

HAGERMAN NATIONAL FISH HATCHERY

ANNUAL REPORT

1999



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INTRODUCTION

The Hagerman National Fish Hatchery (NFH) is located along the Snake River, about 30 miles west of Twin Falls, Idaho at a point three miles south and two miles east of Hagerman, Idaho. The hatchery was authorized by 46 Stat, 371 on May 21, 1930 and was established in 1932. Construction of the physical facilities commenced in 1932, and fish production began in 1933. The primary goal of the hatchery, at that time, was the production of rainbow trout for stocking in Idaho, eastern Oregon, and northern Nevada.

In the late 1970's the hatchery became part of the Lower Snake River Fish and Wildlife Compensation Plan (LSRCP) which was authorized by the Water Resources Development Act of 1976, Public Law 94-587. This plan was designed to mitigate for fish and wildlife losses caused by the construction of four dams on the lower Snake River. For its part in the Compensation Plan, the hatchery's primary production goal was changed from resident rainbow trout to steelhead trout. The U. S. Fish and Wildlife Service entered into an agreement with the U. S. Army Corps of Engineers and Idaho Department of Fish and Game (IDFG) to annually rear 340,000 pounds of summer steelhead trout at 4 to 5 fish per pound (8 inches) at Hagerman NFH. To implement the new production goals, the hatchery was rebuilt and expanded, at a cost of \$7.0 million, by the Corps of Engineers from June 1982 through April 1984.

There are 102 outside raceways at the hatchery. Of these, 66 are devoted to LSRCP steelhead production and 12 are reserved for other programs which the Fish and Wildlife Service deems appropriate. The remaining 24 raceways are not in use at this time. Other major facilities include two hatchery-rearing buildings with a total of 66 rearing tanks, an administration-visitor facility building, a combination shop/four-stall garage, four residences, an oil/paint storage building, and two general storage buildings.

The hatchery's water supply is spring-fed at a constant 59 degrees Fahrenheit with a flow rate of approximately 30,000 gallons per minute. Water rights, under Idaho law, are both statutory and constitutional. A total of 17 spring sources are identified on the Fish and Wildlife Service property.

Co-located within the hatchery grounds is the Hagerman Fish Culture Experiment Station. This research facility is owned and operated by the University of Idaho.

STATION OPERATIONS

Within the framework of the LSRCP, specific goals and objectives for the hatchery's steelhead production are established through a high degree of interagency coordination. For the Hagerman NFH the LSRCP calls for an adult return goal of 13,600 adult steelhead above Lower Granite Dam.

A variety of basin-wide planning efforts have been implemented to coordinate anadromous hatchery production programs. These activities affect certain aspects of the Hatchery's steelhead production program, such as total number and strain reared, time and size at release, and location of release. With the listing of a number of steelhead and salmon stocks within the Columbia and Snake river basins under the Endangered Species Act (ESA), a heightened awareness for greater coordination of the hatchery program is evident.

Fish Culture Operations

Lower Snake River Compensation Plan-Steelhead Production

Brood Year 1999

The Brood Year (BY) 1999 production goal for Hagerman NFH is 1,200,000 smolts at a target size of 4.2 fish per pound (180-250mm). To meet this goal, we received approximately 1,453,000 eyed eggs from the IDFG's Oxbow State Fish Hatchery (554,000 Oxbow stock) and the Sawtooth Fish Hatchery (899,000 Sawtooth stock), from early May through late June, 1999. All eggs were "A" strain summer steelhead.

Approximately 97% of both Oxbow and Sawtooth eggs hatched successfully. During July, August, and September, 1,330,000 fingerlings were moved to outdoor raceways. All fish were vaccinated for ERM (*Yersinia ruckeri*) at larger than 100 fish per pound.

Fish marking began September 27, and was completed on October 8, 1999. Approximately 851,534 Sawtooth and 278,637 Oxbow fish were marked with an adipose fin clip. However, 200,000 Oxbow fish were not marked (no fin clip) as part of an agreement made with the tribes to compensate for the voluntary reduction in steelhead harvest. These fish will be stocked at Stinky Springs and lower Hazard Creek release sites in the Little Salmon River for supplementation. A total of 252,458 fish were also CWT and left ventral fin clipped. Passive integrated transponder (PIT) tagging is planned for March, 2000.

During a routine fish health exam by the Idaho Fish Health Center (IFHC), parasite species of *Chilodonella* and *Gyrodactylidae* were identified, but treatments were not necessary. The IFHC monitors the fish health throughout the rearing cycle.

Brood Year 1998

Hagerman NFH received 1,355,000 eyed, A-strain, steelhead eggs from IDFG for BY98, Oxbow and Sawtooth stocks.

Adipose fin clipping of 1,122,940 fish was supervised by IDFG personnel, from September 23 to October 7, 1998.

Coded-wire tagging (CWT) was also supervised by IDFG personnel, and completed on October 30, 1998. Five groups of fish (15 raceways, 302,433 fish) received CWT for the evaluation of the following studies: Acclimation Vs. Direct Release, Early Vs. Late Eggs, Intermittent Feeding, and Fishery Contribution (see Experiments/Special Studies section below for more information). PIT tags were also given to 2,400 fish involved in Early Vs. Late, and Intermittent Feeding studies. The CWT fish did not receive ventral fin clips.

Lower Snake River Compensation Plan-Steelhead Distribution

Distribution of BY98 steelhead was completed on May 10, 1999. A total of 1,131,409 smolts weighing 238,805 pounds, and averaging 4.67 fish per pound, were released. All steelhead released in 1999 were marked with an adipose fin clip.

Hagerman NFH transferred 488,351 fish to the Sawtooth Fish Hatchery (FH) from April 1 through April 13, 1999 as part of the Acclimation Study (see Experiments/Special Studies). An additional 226,434 fish were released directly into the Salmon River at the Sawtooth FH weir on April 21-26, 1999. The Little Salmon River, at the Stinky Springs release site, received 416,624 fish between April 14 and May 10, 1999.

The BY99 steelhead will be distributed, starting in mid-April of 2000, to the Sawtooth FH (the Salmon River), Stinky Springs (the Little Salmon River), and lower Hazard Creek (a tributary of the Little Salmon River).

Dworshak Reservoir Mitigation-Rainbow Trout Production

During 1999, Hagerman NFH produced rainbow trout for the Dworshak Reservoir mitigation program. This is an in-kind exchange program whereby fish reared at Hagerman NFH are stocked into reservoirs in southern Idaho, while fish reared at the Nampa State Fish Hatchery are stocked into Dworshak Reservoir.

Brood Year 1998

Approximately 73,916 Shasta strain rainbow trout eggs were received from Ennis NFH on January 26, 1999. Survival to distribution was approximately 94%. Overall food conversion was 0.91 and the cost per pound of weight gain was 22.9 cents. This lot remained in good health throughout their hatchery residency.

At the request of Idaho Power biologist, Mr. Jim Chandler, this lot of rainbow trout was marked with adipose and right ventral fin clips during August, 1999. This was done in support of a study of wild rainbow trout spawning in the Hells Canyon complex of reservoirs and would allow identification of hatchery rainbow trout. Although a small degree of confusion and last minute coordination surrounded this request, the task was successfully completed in just three days with cooperation from Chuck Fuller, Vancouver Fishery Resource Office; an IDFG marking crew arranged by Joe Chapman, Manager, Hagerman State Fish Hatchery, a volunteer worker, and the hatchery crew.

Dworshak Reservoir Mitigation-Rainbow Trout Distribution

Brood Year 1998

In May of 1999, a total of 78,606 BY98 Oxbow stock steelhead were stocked into Little Camas Reservoir. These fish were dedicated to the resident (rainbow trout) program from the "wild fish" diet experiment, referred to in the Experiments/Special Studies section of the FY98 Annual Report.

Distribution of Brood Year 1998 rainbow trout occurred during September and October of 1999. A total of 23,565 fish weighing 9,340 pounds were stocked in Little Camas Reservoir on September 13 and 14, 1999. Another 11,045 fish weighing 4,000 pounds were released into Lucky Peak Reservoir from September 15 through September 16. Fish released in September averaged between 9.5 and 10.0 inches (based on a condition factor of $4,000 \times 10^{-7}$). The remaining Brood Year 1998 rainbow trout production was stocked during October, 1999.

Experiments/Special Studies

Intermittent Feeding

During the BY98 rearing (December, 1998 through February, 1999) 6 raceways were examined for the effects of intermittent feeding on growth and condition of steelhead. To evaluate the feeding program, 3 treatment raceways (60,000 fish total) and 3 control raceways (60,000 fish total) were established in the upper deck. The treatment group fish were fed via the intermittent feeding protocol, a 30-day ration was given in a 15-day period, followed by 15 days of fasting. The control group fish were fed continuously via the hatchery constant method. All fish were fed via demand feeders. Fish were sampled for individual length and weight, dorsal fin index, fish health assessment, and proximate analysis. In addition, emigration rates and adult return numbers were also included in the study plan. The intermittent feeding was successful at reducing growth rates of steelhead without sacrificing fish condition. The Hatchery Evaluation Team (HET) has completed the study report for the BY97 and is working on the BY98 report.

Acclimation Vs. Direct Release Study

Dean Rhine, IDFG Fisheries Research Biologist, has been comparing pre-release acclimation Vs. a direct release strategy. For acclimation, the fish are transferred from the Hagerman NFH and held in the Sawtooth FH raceways for two weeks prior to release into the Salmon River. The direct release fish are released directly into the Salmon River at the Sawtooth FH weir. After several years of study, the data suggests no added benefit of acclimation over direct release in terms of fish emigration rate and smolt survival. Further investigation into pre-release acclimation have been discontinued.

Early Vs. Late Eggs Study

Dean Rhine has been studying a theory that the progeny of the early spawning fish will tend to produce early spawning adults. For BY99 steelhead, two groups of Sawtooth raceways, 3 early take raceways and 3 late take raceways, were CWT. A total of 300 fish from each group will receive PIT tags.

Fishery Contribution Study

This study, carried out in coordination with IDFG, evaluates the fishery contribution by the fish directly released into the Little Salmon River.

Precocious Male Study

IDFG's Fish Pathologists, Doug Munson and Doug Burton, and Dean Rhine examined the BY98 steelhead to document the level of precocious males in that production year. Factors considered to affect precociousness such as fish stock, feeding regimen, CWT marking, and light exposure were included in the study. Only two fish were found to be precocious out of the 597 fish examined.

Other Items of Interest

Water Rights and Issues

The Snake River Basin Adjudication (SRBA) process continued during FY 1999. One of the notable items this year was the recommendation by the Idaho Department of Water Resources to establish the period of use for irrigation water in our basin (Basin 36) from February 15 to November 30. If approved by the SRBA Court, this extended irrigation season will make it imperative to complete installation of the Riley Creek pump-back system. A call for water by the Brailsford Ditch Association prior to mid April will impact steelhead production if the pump-back system is not operational. At this time, it is anticipated to be operational by the year 2000 irrigation season.

In preparation for the installation of the pump-back system the hatchery obtained a stream alteration permit to allow both the placement of a temporary Coffey dam

at the existing pump sump and the placement of rip-rap to stabilize the banks of Riley Creek across and upstream from the sump. The Hatchery crew completed the bank stabilization project in January, 1999. An estimated 70% of the willow shoots planted in the riparian zone survived.

During the year the hatchery facilitated a number of meetings regarding the Cooperative Agreement to pipe the Brailsford Ditch. As part of its obligation in the agreement, the hatchery completed the Environmental Assessment for the project.

At the request of the Idaho Water Resources Research Institute (Institute), University of Idaho, the hatchery made available several spring sites for monitoring. The Institute is involved in an EPA funded study to evaluate quality and quantity of spring discharges in the mid-Snake River reach. During the initial phase of the study investigators are developing spring flow and aquifer water level data.

In an effort to protect the Hatchery's water supply from further encroachment, the U.S. Fish And Wildlife Service (Service) proposed to purchase a parcel of land adjacent to the hatchery. The parcel totaled 11.64 acres consisting of a single family dwelling, and several associated sheds and out buildings located on a 2.28 acre lot, and an additional 9.36 acres of dry upland habitat. This property is located up-gradient and directly over that portion of the aquifer that supplies the Hatchery, the Hagerman Fish Culture Experiment Station (recently transferred from the Service to the University of Idaho by legislative action), and the headwaters of Riley Creek, a tributary to the Snake River. The owner, Mr. E.I. Williams, expressed his desire to sell in a written proposal to the Hatchery Manager. In parallel with the proposal, Mr. Williams had initiated plans to subdivide the parcel into four additional home sites and had the property listed for sale on the open market. This proposed development had the potential to place an additional four domestic wells and four household sewer systems directly above the hatchery's water supply. Although approval for purchase of the land had been obtained and a Category Exclusion EA document had been completed for the acquisition, Mr. Williams sold the property on the open market before the Service could develop a funding source. The documentation will be kept on file for use if the opportunity arises in the future.

Personnel

Assistant Hatchery Manager Rob Burns transferred to the Roseburg Fish and Wildlife Office in Oregon 01/02/99.

Jae Ahn was selected as the Assistant Hatchery Manager, 1/31/99.

William Hopkins left the position of Temporary Fish Culturist on 08/14/99 to accept a permanent position at the Jones Hole NFH.

Richard Lloyd Wilson was hired as a temporary Fish Culturist on 04/14/99.

Wayne Talo transferred from the Spring Creek NFH on 07/04/99 to fill the position of Staff Biologist.

Aquaculture Liaison/Hagerman Lab

On July 9, Bryan Kenworthy represented the Service during the University of Idaho's celebration for the transfer of the Tunison Laboratory of Fish Nutrition-Hagerman Field Station (Lab) to the University. Bryan presented the deed to the property to University President, Dr. Robert Hoover. Over 100 people attended the catered event. Authorized under Public Law 105-346, the successful transfer of the Lab was the result of a tremendous collaborative effort by Service staff representing the Hatchery, GARD Columbia Basin Ecoregion, Division of Realty, Refuge Operations, Environmental Contaminants, and Cultural Resources. Documents relevant to the transfer including the Environmental Assessment are on file at the Hatchery. Most importantly, however, is the Memorandum of Understanding between the Service and the University of Idaho. In the future this document will serve as a important desk-top reference for the Hatchery's Manager and staff to ensure close coordination between the two facilities.

As the Region 1 Aquaculture Liaison, Manager Kenworthy participated in a number of meetings convened by the Idaho Aquaculture Association (IAA). A major focus of the IAA which was also relevant to the Hatchery was working with the EPA and the Idaho Department of Environmental Quality to develop a National Pollutant Discharge Elimination System Permit for aquaculture facilities in Idaho. The last permit expired in 1995. The EPA issued the new permit on September 10, 1999.

Inter/Intra - Agency Coordination and Cooperation

The Hatchery Evaluation Team (HET) continues to be the main venue to promote coordination and cooperation regarding hatchery evaluation studies. During the year the team completed the second year report of the intermittent feeding study and updated the 5-year plan. The IDFG continues to participate in this effort

One hatchery coordination meeting was held during the year.

The Hatchery installed a computerized kiosk that provides hatchery visitors access to a touch-screen monitor to interact with a "local" WEB page. The project was developed in partnership with the University of Idaho (Aquaculture Institute and Hagerman Fish Culture Experiment Station). The information provided by the kiosk can be revised and continually updated to provide current information about hatchery practices, hatchery data, fish passage, endangered species issues, and other work of the Service.

Outreach/Volunteers

Hagerman Fossil Days celebration - Brian Clifford entered the fish transport truck in the parade winning the third place award in the Cars, Trucks and Tractors category.

The Hatchery staff welcomed volunteers Florence and Estel Wingate of Meridian, Idaho to the community. The Wingates did an outstanding job during the summer as the Hatchery Hosts.

Bryan Kenworthy participated in Career Fair at the new Hagerman High School. Hagerman and Bliss School Districts co-sponsored the event.

Beau Hopkins, Steve Money, and Jae Ahn teamed-up with the Idaho Department of Fish and Game, Hagerman State Fish Hatchery staff to hold their first annual *Free Fishing Day* event. The event was held at the Riley Creek impoundment at the Hagerman State Fish Hatchery. It attracted over two hundred people, and provided an opportunity to strengthen our relationship with the IDFG staff.

The Buhl and Hagerman school districts conducted their annual day-long outdoor learning activities on the hatchery grounds.

Safety/Health/Security

Continued emphasis on wildland fire awareness paid off during the year with several of the hatchery's qualified fire crew successfully responding to two near-by wildland fires. The Hatchery continued its participation in the Cooperative Agreement with the Bureau of Land Management, Southern Idaho Dispatch Center, Shoshone, Idaho. This program provides for staff training and access to fire fighting equipment.

The Hatchery entered into a Cooperative Agreement with the U.S. Public Health Service to conduct an ergonomics assessment of two work processes; changing raceway screens and filling demand feeders. The assessment determined that the work exceeds the requirements of the employee's position descriptions and NIOSH guidelines. Efforts to resolve problems associated with these two processes will continue.

Cascade Earth Sciences, LTD., an environmental consulting firm was involved in a number of hatchery safety related issues this year which included removal of hazardous chemicals stored at the Hagerman Lab, completion of the Lead-Based Paint Risk Assessment for the Hatchery Quarters (which also required notification of the tenants occupying Government Furnished Quarters in order to meet the legal requirements of the program), and the development of the Hatchery's Spill Prevention, Control, and Countermeasure Plan.

Official Visitors

Joe Chapman	Idaho Department of Fish & Game, Hagerman, ID
Jerry Chapman	Idaho Department of Fish & Game, Wendell, ID
Tom Rogers	Idaho Department of Fish & Game, Boise, ID
Dave May	Idaho Department of Fish & Game, Filer, ID
Dean Rhine	Idaho Department of Fish & Game, Lewiston, ID
Rodney Duke	Idaho Department of Fish & Game, Lewiston, ID
Mike Graham	Idaho Department of Fish & Game, Wendell, ID
Bob Moore	Idaho Department of Fish & Game, Filer, ID
Todd Garlie	Idaho Department of Fish & Game, Challis, ID
Doug Ingman	Idaho Department of Fish & Game, Challis, ID
Sharon Kiefer	Idaho Department of Fish & Game, Boise, ID
Bill Miller	Fish & Wildlife Service, Ahsahka, ID
Ed Crateau	Fish & Wildlife Service, Boise, ID
Randy Schmeller	Fish & Wildlife Service, Portland, OR
Pat Bigelow	Fish & Wildlife Service, Ahsahka, ID
Dr. Rick Barrows	Fish & Wildlife Service, Bozeman, MT
Kathy Clemens	Fish & Wildlife Service, Ahsahka, ID
Judith Maule	Fish & Wildlife Service, Portland, OR
Charlie Smith	Rangen's Inc, Buhl, ID
Doug Ramsey	Rangen's Inc, Buhl, ID
James Ward	National Park Service, Hagerman, ID
Lionel Boyer	Shoshone/Bannock Tribes, Fort Hall, ID
Rob Sharpnack	Idaho Department of Water Quality, Twin Falls, ID
Marilyn Blair	Fish & Wildlife Service, Ahsahka, ID
Rich Holman	Idaho Department of Fish & Game, Jerome, ID
Bill Gorgon	Idaho Department of Fish & Game, Jerome, ID
Marcus Goshen	Federal Drug Administration, Seattle, WA
Gary Wilson	Fish & Wildlife Service, Portland, OR
Dr. Ron Hardy	University of Idaho, Hagerman, ID
Mike Casten	University of Idaho, Hagerman, ID
Margaret Anderson	Fish & Wildlife Service, Boise, ID
Susan Burch	Fish & Wildlife Service, Boise, ID
Alison Beck-Haas	Fish & Wildlife Service, Boise, ID
Dan Herrig	Fish & Wildlife Service, Boise, ID
Lola Gannon	Fish & Wildlife Service, Portland, OR
Fred Olney	Fish & Wildlife Service, Portland, OR
Rod Blacker	Fish & Wildlife Service, Malheur NWR, OR
Dan Diggs	Fish & Wildlife Service, Portland, OR
Dave Musil	Idaho Department of Fish & Game, Jerome, ID

TRAINING

Jae Ahn, Assistant Manager	Overview of Federal & State Water Rights, NCTC Criticism & Discipline Skills for Managers, CareerTrack, Twin Falls, ID Computer Repair & Upgrading 1 & 2, College of Southern Idaho, Twin Falls, ID Introduction to Supervision, NCTC Wildland Fire Fighters Red Card Certification Refresher, BLM, Shoshone, ID
Robert Burns, Assistant Manager	Overview of Federal & State Water Rights, NCTC
Brian Clifford, Motor Vehicle Operator	Wildland Fire Fighters Red Card Certification Refresher, BLM, Shoshone, ID
Bryan Kenworthy, Project Leader	Contracting Officer's Technical Requirements, Northwest Procurement Institute, Boise, ID
Bea Martindale, Fisheries Program Assistant	Paradox Training, Boise, ID
Steve Money, Maintenance Mechanic	Contracting Officer's Technical Requirements, Northwest Procurement Institute, Boise, ID Electrical Control Circuits, Impact Training Service, Boise, ID Wildland Fire Fighters Red Card Certification Refresher, BLM, Shoshone, ID
Wayne Talo, Fisheries Biologist	Cold Water Fish Culture, NCTC Handling People With Tact & Skill, CareerTrack, Twin Falls, ID

STATION CYCLICAL MAINTENANCE/CONSTRUCTION

Cyclical Maintenance

Modification of plumbing in Hatchery II	2,788.62
Replaced dam boards in trout raceways	1,732.32
New drain field for Quarters 6 & 7	13,723.43
Repairs to fish pump	1,134.93
Repairs to Marsh-McBirney flow meter	1,478.01
Cleaned & sanitized furnace & air duct system in Quarters	1,184.00
Replace kitchen floor in Quarters 4	1,106.57
Asphalt sealing on hatchery	2,430.90
Riley Creek Pump back system	67,915.00

Rehabilitation

Remodeled clerk's office	3,445.37
Replaced netting on raceways	214.00
Replaced discharge hose on distribution unit	634.50

FUTURE OUTLOOK

PRODUCTION

Continued emphasis will be placed on steelhead smolt quality to include developing quality criteria and monitoring protocol.

Constraints imposed by the ESA on hatchery steelhead releases for the Snake River basin will continue to affect Hagerman NFH production activities. It will be necessary to develop the capability to rear endemic steelhead stocks for restoration purposes. This may include stock isolation, chilled water, and fish pathogen control.

With the issue of the General NPDES permit for Aquaculture Facilities in Idaho by the EPA, during FY 2000, the Hatchery will be required to conduct an effluent characterization study, develop a quality assurance/quality control plan for effluent monitoring, and establish best management practices to limit pollutants discharged in the effluent.

SAFETY

Continued emphasis will be placed on safe driving, fire prevention and protection, facility security, general implementation of environmental compliance measures, and OSHA compliance.

OUTREACH

Tourism is Idaho's third largest industry; an increase in visitor activity is anticipated in the future. Emphasis will be required for improving visitor services and control of visitor access. Other efforts will be directed toward local area school and civic youth groups as a means to develop environmental awareness. The Hatchery will continue to operate the volunteer hatchery host program during the peak summer tourist season.

HATCHERY PRODUCTION SUMMARY (Intensive Culture)

Station: Hagerman National Fish Hatchery		PERIOD COVERED: OCTOBER 1, 1998 THRU September 30, 1999									
Species/ Strain and Lot Number	Fish on Hand Last Day of Period										
	Number	Weight	Length	D.I.	F.I.	Weight Gain	FEED EXPENDED		Conversion	Percent Survival	
							Pounds	Costs			
1	2	3	4	5	6	7	8	9	10	11	
RBT-HAY-77						1,211	364	\$105.56	n/a	n/a	
SST-HCW-78						122,530	133,376	\$36,068.42	1.09	n/a	
SST-SAW-79						131,869	150,334	\$40,648.19	1.14	n/a	
RBT-ENN-80	34,168	14,574	10.22	0.18	0.47	27,884	25,661	\$6,496.57	0.92	n/a	
SST-HCW-81	479,213	13,263	4.21	0.05	0.14	13,038	14,480	\$6,070.36	1.11	86.42	
SST-SAW-82	851,534	11,588	3.33	0.03	0.09	11,272	11,427	\$6,732.04	1.01	94.67	
Total/Averages	1,364,915	39,425	XXXX	XXXX	XXXX	307,804	335,642	\$96,121.14	1.05	90.55	

FIVE YEAR HATCHERY PRODUCTION SUMMARY

Station: Hagerman National Fish Hatchery

		Fiscal Year				
		1999	1998	1997	1996	1995
I. Fish Production Data						
Intensive Culture:						
Fish Weight Gain (pounds)		307,804	294,636	275,786	263,896	254,180
Fish Numbers		1,364,915	1,302,020	1,118,830	1,307,593	1,520,387
Percent Survival		90.55	92.3	69.0	96.9	96.5
Feed Conversion		1.05	1.0	1.10	1.16	1.21
Extensive Culture:						
Fish Weight Gain (pounds)						
Fish Numbers						
Percent Survival						
Pounds per Acre						
II. Broodstock Production Data:						
Number of Females Spawned						
Number of Eggs						
Number of Fish						
III. Management Data:						
Full-Time Equivalents		6.3	7.6	7.2	6.6	8.5
Operational Costs		537,816	504,796	460,401	438,058	545,138
Vehicle/Equipment Costs (Items over \$1,000)			39,650		47,143	40,191
Cyclical Maintenance Costs		67,915	40,745	76,563	176,565	62,094
Quarters Costs		17,968	22,966	11,957	38,022	19,665

FISH HEALTH ACTIVITIES SUMMARY -
NATIONAL FISH HATCHERY

Station: Hagerman, ID NFH

Fiscal Year: 1999

Problem/Incident/Activity 1	Species 2	Therapeutic Treatment 3	Results/Comments 4
Egg Disinfection	Steelhead	PVP Iodine @ 100 ppm	Routine Disinfection
	Rainbow Trout	for 10 minutes	
Prophylactic Vaccination	Steelhead	<i>Yersinia ruckerii</i>	Prophylactic
		vaccine	
Chlorine		Disinfection	Routine Disinfection

Chemical Summary:

Chemical: PVP Iodine	Purpose: Egg Disinfection	Total Amount Used: 5 gallons	Total Cost: \$ 150.00
<i>Y. ruckerii</i> vaccine	Prophylactic	68 liters	\$ 2,720.00
Chlorine	Routine Disinfection	54 gallons	\$ 75.00
No-Foam	Fish Distribution	5 gallons	\$ 180.00
Sodium Thiosulfate	Neutralizing	340 pounds	\$ 234.00

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1999

1. Station: Hagerman, ID NFH

Funding Source			
Operations (Fisheries)	Cyclical Maintenance (Fisheries)	Quarters Maintenance	Other Funding
1	2	3	4
311,446			
25,719			
3,215			
7,994			
68			
10,553			
7,440			

1. Salaries, Permanent (Including Benefits):

2. Salaries, Temporary (Including Benefits):

3. Operating Costs:

A. Utilities

1. Telephone

2. Electricity

3. Heating Oil

4. Natural Gas

5. Other

B. Vehicle Maintenance

1. Distribution Vehicles

Total Mileage:

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1999

Station: Hagerman, ID NFH

Funding Source				
Operations (Fisheries)	Cyclical Maintenance (Fisheries)	Quarters Maintenance	Other Funding	
1	2	3	4	
1,409				
17,401				
2,707				
76,840			10,000	
2,878				
39,631			2,731	
7,908				

3. B. Vehicle Maintenance (continued)

2. Non-Distribution Vehicles

Total Mileage:

C. Fuel for Vehicles/Equipment

D. Supplies

1. Fish Food

2. Chemicals/Drugs

3. Fertilizer

4. Tags and Tagging Supplies

5. Office Supplies/Custodial/Other Supplies

E. Travel

OPERATIONS/MAINTENANCE COST DATA

Fiscal Year: 1999

Station: Hagerman, ID NFH

Funding Source				
Operations (Fisheries)	Cyclical Maintenance (Fisheries)	Quarters Maintenance	Other Funding	
1	2	3	4	
6,645				
19,794				
8,078				
524,885			200	
	67,915			
		17,968		
	67,915	17,968		
524,885	67,915	17,968		12,931

3. F. Moving Expense

G.

Fish Haul Contract & Tractor Lease

CSI & Outreach

4. Operations (Total: Lines 1, 2, 3A-G)

5. Vehicles/Equipment Purchased (Over \$1,000)

6. Cyclical Maintenance

7. Quarters Maintenance

8. Total Maintenance (Total: Lines 5, 6, and 7)

9. Column Totals (Total: Lines 4 and 8)

10. Total Expenditures (Add Totals of Column 1-4) \$ 623,699

STATION: Hagerman, ID NFH REPORT OF STATION PERSONNEL FISCAL YEAR: 1999

Part I - Permanent Personnel (FTE's: 6.3)					
Name of Employee	Functional Title	Grade	Period Worked	Remarks	
Bryan Kenworthy	Project Leader	GS0482/12/06	10/01/98-09/30/99		
Jae Ahn	Asst Hatchery Manager	GS0482/11/01	10/01/98-09/30/99		
Brian Clifford	Motor Vehicle Operator	WG5703/08/04	10/01/98-09/30/99		
Bea Martindale	Fisheries Pgm Asst	GS0303/06/09	10/01/98-09/30/99		
Steve Money	Maintenance Mechanic	WG4749/10/04	10/01/98-09/30/99		
Wayne Talo	Fisheries Biologist	GS0482/09/04	07/04/99-09/30/99		
Eric Willet	Motor Vehicle Operator	WG5703/06/04	10/01/98-09/30/99		
Part II - Temporary Personnel (FTE's: 1.2)					
Lloyd Wilson	Animal Caretaker	WG5048/02/01	04/14/99-09/30/99		
William Hopkins	Animal Caretaker	WG5048/02/02	10/01/98-08/14/99		

REPORT OF STATION PERSONNEL

Fiscal Year: 1999

Station: Hagerman, ID NFH

Part I - Permanent Personnel (con')				
Name Of Employee	Functional Title	Grade	Period Worked	Remarks
Robert Burns	Asst Hatchery Manager	GS0482/11/07	10/01/98-01/02/99	

PUBLIC RELATIONS

Station: Hagerman, ID NFH

Fiscal Year: 1999

1. Presentations: Number of Groups Number of People

On Site 15 500 Est.

Off Site _____ _____

2. Number of Visitors:

Official 39

Public 5,228

3. Other Public Relation Activities:

Type of Activity	
Free Fishing Day in Cooperation with	
Hagerman State Fish Hatchery	300
Hagerman Fossil Days Parade	> 500
Job Fair - Hagerman High School	> 100

Remarks: The number of public visitors is compiled from our Visitor Register and does not reflect the actual number.



Hagerman NFH Personnel: from left, Brian Clifford, Steve Money, Bea Martindale, Bryan Kenworthy, Eric Willet, Jae Ahn, Chuck Larson, Wayne Talo



Touch Screen Kiosk located in Visitor Center



Hatchery Hosts Florence and Estel Wingate



Riley Creek Rip Rap Project



Idaho Water Resources Research Institute Flow Monitor



Vaccination of Steelhead for Enteric Red Mouth



New Maintenance Service Truck