

Annual Report for Dworshak National Fish Hatchery

**Ahsahka, Idaho
Fiscal Year 2009**



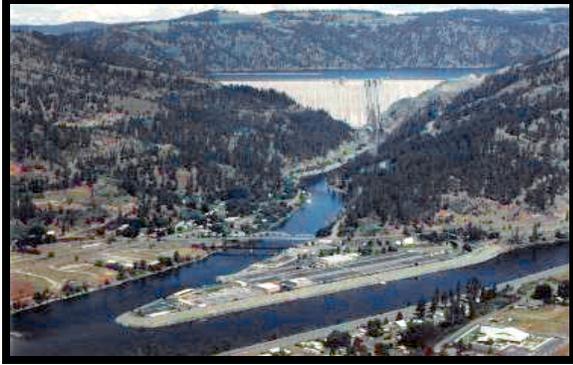
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3/17/10
Date

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Introduction



Dworshak National Fish Hatchery at the confluence of the North Fork and main stem of the Clearwater River, below Dworshak Dam.

Dworshak National Fish Hatchery (DNFH) is located in North Central Idaho down river from Dworshak Dam, at the confluence of the North Fork and the main stem of the Clearwater River. Dworshak Dam was constructed by the Corps of Engineers (COE) between 1966-70. Operations of the hatchery was authorized by a 1969 COE Memorandum of Understanding with the United States Fish & Wildlife Service (USFWS). The hatchery has since served primarily as a mitigation hatchery for steelhead trout (*Oncorhynchus mykiss*), a unique run of the North Fork “B” strain threatened by the construction of Dworshak Dam. The USFWS has endeavored, over the past 40 years, to meet the “mitigation goal” of providing 20,000 adult steelhead to the Clearwater River and maintain the unique genetics of the stock.

In June, 1982, under the Lower Snake River Compensation Plan (LSRCP), DNFH was expanded from its primary function as a steelhead mitigation facility to include spring Chinook (*Oncorhynchus tshawytscha*) trapping, spawning and rearing. The new facilities were designed to rear 70,000 pounds of spring chinook to 20 fish per pound (fpp) for a total of 1.4 million smolts. Smolt numbers have since been reduced to 1.05 million reduce densities and rear fish to a larger size. The adult return goal for DNFH is 9,135 spring chinook to Lower Granite Dam(calculated using the 18-20 fpp smolt size, total rearing capacity, and 0.87 percent adult return rate guideline).

DNFH consists of a water reuse and reconditioning system employing filtration, biological nitrification, pollution control and monitoring facilities, alarm system, water chillers, heaters, and numerous pumps. Initial construction at DNFH included 84 Burrow’s ponds, 64 nursery tanks, and 9 adult holding ponds. Twenty-five Burrow’s ponds (System I) were operated on a heated recycle water flow, for rearing steelhead smolts to the initial target size of 180 mm in only one year. In 1973, System II (25 ponds) and System III (34 ponds) were converted from single-pass, 2-year rearing cycle, to water reuse and heating for accelerated production growth. This second phase construction, with added mechanical systems (biological filters, electric grid, sand filters, U.V. lamps, chillers, and boilers), increased production capacity and allowed all three water systems to be environmentally controlled. In the late 1980's, the target size for steelhead smolts was changed to 200 mm, based on data developed by FWS.

During the mid-1970's, with DNFH not meeting either production or mitigation goals, major operational changes were made. Review and studies of the reuse systems, water temperature regime, water quality, and fish culture techniques were done by hatchery staff and university scientists. Corrective measures followed which removed the computerized pneumatic feed system, eliminated the ultraviolet treatment of water reuse, redesigned the water flows to maximize single-pass use and a return to a more hands-on basic fish culture. Selecting cooler water temperatures from Dworshak Reservoir during the summer, adding minerals (sodium chloride and

potassium chloride) to a soft water supply, removing supersaturated nitrogen gas, along with other designed mechanical changes and more involvement of hatchery staff in monitoring fish culture, all contributed positively towards improving the hatchery's program.

Further construction in the early 1980's added 18,000 square feet of nursery building, doubling the number of inside rearing tanks to 128. A new concept of biological filtration, known as a fluidized sand filter, replaced the oyster shell media in System I. This filtration system has proven to be unworkable, and the ability to operate reuse in System I is no longer available. In FY03-04 (Fiscal Year), the COE replaced and upgraded System I biofilters with a new plastic bead media filtration system. This system was operated successfully for a short period (3 months) in 2004 and 2007. Also in the 1980's, an additional thirty 8'x80' raceways were constructed under the LSRCF to provide production facilities for spring Chinook salmon. Additionally in the 1980's, 5 of the 9 adult holding ponds were converted to raceways for needed rainbow trout mitigation for Dworshak Reservoir.

The uniqueness of DNFH's water systems provides several options for egg incubation and rearing. Three temperature options are available for egg development through the incubators. Different temperature regimes are also available to the nursery tanks. The outside steelhead ponds are furnished single-pass river water from May into November, when desired temperatures can be obtained through selector gates at Dworshak Dam. A pump station on the North Fork Clearwater River, one mile down river from the Dam, is capable of providing 92,500 gpm of water. In Systems I and II, water reuse and heating can be used during the colder months of November through March, enabling the hatchery to get the desired fish growth. During reuse, 10-percent new water enters the system to make up for loss. Temperatures in each of the three outside steelhead rearing systems can be controlled independently when reuse and heated water are available.

Beginning in 1992, the hatchery was supplied with an additional 6400 gpm of gravity flow Dworshak Reservoir water directly by pipeline. This "clean" water, furnishing egg incubators and nursery rearing, has afforded disease protection from *Infectious Hematopoietic Necrosis Virus* (IHNV) in the early production stages. During 1998, a water line was completed between Mechanical Building I and the main water line from the large boilers in Mechanical Building II. This line now enables us to heat all the nursery reservoir water for better steelhead production.

A Dworshak National Fish Hatchery Rehab Plan was prepared in 1990-91 by the COE. This rehab plan detailed major upgrades and needs of the then 20-year-old hatchery. The hatchery continues to work with the COE on line items identified in the rehab plan. Some of the rehabilitation project items will be accomplished with Operations & Maintenance (O&M) funding. Larger items will be funded directly by the COE.

Future projects requested from the COE include converting Burrow's ponds (BP's) to raceways, or mixed cell units and installation of pollution control equipment.

Kooskia National Fish Hatchery (KNFH), 35 miles upriver from Dworshak on the Clearwater River, has operated as a Complex with Dworshak since 1978. Kooskia hatchery mitigates for water development in the Columbia River. The administrative headquarters for the Dworshak-Kooskia Complex is located at the Dworshak hatchery. The Idaho Fishery Resource Office (IFRO) & Idaho Fish Health Center (IFHC) are also included in the Dworshak Complex.

DNFH produces 2.1 million steelhead smolts at 6 fpp (200 mm in length) and 1.05 million yearling Chinook salmon smolts at 18 to 20 fpp (140 to 145 mm in length). The hatchery's annual production capacity exceeds 400,000 pounds. Mitigation goals to the Clearwater River are 20,000 returning adult steelhead and 9,135 adult spring Chinook. Steelhead goals are being satisfied in most years and were in 2008. Spring Chinook adult returns before 2000 were well below mitigation, but for three years (2000-2003) were near or over mitigation goals. Estimated adult returns for 2008 were 2,523, well short of the 9,135 goal for Dworshak.

Rainbow mitigation for Dworshak Reservoir is in an interim phase, with fish exchange with Idaho Fish and Game (IDFG) and use of production at Hagerman National Fish Hatchery (NFH). The IDFG now stock catchable size, sterile rainbow in reduced numbers because of fish health and species interaction concerns with native cutthroat trout, while the FWS produce replacement fish to stock other Idaho managed waters.

This report covers the period of hatchery activities from October 1, 2008, to September 30, 2009.

**Summer Steelhead
Brood Year 2008**

At the beginning of October 2008, all of the summer steelhead (SST) from Brood Year 2008 (BY08) were outside in Burrows ponds (BP's). There were 2.4 million SST moved from the nursery to outside BP's during the summer of 2008. High mortality occurred once the fish were outside in Systems II and III due to *Infectious Hematopoietic Necrosis Virus* (IHNV), Cold-water disease, and gas-bubble disease. Therefore the production target release of 2.1 million SST smolts was not achieved. Overall mortality from October 1, 2008 through final release on April 17, 2009 was approximately 4.5 percent. Due to high nitrogen gas in Dworshak's water supply line during April, 2009 the decision was made to proceed with direct release concurrently with outplanting instead of waiting until the following week. Table 1 illustrates the SST on station at the start of FY08 until final release.

Table 1. Fish inventory summary for BY08 SST on October 1, 2008 and release in April, 2009.

Location	October 1, 2008				Oct 1 - April 17 % loss	Final Release April 13 - 17, 2009			
	Number	Wt (lbs)	Lgth in	Lgth mm		Number	Wt (lbs)	Lgth in	Lgth mm
Syst I	710,906	25,009	4.6	118	1.2	702,507	119,475	7.9	200
Syst II	667,537	37,150	5.4	138	6.2	626,266	105,830	7.8	199
Syst III	505,472	44,813	6.3	161	7.0	470,101	104,852	8.6	219
Tot/Ave	1,883,915	106,972	5.5	139	4.5	1,798,874	330,157	8.1	205

Source: DNFH - Final Release Summary, May 2009.
Monthly Inventory Summary (MIS), October 1, 2008.
Production Narrative, May, 2009.

Outside ponding of SST included System I receiving SST from Takes 9-13, System II being stocked with Takes 5 (partial)-8, and System III receiving Takes 1-5(partial).

Reuse and heated water were used with SST in System I during the winter for approximately 4 weeks to enable the fish to achieve the target size. Steelhead in System II and III did not require reuse or heated water during the rearing cycle.

Some SST in all systems received adipose (AD) fin clips, coded-wire-tags (CWTs) and left ventral (LV) clips. The various marks are used for the following studies; system contribution of smolt to adult returns, offsite release contribution, broodstock evaluations, and early-run predictions at Lower Granite Dam. A total of 182,890 BY08 SST received CWTs in the summer of 2008 along with LV clips. All fin clipping and CWT was done by the Columbia River Fishery Program Office (CRFPO) using a manual marking trailer.

Some steelhead were PIT (passive integrated transponder) tagged for research this year. There were 28,885 SST which received PIT tags as part of a hatchery evaluation study of smolt to adult returns and comparative survival study. There were also 1,476 SST PIT tagged for smolt monitoring and evaluation studies at the Fish Passage Center. See the marking/tagging tables under each System for details. The Idaho Fishery Resource Office (FRO)Annual Report has details of these studies.

Included in Dworshak production numbers were 230,712 BY08 SST which were unmarked/untagged and released from Dworshak. This represents about 13 percent of the BY08 SST released at Dworshak. These are the eleventh group of SST released from Dworshak since 1984 without an external mark specifying a hatchery fish. This is being done under the 2008-2017 United States vs. Oregon Management Agreement.

System I

Twenty-five BP's were used in System I for BY08 SST production. This System had 710,906 SST in it at the start of the fiscal year (FY) and 702,507 at release in April, 2008 (Table 2).

Table 2. System I BP production, BY08 SST, FY2009.

Month	Year	1 st of the Month			Growth During Month		% Mortality For Month	Ave Temp F For Month
		Number	Fpp	Lmm	L in	L mm		
October	08	710,906	28.43	118	0.5	14	0.61	48.7
November	08	706,552	20.49	132	0.7	17	0.21	47.8
December	08	705,065	14.35	148	0.5	13	0.07	45
January*	09	704,602	11.2	161	0.4	10	0.04	45.1
February*	09	704,315	9.3	172	0.6	14	0.03	48
March*	09	704,082	7.3	186	0.5	12	0.19	44.7
April	09	702,770	6.1	197	0.1	2	0.04	40.5
Total/Ave	09	702,507	5.9	200	3.21	82	1.18	45.7

*System under reuse part or all of month.

Source: DNFH-MIS, Sept 2008 May 2009;

Final Release summary, BY08 SST; Production Narratives Sept-May, 2008-2009;

Daily Water Temperature Records, Oct-April, 2008-2009

System I converted to reuse and the boilers for heated water on January 15, 2009. The boilers were turned off in System I on March 16 and reuse was turned off March 19.

Adipose fins were clipped on BY08 SST in System I from August 8-20, 2008. Other marking of BY08 SST in System I is summarized in Table 3.

Table 3. Marking and tagging of BY08 SST, System I

Released From BP#	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 15	08/09/08	30,119		AD LV	System 1 Contribution	Dworshak
BP 15	01/13/09		245	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 17	08/14/08	30,095		AD LV	System I Contribution	Dworshak
BP 17	01/13/09		248	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 19	01/12/09		6,128	AD	Hatchery Evaluation Smolt ot Adult Return	Dworshak
Total		60,214	6,621			

Fin Clips = AD=Adipose fin; LV-Left ventral fin

Source: DNFH – MIS System I, October 2008, January 2009

CRFPO marking summary for CWTs, January 2009

IFRO marking strategy schematic BY2008 SST

During the eight months of outside rearing of fish in System I, SST were intermittently treated with formalin for parasites. Mortality for fish in System I from October 1, 2008 until final release in April of 2009 was approximately 1.2 percent. Details of the formalin treatments are in the chemical treatment log at Dworshak.

Truck drivers from the Corps of Engineers (COE) stocked a total of 171,981 BY08 SST from System I into Newsome Creek and American River. These were fish raised and released from System I and received no fin clips to designate them as hatchery fish. This is being done under the 2008-2017 United States vs. Oregon Management Agreement.

On April 14-15, 2009, there were 364,256 SST outplanted from System I (this includes the 171,981 unmarked tribal fish). The COE assisted in outplanting System I SST to American River, Newsome Creek, Clear Creek and the South Fork of the Clearwater River at River Mile 8.7, Red House hole.

Direct release of 338,251 BY08 SST from System I took place on April 16, 2009, into the mainstem of the Clearwater river. The total release from System I was 702,507 BY08 SST (Final Release Summary, BY08 SST).

System II

Twenty-five BP's were used in System II for BY08 SST production. This System had 667,537 SST in it at the start of the fiscal year and 626,266 at release in April, 2009 (Table 4).

Table 4. System II production, BY08 SST, FY2009.

Month	Year	1st of the Month			Growth During Month		% Mortality for Month	Ave Temp F for Month
		Number	fpp	L mm	L in	L mm		
October	08	667,537	18.0	138	0.67	17	2.24	48.7
November	08	652,610	12.7	155	0.55	14	0.82	47.8
December	08	647,280	9.7	169	0.31	8	0.27	45
January	09	645,527	8.5	177	0.22	6	2.73	41.7
February	09	627,923	7.7	182	0.25	6	0.12	40.5
March	09	627,158	7.0	189	0.34	9	0.14	40.5
April	09	626,299	6.1	197	0.08	2	0.01	40.6
Total/Ave	09	626,266	5.9	199	2.43	62	6.18	43.5

Source DNFH - MIS, Sept 2008-May 2009
 Final Release summary, BY08 SST
 Production Narratives Sept-May, 2007-2008
 Daily Water Temperature Records, Oct-April, 2007-2008

System II used no heated water or reuse for BY08 SST.

Adipose fin clipping was done on BY08 SST in System II from June 28 through August 7, 2008. Other marking of BY08 SST in System II is summarized in Table 5.

Table 5. Marking and tagging of BY08 SST, System II.

Released from BP #	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 12	8/5/08	30,096		AD LV	System II Contribution	Dworshak
BP 12	1/13/09		247	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 14	7/15/08	30,208		AD LV	System II Contribution	Dworshak
BP 14	1/13/09		248	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 16	1/13/09		6,151	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
Total		60,304	6,646			

Fin Clips = AD-Adipose fin; LV-Left ventral fin
 Source: DNFH- MIS System II, October 2008, January 2009
 CRFPO marking summary for CWTs, January, 2009; IFRO marking strategy schematic BY2008 SST

Mortality was approximately 6.2 percent from October 1, 2008 until release in April, 2009.

There were a total of 58,731 BY08 SST from System II stocked into American River by the COE truck drivers. These fish received no fin clips to designate them as hatchery fish. This is being done under the Harvest Settlement agreement with the Columbia River Tribes.

On April 13-16, 2009, there were 288,529 SST outplanted from System II (this includes the 58,731 unmarked tribal fish). The COE assisted in outplanting the SST to American River, Clear Creek and the South Fork of the Clearwater River at River Mile 8.7, Red House hole.

Direct release of 337,737 SST from System II took place on April 17 into the mainstem of the Clearwater River. The total release from System II was 626,266 BY08 SST (Final Release Summary, BY08 SST).

System III

Thirty-two Burrows ponds were used in System III for BY08 SST production. This System had 505,472 SST at the start of the fiscal year and 470,101 at release in April, 2009 (Table 6).

Table 6. System III production, BY07 SST, FY2008.

Month	Year	1st of the Month			Growth During Month		% Mortality for Month	Ave Temp F for Month
		Number	fpp	L mm	L in	L mm		
October	08	505,472	11.3	161	0.52	13	4.44	48.7
November	08	483,047	8.9	174	0.50	13	1.13	47.8
December	08	477,579	7.2	187	0.33	8	0.57	45
January	09	474,879	6.3	195	0.26	7	0.39	41.7
February	09	473,034	5.7	202	0.25	6	0.28	40.5
March	09	471,696	5.2	208	0.34	9	0.27	40.5
April	09	470,443	4.6	217	0.08	2	0.07	40.5
Total/Ave	09	470,101	4.5	219	2.28	58	6.75	43.5

Source: DNFH - MIS, Sept 2008-May 2009
 Final Release summary, BY08 SST
 Production Narratives Sept-May, 2008-2009
 Daily Water Temperature Records, Oct-April, 2008-2009

No reuse or heated water was used this year on SST in System III.

Adipose fin clipping was done on BY08 SST in System III from May 15 through June 25, 2008. Other marking of BY08 SST in System III is summarized in Table 7.

Table 7. Marking and tagging of BY08 SST, System III.

Released from BP #	Date	CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 53	1/14/09		7,153		Hatchery Evaluation Smolt to Adult Return	Dworshak
BP 63	6/5/08	32,184		AD LV	System III Contribution	Dworshak
BP 63	1/13/09		244	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 68	6/19/08	30,188		AD LV	System III Contribution	Dworshak
BP 68	1/13/09		244	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 70	1/16/09		4,890	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
BP 72	1/15/09		4,563	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
Total		62,372	17,094			

Fin Clips = AD-Adipose fin; LV-Left ventral fin

Source: DNFH- MIS System II, October 2008, January 2009
 CRFPO marking summary for CWTs, January, 2009
 IFRO marking strategy schematic BY2008 SST

On April 13-16, 2009 there were 77,722 SST outplanted from System III. The COE assisted in outplanting the SST to Clear Creek and the South Fork of the Clearwater River at River Mile 8.7, Red House hole.

Direct release of 392,379 SST from System III took place on April 14-15 into the mainstem of the Clearwater River. The total release from System III was 470,101 BY08 SST (Final Release Summary, BY08 SST).

Distribution Summary

Release of BY08 SST began April 13 and ended April 17, 2009. Final release numbers are illustrated in Table 8.

Table 8. Fish distribution summary by site, BY08 SST, April 13 to April 17, 2009.

Site	Number	Weight	fpp	Length	
				in	mm
Outplants 4/13 - 4/16					
Clearwater R. - Red House Hole	229,178	42,228	5.4	8.1	205
Clear Creek	270,617	46,214	5.9	7.9	200
Newsome Ck Unmarked SST	117,303	18,958	6.2	7.7	196
American R. - Unmarked SST	113,409	17,684	6.4	7.6	194
Subtotal	730,507	125,084	5.8	7.9	200
Direct Release 4/21 -4/24					
Main Stem of the Clearwater River	1,068,367	205,073	5.2	8.2	208
Totals/Averages	1,798,874	330,157	5.4	8.1	205

Source: Final Release Summary, BY08 SST

Brood Year 2009 SST

Adult Collection

Adult summer steelhead (SST) for Brood Year 2009 (BY09) were collected in the fall of 2008 and in the winter and spring of 2009 to represent the entire run. The ladder was open from October 1-2, 2008 for collection of early-return SST. During this period there were 277 early-run steelhead collected. The ladder was reopened October 8-9 and 235 more SST were added to holding pond one (HP1). The ladder was also opened intermittently during the fall for collection of coho salmon. There were an excess of 477 BY09 SST caught during the coho trapping and anesthetized with carbon dioxide. All excess fish were transported by FWS personnel to the Ahsahka boat ramp on the main-stem of the Clearwater River. The ladder was closed for the final time for coho collection on October 30, 2008.

The ladder was reopened intermittently from February 11, 2009, and closed for the final time April 20. This staggered ladder operation throughout the spring helped to limit the number of SST entering the hatchery. There were a total of 4,335 adult SST trapped at Dworshak NFH, including 390 jacks (Idaho Fishery Resource Office final rack return numbers, BY09 SST). There were a total of 22 wild SST trapped during the fall and spring season. These fish were released back into the mainstem of the Clearwater River the day they were examined. There were also two fish released back to the river which was unclipped but determined not to be wild fish and had various marks/tags such as elastomers, radio transmitters, etc. Both the 22 wild and two unclipped fish are included in the 4,335 trapped SST at Dworshak.

There were 38 fish of the early return adults which died before spawning began (prespawning mortality). Formalin treatments were started in October 2008 and appeared to control fungus.

Broodstock spawning numbers

A total of 10 Egg-Takes were spawned over the BY09 season, beginning on January 20, 2009, and ending on April 21. Early-returning adults (October) were spawned in Takes 1-2, and later returning adults (February-April) were spawned during Egg-Takes 3-10.

There were 1,870 SST spawned, 773 males (including 52 jacks) and 1,097 females. Females have always outnumbered males in returns to Dworshak, so the goal of a 1:1 male:female spawning ratio is difficult to achieve. While the male:female return ratio was 1:2.1 for BY09 SST, the spawning ratio was reduced to 1:1.4. Of the 52 jacks spawned during the season, 47 were used for Dworshak National Fish Hatchery (DNFH) and 5 were used for Clearwater State Fish Hatchery (CWH). No jacks were used for Magic Valley State Fish Hatchery (MVH) this year.

On January 6, 2009, there were 75 males from the early-returned BY09 SST injected with salmon gonadotropin-releasing hormone analogue (sGnRHa). This was done to induce gamete maturation for spawning the following two weeks. These fish were tagged and transferred from HP1 into HP2 after injection. All tagged carcasses from injected males, whether spawned or mortalities before spawning were disposed of in the landfill.

Disease testing on eggs for CWH was done by the IDFG Eagle Fish Health Laboratory. There were 25 positive IHNV results from the CWH SST (25/188) of the females from Takes 5-6. There were 28 females (28/240) of the MVH lot which tested positive for *infectious hematopoietic necrosis virus* (IHNV). These females came out of Takes 7-8-8A. This testing was done by personnel from the Idaho Fish Health Center (IFHC). All eggs taken for either CWH or MVH which tested positive for IHNV were discarded. There were 72 (72/151) adult SST sampled for Dworshak which tested positive for IHNV. Dworshak does not cull eggs which test positive for IHNV in its production program.

Egg Disposition

There were an estimated 7.0 million green eggs from BY09 SST taken at Dworshak. As was done in recent years, Dworshak incubated the CWH eggs until eye-up, at which time personnel from CWH shocked and transported the eggs for enumeration at the CWH facility. An estimated 1.4 million eyed-eggs were incubated for CWH.

There were an estimated 1.7 million green eggs shipped from Dworshak to CWH for MVH from Takes 7-8-8A. These eggs were shipped to CWH the same day spawning took place. Dworshak also provided approximately 2,000 eyed eggs for aquarium-rearing at various elementary schools for the Information and Education program along with 50,000 eyed eggs to Potlatch Pulp and Paper Mill.

After shipping eggs for CWH and MVH, Dworshak put approximately 2.8 million eyed eggs into either hatching jars or incubator trays for its production. Eye-up for the BY09 SST eggs enumerated at Dworshak was 94.2 percent and the fecundity rate was 7,279 eggs per female. Eggs from 38 air-spawned females were enumerated at Dworshak from the University of Idaho (U o I) kelt program. The overall eye-up for these eggs averaged 70.1 percent and the fecundity rate averaged 5,048 eggs per female.

Research

Dworshak provided opportunities for university research projects during BY09 SST spawning by the University of Idaho. A summary of their research, including the U of I kelt project, is in the BY09 Steelhead Spawning Report.

Dworshak Production staff also coordinated with several outside researchers concerning sampling of various brood-years of Dworshak SST. Details of the research can be found in the Idaho FRO Annual Report.

Adult Disposition

There were 2,199 hatchery adults outplanted from Dworshak during the spring return of BY09 SST. These fish were outplanted throughout the season to the Ahsahka boat ramp using a USFWS truck. There were 309 of the outplanted fish which returned to the hatchery.

There was no food processor available this year for the SST carcasses, so the majority of spawned fish went to research. Complete adult disposition is illustrated in Table 1.

Table 1. Adult disposition of BY09 SST from Dworshak.

Destination	Number	Comments
Boise-Payette-Weiser subbasin	2,075	WSU stream nutrient enhancement
Univ of Idaho; Dworshak NFH	128	Kelt rehabilitating; kelts in circ tanks at Dwo
Outplanted	2,199	Ahsahka boat ramp, Mainstem Clearwater R.
Wild	22	Released to Mainstem, Clearwater R.
Landfill	220	No boxes from WSU available for storage
Sub Total	4,644	
	-309	Recaptures
Total Returns	4,335	

Source: DNFH-Spawning Activity Report BY2009 SST, Final for BY09 SST
Spawning and Run Summary, BY2009 SST

Nursery and ponding of fingerlings

The first two egg-Takes were from early-return adults. Eggs were put into hatching jars in the nursery at an average rate of 17,500 eggs/tank. All eggs/fry were loaded at final rearing numbers in the nursery. This method maximized growth and reduced stress on the fish by eliminating the need to split and handle fish while being reared in the nursery. When approximately 70 percent of the fry had hatched in the jar, the remaining fry were poured into the tank. Due to lack of nursery space, Takes 9-10 were hatched in Heath trays (6,000 eggs per tray). These were moved as fry from the incubation trays into tanks vacated once Takes 1-2 were transferred outside. Dead eggs and fry were picked and enumerated from each tank and tray. There was a 94 percent survival from the eyed-egg stage to feeding fry for BY09 SST.

Construction for a new nursery building roof was scheduled to begin during the summer and required all SST to be out of the nursery on August 1 rather than the typical September 1 time-frame. Because of this there were more eggs taken earlier in the run to facilitate the nursery being empty by the end of July.

This year the fry from the nursery averaged 88 fpp when moved out of the nursery into BP's. All SST were transferred outside using a new fish-pump from PR-Aqua. The fish-pump eliminates the

need for netting the fish and allows the SST to remain in the water during the entire operation. Steelhead were loaded into approximately half of the BP's this year to reduce the labor of pond cleaning and chemical treatment. The SST were split into the appropriate ponds when the markers came during September–November.

Ponding of SST included System III receiving Takes 1-4; System I receiving SST from Takes 5-7; and System II being stocked with Takes 8-10. This year the adipose (AD) fins were clipped using a manual trailer from the USFWS CRFPO. From the trailer, SST were then distributed at final rearing numbers to the appropriate BP. Steelhead which received a CWT also received a left ventral fin (LV) clip and went directly from the nursery to a BP and were tagged at the same time the AD fins were clipped.

Two BP's were renovated in an attempt to improve the rearing environment for SST at Dworshak. Water flow along with overall water consumption, dissolved oxygen levels, ease of cleaning and picking mortalities, the condition factor of the SST, growth rate, survival, possible decreased effluent and reduced chemical treatments for disease are being evaluated. The center walls of BPs 64 and 66 in System III were removed in June, 2008 and four center drains were installed in each pond. Plumbing for the new water-flow pattern and coating of the ponds with a concrete sealer was complete by the end of FY09. Two additional unmodified BP's that were coated with the concrete sealer are also included in the evaluation. These ponds were stocked with BY09 SST from Take 4 during October, 2009. The above parameters are being compared to SST being reared in BP's 58-60-62-64-66-68.

A total of 2.56 million BY09 SST were moved from the nursery to the BP's beginning with Take 1 on May 18, 2009, and ending with Take 10 on July 28. Steelhead from Take 1 broke with IHNV during June. The IHNV outbreak spread to fish in other ponds during the summer. Mortality from June until September 30 was approximately 1,122,000 fish, or 44 percent of the SST moved out of the nursery.

Feed

All steelhead in the nursery were fed Moore-Clark feed for the fourth straight year with good results. Starter feed size #3 was omitted from the regime again this year, as it clogged the nursery tank screens in previous years. There appeared to be no detrimental effects by skipping this feed size. Steelhead were treated with Florfenicol medicated feed for ten consecutive days just before moving outside to combat cold-water disease. Despite the medicated feed treatment, mortality was over 1.1 million SST after ponding.

System I

System I received 818,338 BY09 SST during the summer of 2009. Steelhead in System I were moved out of the nursery beginning with Take 5 on June 29, 2009 and ending with Take 7 on July 13. The SST were transferred from the nursery to ponds in System I using a PR Aqua fish-pump. Steelhead were initially loaded into approximately half the ponds until the markers came in October to begin AD clipping and CWT the fish. The SST were then split into the appropriate ponds after marking.

There were two ponds of SST in System I that received CWTs. These fish were netted from BP's and moved to the marking trailer, tagged, AD and LV clipped. There were 30,039 SST which received CWTs and transferred into BP31 and 30,165 SST which received CWTs and transferred into BP21. This tagging was done on October 24 and 28, respectively, and is for evaluation of System I SST contribution to the fishery and hatchery returns.

Burrows pond 19 received 28,022 SST which remained unclipped under the U.S. vs. OR Harvest Settlement Agreement. These SST were counted through the marking trailer and transferred from BP7 to BP19 on October 30.

System II

System II received 798,301 SST during the summer. Fish in System II were moved out of the nursery beginning with Take 8 on July 20 and ending with Take 10 on July 28. As with System I, the SST were transferred from the nursery to ponds in System II using a PR Aqua fish-pump. SST were initially double loaded in the ponds until the marking trailer began handling fish on September 16. The SST were then split into the appropriate ponds after marking.

There were 32,553 SST which received CWTs in BP22 and 30,714 SST which received CWTs in BP46. This tagging was done on September 23 and 30, respectively and the study is for evaluation of System II contribution to the fishery and hatchery returns.

Fish in BP's 6, 8, 30, 32, 48, and 50 (190,153 SST) received no AD clip or CWT to designate them as hatchery fish. These fish were run through the marking trailer and counted before being distributed to the appropriate pond and are under the U.S. vs. OR Harvest Settlement Agreement.

System III

System III received 947,691 SST from Takes 1 through 4 beginning with Take 1 on May 19 and ending with Take 4 on June 20. As with all the SST in the nursery this year, the fish were transferred from the nursery to ponds in System III using a PR Aqua fish-pump. Steelhead were initially double loaded in the ponds until the markers came in mid-September to begin AD clipping and CWT the fish. The SST were then split into the appropriate ponds after marking.

There were 25,295 SST which received CWTs in BP 80 and 30,130 SST which received CWTs in BP77. This tagging was done October 7-23, and the study is for evaluation of System III contribution to the fishery and hatchery returns.

Projected Release

Elevated losses from the outbreak of IHNV, cold-water disease, etc, continued at the end of September. Table 2 illustrates the steelhead on station at the end of FY2009 and projected release numbers.

Table 2. BY09 SST on station and projected release summary from 9/30/2009.

As of September 30, 2009					Projected to Release - April 2010		
System	Number	Weight (lbs)	fpp	L mm	Proj % Mortality until Release	Projected Release Number	Proj Release size mm
System I	454,467	16,686	27.2	120	22	354,484	200
System II	694,450	18,835	36.9	108	7	645,839	200
System III	293,280	15,558	18.9	135	30	205,296	200
Total/Ave	1,442,197	51,079	28.2	118	19.7	1,205,619	200

Source: DNFH - MIS data, October 1, 2009; DNFH - Production Narrative, September, 2009

Spring Chinook Salmon Brood Year 2007

On October 1, 2008, there were 1,030,003 BY07 spring Chinook salmon (SCS) on station at Dworshak. All of these fish were progeny from females with low Bacterial kidney disease (BKD) ELISA status.

On January 7-13, 2009, there were a total of 51,609 BY07 SCS which received PIT tags. This study is to help evaluate the survival comparison of barging, trucking, and river-run smolts along with the adult survival rates of these fish in the Columbia Basin.

Dworshak Production staff also coordinated with several outside researchers concerning sampling of various brood-years of Dworshak SCS. Details of the research can be found in the Idaho FRO Annual Report.

Release dates of the BY07 SCS were March 25 and 26, 2009. There were 1,014,748 BY07 SCS released from Dworshak into the North Fork of the Clearwater River (Table 1).

Table 1. BY07 SCS in Raceways, October 1, 2008 and release data, March 25-26, 2009.

October 1, 2008				% Loss 10/1/08 to 3/26/09	Release March 25-26, 2009			
Number	Wt (lbs)	fpp	L mm		Number	Weight lbs	fpp	L mm
1,030,003	20,921	49.2	104	1.5	1,014,748	47,914	21.2	137

Source: DNFH- MIS, Oct 1, 2008
Production Narrative, March, 2009
Final Release Summary, BY07 SCS

Dworshak stock BY07 SCS had an enumerated survival of green to eyed egg of 96 percent. Personnel at Dworshak enumerated all the BY07 SCS eggs. As was done in the past, all BY07 Kooskia stock SCS eyed eggs (480,000) were shipped to Kooskia for incubation and final rearing. There were also 265,000 Dworshak stock eyed eggs shipped to Kooskia for incubation and rearing over the winter.

There were 1,122,000 Dworshak stock SCS eyed eggs which remained at Dworshak for incubation and rearing. Once the eggs at Dworshak hatched and the fry were ready to go on feed in April of 2008, they were placed directly into outside raceways from the incubation trays.

Brood Year 2008

There were 1,857 adult BY08 SCS which returned to Dworshak and 816 returned to Kooskia NFH. Adults spawned and eggs produced from BY08 SCS are represented in Table 1.

Table 1. Dworshak and Kooskia adult broodstock and both green & eyed egg numbers, BY08 SCS.

Location of Adult Returns	Males Spawned	Females Spawned	# Eggs/ Female	Total Eggs Enumerated	# Eyed Eggs Enumerated	% Surv Enum Eye-up
Dworshak	384	379	4,300	1,216,845	1,193,435	98.1
Kooskia	217	247	3,817	748,048	724,784	96.9
Total/ Average	601	626	4,174	1,964,893	1,918,219	97.6

Source: DNFH - Final BY08 SCS Enumeration and % Survival of Eggs. SC08EGEN.xls
BY08 SCS Spawning Report

As was done with BY99-07 SCS, BY08 Kooskia stock SCS eggs were shipped to Kooskia for incubation after eye-up and enumeration at Dworshak. There were also 820,000 Dworshak stock eyed-eggs transferred to Kooskia and 372,000 which remained at Dworshak.

Chinook fry have been transferred from incubation trays directly into 8' x 80' concrete raceways (RW's) for several years at Dworshak. Care of these fry has been problematic due to the excessive amount of time needed to clean the concrete bottom of the RWs and the fragile condition of the fry. In an effort to alleviate this situation, different early-rearing strategies were examined using a portion of Dworshak BY08 SCS fry. During October there were 372,000 Dworshak stock eyed eggs put back into B- bank incubators at Dworshak for this purpose. The subsequent fry from these eggs were stocked into one of three different initial rearing units. Aluminum troughs and circular fiberglass tanks were lowered into three empty A-bank RWs in the spring of 2009. The rearing units to be evaluated are as follows:

- 20' x 3' x 3' Aluminum troughs (4 total in two RWs)
- 6' x 3' Fiberglass circular tanks (7 total in one RW)
- 8' x 80' concrete RW

Chinook in the troughs and circular tanks were fed and cleaned similarly in all rearing units throughout the early-rearing cycle. Evaluations of the rearing units consisted of both visual observation from the staff and various measured parameters before the fry reached 500 fish per pound (fpp) and were transferred into empty 8' x 80' RW's. A draft proposal of information to be gathered was developed and coordinated with the Idaho IFRO. This experiment will be repeated in FY2010 before conclusions can be made of the study.

During spawning, the Idaho Fish Health Center (IFHC) took ovarian fluid for viral inspection from both Dworshak and Kooskia stock females. They also took spleen samples from Dworshak and Kooskia males for viral inspection (see IFHC Broodstock Assessment report for results). Kidneys were also sampled for BKD from all females spawned. Dworshak used an ELISA test for BKD

which employed a base-line test to compare all samples to a given ELISA reading. The results of the testing for adult females were 1.6 percent (6/384) greater than 0.250 ELISA for Dworshak stock and 0.8 percent (2/247) for Kooskia stock. Eggs from females which were in the upper range of ELISA were culled for both stocks.

After enumeration at Dworshak there were 724,874 Kooskia stock eyed eggs shipped to Kooskia from October 7 through October 27, 2008. There were also 820,000 Dworshak stock eggs shipped to Kooskia during this time for a total of 1,544,874 eyed eggs transferred from Dworshak to Kooskia. On April 6-7, 2009 there were 802,612 Dworshak stock fry transferred from Kooskia back to Dworshak. These fry were approximately 700 fpp at the time of transfer.

Dworshak incubated 372,000 eyed eggs of Dworshak stock for its program. On April 9 there were 135,968 fry from the incubators moved to RW 10. On April 16 there were a total of 114,164 fry from the incubators transferred into four aluminum troughs, two in RW 13 and two in RW 14. On the same day there were also a total of 118,354 fry transferred into seven different circular tanks in RW15.

A total of 1.17 million BY08 SCS fry were put the RWs at Dworshak during April, 2009.

The USFWS fish marking trailer from the CRFPO began CWT the BY08 SCS on August 4, 2009 and ended on August 15. The tagging is being done for contribution research. Personnel from the marking trailer also clipped adipose (AD) fins on all BY08 SCS and split fish into several raceways during the marking/tagging operation.

By the end of FY 2009, there were 1,124,728 BY08 SCS at Dworshak. Table 2 illustrates the size and number of BY08 SCS on station at the end of the fiscal year and projected release numbers.

Table 2. BY08 SCS at the end of the FY and projected release from Dworshak, April 2010.

As of September 30, 2009					Projected to Release - April 2010		
Stock	Number	Weight (lbs)	fpp	L mm	Proj % Loss to Release	Projected Release Number	Proj Size at Release mm
Dworshak	1,124,728	30,670	37	114	1	1,113,481	142

Source: DNFH - MIS, October 2009; DNFH – Monthly Activity Report, September 2009.

Brood Year 2009

Fish traps at both Dworshak and Kooskia were operated to collect BY09 SCS. The Dworshak fish ladder was opened June 10, 2009 and closed August 17 for collection of Brood Year 2009 (BY09) Spring Chinook Salmon (SCS) for spawning. The ladder was then opened August 20 - 24 to collect SCS for spawning at the Nez Perce Tribe (NPT) hatchery on the Clearwater River.

The total Chinook returning in 2009 to Dworshak and Kooskia were 2,171 and 589 fish, respectively (Table 1). This includes 726 one-ocean fish returning to Dworshak and 156 to Kooskia. There were 561 fish transported from Kooskia to Dworshak for spawning.

Table 1. Adult returns, BY09 SCS. (09/30/09).

Age	Number/Dworshak	Number/Kooskia*	Total
I - Ocean	726	156	882
II - Ocean	1,200	368	1,568
III - Ocean	245	65	310
Total	2,171	589	2,760

*10 of these fish were passed over weir into Clear Creek - ISS fish

Source: IFRO - Dworshak/Kooskia Complex SCS News - 2009 Edition; AOP 2009 December
DNFH - Spawning Activity Report BY2009 SCS

Figure 1 displays the SCS returns to the Dworshak Complex since 1990.

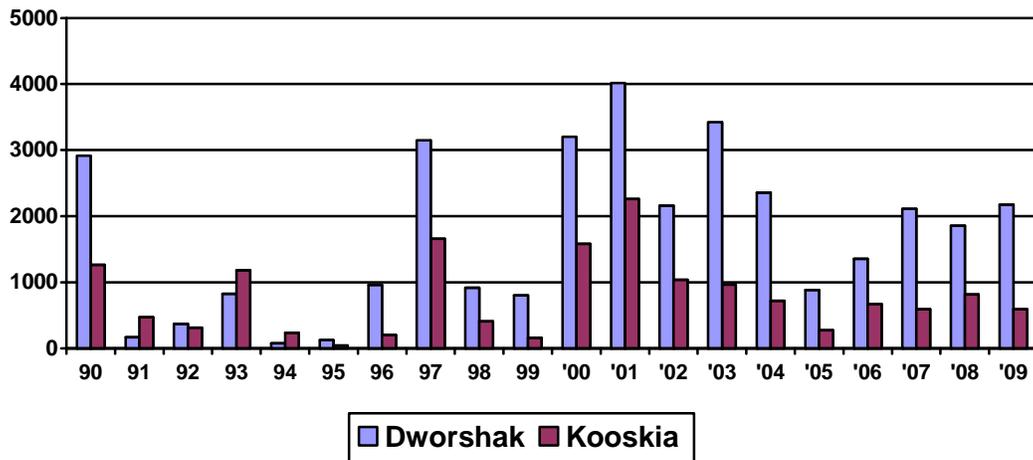


Figure 1. SCS returns to Dworshak/Kooskia 1990-2009

Source: IFRO - SCS rack returns

Adult returns for BY09 SCS were enough to meet the production requirements for Dworshak. A sport fishery took place in the Clearwater River in the spring of 2009. A tribal harvest also took place along the Clearwater River and Clear Creek below Kooskia Hatchery during the spring and summer of 2009.

Adult Holding

Dworshak stock SCS were kept in holding ponds (HPs) 1, 2, and 9. The 561 Kooskia stock transfers were held in HP3. Kooskia stock received a right opercule punch in order to distinguish between the two stocks. Formalin treatments were administered to the adults in order to impede fungus infection. On July 22 personnel from Idaho Fish Health Center (IFHC) injected all Dworshak and Kooskia stock females with erythromycin. The females were injected at a dosage of 20 mg/kg body weight as a preventative against vertical transmission of Bacterial Kidney Disease to the egg.

Adult Mortality

There were 23 adult SCS of Dworshak stock and 12 of Kooskia stock which died before spawning began on August 11 (prespawning mortalities). Table 2 depicts the mortality for adult BY09 SCS held at Dworshak.

Table 2. Mortality of adult BY09 SCS held at Dworshak.

Mortality	Dworshak		Kooskia	
	Number	Percent of total return at Dworshak	Number	Percent of Kooskia return transferred to Dworshak
Prespawning	23	1.1	12	2.1
During Spawning	11	0.5	2	0.4
Total	34	1.6	14	2.5

Source: DNFH - Spawning Activity Report, BY09 SCS

Adult Disposition

Table 3 illustrates BY09 SCS adult disposition from both Dworshak and Kooskia stock held at Dworshak.

Table 3. Adult disposition of BY09 SCS held at Dworshak.

Destination	Dworshak Stock	Kooskia Stock	Comments
Nez Perce Tribe	686	0	Subsistence
Outside Research Info/Education	0	0	NMFS, Univ of Idaho, School Prog
WSU Grizzly Bear Program WSU/IDFG Stream Nutrifcation	824	376	Captive Bear Program Payette, Weiser, Boise River Syst
Adult Outplants	390	59	Main Stem Clearwater River
Landfill	271	126	Excess Carcasses from spawning
Total	2,171	561	

Source: BY09 SCS Spawning Activity Report

Spawning Season

The BY09 SCS spawning season began August 11, 2009 and ended on August 25 for Dworshak and September 1 for Kooskia stocks. Fish from each HP were sorted and spawned once each week along with new fish coming up the ladder into HP9. There were 372 males (including 9 jacks) and 398 females (1:1.07 ratio) of Dworshak stock spawned during the season. There were also 191 males (including 22 jacks) and 223 females (1:1.17 ratio) of Kooskia stock spawned during the season.

The females averaged 4,110 eggs/female for Dworshak stock and 3,748 eggs/female for Kooskia stock. Dworshak put 1.16 million eyed eggs into its program, keeping 582,000 eggs at Dworshak and shipping 575,000 for incubation at Kooskia. There were also 733,017 eyed eggs of Kooskia stock shipped to Kooskia. The number of adult spawners, eggs produced, and survival of BY09 SCS are illustrated in Table 4.

Table 4. Dworshak and Kooskia broodstock; both green and eyed egg numbers, BY09 SCS.

Location of Adult Return	Males Spawned	Females Spawned	Eggs/ Female	Total Eggs Enumerated	Eyed Eggs Enumerated	Percent Enumerated Eye-up
Dworshak	372	397	4,110	1,261,673	1,229,391	97.4
Kooskia	191	223	3,748	753,402	733,317	97.3
Tot/ Ave	563	620	3,967	2,015,075	1,962,708	97.4

Source: DNFH - Spawning Activity Report BY09 SCS
DNFH - BY09 SCS Spawning Report

Idaho Fish Health Center (IFHC)

During spawning personnel from the IFHC took ovarian fluid for viral inspection from both Dworshak and Kooskia stock females. They also took spleen samples from Dworshak and Kooskia males for viral inspection (see IFHC Broodstock Assessment report for results). Kidneys were also sampled for BKD from all females spawned. As in 2008, Dworshak used an ELISA test for BKD which employed a base-line test to compare all samples to a given ELISA reading. The results of the testing for adult females were 0.3 percent (1/398) greater than 0.250 ELISA for Dworshak stock and 0.5 percent (1/223) for Kooskia stock. Eggs from females which were in the upper range of ELISA were culled for both stocks.

Research

Dworshak NFH continued to coordinate with outside researchers. Matt Campbell from the Idaho Department of Fish and Game is creating a parental genotype database at various hatcheries in the Snake River Basin. This research involves tracking the male x female crosses using a fin-clip sample from each fish spawned.

Chinook carcasses went to Laura Felicetti from Washington State University (WSU) for mitigation of marine-derived nutrient loss in the Boise-Payette-Weiser sub-basin. Tad Wheeler from WSU also took three jack carcasses to determine the amount of nutrients available in an unspawned carcass.

Spawning Summary

BY09 SCS adult return numbers were adequate to fulfill both Dworshak's and Kooskia's production goals. Projected release of BY09 smolts in the year 2011 at Dworshak NFH is approximately 1.05 million smolts of Dworshak stock.

Fall Chinook Salmon Brood Year 2008

The Idaho Fishery Research Office (IFRO) is participating in two studies on fall Chinook salmon (FCS); 1) an evaluation of migrational behavior of Clearwater River fall Chinook salmon subyearlings and 2) an evaluation of the effect of transportation and summer spill in the Columbia River hydro system on smolt-to-adult return rates of Snake and Clearwater River fall Chinook salmon. Both of these studies are being conducted with Lyons Ferry Hatchery stock and the fish are referred to as either Snake or Clearwater River surrogates depending on their release location. The

Clearwater River surrogates for the migrational behavior study were initially incubated and reared at the Nez Perce Tribal Hatchery (NPTH). The Snake and Clearwater River surrogates for the transportation study were initially incubated and reared at Umatilla Hatchery (UH). All three groups were transferred to DNFH where cool water temperatures allow date and size at release to be controlled to match rearing timing and size of fish in the wild.

From March 11, 2009 until April 10 there were 341,000 BY08 FCS transferred to Dworshak. From May 18 until July 17, 2009, a total of 327,780 FCS were tagged and released; 237,741 at Couse Creek on the Snake River and 90,039 at Kayler's Landing on the Clearwater River. All FCS were off station at Dworshak by the end of the day on July 17.

Coho Salmon Brood Year 2007

On March 4-5, 2009 there were 281,927 BY07 coho salmon (COS) transferred from Dworshak to Kooskia NFH for final acclimation before release. These fish averaged 24 fpp and 125 mm (5.0 inches) total length at the beginning of March.

Brood Year 2008

Brood Year 2008 (BY08) COS were trapped at Dworshak hatchery and several other sites in the Clearwater Basin. Spawning of BY08 COS began in the fall of 2008 and ended November 12. There were a total of 461 female COS from the Clearwater Basin which were spawned, producing 1,113,663 eyed eggs. These eggs were incubated at Dworshak NFH.

Coho were transferred from the egg trays to Dworshak's nursery during January and February of 2009. From March 19-24, there were 900,260 BY08 COS moved from the nursery to Burrows Ponds (BPs) in System III. The PR Aqua fish pump was used to move these fish directly from the nursery tanks into the BPs. During May and June there were a total of 470,374 BY08 coho outplanted to Clear Creek, Lapwai Creek, or direct released from Dworshak. These fish averaged 72 fpp and 87mm (3.4 inches). At the end of FY 2009 there were 354,231 BY08 COS on station. These fish were 24 fpp at the time.

Rainbow Trout Brood Year 2008

At the start of FY09 there were a total of 12,571 BY08 RBT in BP 60 and 62 (9,637 diploid from Ennis NFH and 2,934 triploid from Hayspur SFH). There were 11,000 triploid RBT from Hayspur which originally had high survival during initial rearing on reservoir water in the incubation room during the spring. However, these RBT suffered heavy mortality once moved to outside ponds using river water in the summer of 2008.

On January 29, 2009 the diploid RBT from BP 60 were split as half of them were moved into a modified BP labeled mixed cell unit (MCU) 64. From this date until May 1, growth and size of the RBT were virtually the same in both the standard BP 60 and MCU 64. On May 13 all the RBT from BP 60 were transferred to Kooskia National Fish Hatchery (KNFH) for Kids' Fishing Day in June. There were an estimated 3,698 RBT transferred averaging 1.9 fpp. On June 23 all RBT in MCU 64 were seined and moved into BP 62 so the fish could be removed using a fish pump. There were an

estimated 1,635 RBT moved to Talmacs Pond and 1,364 moved to Mud Springs Reservoir from this pond. These fish averaged 1.4 fpp when moved.

Dworshak held its annual Kid’s Fishing Day on June 12, 2009 at the Tunnel Pond in Orofino, Idaho. Approximately 250 RBT were caught by the 156 kids 12 years of age and under who took part in the activities. Table 1 illustrates outplanting of BY08 RBT from Dworshak.

Table 1. Fish Distribution Summary BY08 RBT from Dworshak NFH.

Date 2009	Number	Wt (lbs)	fpp	L in	L mm	Location
18-Apr	350	150	2.3	10.2	260	Inland NW Outdoor Show
13-May	3,698	1,988	1.9	11.0	280	Kooskia NFH
9-Jun	1,832	1,275	1.4	12.0	305	Tunnel Pond NPT
23-Jun	1,364	1,003	1.4	12.3	311	Mud Springs NPT
23-Jun	1,635	1,202	1.4	12.2	311	Talmacs Pond NPT
Total/Ave	8,879	5,618	1.6	11.7	296	

Source: DNFH - RBT MIS, June 2009; Fish and Egg Fiscal Year 2009 Distribution Summary IFRO - Rainbow Trout Planting, Dworshak and Kooskia. RBTPLN09.wk4

Brood Year 2009

Rainbow Trout from BY09 will be used for Kid’s Fishing Day in 2010. On February 5, 2009 Dworshak received 15,000 triploid Troutlodge strain RBT eyed eggs from Troutlodge, Washington.

On June 2, 2009 all the RBT in the circular tanks were moved outside to BP 61 using the new PR Aqua fish pump. While being on reservoir water these triploid RBT had a 92 percent survival from eyed egg until being moved outside. At the time of move there were 13,834 RBT at 105 fpp and 73 mm (2.9 inches) total length.

There were 13,653 BY09 RBT at 8.5 fpp and 169 mm (6.7 inches) total length at the end of the fiscal year. This is 98.7 percent survival from ponding.

Dworshak Hatchery Production Summary FY 2009

Steelhead Brood Year 2008

There were 1.8 million steelhead smolts released from Dworshak in April, 2009. The steelhead at release averaged 5.4 fpp and 205 mm in total length. The smolts were outplanted to the South Fork of the Clearwater River the week of April 13, 2008 and, due to high nitrogen gas saturation in the supply water, direct-released from Dworshak the same week. There were 330,157 pounds of steelhead produced from BY08 SST. Under the 2008-2017 U.S. vs. Oregon Management Agreement and included in the final release numbers were 230,712 unmarked smolts. These SST were released without an adipose fin clip or mark/tag to designate them as a hatchery fish.

Steelhead Brood Year 2009

There were 4,335 adult steelhead returned to Dworshak NFH in the fall of 2008 and spring of 2009. A total of 2.8 million eyed eggs went into Dworshak's production program. Dworshak provided 1.4 million eyed eggs for the Clearwater Hatchery and 1.7 million green eggs were taken for Magic Valley Hatchery. As in 2008, SST spawning began at the end of January. Spawning of mid and late returning adults ended on April 21. Heavy losses due to *Infectious Hematopoietic Necrosis Virus* (IHNV) and other diseases reduced the number of BY09 SST on station to 1.4 million at the end of FY2009.

There will be approximately 210,000 BY09 SST released in 2010 for the Nez Perce Tribe which will have no external mark designating them as a hatchery fish. These fish will be counted in the Dworshak SST production program and are under the 2008-2017 U.S. vs. Oregon Management Agreement.

Spring Chinook Salmon Brood Year 2007

Dworshak NFH released 1.01 million BY07 spring Chinook salmon averaging 21 fpp and 137 mm total length. These fish were released on March 25-26, 2009.

Spring Chinook Salmon Brood Year 2008

At the beginning of FY2009, BY08 SCS eggs of both Dworshak and Kooskia stock were incubating at Dworshak. During October of 2008 there were 724,874 eyed-eggs of Kooskia stock shipped to Kooskia for final incubation. There were also 820,000 Dworshak stock SCS eggs shipped to Kooskia as well. Dworshak incubated 372,000 Dworshak stock SCS over the winter. An experiment was conducted using both circular fiberglass and aluminum rectangular tanks for initial rearing of the SCS out of the incubation trays. At the end of FY09 there were 1,124,728 BY08 SCS of Dworshak stock on station, averaging 37 fpp and 114 mm (4.5 inches) total length.

Spring Chinook Salmon Brood Year 2009

Adult returns of BY09 SCS produced 2,171 Chinook adults to Dworshak. Kooskia trapped 589 adult fish, transferring 561 to Dworshak for spawning. There were a total of 397 Dworshak and 223 Kooskia females spawned during the season. Eye-up survival for these eggs was 97.4 percent. All BY09 SCS eggs were incubating at Dworshak at the end of FY09.

Fall Chinook Salmon Brood Year 2008

The Idaho Fishery Research Office is participating in two studies on Lyon's Ferry Hatchery stock fall Chinook salmon (FCS); 1) an evaluation of migrational behavior of FCS subyearlings and 2) an evaluation of the effect of transportation and summer spill in the Columbia River hydro system on

smolt-to-adult return rates of FCS. Fish were transferred to DNFH where cool water temperatures allow date and size at release to be controlled to match rearing timing and size of fish in the wild. From May 18 until July 17, 2009, a total of 327,780 FCS were tagged and released; 237,741 at Couse Creek on the Snake River and 90,039 at Kayler's Landing on the Clearwater River.

Coho Salmon Brood Year 2007

On March 4-5, there were 281,927 BY07 coho salmon (COS) transferred from Dworshak to Kooskia NFH for final acclimation before release.

Coho Salmon Brood Year 2008

Adult COS were trapped at Dworshak hatchery and several other sites in the Clearwater Basin. There were a total of 461 female COS from the Clearwater Basin which were spawned, producing 1,113,663 eyed eggs. These eggs were incubated at Dworshak NFH. Coho were transferred to the nursery for initial rearing and then into System III Burrows ponds for final rearing. During May and June there were a total of 470,374 BY08 coho outplanted to Clear Creek, Lapwai Creek, or direct released from Dworshak. At the end of FY 2009 there were 354,231 BY08 COS on station at 24 fpp.

Rainbow Trout Brood Year 2008

Dworshak received approximately 11,000 triploid RBT eggs from Hayspur SFH and the same number of diploid eggs from Ennis NFH. All strains did well during inside rearing on reservoir water but about 75 percent of the triploids died once they were moved outside to river water. On May 13, 2009 there were 3,698 BY08 RBT transferred from Dworshak to Kooskia NFH for their June Open House program. On June 9 there were 1,832 RBT stocked into Tunnel pond in Orofino, Idaho for Kid's Fishing Day with Dworshak NFH. There were 156 participants fishing at the event on June 12, 2009. Approximately 3,000 12-inch RBT were stocked from Dworshak into tribal fishing lakes in the spring and summer of 2009.

Rainbow Trout Brood Year 2009

Rainbow Trout from BY09 will be used for Kid's Fishing Day in 2010. On February 5, 2009 Dworshak received 15,000 triploid Troutlodge strain RBT eyed eggs from Troutlodge, Washington.

On June 2, 2009 all the RBT in the circular tanks were moved outside to BP 61 using a new PR Aqua fish pump. There were 13,653 RBT on station at 8.5 fpp and 169 (6.7 inches) total length at the end of FY2009.

Facilities Maintenance

October, 2008

- Fabrication projects: installed hooks for sample counting Chinook fry in A & B bank; handles for fry transport containers; hooks for pulling stand pipes; installed mid-railed in steps to Coho RW's and hand crank valve openers for A & B RW's.
- Removed oil spill booms from Main Pump House intake.
- Installed struts for piping support in mixed cell ponds.
- Maintenance projects: cleaned System I Reuse clarifiers and digesters; ran generators for monthly exercise; changed oil and lubed incubator pumps, System I reuse pumps, Mech I #1 & #2 air compressors, air compressor in Maintenance Shop, Incubator Room air compressor.
- Hauled 245 steelhead adults from Dworshak Dam Powerhouse to Ahsahka Boat Ramp.
- Started Mech I boilers for building heat.
- Set ECO blocks to anchor screw trap in Clear Creek with boom truck.
- Repaired water leak in fire maintenance line at corner of System I ponds.
- Patched holes in bird netting.
- Daily: cleaned water screens, moss trap, check main pumps in Main Pump House; maintained grounds with mowing, weeding, raking, building maintenance.
- Continued entering preventative maintenance data into software for maintenance equipment.
- Cut holes in drain pipe in the two mix cell ponds.
- Adjusted clutch in Fish truck.
- Repaired damaged door frame on Cart #11.
- Repaired damaged portable stairs.

November, 2008

- Electrical Projects: Repaired cool room refrigerator system in Feed Bldg; replaced defective photo cell for outside lighting control; repaired electronic gate controller for security gate; replaced Zone #2 circulating pump in Main Bldg. heating system; installed new power supply in tissue processor in Idaho Fish Health Center (IFHC); installed new switch for exhaust fan in formalin storage; repaired lighting on overpass and repaired broken conduit for alarm circuit in Mech I; repaired failed connections in 31 incubator pump in Mech I; connected and energized block heaters for the rental generator at the main Pump House.
- Energized heat tapes on vent pipes at main aeration chamber; brought up Mech I boilers for building heat and closed building louvers for winter.
- Cleaned and adjusted photocells for adult fish counter.
- Ran generators for monthly exercise.
- Vehicle maintenance repaired on: Cart III; John Deere backhoe; Dodge Caravan; Grand Caravan and installed snow plow on Dodge 1-ton.
- Fabrication Projects: A step for Spawning Room control station landing; a maintenance swivel wheeled cart/seat; hold down brackets for incoming water seals for mix cell ponds; installed box covers for new domestic water underground vales at the end of A&B bank and replaced handle on tall stand pipe in Pond #17. Cleaned and adjusted photocells for adult fish counter.

- Did preventative maintenance on Mech I and entered data into computer for Preventative Maintenance (PM) program and performed PM.
- Daily: checked Fire Maintenance pumps, filters and adjusted valves; traveling water screens and cleaned fish trap, grounds and building maintenance.
- Repaired drill motor cords.
- Replaced five fire extinguishers in IFHC.

December, 2008

- Performed vehicle maintenance on IFHC pick-up, Gator, tiger trucks and lawn tractor.
- Cleaned system I clarifiers in for reuse.
- Fabricated table for IFHC and a toe hitch for the Gator.
- Unloaded and installed a tissue processor and lift in the IFHC.
- Removed and replaced pond scrubber brushes on drive shaft.
- Operated water valves for firefighters during the recent fire that burned down the Nez Perce church.
- Repaired exercise machine at IFHC.
- Set up fish pump and pumped fish from pond to pond in System II & III.
- Built and installed new drain plates for mix cell ponds.
- Cleaned system I clarifiers in for reuse.
- Daily: checked Fire Maintenance pumps, filters and adjusted valves; traveling water screens and cleaned fish trap, grounds and building maintenance.
- Cleaned Main Pump house.
- Repaired damaged water truck fill station at B-bank.
- Met with members of Muckleshoot Tribe in Washington on the reuse system here at DNFH.

January, 2009

- Electrical projects: Troubleshoot and repaired temp controller on Mech II, boiler #3; troubleshoot and reset auto transfer switch System I pump house; troubleshoot and repaired Main Bldg. heating system; set new emergency generator in place.
- Fabrication projects: Roof rack for shovels for top of Gator; modified walkway grip strut and installed on mix cell pond wall; braze copper pipe for fire maintenance pump and removed old lifting handles and replaced with T handles on plates for Production Dpt.
- Set up tanks in Mech I for pit tagging.
- Removed aeration tower from Lab water quality room.
- Removed a bypass pipe and installed a blind flange in System I reuse filtration system.
- Met with elevator inspection person for bi-annual inspection and assisted Opportunity Unlimited client, Steve, around the hatchery complex to refill first aid kits.
- Load fish transfer tank onto garden truck.
- Set up tank and plumbed warm water for FRO.
- Assisted FRO in their pit tagging operation by operating forklift and scanning steelhead for tags.
- Replaced body and installed rebuild kit on snow plow lift.
- Snow removal from hatchery grounds and spreading ice melt.
- On a daily basis cleaned and vacuumed all buildings, offices, took out trash and stored recycled materials, checked trash rake, ran traveling water screens and checked main pumps daily.

February, 2009

- Data not available.

March, 2009

- Fabrication projects: L-shaped brace for new generator wire track in Main Pump House ; screen divider for the mix cell pond; fabricated cover for a hole cut in System I salt tank grating
- Electrical: Removed multi vapor light fixtures from the IFHC roof; wired in new generator in Main Pump House; worked with COE engineers on Mech II boilers; troubleshot and repaired heaters for formalin storage; repaired and reinstalled HPS fixtures on IFHC roof.
- Pumped Coho into NPT trucks from Holding Pond (HP) RW's.
- Repair Projects: FRO screw trap; stand pipe for the RBT tank drains in Incubator room; repaired water leak beside fuel tank and replaced water hydrant on same water line and repaired broken sprinkler faucet and broken "T" in valve pit in housing.
- Changed oil in portable welders and serviced air compressors.
- Worked on System I Reuse Digesters.
- Loaded and outplanted Steelhead adults each spawning day.
- Hauled steelhead from KNFH to South Fork above Stites.
- Removed concrete for new drains in mix cell pond.
- Cleaned out bone yard with forklift.
- Started all scraper and conveyors in System II & III reuse filter beds.
- On a daily basis ran traveling water screens, cleaned trash rake, checked main pumps daily, kept hatchery grounds free of debris, trimmed shrubs, mowed, raked and cleaned all hatchery buildings.

April, 2009

- On April 30th, the crew participated in the Annual Valve Exercise along with the Clearwater State Fish Hatchery and U.S. Army Corps of Engineers. This exercise is critical to the evaluation of the existing pipeline and valve operation which supplies water to the Dworshak Hatchery incubation and nursery areas and is the sole water source for the Clearwater State Hatchery.
- Hauled Chinook from Umatilla, OR to DNFH, DNFH to KNFH; steelhead from KNFH to South Fork of the Clearwater River and pumped fish for USACE trucks to haul.
- Fabrication projects: Wrench to remove valve cover caps; 4" male to 3" female pipe fitting for draining digesters; 4" female to 6" female fitting for new nursery fish pump; underwater fence post driver for Fishery Resource Office (FRO), added 27" to A-bank stand pipes and cut off pipe and studs in mix cell pond
- Electrical projects: troubleshot hard wire circuit and soft start on Main Pump #3, troubleshot emergency control power circuit in Main Pump #6, lockout and disconnect motor on Main Pump 33; installed and energized outside outlet for University of Idaho kelt study at Warehouse West; troubleshot failed sump pump in System I digester; troubleshot and repaired transfer switch in System I pump house and wire transformers for flow monitors, other equipment in mix cell ponds, install wire and connect remote display panel and test run #3 generator.
- Removed #3 pump in Main Pump house for overhaul.

- Repaired several water leaks on hatchery and housing grounds.
- Cleaned System digesters.
- Prepared fish pumps for outplanting.
- Installation projects: installed 11 tanks in A-banks with water lines and drains; built and installed header manifold for tanks in A-bank, installed new drain plates and pipe in #2 Mix cell.
- Performed annual maintenance on groundskeeping equipment, fertilizer, mowed and weed-eated grounds.
- Performed daily janitorial work on hatchery buildings, ran traveling water screens, cleaned moss from trap, ran generators for monthly exercise.

May, 2009

- Electrical: Power transfers for work to be done on 3000 amp buss duct at Substation 1 on scheduled power outage; troubleshot #2 generator voltage regulator, pulled the voltage regulator from #1 generator and installed on #2 and sent defective regulator in for repair; troubleshot problems with control voltage transformer, pump start delay timer and main breaker on Main Pump #2; put motor control center on hard wire and pulled main breaker for Pump #2 and installed a working breaker in Main Pump House; troubleshot and repair grounded circuit in House #2; assisted Clearwater Power and S & S Contracting with conduit and power feed locates for domestic water contract; repaired defective lighting in Nursery Room; replaced defective pump timer in Main Pump #6; replaced defective light switches in Feed Building basement; Assisted Pacific Power in making final adjustments and changes for cool down and annunciation on Generator #3; worked with U.S. Army Corps of Engineer electrician inspecting Mech II boilers and annual power outage May 6.
- Installed cam lock fittings on irrigation pipe for Production Dpt.
- Fabricated hangers for brooms and brushes and installed on pond walls.
- Pumped and hauled NPT Coho and outplanted them at Clear Creek.
- Hauled RBT from DNFH to KNFH for Open House.
- Repaired water leak in House #1 and front of shop.
- Unplugged drain in System I digester tank #2.
- Checked traveling water screens and cleaned moss from trap at Main Pumphouse daily; grounds and building maintenance daily.

June, 2009

- Cleaned System I, II & 3 reuse digesters and refit diffuser in reuse digester #2 in System I.
- Electrical projects: Assisted U.S. Army Corps of Engineers (USACE) on contractors with location of pipes and electric conduit; connected power to contractor job trailer at Mech I; calibrated and adjusted heat exchangers heat valves in Mech II; changed ballast in stairwell in Main Bldg; replaced diaphragm in CLA-valve in Mech I incubator sump level control and changed sump pump in System I digester Bldg.
- Fabrication Projects: New dam boards for A & B bank RW's; four irrigation pipe storage stands; irrigation pipe for pumping fish from Nursery to ponds; new stand pipes and pack columns for Coho.
- Set up tables and tents for Open House at Tunnel Pond.
- Repaired irrigation plumbing in House #1 and leveled top soil.

- Removed bird netting for S & S Construction Co.
- Hauled SCS from KNFH to DNFH; pumped RBT for ponds and KNFH Open House.
- Hauled old scrap to COE bone yard.
- Checked traveling water screens and cleaned moss from trap at Main Pumphouse daily; grounds and building maintenance daily.

July, 2009

- Fabrication projects: Door stop for shop door, install packed columns and water pipes in Coho ponds; a gated, sliding recto-round to be used as a controllable funnel for fish pumping operations when moving fish from ponds/tanks; welded two unistrut legs to base pad for domestic water pipe support in Spawning Room basement; installed otter security fencing around fish ponds;
- Ran jack hammer, grinded concrete and fit new cones in mix cell #2.
- Repaired vehicle damage to gate in visitor parking lot and attached backer to the gate to allow important news items to be posted for public. Also enlarged the lock pin hole.
- Hauled Chinook to DNFH from KNFH.
- Loaded man lift for troubleshooting and repair by Western States in Lewiston.
- Removed Bio Mart trailer from stands and prepare for pick-up.
- Removed freezer from nursery and shelving units.
- Repaired broken grip strut for raceway joint.
- Built boxes for FRO in Mech I.
- Maintenance performed daily by cleaning moss trap, check main pumps, ran traveling water screens in Main Pump House, greased screens, grounds and building maintenance.
- Repairs performed on shop truck and Tiger truck.
- Plumbing repaired in Visitor parking lot restrooms.

August, 2009

- Electrical projects: Assisted U.S. Army Corps of Engineers (COE) and pump rep with #1 domestic water pump; installed #1 make-up pump and motor in Mech II; assisted contractors with circuit removal and de-energization in Nursery Room; hooked up and troubleshot circuits in Bio-Mark tagging trailers and worked on Main Bldg. air conditioning and changed filters.
- Fabrication projects: Pipe support for domestic water pipes in Feed Bldg. and Spawning room basements; cap for underground valve box for water shut off for FRO trailer; marking trailer tanks and tables for FRO's new trailer; installed otter fencing around Systems I, II & III.
- Vehicle maintenance including repair battery charger cord, changed oil and filters, replaced sprockets and chains on complex vehicles and John Deere Gator.
- Hauled old Nursery room lights to KNFH.
- Hauled several loads of fish to the Ahsahka boat ramp for release.
- Replaced bird netting between A & B RW's and repaired damaged bird netting over Pond 76 & 78 in System III.
- Installed drains and screens in #2 mix cell pond.
- Repaired extension cords and mort nets and a broken grip strut.
- Cleaned shop and repaired Tig welding torch.
- Took old fish off pump off trailer and installed new fitting for dewatering tower.

- Moved furniture in Admin Office.
- Installed Main pump #3 in Main pump house.
- Daily ran traveling water screens, checked main pumps in Main Pump House, cleaned moss from moss trap, check fire and maintenance pumps and screens and building maintenance.
- Repaired sprinklers on lawns and grounds maintenance.

September ,2009

- Electrical projects: Started and adjusted incubator chiller; ran circuits for new computer stations in old Production office; assisted with hook-up and energizing tagging trailer with correction of electrical problems in trailer; rewired and checked boilers in Mech II; made up connections and checked rotation on Main Pump #3 installed and rewired make-up Pump #4 in Mech II and repaired table saw circuit in Maintenance Shop.
- Repaired fire maintenance water leak in street.
- Modified Dee watering tower to pump fish from the ponds to the tagging trailer.
- Repaired water at construction site.
- Installed new brushes on pond scrubber; repaired fish pump pipe; repaired splash guards for tagging trailer; removed cabinet in Main Bldg; re-plumbed water piping in House #3.
- Maintenance performed daily by cleaning moss trap, check main pumps, ran traveling water screens in Main Pump House, greased screens, grounds and building maintenance.

Administration

Meetings

October, 2008

- Supervisor's meetings held in Larry Peltz's office on Oct 7, 13 & 20.
- Hatchery Managers Workshop held in Richland, WA., Oct. 29 & 30. Attending were: Larry Peltz, Mark Drobish and Ray Jones.

November, 2008

- Annual Operating Plan (AOP) meeting held at Dworshak NFH.
- Dr. Christine Moffitt from the University of Idaho with a small team of students and on-site with Barnaby Watten, U.S. Geological Service, Leetown Science Center in W. VA, here to begin profile testing on pond renovation project Nov. 19 & 20.
- Chili Feed/Bake Food sale held in Main Bldg. Conference Room to kick off the Combined Federal Campaign.

December, 2008

- Northwest Fish Culture conference held in Spokane, WA this year. Attending were: Larry Peltz, Complex Manager; Mark Drobish, Hatchery Manager; Rick Allain, Gia Growing Thunder, Wayne Hamilton, Rob Kellar, Animal Caretakers; Mike Bisbee, Thomas Trock, Ray Jones & Mark Bright, Fisheries Biologists; John Vargas, Animal Caretaker Supervisor and Krista Hostetler, Maintenance worker.
- Larry Peltz, Mark Drobish and Jill Olson met with Christine Moffitt from University of Idaho (UI), U.S. Army Corps of Engineers (USACE) staff and personnel from the Columbia River Fisheries Intertribal Commission regarding possibility of raising kelts on-station.
- All employee family Christmas potluck held in the Main Building Conference Room. The November and December birthdays were also celebrated. A drawing was held for an employee to select what charity(s) designated for the CFC cash raised from Chili Feed, bake Sale, etc. Fishery Biologist Jill Olson was selected. There was also a drawing for employees who contributed chips for the Regional "*I Gave 8 – Let's Go Outside*" program.

January, 2009

- The Hatchery Evaluation Team (HET) met with members of the NPT and UI team members. Employees attending: Larry Peltz, Complex Manager; Ray Jones, Thomas Trock, Mike Bisbee, Adam Izbicki, Carrie Bretz, Fisheries Biologists; Mark Drobish, Hatchery Manager; Hubert Sims, Maintenance Supervisor; Kathy Clemens, Idaho Fish Health Project Leader and Susan Sawyer, I/E Manager.
- Don Redman, USACE, Walla Walla District toured the hatchery to become more familiar with the water system and the issues related to fish culture and discharge relative to the National Pollutant Discharge elimination System (NPDES) permit. Don and the Hatchery staff compiled the response letter in a collaborative effort for the Environmental Protection Agency (EPA) regarding the "Notice of Violation" for the hatchery's compliance issues.
- Larry Peltz attended the two-day NPT symposium held at the Best Western Hotel in Orofino.
- Larry Peltz traveled to Walla Walla, WA on Jan. 21 to meet with USACE.

- January birthdays were celebrated by staff in the Conference Room with Production staff supplying cake and ice cream. I/E Specialist Megan Wandag was presented with a card and gift for the birth of her new son, Jahzen Stiv, on January 5.

February, 2009

- The Annual Operating Plan (AOP) meeting was held in the Conference Room on Feb. 11.
- Rick Allain, Animal Caretaker, traveled to Sacramento, CA for a Wage Grade Committee meeting.
- Larry Peltz, traveled to Lewiston, ID to give a presentation to the Lewiston Chamber of Commerce on Hatchery operations on Feb. 17.
- Larry Peltz gave an after-hours tour to officials from the USAC and Bonneville Power Administration (BPA) on Feb. 17.
- Don Redman, USACE visited and toured the hatchery on Feb. 18 to familiarize himself with the facilities operations.
- Penny Hasenoehrl, Purchasing Agent, attended a CFC Agency training workshop in Lapwai, ID.
- Laura Kessel, Idaho Fish Health Center Fisheries Biologist, gave a presentation to the Production staff on field disinfection procedures. On Feb. 25.
- LouAnn Lasswell, NPT Fisheries Workers, traveled to Shepherdstown, West Virginia for a course, “*Coldwater Fish Culture.*”
- Larry Peltz and Ed Larson (NPT coordinator) traveled to Walla Walla, WA for a Memorandum of Agreement (MOA) meeting with the USACE on Feb. 26.

March, 2009

- Larry Peltz and Mark Drobish attended the Lower Snake River Complex Plan meeting in Boise, ID, March 2-4.
- Larry Peltz; Howard Burge, FRO Project Leader; Kathy Clemens, Mark Drobish; Carrie Bretz, Ray Jones & Chris Peery, Fisheries Biologists all attended the AFS meeting in Boise, ID March 4-6.
- Tim Dykstra, USACE visited the hatchery to discuss a variety of issues and to become more familiar with the facility and the issues relative to our NPDES Notice of Violation.
- The Environmental Management Systems Team met to discuss opportunities to operate “Green.” The Team brainstormed a list of areas where the facility can make improvements and/or changes.

April, 2009

- Larry Peltz and Mark Drobish attended a meeting in Lewiston, ID with staff from the NPT and USACE on reservoir management.
- Larry Peltz & Howard Burge attended the Pacific Regional Fisheries ARD meeting in Olympia, WA.
- Larry Peltz attended a LSRCP and HRT meeting in Boise, ID, April 27-28.
- Larry Peltz led an all-staff meeting on Teamwork and showed a video on the importance of teamwork.
- Dave Trainor, Maintenance Worker; Rob Kellar, Gia Growingthunder, LouAnn Lasswell, Animal Caretakers; Larry Peltz, Susan Sawyer, Megan Wandag, Thomas Trock and Mark Drobish participated in the Dworshak Complex booth at the Outdoor Show in Lewiston, ID, April 17-19, 2009

May, 2009

- Dan Diggs, ARD and Rich Johnson, Assistant ARD traveled here from Portland, OR. A meeting was held with the entire staff on May 6 in the Main Building Conference Room.
- USACE officials traveled here from Walla Walla, WA for a tour of the hatchery grounds with Larry Peltz on May 19.
- Wage Grade Conference was held in Reno, NV May 18-22. Attending from the hatchery were Rick Allain & Wayne Hamilton, Animal Caretakers; John Vargas, Animal Caretaker Supervisor and Dave Trainor, Maintenance Department.
- Larry Peltz, Howard Burge, FRO Project Leader; Mike Faler, Asst. FRO Project Leader and Billy Connor, Fisheries Biologist traveled to Vancouver, WA for a coordination meeting at the Vancouver Office May 26 & 27, 2009.
- Wayne Hamilton was selected to represent Region 1 Fisheries and attend the Wage Grade Maintenance Professionals Workshop at the NCTC in June, 2009.
- A late celebration for Cinco de Mayo, a going-away potluck for Susan Sawyer and May birthdays were attended in the Conference Room by complex staff as well as volunteers wishing well to Susan. Several going away gifts as well as a signed picture of Dworshak Fish Hatchery were presented to Susan by Larry Peltz and Megan Wandag.

June, 2009

- Contractor CH2MHill, Damian Walter-Walla Walla USACE visited the hatchery to better their understanding of the operation of the facility relative to water supply, water usage and discharge as they relate to the EPA regulations.
- Larry Peltz and Howard Burge traveled to LaGrande, OR for an Endangered Species Conference.
- Tim Dykstra-Walla Walla USACE visited to discuss improving access to tribal fishing grounds for tribal members and to discuss Total Dissolved Gas issues in the North Fork Clearwater River and potential solutions for these impacts at the hatchery. On June 18.

July, 2009

- Larry Peltz traveled to Walla Walla, WA for a meeting with USACE on July 16 & 16.
- Larry Peltz conducted an all staff meeting to update everyone on construction issues around the hatchery grounds.
- A going-away party for the Clearwater River Youth Program (CRYP) was held in the Main Bldg. Conference Room with cake and ice cream being served. Staff from Dworshak and Clearwater Fish Hatcheries were present. The staff presented with certificates of appreciation were: Sadie Gregg, Janae Gunn and Erin Dozlier from Dworshak NFH and Megan Philips and Jesse Zick from Clearwater Fish Hatchery.

August, 2009

- Tim Dykstra, USACE here on Aug. 10 to go over Annual Work Plan with Larry Peltz.
- Julie Davin & Dave Salghetto, USACE here on Aug. 11 to meet with Larry Peltz and Hubert Sims, Maintenance Supervisor, regarding nursery overflow pipe project.
- Larry Peltz and Mark Drobish traveled to Portland, OR to meet with Region 1 Human Resources on Aug. 12.

September, 2009

- Larry Peltz and Howard Burge traveled to Lapwai, ID to meet with the NPT on Sept. 10.
- Larry Peltz traveled to Walla Walla, WA to meet with the USACE on Sept. 16 & 17.

Training

- Krista Hostetler, Maintenance Worker, traveled to NCTC at Shepherdstown, West Virginia for New Employee Orientation training in January, 2009.
- Mandatory Environmental Systems Training was presented to all staff by Chip Goyette from PRISM, Inc., and Dan Forney from Region 1. They were here for two days touring Dworshak & Kooskia NFH's and assisting in setting up a Environmental Management Team during February, 2009.
- A Green card purchasing class was taught by Chip Goyette on Feb. 19 to purchase card holders and employees responsible for filling out purchase requests.
- Joan Sperber, Admin Officer, traveled to Portland, OR for financial training at the Regional Office in February, 2009.
- Penny Hasenoehrl attended BTS training in April, 2009 at the Regional office in Portland, OR, April, 2009.
- Ray Brunson, Abernathy Fish Health Center conducted a Fish Health Course June 22-24 in the Main Bldg. Conference Room. Gia Growingthunder, Rob Bohn, Rick Allain, Animal Caretakers and Mark bright, Fisheries Biologist attended the course along with staff from several other State, Federal and Tribal hatcheries from Idaho, Washington and Oregon.

Safety & Wellness

October 2008

- Safety meeting for staff held with viewing of a video on lightning safety and discussion.

November 2008

- Todd Fenzel, USFWS Lawa Enforcement officer from Boise gave an informative talk on his work as a Refuge Manager/Law Enforcement officer to the staff.

December 2008

NA

January 2009

- Mike Gladhart, Clearwater County Sheriff's Dpt., gave a presentation to staff on: "*Cold Water Immersion.*"
- Lab technicians from Clearwater Valley Hospital & Clinic were on-site for USFWS & USACE staff to have their blood drawn for a complete blood count, thyroid/prostate at discounted prices as part of a Wellness Forum sponsored by the hospital and Foundation.

February 2009

- Penny Hasenoehrl taught a CPR/AED/First Aid/Bloodborne Pathogens Class on Feb. 10. Employees receiving their certificates were: Steve Bradbury, Thomas Trock, John Vargas,

Susan Sawyer, Dave Trainor, Laura Kessel, Mark Bright, Mark Drobish & Wayne Hamilton.

- Dr. Vanessa Brown, a physician from Clearwater Valley Hospital & Clinic gave an all-staff presentation on cholesterol. She also gave one-on-one personal lab interpretation readings to staff who had their blood drawn in January.

March 2009

- Oxarc here on-site to give respirator fit test to the following employees: John Vargas, Wayne Hamilton, Rob Keller, Ben Wright, Mark Bright, Rick Allain, Thomas Trock, Krista Hostetler, Mike Bisbee, Gia Growingthunder, LouAnn Lasswell, Eric Kashkash.
- Heidi Henson, North Central District Health dpt. gave a presentation to the staff on, “*Seven Steps You Can Take to Prevent Cancer.*”
- Pat Hickey, Region One on-site to provide forklift training to the following employees: Mark Drobish, Tom Biladeau, Carrie Bretz, Frank Mullins, Gia Growingthunder, Eric Kashkash and Steve Coomer (NPT).
- Penny Hasenoehrl facilitated a CPR/AED/First Aid/Bloodborne Pathogen class to the following employees: Ben Wright, Rick Allain, Rob Kellar. Katie Teeters from UI also attended.
- Staff safety meeting held with a viewing of video on “*Bloodborne Pathogens*”, March 27.

April 2009

NA

May 2009

NA

June 2009

- Federal Occupational Health had a portable audiogram testing site set up at DNFH to test the following employees: Mark Bright, John Vargas, Thomas Trock, Rick Allain, Wayne Hamilton, Ben Wright, Rob Keller, Mike Bisbee, LouAnn Lasswell, Eric Kashkash, Mark Drobish, Steve Coomer (NPT), Hubert Sims, Rick King, Terry Weeks, Dave Trainor, ben Greene & Gerald Stretsbery.
- Two staff safety meetings to allow full employee participation presented by Safety Committee to view the video presentation on accident and safety precautions, “*Remember Charlie.*”

July 2009

- Staff viewed several videos on hazardous materials on July 22.

August 2009

- Aaron Garcia, Region 1 Boat Safety Officer gave the staff a short presentation on boating safety.

September 2009

- Staff from Dworshak NFH, Kooskia NFH and USACE listened to a 3-hour presentation by Jack Harris, a motivational speaker and retired Law Enforcement officer from Phoenix, AZ.

Staffing

DNFH Employees, FY 2007.

Name	Position Title	Period of Employment	Status
Allain, Richard E.	Animal Caretaker	10/01/08–09/30/09	Permanent
Bisbee, Mike	Fishery Biologist	10/01/08-09/30/09	Permanent
Bright, Mark	Fishery Biologist	10/01/08-09/30/09	Permanent
Drobish, Mark	Hatchery Manager	10/01/08-09/30/09	Permanent
George(Sperber),Joan	Admin. Officer	10/01/08-09/30/09	Permanent
Greene, Benny C	Electronics Mechanic	10/01/08-09/30/09	Permanent
Hamilton, William W	Animal Caretaker	10/01/08-09/30/09	Permanent
Hasenoehrl, Penny	Purchasing Agent	10/01/08-09/30/09	Permanent
Hostetler, Krista	Maintenance Worker	10/01/08-08/15/09	Permanent
Kellar, Robbie D	Animal Caretaker	10/01/08-09/30/09	Permanent
King, Rick	Maintenance Worker	10/01/08-09/30/09	Permanent
Peltz, Larry	Complex Manager	10/01/08-09/30/09	Permanent
Sawyer, Susan D	Information/Education Manager	10/01/08-05/22/09	Permanent
Sims, Hubert M	Maintenance Mechanic	10/01/08-09/30/09	Permanent
Stretsbery, Gerald	Laborer	10/01/08–09/30/09	Permanent
Trainor, David A	Maintenance Worker	10/01/08–09/30/09	Permanent
Trock, Thomas J.	Fishery Biologist	10/01/08–09/30/09	Permanent
Vargas, John J	Animal Caretaker Leader	10/01/08–09/30/09	Permanent
Wandag, Megan	Information/Education Specialist	10/01/08-09/30/09	Permanent
Weeks, Terry C.	Maintenance Worker	10/01/08–09/30/09	Permanent
Wright, Benjamin A	Animal Caretaker	10/01/08–09/30/09	Permanent

Personnel

- Megan Wandag, I/E Specialist began telework duty from home on 12/29/08 prior to her expected maternity leave beginning in January, 2009 until April, 2009.
- Joan George (Sperber), Admin Officer began telework at home Tuesdays and Thursdays beginning 3/17/09.
- I/E specialist Megan Wandag began her summer tour of duty on May 11 which includes working Saturdays for public tours at 10 a.m. & 2 p.m.

- Last day at Dworshak on May 22 for I/E Manager, Susan Sawyer, who has accepted a position at Stillwater National Wildlife Refuge in Fallon, NV.
- CRYP staff entered on duty at Dworshak on June 8. Employees are: Sadie Gregg, Janae Gunn, and Erin Dozlier. Megan Phillips and Jesse Zick will be at Clearwater Fish Hatchery.
- July 16, 2009 was the last day for CRYP staff, who completed a 6-week tour of duty.
- Krista Hostetler, Maintenance worker resigned her position to re-locate with her husband to Nebraska. Her last day was Aug. 15, 2009.

Outreach and Visitor Activities

Statistics

Dworshak NFH Visitor Use Statistics, FY2009

Program/Contact Type	# of Contacts	% Change From FY2008
On-site Hatchery Visitors (Visitor Register and self-guided tour)	2,288 *	-27%
Guided Tours	54□	-26%
Tour Visitors	1,016*	-30%
Web Visitors (virtual contacts from all sources)	17,657*	+1%
Total On-Site Contacts (all *)	20,961	-6%
Off-site Programs/Displays/Events	65□	-72%
Off-Site Contacts	9,666* *	-46%
Total FY08 Programs (total all □)	119	-61%
Total FY08 Contacts (total on + offsite)	30,627	-24%

¹ – data from individual monthly visitors (not hits) to DNFH website, via Weblog Expert, an internet access log analyzer.

FY2009 Outreach Program Summary

Hatchery visitation (as measured by on-site visitor log and self-guided tours) decreased well below the FY2008 total, due largely to the closure of the hatchery to all visitors for 3 months during nursery roof construction. A full complement of well-trained Hatchery Hosts greeted school groups during steelhead spawning season this year, and visits by participating Hatchery in the Classroom (HIC) project schools (10) also added to the total. Visitors who made the journey to the hatchery were greeted by a full information kiosk in the main parking lot, improved landscaped grounds, and the viewing pond/fountain in front of the main entry.

The Information/Education (I/E) Office provided 19 fewer guided tours than last year, to more than 1,000 visitors. The decrease was due to two causes: Information/Education Specialist Megan Wandag was on maternity leave during the bulk of the school tour season, resulting in fewer guided tours; and summer Saturday tours were cancelled due to the hatchery closure.

The Volunteer program saw a decrease in total volunteers and in the hours worked on a variety of hatchery projects, due mainly to the absence of one temporary volunteer who worked a huge number of hours in FY08. A total of **30 volunteers contributed 755 hours** of service towards spawning, field work, outreach events and public contact duties, under the guidance of Specialist

Wandag as the Complex Volunteer Coordinator. Five high school students also volunteered 5 hours each during a job shadow day.

The 19th annual Kids Fishing Day was held off-site for the second year in a row, with continued success. The USFWS partnered with the Nez Perce Tribe (NPT) to hold the event at the Tunnel Pond fishing site, owned by the NPT. The hatchery provided the rainbow trout, all equipment, volunteers, and other activities for 156 kids 12 years and under who registered (approx. 400 non-fishing guests also attended). Transportation was coordinated with the local school district to provide a shuttle bus from a parking area in Orofino to the pond. All staff and most attendees again remarked how much they liked the natural setting, even though fishing was slow.

For the fourth straight year, Idaho State Veterans Home in Lewiston brought 10 disabled World War II/Korean War-era veterans out to Tunnel Pond in mid-June for a day of fishing. The Marine Corps Activity League (Orofino), the VFW (Orofino Post) and many family members assisted the vets, along with a large turnout of hatchery staff. The fishing was great, and all the vets thoroughly enjoyed their time outdoors and reliving memories with the volunteer helpers.

Once again, virtual visitors were included in the on-site contact total. The Complex website continues to be an important way for “visitors” to learn about the hatchery and plan their actual trips. Teachers also use the website to access information about resources and field trips available to them. Thus web visits increased by 1%, the only statistic to show a positive trend this year. The website was particularly important during the hatchery closure. The highest counts were again recorded during the calendar school year – September to May – with an average of 1,450 visitors/month.

The number of off-site programs and contacts decreased significantly this year, due largely to a change in how such events are counted. This change aligns our counting protocol with that of the other fisheries stations in Region 1. The decrease was also the result of Information/Education Specialist Susan Sawyer taking another job in June; Specialist Wandag was able to conduct fewer on- and off-site programs through the rest of the year.

Hatchery I/E staff coordinated and worked the Idaho Sportsman’s Show in Boise (**1,700 contacts**) and the Spokane Bighorn Outdoor Adventure Show (**1,773 contacts**) in March, and the Inland Northwest Outdoor Show (**623 contacts**) in April with local USFWS offices and staff, providing hands-on Connecting People with Nature activities that were very well received by staff and the public. The I/E staff were very involved.

Dworshak I/E staff continued with the third year implementation of the multi-partner (Palouse Clearwater Environmental Institute, Moscow School District, Palouse Ranger District, U.S. Forest Service) “*My Woods*” project, as part of the Connecting People with Nature agency programs nationwide. Dworshak coordinated 2 of the 4 field programs related to outdoor education and fisheries for the Moscow, ID-based Adventure Club group.

I/E staff also provided outdoor learning stations at the regular annual school outreach events in the area; County Extension/Soil Conservation Districts’ 6th grade environmental education programs in 3 counties; school career fairs; fish habitat investigation activities; the 15th annual Clearwater Earth Week events in Orofino; and rounded out the year with a busy September, leading the Gytaku activity at the 12th Idaho Salmon and Steelhead Days in Boise for 2,000+ 5th graders, and

the Clearwater County Fair booth with **1,004 contacts** in 3 days. I/E staff also provided 33 in-class activities for students at area schools throughout the year, and provided Fin Bin educational trunks to several classrooms.

The successful multi-partner after-school program “**Dworshak Extreme Explorers Club**” was active for the fourth year at Orofino Elementary school with 14 participants, coordinated by Specialist Wandag, Dworshak Dam and Dworshak State Park education staff. A culminating full field day was added, held at Dworshak State Park.

I/E staff presented a campfire program to guests at two local campgrounds during the summer.

Other I/E business:

- Completed and produced the new Complex brochure, which includes FRO, IFHC and KNFH, along with NPT tribal history and Snake River Basin Adjudication (SRBA) information.
- Presented workshop session at North American Association for Environmental Education annual conference in Wichita, KS.
- Prepared a concurrent session on Dworshak Extreme Explorers club for the North American Association for Environmental Education annual conference in Portland, OR (held October 09).
- Continued implementing and tracking staff participation in the Regional ‘*I Gave 8*’ program as part of the Connecting People with Nature priority. A total of 17 staff contributed hours to the program, and received recognition pins.
- Attended and presented a poster at annual National Association for Interpretation conference in Portland, OR.
- Held final close-out sale of Dworshak Spawn Shop; distributed remaining inventory and closed shop.
- Contributed feature article to FWS’ “Eddies” publication.

Grant projects currently managed by the Friends of Northwest Hatcheries, Inc:

\$29,994 remains in the Friends account for the interior visitor balcony exhibit project. This project has been put on hold since the departure of Specialist Sawyer in June, due to decreased staff time for managing the project.

FWS/Contributed funds (from Idaho Community Foundation outreach grant): with the purchase of several outreach event promo items for the Connecting People with Nature program, these funds were totally expended in FY09.

Hatchery in the Classroom: 8 schools received hatchery-supplied equipment and/or full levels of support; 2 received just the eggs, feed and technical support. All projects went well this year, with an average egg-to-fry survival rate of 75%, including one school with an incredible 100% survival rate! All schools had post-project release activities for students, which hatchery staff participated in and facilitated. Most schools had a variety of partners and sponsors who supported the field activities, and assisted with classroom and outdoor environmental lessons. A few schools have contacted the hatchery with interest in obtaining their own classroom incubation systems or applying for the HIC project. Evaluations from participating teachers showed satisfaction with the program, and included notes on the great educational benefits to students. I/E staff also co-facilitated a “Trout in the Classroom” teacher workshop with staff from Idaho Department of

Fish & Game; two participants began incubation projects with eggs and assistance from Dworshak I/E staff.

Travel and training for the Information/Education staff during FY2009 included:

- Attend and present at North American Association for Environmental Education's annual conference in Wichita, KS – October.
- Attend annual Hatchery Manager's Workshop and fisheries I/E Regional team meeting in Richland, WA – October.
- Attend Idaho Environmental Education Association's annual board of director's retreat in Boise – October.
- Attend and present poster at National Association for Interpretation's annual conference in Portland, OR – November.
- Participate in Project WET facilitator training in Moscow – December.
- Attend North Central Idaho Travel Association's annual board of directors retreat in Lewiston – February.
- Coordinate and staff Idaho Sportsman's Show exhibit booth in Boise – March.
- Coordinate and staff Bighorn Outdoor Adventure Show in Spokane, WA – March.
- Coordinate and staff Inland Northwest Outdoor Show in Lewiston – April.
- Soil Conservation District environmental education outreach events - April and May.
- Coordinate Gyo-taku station at Salmon and Steelhead Days in Boise – September.
- Participate in Idaho Environmental Education Association's annual board of director's retreat in Lava Hot Springs – September.
- Regional Connecting People with Nature monthly conference calls.
- Idaho Environmental Education Association board of directors monthly conference calls.

Cooperative Programs

Dworshak Fisheries Complex personnel (Dworshak National Fish Hatchery, Kooskia National Fish Hatchery, and Idaho Fishery Resource Office) worked closely with the following agencies and groups to accomplish various activities throughout the year:

Federal Agencies

- Federal Emergency Management Administration (FEMA)
- National Marine Fisheries Service (NMFS)
- National Park Service (NPS)
 - Nez Perce National Historical Park
- National Weather Service
- United States Department of Agriculture (USDA)
 - Clearwater National Forest
 - Clearwater County Extension Office
 - Nez Perce County Extension Office
 - Natural Resource Conservation Service (NRCS)
- United States Army Corps of Engineers (COE), Walla Walla District
 - Dworshak Dam and Reservoir Project
- United States Fish & Wildlife Service (USFWS)
 - Hagerman, Kooskia, Leavenworth, Spring Creek National Fish Hatchery
 - Lower Snake River Compensation Plan Office
 - Deer Flat, Turnbull National Wildlife Refuge
 - Boise, Spokane Ecological Services
- United States Geological Survey (USGS)
 - Biological Services Division
 - Seattle Research Center
 - Columbia River Research Laboratory

State Of Idaho

- Idaho Department of Employment
 - Job Service - Orofino
- Idaho Department of Fish & Game (IDFG)
 - Boise Headquarters Office
 - Lewiston Office
 - Salmon Office
 - Clearwater State Hatchery

- Idaho Department of Lands
- Idaho Environmental Education Association
- Idaho Parks and Recreation Department
- Dworshak State Park, Hellsgate State Park
- Idaho State Historical Preservation Office (SHPO)
- Idaho Historical Society
- Lewis-Clark State College
- Clearwater Economic Development Association
- University of Idaho (U of I)

Cooperative Fishery Research Unit (CFRU)
 School of Forestry, Wildlife and Range Sciences
 Aquaculture Research Institute

Idaho Water Resources Research Institute, Project WET

State of Washington

- Washington State University (WSU)
 Bear and Eagle Research Unit

Tribal Entities

- Coeur d'Alene Tribe
- Nez Perce Tribe
 Fisheries
 Cultural and Natural Resources Division
 Nez Perce Tribe Executive Council
- Kootenai Tribal Fisheries

Public Utilities

- Bonneville Power Administration (BPA)
- Clearwater Power Company (CPC)
- Idaho Power

Local Government

- Clearwater County Sheriff's Office (CCSO)

- Clearwater County Soil Conservation District
- Joint School District #171
- Latah Soil Conservation District
- Nez Perce Soil Conservation District
- Orofino Chamber of Commerce
- Greener Orofino Community Awareness

Special Interest Groups

- Friends of Northwest Hatcheries, Inc.
- Idaho Community Foundation
 - Northern Region Grant Program
- Idaho Food Commodity Program
- Kiwanis Club
- National Association for Interpretation
- North American Association for Environmental Education
- North Central Idaho Travel Association
- Project WET, Idaho
- Pulp and Paperworkers Resource Council (PPRC)
- Retired Senior Volunteer Program (RSVP)
- Rotary Club
- Salmon and Steelhead Days, Boise

Other

- Lewis-Clark Recyclers
- Latham's Meats
- NADL/Simmons Recycling