b>	<b>13,501</b>	<b>19,535,106</b>	<b>488</b>	<b>17,431,515</b>	<b>550,264</b>	<b>5,200</b>	<b>8,520</b>	<b>544,795</b>

\*Includes unspawned steelhead adults trucked from the Station - actual STT production 16,093,162 @ 478,632.

## ANADROMOUS DISTRIBUTION

Species

Steelhead Trout

Source (parent waters)

North Fork of Clearwater River

(See Fish Hatchery Manual Section 4438d for Instructions)

BROOD YEAR	NUMBER OF EGGS		EGGS AND FISH SHIPPED to another Hatchery			FISH PLANTED					
	Collected	Received	Number	Number per pound	Weight	Date Mo./Yr.	Number	Number per pound	Weight	Water	
1969	11,472,500	--	1,200,000		eggs	7/69	1,583,066	2,500	633	North Fork, Clearwater River	
						4/70	1,248,227	7.10	175,766		
						5/70	123,316	9.15	13,472		
						4/71	1,341,366	5.63	238,209		
1970	11,627,946	--	2,795,500	--	eggs	4/71	1,802,205	10.19	176,837	NMFS, Little Coose University of Idaho Clearwater River Station NMFS, Columbia River	
						10/71	1,500	7.5	200		
						10/71	50	7.5	7		
						4/72	17,669	5.7	3,117		
						4/72	943,659	5.8	162,319		
						4/72	500	5.9	85		
1971	6,448,600	--	401,159	--	eggs	7/72	480	46	10	University of Idaho University of Idaho NMFS, Little Coose Willard Nutrition Lab. North Fork, Clearwater River	
						9/72	200	25	8		
						10/72	500	20	25		
						1/73	6,000	20	300		
						4/73	1,270,197	14.2	89,373		
1972	5,244,698	--	10,000		eggs	8/72	15,000	2,500	6	University of Idaho N-Fork Clearwater " " S-Fork Clearwater " "	
						3/33	77,903	13.0	6,077		
						4/73	1,280,619	15.0	85,162		
						4/73	841,377	54.7	15,383		
						5/73	200,880	62.0	3,240		
1973	26,561,861	--	12,951,000	eggs	eggs	6/73	748,300	2,144	349	S-Fork Clearwater University of Idaho Lolo Creek N-Fork Clearwater University of Idaho N-Fork Clearwater Oregon Game Commission N.M.P.S. Lolo Creek Clearwater River	
			2,000		eggs	10/73	1,800	225	8		
			42,000		eggs	12/73	230,335	76	3,012		
			2,020,200		1,400	1,443	3/74	492,827	9.7		50,627
							2/74	2,781	9.3		300
							4/74	2,907,031	8.1		357,378
							4/74	400	8.5		47
							5/74	287,530	10.2		28,529
							5/74	101,995	8.1		12,594
							5/74	72,318	8.8		7,866

## ANADROMOUS DISTRIBUTION

Species

Steelhead Trout

Source (parent waters)

North Fork Clearwater River

(See Fish Hatchery Manual Section 4438d for Instructions)

BROOD YEAR	NUMBER OF EGGS		EGGS AND FISH SHIPPED to another Hatchery			FISH PLANTED				
	Collected	Received	Number	Number per pound	Weight	Date Mo./Yr.	Number	Number per pound	Weight	Waters
1974	26,047,748	---	2,000	eggs	1					
			5,342,000	eggs	2058					
			1,350,000	eggs	551					
			550,000	eggs	225					
			210,000	eggs	86					
			300,000	fry	123					

Bureau of Sport Fisheries and Wildlife

EGG SHIPMENTS - SALMONIDAE

(See Fish Hatchery Manual Section 4438e for Instructions)

SPECIES	NAME AND ADDRESS OF APPLICANT	EGGS SHIPPED		DATE SHIPPED
		NUMBER	WEIGHT	
Steelhead 4-D-41	Idaho Fish and Game Department Boise, Idaho	7,242,000	2957	4/15, 22, 29 5/1 & 8, 1974
	University of Idaho Co-op Fishery Unit Moscow, Idaho	212,000	87	5/31/74
TOTAL NUMBER SHIPPED		7,454,000	3,044	

## FISH FOOD

SPECIES  
 Trout Anadromous  
 Salmon  
 Other

See Fish Hatchery Manual Section 4438f for Instructions)

2	ITEM	POUNDS (e)	TOTAL COST or VALUE (b)	
1.	FISH FOOD ON HAND JULY 1	179,300	23,887.01	
2.	FISH FOOD RECEIVED BY DONATION	-----	-----	
3.	FISH FOOD RECEIVED BY TRANSFER	-----	-----	
4.	SUB-TOTAL RECEIVED AND ON HAND	179,300	23,887.01	
5.	LIST TYPE PURCHASED DURING YEAR		Cost Per Pound	
	Silver Cup	23,200	.2590	5,998.95
	SD 5-25	6,300	.2110	1,328.68
	PR 9	5,350	.2210	1,180.74
	PR 9-25	386,270	.1990	76,758.47
	PR 10	331,180	.1880	62,261.84
	PR 10-25	146,300	.1650	24,197.41
6.	SUB-TOTAL PURCHASED	898,600	Average: .1911	171,726.09
7.	TOTAL RECEIVED AND PURCHASED (Item 4 + 6)	1,077,900		195,613.10
8.	LESS FISH FOOD TRANSFERRED TO OTHER HATCHERIES	-----		-----
9.	LESS FISH FOOD ON HAND JUNE 30	296,837		54,923.03
10.	TOTAL FISH FOOD EXPENDED	781,063		140,690.07
11.	COST PER POUND OF FISH FOOD EXPENDED (Line 10, col. (b) ÷ col. (a))			.1801
12.	GAIN IN WEIGHT OF FEEDING FISH PRODUCED DURING YEAR			475,588
13.	FOOD CONVERSION (Line 10, col. (a) ÷ line 12)			1.64
	FOOD COST PER POUND OF FISH PRODUCED (Line 10, col. (b) ÷ line 12)			.296
15.	GIVE DETAILS ON REVERSE SIDE FOR ENTRIES ON LINES 2, 3, and 8			

## FISH FOOD

SPECIES

 Trout Anadromous Salmon Other

See Fish Hatchery Manual Section 4438f for Instructions)

No	ITEM	POUNDS		TOTAL COST or VALUE
		(a)	(b)	(b)
1.	FISH FOOD ON HAND JULY 1	58,600		7806.93
2.	FISH FOOD RECEIVED BY DONATION	----		-----
3.	FISH FOOD RECEIVED BY TRANSFER	----		-----
4.	SUB-TOTAL RECEIVED AND ON HAND		58,600	7,806.93
5.	LIST TYPE PURCHASED DURING YEAR	Cost Per Pound		
	O.M.P.	.2480	24,800	6,150.40
	O.M.P. (Sulmet)	.2550	1,000	255.00
	Silver Cup	.2580	27,400	7,069.20
	PR 9	.2207	4,650	1,026.26
	PR 9-25	.1990	8,450	1,681.55
6.	SUB-TOTAL PURCHASED	Average: .2441	66,300	16,182.41
7.	TOTAL RECEIVED AND PURCHASED (Item 4 + 6)		124,900	23,989.34
8.	LESS FISH FOOD TRANSFERRED TO OTHER HATCHERIES		---	---
9.	LESS FISH FOOD ON HAND JUNE 30		15,623	2,890.65
10.	TOTAL FISH FOOD EXPENDED		109,277	21,098.69
11.	COST PER POUND OF FISH FOOD EXPENDED (Line 10, col.(b) ÷ col.(a))			.1930
12.	GAIN IN WEIGHT OF FEEDING FISH PRODUCED DURING YEAR			21,911
13.	FOOD CONVERSION (Line 10, col.(a) ÷ line 12)			4.99
14.	FOOD COST PER POUND OF FISH PRODUCED (Line 10, col.(b) ÷ line 12)			.96
15.	GIVE DETAILS ON REVERSE SIDE FOR ENTRIES ON LINES 2, 3, and 8			

## CHEMICAL CONTROL PROGRAM

(See Fish Hatchery Manual Section 4438i for Instructions)

CONTROL CHEMICAL USED	ORGANISM TREATED	AMOUNT USED		No. Acres Treated (Indicate Land or Water)	TOTAL PURCHASE PRICE
		Lbs.	Gals.		
Formalin	Fungus Protozoan parasites	7,760	880	L	2,200 gal. \$1,649.00
				W X	
Sodium thiosulfate	Chlorine neutralizer	6,740		L	12,200 lbs. \$1,366.70
				W X	
Calcium Hypochlorite	Pond disinfectant			L	4,400 lbs. \$1,420.00
				W X	
Wescodyne	Egg disinfectant		3	L	12 gal. \$53.76
				W X	
Rocal	Bactericide		10	L	100 gal. \$586.85
				W X	
Aluminum Sulfate	Water flocculent	137,424		L	\$5,398.42
				W X	
Malachite green	Fungicide	5		L	carry over from Fiscal year 73
				W X	
				L	
				W	
				L	
				W	
				L	
				W	
				L	
				W	
				L	
				W	
				L	
				W	
				L	
				W	
<b>TOTAL</b>		<b>151,929</b>	<b>893</b>	L	<b>\$10,474.73</b>
				W	

### OPERATIONS COST SUMMARY

(See Fish Hatchery Manual Section 4438j for instructions.)

ITEM	Cost Code	LABOR EXPENDITURES *				NON-LABOR EXPENDITURES *				Total Expenditures (i)
		Warmwater	Trout	Anadromous	Total	Warmwater	Trout	Anadromous	Total	
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	
1 Broodstock and spawning	01 06		9,722	6,795	16,517		3,912	1,292	5,204	21,721
2 Rearing	07 12		18,503	104,650	123,153		25,363	300,000	325,363	448,516
3 Distribution	13 18	999	1,138	4,047	6,184	160	2,746	2,148	5,054	11,238
4 PRODUCTION Sub-total		999	29,363	115,492	145,854	160	32,021	303,440	335,621	481,475
5 Fish production facilities	21 22				63,821				100,096	163,917
6 Buildings	23 24				33,129				13,582	46,711
7 Other physical facilities	25 26				24,860				19,802	44,662
8 MAINTENANCE Sub-total					121,810				133,480	255,290
9 Public use	27 28				9,831				324	10,155
10 Training	31 32				859				779	1,638
11 Opr. fish passage facilities	41 42				9,231					9,231
12 OPERATIONS & MAINTENANCE TOTAL					287,585				470,204	757,789
13 Fish production facilities	51 52									
14 Buildings	53 54									
15 Other physical facilities	55 56									
16 Public use facilities	57 58									
17 REHABILITATION TOTAL										
18 GRAND TOTALS					287,585				470,204	757,789
19 O & M Expenditures - Percent for Fish Production		Column (d): Line 4 + Line 12			.51	Column (i): Line 4 + Line 12			.64	
20 TOTAL EXPENDITURES - Percent for Fish Production		Column (d): Line 4 + Line 18			.51	Column (i): Line 4 + Line 18			.64	

OPERATIONS COST SUMMARY

(See Fish Hatchery Manual Section 436 for instructions.)

ITEM	Code	LABOR EXPENDITURES			NON-LABOR EXPENDITURES			Total Expenditures (b)
		Total (a)	Wages (b)	Benefits (c)	Total (d)	Materials (e)	Supplies (f)	
		(19)	(20)		(19)	(20)		
1 Broodstock and spawn	01				27,762	19,824	47,586	
2 Rearing	02							
3 Distribution	03							
4 PRODUCTION SUB-TOTAL	04						757,789	
5 Fish production facilities	05							
6 Buildings	06							
7 Other physical facilities	07							
8 MAINTENANCE SUB-TOTAL	08						252,200	
9 Supplies	09							
10 Training	10							
11 Operating message facilities	11							
12 OPERATIONS & MAINTENANCE TOTAL	12						757,789	
13 Fish production facilities	13							
14 Buildings	14							
15 Other physical facilities	15							
16 Public facilities	16							
17 RESEARCH TOTAL	17							
18 GRAND TOTALS	18						757,789	
19 O & M Expenditures - Production		Column (b): Line 4 + Line 12						
20 TOTAL EXPENDITURES - Production		Column (b): Line 4 + Line 18						

If any totals include contributed funds, show source and breakdown on reverse!

## PRODUCTION COSTS

(See Fish Hatchery Manual Section 4438k for Instructions)

## PART 1 - PRODUCTION and EXPENDITURES

No.	ITEM	PONDFISH	TROUT	ANADROMOUS	TOTAL
1	Number Produced				
2	Pounds Produced		21,466	473,607	495,073
3	Labor Expenditures	999	29,363	115,492	145,854
4	Non-Labor Expenditures	160	32,021	303,440	335,621
5	TOTAL EXPENDITURES	*1,159	61,384	418,932	481,475

## PART 2 - ANALYSIS OF PRODUCTION COST

ITEM	COST	PERCENTAGE
<b>PONDFISH</b>		
PRODUCTION COST PER POUND		
LABOR COST PER POUND		
LABOR COST PERCENT OF PRODUCTION COST		
PRODUCTION COST PER THOUSAND FISH		
LABOR COST PER THOUSAND FISH		
<b>TROUT</b>		
PRODUCTION COST PER POUND	2.86	
LABOR COST PER POUND	1.37	
LABOR COST PERCENT OF PRODUCTION COST		48
<b>ANADROMOUS</b>		
PRODUCTION COST PER POUND	.88	
LABOR COST PER POUND	.25	
LABOR COST PERCENT OF PRODUCTION COST		28
VERAGE PRODUCTION COST PER POUND OF ALL FISH PRODUCED	.97	

Form 3-111

(Revised June 1968)

\*Cost of transporting and releasing small mouth bass in Dworshak reservoir.

Bureau of Sport Fisheries and Wildlife

**REARING FACILITIES AND WATER SUPPLY**

\*See Fish Hatchery Manual Section 4438m for Instructions)

**PART 1 REARING FACILITIES**

1. TYPES OF FACILITIES IN USE	NUMBER IN USE	CAPACITY (Calculate at normal water level)	MONTHS IN USE	TOTAL (Months x Cu.Ft.)
TROUGHS	8	88 Cu.Ft.	2	176
TANKS	64	6,144 Cu.Ft.	6	36,864
RACEWAYS	84	214,200 Cu.Ft.	8	1,713,600
OTHER POOLS AND PONDS - Concrete		Cu.Ft.		
OTHER POOLS AND PONDS - Earthen		Cu.Ft.		
<b>TOTAL</b>				<b>1,750,640</b>
TOTAL CUBIC FEET IN USE ON YEARLY BASIS (Divide Total by 12)				<b>145,887</b>

**PART 2 - WATER SUPPLY**

2. ** SOURCE OF SUPPLY	Check appropriate source for each supply				OTHER (Explain on reverse)
	SPRING	WELL	LAKE	STREAM	
Supply No. 1					
Supply No. 2					
Supply No. 3					
3. AVERAGE VOLUME OF WATER - g.p.m. (Give total flow in parenthesis, if not all used)	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	ANNUAL AVERAGE
Supply No. 1	33,000	42,700	55,000	24,000	38,800*
Supply No. 2					
Supply No. 3					
4. AVERAGE WATER TEMPERATURE - F°	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	ANNUAL AVERAGE
*** Supply No. 1 River	49	48.6	39.0	43.5	45
Incubator	50.8	47.7	42.2	46.1	46.7
Supply No. 2 Reuse I	54.4	52.1	55.6	50.3	54.0
Reuse II	57.6	54.6	56.9	54	55.8
Supply No. 3 Reuse III	56.3	55.2	57.2	53.9	56

5. TOTAL POUNDS OF TROUT <sup>and</sup> /OR ANADROMOUS SPECIES PRODUCED: 495,073
6. TOTAL POUNDS OF TROUT <sup>and</sup> /OR ANADROMOUS SPECIES PRODUCED per g.p.m. AVERAGE FLOW USED: 12.8\*
7. TOTAL POUNDS OF TROUT <sup>and</sup> /OR ANADROMOUS SPECIES PRODUCED per Cu. Ft. (annual) FLOW: 3.39
8. IS ANY WATER PUMPED FOR FISH PRODUCTION? YES  NO  HEATED? YES  NO   
 (If YES in either case, give details as to flow involved, estimated cost, etc, on reverse.)

\*Includes reuse water.

THE INCUBATOR WATER REUSE SYSTEM

\*\* Three reuse systems are now in use. Reuse system I is designed to circulate up to 15,000 g.p.m. and use about 1,200 g.p.m. of new water. Reuse system II can circulate about 22,000 g.p.m. Reuse system III can circulate approximately 30,000 g.p.m. Makeup or new water can be added to systems II and III at varying amounts but the usual amount of new water would be 1,500 g.p.m. in system II and 2,300 g.p.m. in system III.

\*\*\* Water temperatures are controlled within the respective reuse systems and the incubator system. The temperatures are monitored in those systems and also on the incoming river water.

Estimated cost involved to pump, cool, and heat water:

Electrical for pumping, cooling and heating	=	\$37,551.96
#5 fuel oil for heating	=	<u>48,264.19</u>
Total		85,816.15

## SUMMARY OF LABOR EXPENDED AND UTILIZATION

(See Fish Hatchery Manual Section 4438n for Instructions)

## PART 1 - STATION LABOR ANALYSIS

No.	ITEM	Man-Years of Labor
1	PERMANENT PERSONNEL	18.0
2	ALL OTHER LABOR	3.1
3	OVERTIME FOR WORK PERFORMED AT STATION BY ABOVE EMPLOYEES	.2
4	DETAIL OF PERSONNEL TO STATION	
5	OVERTIME OF DETAILED PERSONNEL AT STATION	
6	TOTAL LABOR - ALL PERSONNEL	21.3

## PART 2 - LABOR UTILIZATION

No.	ITEM	Permanent	Other
7	PRODUCTION	8.51	1.18
	PONDFISH (Cost Codes 01, 07)		
	TROUT (Cost Codes 03, 09)	(1.90)	(.24)
	SALMON (Cost Codes 05, 11)	(6.61)	(.94)
8	op. Fish passage facilities DISTRIBUTION (Cost Codes 13, 15, 17)	1.00 .38	
9	MAINTENANCE	7.59	1.16
	MAINTENANCE (Cost Codes 21, 23, 25)	(7.59)	(1.16)
	REHABILITATION (Cost Codes 51, 53, 55, 57)		
10	PUBLIC USE (Cost Code 27)	.63	.76
11	TRAINING (Cost Code 31)	.09	
12	SUB TOTAL	18.20	3.1
13	TOTAL PERMANENT AND OTHER (Equals Item 6)		21.3

**REPORT OF PERMANENT PERSONNEL**

26

(See Fish Hatchery Manual Section 4438o for Instructions)

**PART 1 - STATION PERSONNEL**

NAME OF EMPLOYEE	Age	Grade	Marital Status	Children Under 18	Period Worked	COMPENSATION PAID			Total Compensation
						Total Regular Salary	Uniform Allowance	Paid Overtime	
						(6)	(7)	(8)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Ankney, William G.	40	6	S	2	7/1/73-6/30/74	12,249	125	774	13,148
Billi, James L.	35	11	M	2	7/1/73-6/30/74	15,438	125	--	15,563
Brainard, Lila N.	56	6	M	0	7/1/73-6/30/74	10,039	125	--	10,164
Carlson, Dwain A.	39	6	M	5	7/1/73-6/30/74	10,924	125	542	11,591
Espinosa, Susan D.	25	5	M	1	4/28/74-6/30/74	1,219	125	--	1,344
Harris, Walter G.	40	9	M	3	7/1/73-6/30/74	15,837	125	--	15,962
Haves, Charles H.	37	5	S	0	7/1/73-6/30/74	9,640	125	348	10,113
<b>1. TOTAL - STATION PERSONNEL</b>									

**PART 2 - PERSONNEL DETAILED TO STATION**

NAME OF EMPLOYEE	From Station	Period of Detail	COMPENSATION PAID			Total Compensation
			Regular Salary Costs	Per Diem and Expenses	Paid Overtime	
			(3)	(4)	(5)	
(1)	(2)	(3)	(4)	(5)	(6)	
<b>2. TOTAL - DETAILED TO STATION</b>						
<b>3. TOTAL COMPENSATION PAID TO PERMANENT PERSONNEL ON DUTY AT STATION</b>						

DATE	TIME	LOCATION	ACTIVITY	REMARKS
APR 28	0800	OFFICE	WORK	
APR 29	0800	OFFICE	WORK	
APR 30	0800	OFFICE	WORK	
MAY 01	0800	OFFICE	WORK	
MAY 02	0800	OFFICE	WORK	
MAY 03	0800	OFFICE	WORK	
MAY 04	0800	OFFICE	WORK	
MAY 05	0800	OFFICE	WORK	
MAY 06	0800	OFFICE	WORK	
MAY 07	0800	OFFICE	WORK	
MAY 08	0800	OFFICE	WORK	
MAY 09	0800	OFFICE	WORK	
MAY 10	0800	OFFICE	WORK	
MAY 11	0800	OFFICE	WORK	
MAY 12	0800	OFFICE	WORK	
MAY 13	0800	OFFICE	WORK	
MAY 14	0800	OFFICE	WORK	
MAY 15	0800	OFFICE	WORK	
MAY 16	0800	OFFICE	WORK	
MAY 17	0800	OFFICE	WORK	
MAY 18	0800	OFFICE	WORK	
MAY 19	0800	OFFICE	WORK	
MAY 20	0800	OFFICE	WORK	
MAY 21	0800	OFFICE	WORK	
MAY 22	0800	OFFICE	WORK	
MAY 23	0800	OFFICE	WORK	
MAY 24	0800	OFFICE	WORK	
MAY 25	0800	OFFICE	WORK	
MAY 26	0800	OFFICE	WORK	
MAY 27	0800	OFFICE	WORK	
MAY 28	0800	OFFICE	WORK	
MAY 29	0800	OFFICE	WORK	
MAY 30	0800	OFFICE	WORK	
MAY 31	0800	OFFICE	WORK	

APR 28 1974

REPORT OF PERMANENT PERSONNEL

(See Fish Hatchery Manual Section 44380 for Instructions)

PART 1 - STATION PERSONNEL

NAME OF EMPLOYEE	Age	Grade	Marital Status	Children Under 18	Period Worked	COMPENSATION PAID			Total Compensation
						Total Regular Salary	Uniform Allowance	Paid Overtime	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Heathco, Merle S.	50	WG 07	M	0	7/1/73-6/30/74	10,604	125	13	10,742
Lientz, Joseph C.	35	11	M	2	6/23/74-6/30/74	282	--	--	282
Olney, Fred E.	26	07	M	0	9/30/73-4/27/74	5,910	125	--	6,035
Parvin, John R.	60	13	M	0	7/1/73-6/30/74	23,118	125	--	23,243
Reynolds, LaVerne W.	39	04	S	0	7/1/73-6/30/74	8,571	125	170	8,866
Sanders, Boyce O.	58	09	M	0	7/1/73-6/30/74	14,410	125	--	14,535
Simonsen, Rolf W.	52	07	M	0	7/1/73-6/30/74	12,399	125	372	12,896
<b>1. TOTAL - STATION PERSONNEL</b>									

PART 2 - PERSONNEL DETAILED TO STATION

NAME OF EMPLOYEE	From Station	Period of Detail	COMPENSATION PAID			Total Compensation
			Regular Salary Costs	Per Diem and Expenses	Paid Overtime	
(1)	(2)	(3)	(4)	(5)	(6)	
<b>2. TOTAL - DETAILED TO STATION</b>						
<b>3. TOTAL COMPENSATION PAID TO PERMANENT PERSONNEL ON DUTY AT STATION</b>						

Joseph C. Lentz -- Entered on duty June 23, 1974. Transferred from Bozeman National Fish Hatchery, Bozeman, Montana.

Fred E. Olney -- Transferred to Division of Fishery Services, Tumwater, Washington on April 27, 1974.

NAME	DATE	FROM	TO
Joseph C. Lentz	June 23, 1974	Bozeman National Fish Hatchery	Division of Fishery Services, Tumwater, Washington
Fred E. Olney	April 27, 1974	Division of Fishery Services, Tumwater, Washington	Division of Fishery Services, Tumwater, Washington

DEPARTMENT OF WILDLIFE - BUREAU OF FISH AND WILDLIFE

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## REPORT OF PERMANENT PERSONNEL

(See Fish Hatchery Manual Section 4438o for Instructions)

## PART 1 - STATION PERSONNEL

NAME OF EMPLOYEE	Age	Grade	Marital Status	Children Under 18	Period Worked	COMPENSATION PAID			Total Compensation
						Total Regular Salary	Uniform Allowance	Paid Overtime	
						(6)	(7)	(8)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Taggart, Thomas M.	40	06	M	0	7/1/73-6/30/74	10,137	125	125	10,387
Thornton, Warren L.	45	11	M	0	7/1/73-6/30/74	11,982	125	333	12,440
Williams, George L.	45	11	M	3	7/1/73-6/30/74	16,403	125	--	16,528
Wold, Einar	42	12	M	2	7/1/73-4/13/74	15,234	125	--	15,359
Wurth, Richard L.	41	10	M	2	7/1/73-6/30/74	11,658	125	49	11,832
<b>1. TOTAL - STATION PERSONNEL</b>						216,054	2,250	2,726	221,030

## PART 2 - PERSONNEL DETAILED TO STATION

NAME OF EMPLOYEE	From Station	Period of Detail	COMPENSATION PAID			Total Compensation
			Regular Salary Costs	Per Diem and Expenses	Paid Overtime	
			(3)	(4)	(5)	
(1)	(2)	(3)	(4)	(5)	(6)	
<b>2. TOTAL - DETAILED TO STATION</b>						
<b>3. TOTAL COMPENSATION PAID TO PERMANENT PERSONNEL ON DUTY AT STATION</b>						221,030



## FIVE YEAR PRODUCTION AND DISTRIBUTION SUMMARY

(See Fish Hatchery Manual Section 4438p for Instructions)

## PART 1 - PRODUCTION

YEAR	TOTAL POUNDS (All Species)	NUMBER of POND FISH	PER TOTAL MAN YEARS		PER PRODUCTION MAN YEARS	
			Pounds (All Species)	Number (Pondfish)	Pounds (All Species)	Number (Pondfish)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970	279,291	--	18,290	--	30,031	--
1971	404,917	--	22,850	--	44,350	--
1972	260,625	--	13,863	--	30,305	--
1973	284,807	--	13,340	--	27,922	--
1974	495,073	--	23,243	--	51,091	--

## PART 2 - COST ANALYSIS

YEAR	Percent Production Cost of Total	Percent Labor Cost of Total	Production Cost per Pound of Fish	Labor Cost per Pound of Fish	Food Cost per Pound of Fish	Food Conversion
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1970	70	38	1.06	.37	.246	1.94
1971	66	33	.89	.31	.26	2.00
1972	57	47	1.05	.42	.32	2.73
1973	63	38	1.43	.48	.28	2.47
1974	64	38	.97	.29	.39	1.82

## PART 3 - DISTRIBUTION

YEAR	TOTAL DISTRIBUTION		Number of Truck Trips	Miles Traveled In Fish Distribution	Average Miles per Trip	AVERAGE DISTRIBUTION PER TRIP		Average Cost per Trip	Dist. Cost per Pound of Fish
	Pounds	Number				Pounds	Number		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1970	189,871	2,954,609	--	Not Applicable					
1971	415,046	3,143,571	--	Not Applicable					
1972	278,933	3,035,149	73	3,602	49.3	1,509	28,172	109.79	.032
1973	338,635	20,544,274	80	4,847	61	1,910	61,722	653.15	.1543
1974	503,705	5,247,859	76	3,950	52	1,148	21,985	147.87	.022

## ANALYSIS OF PROGRAM

(See Fish Hatchery Manual 4438r for instructions)

PART 1 - PRODUCTION									
Line Number	Species	PROGRAM SCHEDULE		ANNUAL REPORT		DIFFERENCE			
		Pounds	Numbers	Pounds	Numbers	Pounds	%	Numbers	%
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	Trout	100,000	4,480,000	18,512	1,072,000	-81,488	81	-3,408,000	76
2	Warmwater								
3	Anadromous	480,000	3,360,000	470,563	8,905,515	-9,437	2	+5,545,515	165
4	TOTALS	580,000	7,840,000	489,075	9,977,515	-90,925	16	+2,137,515	27

## PART 2 - COSTS

Category	PROGRAM SCHEDULE		ANNUAL REPORT		DIFFERENCE			
	Dollars	Man Years	Dollars	Man Years	Dollars	%	Man Years	%
5 Production	417,200	7.5	470,237	9.69	53,037	13	2.19	29
6 Distribution	20,400	.7	11,238	.38	-9,162	46	-.32	46
Maintenance	210,100	7.3	255,290	8.75	45,190	22	1.45	20
8 operation fish passage facilities	16,100	1.0	9,231	1.00	-6,869	37	---	---
9 Public Use	12,900	1	10,155	1.39	-2,745	21	.39	39
10 Training	17,000	1.5	1,638	.09	-15,362	90	-1.41	99
11 TOTALS	693,700	19.0	757,789	21.3	64,089	9	2.3	12

## PART 3 - INDEXES

Costs Lb/M	PROGRAM SCHEDULE		ANNUAL REPORT		DIFFERENCE			
	Per. Lb.	Per M	Per. Lb.	Per M	Per. Lb.	%	Per M	%
12 Total Cost	1.20	88.40	1.55	75.95	.35	29	-12.45	14
13 Production Cost	.75	53.2.	.98	48.26	.23	31	-4.95	9
Pounds/Man Years	PROGRAM SCHEDULE		ANNUAL REPORT		DIFFERENCE			
14 Total Man Years	30,526		22,961		7,565			25
Prod. Man Years	70,731		45,836		24,895			35

Part I - Production: Less trout and kokanee were produced because the Idaho Department of Fish and Game requested less rainbow trout for the catchable program and kokanee eggs in the numbers desired were not available.

More steelhead (anadromous) were handled because at the time of the program schedule submission January, 1972 the tremendous return of adults to the hatchery could not be visualized.

Part II - Costs: The increase over estimated man years was due to the change of program requiring installation of trapping facilities on Dworshak Reservoir and at Andersen Ranch Reservoir. The addition of tour guides made necessary by the high public use, and the construction of additional facilities by the Corps of Engineers. Additional costs included the above as well as the escalation of costs due to the inflation of the economy beyond that visualized in January, 1972.

Indexes: The production of trout was less than programmed due to the factors mentioned above. The production of steelhead poundage was within 1% of estimates. The increased man years mentioned above and the slightly less production than estimated (15%) resulted in less production per man than was shown on the appropriate program schedule.

## PUBLIC RELATIONS

TOTAL PUBLIC VISITORS<sup>1/</sup>

See Fish Hatchery Manual section 4438q for instructions)

33,705

## A - INTERPRETATIVE PRESENTATIONS

TYPE OF GROUPS	ON HATCHERY		OFF HATCHERY	
	Number of Groups	Number in Group	Number of Groups	Number in Group
Sportsman Clubs			1	41
Schools	32	1659	1	50
Service Clubs	4	94	1	24
Professional-Scientific	9	144		
Religious Groups	1	30		
Camp Groups				
Youth Groups	6	80		
State or Federal Government	3	33		
Other	6	55		
<b>TOTALS</b>	<b>61</b>	<b>2095</b>	<b>3</b>	<b>115</b>

## B - OTHER PUBLIC RELATIONS ACTIVITIES

TYPE OF ACTIVITY	NUMBER	TYPE OF ACTIVITY	NUMBER
Press Releases (field level)	5	Hatchery Exhibits	7
Number of newspapers (receiving releases)	3	Off Hatchery Exhibits	2
TV Presentations	2	Estimate number of exhibit viewers	80,000
Radio Presentations	3	Other (Explain in remarks - i. e., open house, participation in local events, etc.)	

REMARKS