

Annual Report for Dworshak National Fish Hatchery

Ahsahka, Idaho
Fiscal Year 2007





Complex Manager

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Date

Table of Contents

Introduction	4
Fish Culture Operations	7
Steelhead.....	7
Brood Year 2006.....	7
Brood Year 2007.....	13
Spring Chinook Salmon.....	18
Brood Year 2005.....	18
Brood Year 2006.....	18
Brood Year 2007.....	20
Coho Salmon.....	23
Brood Year 2006.....	24
Brood Year 2007.....	24
Rainbow Trout.....	24
Brood Year 2006.....	24
Brood Year 2007.....	25
FY 2007 Production Summary	26
Production Photos	
Administration	28
Meetings.....	28
Training.....	30
Safety & Wellness.....	30
Staffing.....	32
Personnel Actions.....	32
Photos.....	
Facilities Maintenance	34
Photos	
Outreach & Visitor Activities	39
Visitor Use Statistics	39
Table Summary	39
Photos	
Cooperative Programs	42
Photos	

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 30 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 because of reduced densities and rearing to a large size. The adult return goal for DNFH is 9,135 spring chinook (calculated using the 15 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 is 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, structural work on the Main Hatchery Building and replacing the Nursery Building roof.

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 2006. 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 2006 were 2,177, 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, 2006, to September 30, 2007.

FY 2007 Highlights

Summer Steelhead Brood Year 2006

At the beginning of October 2006, all of the summer steelhead trout (SST) from Brood Year 2006 (BY06) were outside in Burrows ponds (BP's). Overall mortality from October 1, 2006 through final release on April 19, 2007 was about 3.5 percent. The final release number was 2.15 million SST smolts with an average total length of 7.8 inches (199 mm) (Table 1).

Table 1. Fish inventory summary for BY06 SST on October 1, 2006 and final release summary in April, 2007.

October 1, 2006				Oct 1 - April 19 % loss	Final Release April 9 - 19, 2007			
Number	Wt (lbs)	Lgth in	Lgth mm		Number	Wt (lbs)	Lgth in	Lgth mm
745,607	18,450	4.1	105	4.6	711,297	120,471	7.9	199
697,393	25,009	4.7	119	1.9	684,074	117,007	7.9	200
792,265	51,076	5.7	145	3.8	762,337	124,135	7.7	197
2,235,265	94,535	4.9	126	3.5	2,157,708	361,613	7.8	199

Source: DNFH - Final Release Summary, May 2007.
Monthly Inventory Summary (MIS), October 1, 2006.
Production Narrative, May, 2007.

BY06 SST were reared entirely in BP's. Table 2 illustrates the survival rates of various stages of development for BY06 SST along with a five-year comparison.

Table 2. Survival summary from green eggs to released smolts, BY02 through BY06 SST reared at Dworshak National Fish Hatchery (DNFH).

Brood Year	% Survival from Previous Stage				Cumulative % Survival		
	(Green to) Eyed Egg ¹	Tanked Fry	Ponded Fingerlings	Smolt Release	Green Egg to Smolt ²	Eyed Egg to Smolt	Tanked Fry to Smolt
2002	87.6	91.2	92.8	97.0	58.0	82.0	90.0
2003	92.5	93.4	90.6	91.8	56.1	77.8	83.2
2004	93.2	89.1	91.7	82.1	48.3	67.0	75.2
2005	91.6	95.5	88.6	87.1	61.9	73.7	77.2
2006	94.9	93.8	92.6	83.6	65.3	69.5	79.4
5 Yr Ave	91.2	92.3	90.9	89.5	56.1	75.1	81.4
2007 YTD	95.7	94.7	94.2				

Note: Data are only for SST reared entirely at Dworshak NFH.
1 % Survival Green to eyed = Enum eyed eggs / Enum eyed eggs + enum dead eggs. i.e. survival after culling bad trays, females.
2 Green eggs to smolt = Tot green eggs (incl females culled during enum) - Magic Valley grn eggs - Clearwater Hatchery eggs.
Source: DNFH- Egg Enumeration and Disposition Summary- EgEnumST07.xls
Nursery Loss-nulo07st.wpd; Spawning/Egg Take Plan, BY07 SST

Outside ponding of SST included System III receiving SST from Takes 1-5, System II being

stocked with Takes 6-8, and System I receiving Takes 9-12.

Reuse and the boilers for heated water were turned on December 18, 2006, for Systems I and II. Heated water was turned off March 8 and the reuse was turned off March 12 in System I. In System II, the boilers were turned off March 14 and reuse was turned off March 19. System III did not use reuse during the rearing season.

Some SST in all Systems received coded-wire-tags (CWTs) and left ventral (LV) clips. As in fiscal year (FY) 2006, there were no freeze brands placed on the SST this year because enough data is available from branding in past years to assess the needed information. The various marks are used for studies concerning system contribution of these fish to later adult returns, off-site release contribution, broodstock evaluations, and early-run predictions at Lower Granite Dam. Fish which received PIT tags will be monitored for residual studies and fish passage center studies. A total of 131,335 BY06 SST received CWTs, and 1,492 received PIT tags. See the marking/tagging tables under each System for details. Adipose fin (AD) clipping was done by the Columbia River Fishery Program Office (CRFPO) using an automatic marking trailer. This same crew also performed the LV clips and coded-wire-tagging operation.

Included in Dworshak production numbers were 233,471 BY06 SST which were unmarked/untagged and released from Dworshak. This represents about 11 percent of the BY06 SST released at Dworshak. These are the eighth group of SST released from Dworshak since 1984 without an external mark specifying a hatchery fish. This is being done under the Harvest Settlement Agreement between the USFWS and the Columbia River Tribes.

System I

For BY06 SST, System I's production included 25 BP's. This system had 745,607 SST in it at the start of the fiscal year and 711,297 at release in April, 2007 (Table 3).

Table 3. System I BP production, BY06 SST, FY2007.

Month	Year	1st of the Month			Growth During Previous Month		% Mortality for Month	Ave Temp F for Month
		Number	fpp	L mm	L in	L mm		
October	06	745,607	40.4	105	0.6	15	3.17	49.0
November	06	721,949	26.7	121	0.6	16	1.02	48.7
December*	06	714,585	18.3	137	0.64	16	0.11	48.5
January*	07	713,788	13.4	152	0.58	15	0.06	51.0
February*	07	713,387	9.5	170	0.72	18	0.12	51.8
March*	07	712,516	7.1	187	0.69	17	0.12	44.5
April	07	711,672	6.0	198	0.42	11	0.05	41.1
Total/Ave	07	711,297	5.9	199	0.05	1	4.60	47.8

* System under reuse part or all of month.

Source: DNFH - MIS, Sept 2006-May 2007;
 Final Release summary, BY06 SST
 Production Narratives Sept-May, 2006-2007:
 Daily Water Temperature Records, Oct-April, 2006-2007

System I converted to reuse and the boilers for heated water on December 18, 2006. The boilers were turned off in System I on March 8, 2007 and reuse was turned off March 12.

Adipose fins were clipped on BY06 SST in System I from August 11-25, 2006. Other marking of BY06 SST in System I is summarized in Table 4.

Table 4. Marking and tagging of BY06 SST, System I.

Released from BP #	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 15	08/28/06	21,684		AD LV	System I Contribution	Dworshak
BP 15	01/10/07		248	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
BP 17	08/29/06	22,358		AD LV	System I Contribution	Dworshak
BP 17	01/10/07		250	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
Total		44,042	498			

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

Source: DNFH- MIS System I, September 2006, January 2007
CRFPO marking summary for CWTs, January 10, 2007

During the eight months of outside rearing of fish in System I, SST were treated with formalin for parasites. Mortality for fish in System I from October 1, 2006 until final release in April, 2007 was approximately 4.6 percent. Details of the formalin treatments are in the chemical treatment log at Dworshak.

There were a total of 177,751 BY06 SST from System I stocked into Newsome Creek and American River by the Corps of Engineers (COE) truck drivers. 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 Harvest Settlement agreement with the Columbia River Tribes.

On April 10-12, 2007, there were 355,560 SST outplanted from System I (this includes the 177,751 unmarked tribal fish). The COE assisted in outplanting the 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 355,737 SST from System I took place on April 16 into the mainstem of the Clearwater River. The total release from System I was 711,297 BY06 SST (Final Release Summary, BY06 SST).

System II

For BY06 SST, System II's production included 25 BP's. This System had 697,393 SST in it at the start of the fiscal year and 684,074 at release in April, 2007 (Table 5).

Table 5. System II production, BY06 SST, FY2007.

Month	Year	1st of the Month			Growth During Previous Month		% Mortality for Month	Ave Temp F for Month
		Number	fpp	L mm	L in	L mm		
October	06	697,393	27.9	119	0.75	19	1.33	49.0
November	06	688,143	16.8	141	0.86	22	0.26	48.6
December*	06	686,336	13.7	151	0.39	10	0.06	48.9
January*	07	685,892	11.1	162	0.44	11	0.05	52.0
February*	07	685,573	8.5	177	0.59	15	0.05	51.5
March*	07	685,218	6.9	189	0.50	13	0.12	46.4
April	07	684,408	6.0	199	0.36	9	0.05	41.1
Total/Ave	07	684,074	5.9	200	0.06	1	1.91	48.2

* System under heated reuse water for part or all of month
 DNFH - MIS, Sept 2006-May 2007
 Final Release summary, BY06 SST
 Production Narratives Sept-May, 2006-2007
 Daily Water Temperature Records, Oct-April, 2006-2007

System II converted to reuse and the boilers for heated water on December 18, 2006. The boilers were turned off in System II on March 14, 2007 and reuse was turned off March 19.

Adipose fin clipping was done on BY06 SST in System II from July 20 through August 11, 2006. Other marking of BY06 SST in System II is summarized in Table 6.

Table 6. Marking and tagging of BY06 SST, System II.

Released from BP #	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 18	8/30/06	22,213		AD LV	System II Contribution	Dworshak
BP 18	1/10/07		244	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
BP 34	8/31/06	22,009		AD LV	System II Contribution	Dworshak
BP 34	1/10/07		250	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
Total		44,222	494			

in Clips = AD-Adipose fin; LV-Left ventral fin
 Source: DNFH- MIS System II, September 2006, January 2007
 CRFPO marking summary for CWTs, January 10, 2007

Mortality was approximately 1.9 percent from October 1, 2006 until release in April, 2007.

There were a total of 55,720 BY06 SST from System II stocked into Newsome Creek and American River by the COE truck drivers. These were fish raised and released from System II which 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 10-12, 2007, there were 222,329 SST outplanted from System I (this includes the 55,720 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 461,745 SST from System II took place on April 18 into the mainstem of the Clearwater River. The total release from System II was 684,074 BY06 SST (Final Release Summary, BY06 SST).

System III

System III has 32 BP's available for SST production. This System had 792,265 SST at the start of the fiscal year and 762,337 at release in April, 2007 (Table 7).

Table 7. System III production, BY06 SST, FY2006.

Month	Year	1st of the Month			Growth During Previous Month		% Mortality for Month	Ave Temp F for Month
		Number	fpp	L mm	L in	L mm		
October	06	792,265	15.5	145	0.78	20	1.68	49.0
November	06	778,992	11.9	158	0.52	13	0.41	48.7
December	06	775,771	9.9	168	0.39	10	0.31	45.3
January	07	773,328	8.9	174	0.24	6	0.35	41.7
February	07	770,591	7.9	181	0.28	7	0.36	40.6
March	07	767,829	7.2	187	0.22	6	0.50	41.7
April	07	763,970	6.4	194	0.29	7	0.21	41.1
Total/Ave	07	762,337	6.1	197	0.11	3	3.43	44.0

Source: DNFH - MIS, Sept 2006-May 2007
 Final Release summary, BY06 SST
 Production Narratives Sept-May, 2006-2007
 Daily Water Temperature Records, Oct-April, 2006-2007

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

Adipose fin clipping was done on BY06 SST in System III from May 24 through July 18, 2006. Other marking of BY06 SST in System III is summarized in Table 8.

Table 8. Marking and tagging of BY06 SST, System III.

Released from BP #	Date	CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 65	9/12/06	21,664		AD LV	System III Contribution	Dworshak
BP 35	1/10/07		250	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
BP 68	9/13/06	21,407		AD LV	System III Contribution	Dworshak
BP 68	1/10/07		250	AD	Smolt Monitoring @ Fish Passage Ctr	Dworshak
Total		43,071	500			

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

Source: DNFH- MIS System II, October 2006, January 2007

CRFPO marking summary for CWTs, January 10, 2007

On April 9-12, there were 267,333 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 495,004 SST from System III took place on April 17-19 into the mainstem of the Clearwater River. The total release from System III was 762,337 BY06 SST (Final Release Summary, BY06 SST).

Distribution Summary

Release of BY06 SST began April 9 and ended April 19, 2007. Final release numbers are illustrated in Table 9.

Table 9. Fish distribution summary by site, BY06 SST, April 9 to April 19, 2007.

Site	Number	Weight	fpp	Length	
				in	mm
Outplants 4/10 - 4/14					
Clearwater R. - Red House Hole	305,536	53,185	5.7	7.9	201
Clear Creek	306,215	49,488	6.2	7.7	196
Newsome Ck Unmarked SST	124,106	19,566	6.3	7.7	195
American R. - Unmarked SST	109,365	19,182	5.7	7.9	202
Subtotal	845,222	141,421	6.0	7.8	199
Direct Release 4/17 -4/21					
Main Stem of the Clearwater River	1,312,486	220,192	6.0	7.8	199
Totals/Averages	2,157,708	361,613	6.0	7.8	199

Source: Final Release Summary, BY06 SST

Brood Year 2007

Adult Collection

Adult summer steelhead (SST) for BY07 were collected in the fall of 2006 and in the winter and spring of 2007 to represent the entire run. The ladder was open on October 2, 2006 to October 13 for collection of early-return SST. During this period there were 515 early-run steelhead collected. Five of these were wild and released into the Clearwater River and the other 510 we held for spawning in the spring of 2007. The ladder was also opened intermittently during the fall for collection of coho salmon for the Nez Perce Tribe (NPT). There were an excess of 1,941 BY07 SST trapped during this process and anesthetized with carbon dioxide. They were then loaded onto NPT trucks and transported to Hog Island near Lewiston, Idaho, for release in the Clearwater River. The ladder was closed for the final time for coho collection on November 27, 2006. The ladder was reopened intermittently from February 22, 2007, and closed for the final time April 27. This staggered ladder operation throughout the spring helped to limit the number of SST entering the hatchery. There were a total of 3,514 adult SST entered the hatchery, including 296 jacks. There were a total of 12 wild SST trapped during the fall and spring season. These fish were released back into the main stem of the Clearwater River the day they were examined. There were also 8 fish released back to the river which were unclipped but were determined not to be wild fish and had various marks/tags such as elastomers, radio transmitters, etc. Both the 12 wild and 8 unclipped fish were included in the 3,514 total return for BY07. Figure 1 illustrates the numbers of returning SST adults since 1994.

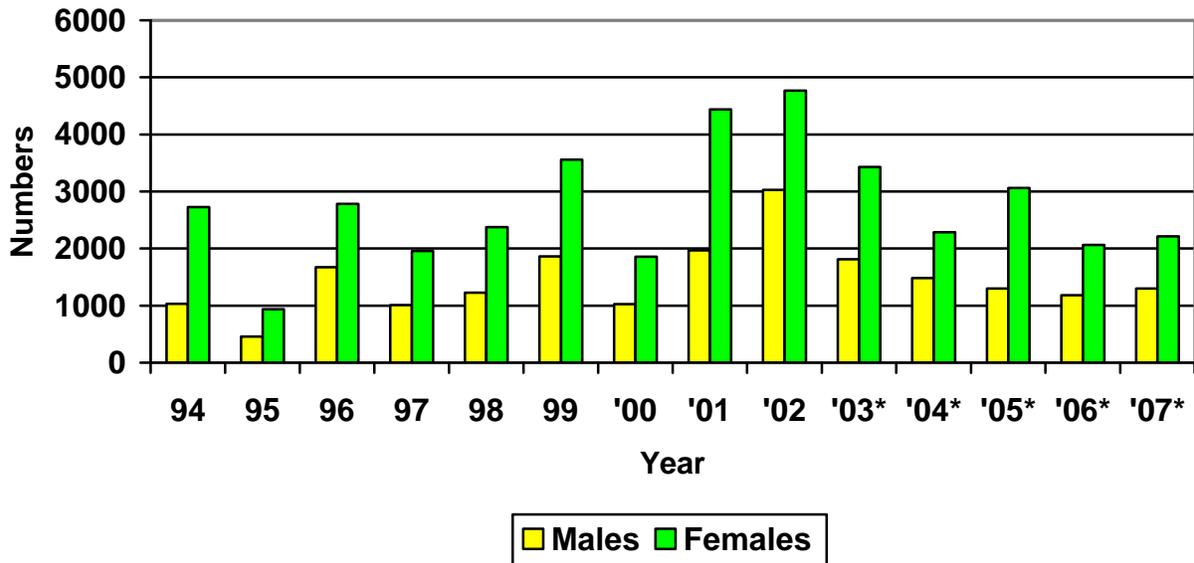


Figure 1. Dworshak adult SST returns 1994-2007

*Ladder opened only part of season

Source:DNFH -Spawning Report SST BY07

Spawning/Egg Take Plan SST BY07, ST07EgTk.wk4

IFRO - SST Rack Returns, Sth07ent.wk4

There were 30 fish of the remaining 510 early return adults which died before spawning began (prespawning mortality). Formalin treatments were started in October 2006, and appeared to control fungus.

Spawning numbers/ratio

There were 1,885 SST spawned over the BY07 season, 860 males (including 110 jacks) and 1,025 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 1:1.7 for BY07 SST, the spawning ratio was reduced to 1:1.2. Of the 110 jacks spawned during the season, 71 were for DNFH, 17 for Clearwater State Fish Hatchery (CWH), and 22 for Magic Valley State Fish Hatchery (MVH). These jack numbers are from the Idaho Fishery Resource Office (IFRO) spawning table counts Idaho Fish Health Center (IFHC) Disease Sampling

On January 9, 2007, there were 68 adult males and 4 jacks from the early-returned BY07 SST injected with salmon gonadotropin-releasing hormone analogue (sGnRH α). This was done to induce gamete maturation for spawning the following two weeks. These fish were transferred from Holding Pond (HP)1 into HP2 after injection. All tagged carcasses from injected males, whether spawned or mortalities before spawning, were disposed of in the landfill.

There were no females (0/226) of the MVH lot which tested positive for *infectious hematopoietic necrosis virus* (IHN V). These females came out of Takes 6-7-8. Testing was done by personnel from the IFHC. Disease testing on eggs for CWH was done by the Idaho Fish & Game (IDFG) Eagle Creek Laboratory. There were no positive IHN V results from the CWH SST (0/181) of the females from Takes 4-5. All eggs taken for either MVH or CWH which tested positive for IHN V would have been discarded. There were 26.3 percent (30/114) adult SST sampled for Dworshak which tested positive for IHN V . All tests for Dworshak fish were negative until Take 11, where all 30 tested positive. Dworshak does not cull eggs which test positive for IHN V in its production program.

Ponding of fingerlings out of the nursery

As was done in 2006, Takes 9-12 were ponded in System I rather than in System III. This was done in an effort to reduce the amount of labor and formalin needed to treat later Takes of SST over the winter. Outside ponding of SST included System III receiving SST from Takes 1-5; System II being stocked with Takes 6-8; and System I receiving Takes 9-12.

Spawning Summary

A total of 12 egg Takes were spawned this season, beginning on January 23, 2007, and ending on April 30. There were 1,025 females and 860 males spawned and the average fecundity of SST enumerated at DNFH was 7,152 eggs/female. Early-returning adults (October) were spawned in Takes 1-2, and later returning adults (February-April) were spawned from Takes 3-12.

Egg Disposition

There were an estimated 7.3 million green eggs from BY07 SST taken for all the programs 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. No females from Takes 4-5 tested positive for IHN V for CWH. There were approximately 1.27 million eggs shipped to CWH from these two Takes. After enumeration, personnel from CWH stated there were 1.2 million eyed eggs available for their program,

exceeding the 960,000 eyed egg target. Eye-up for CWH from these two Takes averaged 94.5 percent.

There were 1.6 million green eggs shipped from Dworshak to CWH for MVH from Takes 6-7-8. These eggs were shipped to CWH the same day spawning took place. Personnel from CWH reported a 94.5 percent eye-up on these eggs as well. Dworshak also provided 18,000 green eggs for IDF&G and Potlatch Pulp & Paper Mill School Outreach Program. These eggs were taken from Take 6 of Dworshak production. Dworshak also provided approximately 1,000 eyed eggs for aquarium-rearing at various elementary schools for the Information and Education program at Dworshak.

After shipping eggs for CWH, MVH, and Potlatch, Dworshak put approximately 2.8 million eyed eggs into either hatching jars or incubator trays for its production

Research

Dworshak provided opportunities for two university research projects during BY07 SST spawning, both from the University of Idaho (U of I). A summary of their research is in the BY07 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 Fishery Resource Office Annual Report.

Adult Disposition

There were 1,173 hatchery adults outplanted from Dworshak during the spring return of BY07 SST. There were 13 which returned to the hatchery. This outplanting was done by staff from Dworshak and the NPT.

Usable fish carcasses from spawning and culling activities were provided to a processor to be packaged for human consumption under either a Food Bank program or a cooperative program with the Federal Bureau of Prisons. Complete adult disposition is illustrated in Table 1.

Table 1. Adult disposition of BY07 SST from Dworshak.

DESTINATION	NUMBER	COMMENTS
Bear/Eagle Program	136	Idaho Fish & Game bear program
Food Bank/Fed Bureau of Prisons	1,957	Latham Processing, Orofino, Idaho
Outplanted	1,173	Thirteen returned to the hatchery
Research	47	University research, School programs
Mainstem Clearwater River	12	Wild fish returned to river
Mainstem Clearwater River	8	Unclipped (not wild) w/various tags
Landfill	181	Carcasses deteriorated beyond use
Total	3,514	

Source: DNFH-Spawning Activity Report BY2007 SST, Final for BY07 SST Spawning and Run Summary, BY2007 SST

Nursery and Early Rearing

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 densities in the nursery so that no Takes needed to be subsequently split. This method reduced the amount of handling on the fish and will be repeated for BY08 SST. When approximately 70 percent of the fry had hatched, the remaining fry were poured into the tank. Due to lack of nursery space, Takes 10-12 were hatched in Heath trays (6,000 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 94.7 percent survival from the eyed-egg stage to feeding fry for BY07 SST.

This year the fry from the nursery averaged 73 fish per pound (fpp) when moved out of the nursery into BP's. Fish which did not receive a CWT were transferred from the nursery directly to the adipose fin (AD) clipping trailer. The fins were clipped this year with an auto trailer from the USFWS CRFO. From the trailer, fish were then distributed at final rearing numbers to the appropriate BP. Steelhead which received a CWT went directly from the nursery to a BP and were tagged during September 2007.

A total of 2.5 million BY07 SST were moved from the nursery to the BP's beginning with Take 1 on May 23, 2007, and ending with Take 12 on August 28.

Feed

All steelhead in the nursery were fed Moore-Clark feed for the third straight year with good results. Starter feed size #3 was omitted from the regime again this year, as it clogged the nursery tank screens. There appeared to be no detrimental effects by skipping this feed size.

Projected Release

Historical losses indicate a projected release number in excess of approximately 2.1 million SST in the spring of 2008. Table 2 illustrates the steelhead on station at the end of FY2007 and projected release numbers.

Table 2. BY07 SST on station and projected release summary, (9/30/2007).

As of September 30, 2007					Projected to Release - April 2008		
System	Number	Weight (lbs)	fpp	L mm	Proj % Loss to Release	Projected Release Number	Proj Size at Release mm *
System I	766,751	21,371	35.9	109	7	713,078	188
System II	745,241	30,408	24.5	124	7	693,074	202
System III	871,504	56,859	15.3	145	7	810,499	201
Total/Ave	2,383,496	108,638	21.9	129	7.0	2,216,651	197

*Projected length based on Systems II & III going on reuse December through March 1.

Source: DNFH - MIS data, October 1, 2007

DNFH - Production Narrative, September, 2007

System I

System I received 786,330 BY07 SST during the summer of 2007. Steelhead in System I were moved out of the nursery beginning with Take 9 on August 9, 2007 and ending with Take 12 on August 28. Fish were moved from the nursery to the auto-trailer except for six ponds of SST which will remain unclipped under the U.S. vs. OR Harvest Settlement Agreement and two pond of SST which received CWTs.

There were 22,377 SST which received CWTs in BP15 and 21,970 SST which received CWTs in BP17. This tagging was done on September 15 and 17, respectively, and the study is for System I contribution to the fishery and hatchery return.

System II

System II received 760,386 SST during July and August, 2007. Fish in System II were moved out of the nursery beginning with Take 6 on July 17 and ending with Take 8 on August 9. Steelhead from Takes 6-8 were loaded from the nursery into a transport tank and moved directly to the AD clipping trailer. From the trailer, fish were marked and stocked at final rearing numbers to the outside BP's.

There were 22,285 SST which received CWTs in BP18 and 22,257 SST which received CWTs in BP20. This tagging was done on September 13 and 14, respectively and the study is for System II contribution to the fishery and hatchery return.

Fish in BP's 4 and 6 (approximately 60,000 fish) will receive no AD clip to designate them as hatchery fish and no CWT before release. These fish are under the U.S. vs. OR Harvest Settlement Agreement.

System III

System III received 960,636 SST from Takes 1 through 5 beginning with Take 1 on May 23 and ending with Take 5 on July 16. These fish were loaded directly from the nursery to the marking trailer and then stocked at final rearing densities into System III BP's. There was moderate mortality from IHNV in System III during the summer.

There were 22,110 SST which received CWTs in BP68 and 22,348 SST which received CWTs in BP65. This tagging was done on September 12 and 13, respectively, and the study is for System III contribution to the fishery and hatchery return.

Steelhead in BP's 3, 5, 29, 31, 37, and 39 (approximately 180,000 fish) will receive no AD clip to designate them as hatchery fish and no CWT before release. These fish are under the U.S. vs. OR Harvest Settlement Agreement.

Spring Chinook Salmon

Brood Year 2005

On October 1, 2006, there were 969,608 BY05 spring Chinook salmon (SCS) on station at Dworshak. All of these fish were from females with low Bacterial kidney disease (BKD) status. On January 3-9, 2007, there were a total of 51,919 BY05 SCS which received PIT tags. These were tagged for studying the survival comparison of barging, trucking, and river-run smolts along with the adult survival rates of these smolts 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 Fishery Resource Office (IFRO) Annual Report.

Release dates of the BY05 SCS were the evenings of March 28 and 29, 2007. There were 963,211 BY05 SCS released from Dworshak into the North Fork of the Clearwater River (Table 1). The release was performed late in the day to assist the smolts with predator avoidance.

Table 1. BY05 SCS in System I Raceways, 9/30/06, and release data, 03/28 & 29, 2007.

October 1, 2006				% Loss 9/30/06 to 3/29/07	Release March 28 & 29, 2007			
Number	Wt (lbs)	fpp	L mm		Number	Weight lbs	fpp	L mm
969,608	17,558	55.2	100	0.7	963,211	54,374	17.7	146

Source: DNFH- MIS, Oct 1, 2006
 Production Narrative, March, 2007
 Final Release Summary, BY05 SCS

Dworshak stock BY05 SCS had an enumerated survival of green egg to eyed egg of 96.4 percent. As was in the past, all BY05 Kooskia stock SCS eggs were shipped to Kooskia for incubation after eye-up and enumeration at Dworshak. There were also 200,000 Dworshak stock SCS eyed eggs shipped to Kooskia and 156,000 eyed eggs of Dworshak stock transferred to CWH (IDF&G). All other Dworshak stock SCS eggs remained at Dworshak for incubation. Once the eggs hatched and the fry were ready to go on feed, they were placed directly into outside rearing ponds from the incubation trays.

Brood Year 2006

There were 1,354 adult BY06 SCS which returned to Dworshak and 670 returned to Kooskia, for a total of 2,024 to the Dworshak Complex. Adults spawned and eggs produced from BY06 SCS are represented in Table 1.

Table 1. Dworshak and Kooskia adult spawners and both green & eyed egg numbers, BY06 SCS.

Location of Adult Returns	Males Spawned	Females Spawned	Females Culled BKD	Dead Egg Trays Culled	# Eggs/Female	Total Eggs Enumerated	# Eyed Eggs Enumerated	% Surv Enum Eye-up
Dworshak	329	440	109	7	3,853	1,155,892	1,115,047	96.5
Kooskia	158	252	25	4	3,287	733,054	702,181	95.8
Total/Average	487	692	134	11	3,612	1,888,946	1,817,228	96.2

Source: DNFH - Final BY06 SCS Enumeration and % Survival of Eggs. SC06EGEN.xls
 BY06 SCS Spawning Report

As was done with BY99-05 SCS, all BY06 Kooskia stock SCS eggs were shipped to Kooskia for incubation after eye-up and enumeration at Dworshak. A new chiller was installed at Dworshak over the summer of 2005 enabling all of Dworshak stock eggs to be incubated at Dworshak. This eliminated the need to ship half the Dworshak stock eggs to Kooskia for incubation over the winter months. This chilling delays hatching approximately three months compared to non-chilled water at Dworshak and assists in reaching the desired 20 fpp size at release in the spring of the year 2008.

During spawning, the IFHC took ovarian fluid for viral inspection from 150 of Dworshak stock and 150 of Kooskia stock females. They also took spleen samples from 60 Dworshak males and 60 Kooskia males for viral inspection (see IFHC Broodstock Assessment report for results). Kidneys were also sampled for BKD from all females spawned. As in 2005, 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 0.7 percent (3/440) greater than 0.200 ELISA for Dworshak stock and 9.9 percent (25/252) greater than 0.250 ELISA for Kooskia stock. Eggs from females which were in the upper range of ELISA were culled for both stocks. After the eggs were eyed-up and enumerated at Dworshak, there were 702,181 Kooskia stock eyed eggs shipped to Kooskia from October 16 through 20, 2006. Dworshak incubated 1,100,000 eyed eggs of Dworshak stock for its program.

Fry of Dworshak stock were moved from Dworshak incubators to outside raceways during April, 2007. There were an estimated 1.05 million BY06 SCS fry stocked into outside raceways (RW's) at Dworshak.

The USFWS fish marking trailer from the CRFPO began coded-wire-tagging the BY06 SCS on August 7, 2007 and ended on August 16, 2007. The tagging is being done for contribution research. Personnel from the marking trailer also clipped AD fins on all BY06 SCS and split fish into several raceways during the tagging operation.

Research

On July 17, 2007, Jim Harbeck from the Nez Perce Tribe Department of Fisheries Resource Management collected 120 BY06 SCS for BKD research. These fish were 170 fpp and transferred to their research facility in La Grande, Oregon. Details of this and other research on

BY06 SCS can be found in the Idaho Fishery Resource Office Annual Report.
Feed

With BioOregon Inc going out of business, a new diet was needed for the SCS at Dworshak. An experiment using both Bio Vita (from Skretting of Canada) and Ewos feeds was scheduled to begin during April as the SCS fry started on feed. However, due to poor results of the Ewos feed at Kooskia National Fish Hatchery (KNFH), staff at Dworshak decided to forego the experiment and feed only Bio Vita feed to the SCS. After experiencing some initial feeding problems, the Chinook have responded well to this feed and have maintained growth projections during the initial six months of rearing.

By the end of FY2007, there were 973,432 BY06 SCS at Dworshak. Table 2 illustrates the size and number of BY06 SCS on station at the end of the fiscal year and projected release numbers.

Table 2. BY06 SCS at the end of the FY and projected release from Dworshak, April 2008.

As of September 30, 2007					Projected to Release - April 2008		
Stock	Number	Weight (lbs)	fpp	L mm	Proj % Loss to Release	Projected Release Number	Proj Size at Release mm
Dworshak	973,432	14,937	65	94	2	953,963	145

Source: DNFH - MIS, October 2007
DNFH - Production Narrative, September 2007.

Brood Year 2007

Fish traps at both Dworshak and Kooskia were operated to collect BY07 SCS. The fish ladder at Dworshak was opened on June 5, 2007 and closed September 4. There were 2,110 BY07 SCS returned to Dworshak and 589 SCS returned to the Kooskia trap by the end of the spawning season (Table 1). Of these 589 Kooskia returns, 413 were transferred to Dworshak for spawning.

Table 1. Adult returns, BY07 SCS. (09/30/07).

Age	Number/Dworshak	Number/Kooskia*	Total
I - Ocean	702	257	959
II - Ocean	809	148	957
III - Ocean	599	184	783
Total	2,110	589	2,699

*21 of these fish were passed over weir into Clear Creek - ISS fish
Source: IFRO - Dworshak/Kooskia Complex SCS News-2007 Edition
DNFH - Spawning Activity Report BY2007 SCS

Figure 1 displays the SCS returns to the Dworshak Complex since 1988.

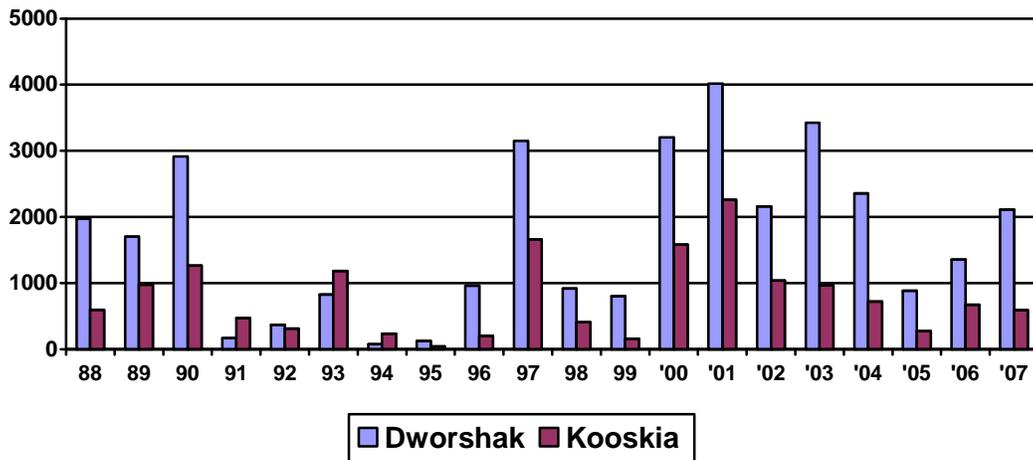


Figure 1. SCS returns to Dworshak/Kooskia 1988-2007
Source: IFRO - SCS rack returns

Adult returns for BY07 SCS were enough to meet the production requirements for Dworshak. A sport fishery took place in the Clearwater River in the spring of 2007. A tribal harvest also took place along the Clearwater River and Clear Creek below KNFH during the spring and summer of 2007.

Adult Holding

Dworshak stock SCS were kept in HP 1, 2, and 9. The 413 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. Incoming females were also injected with erythromycin at a dosage of 20 mg/kg body weight as a preventative against vertical transmission of BKD.

Adult Mortality

There were 24 adult SCS of Dworshak stock and 56 of Kooskia stock which died before spawning on August 14 (prespawning mortalities). Table 2 depicts the mortality for BY07 SCS held at Dworshak.

Table 2. Mortality of adult BY07 SCS held at Dworshak.

Mortality	Dworshak		Kooskia	
	Number	Percent of total return at Dworshak	Number	Percent of return transferred to Dworshak
Prespawning	24	1.1	56	13.6
During Spawning	57	2.7	21	5.1
Total	81	3.8	77	18.7

Source: DNFH - Spawning Activity Report, BY07 SCS

Adult Disposition

Table 3 illustrates BY07 SCS adult disposition from both Dworshak and Kooskia stock held at Dworshak.

Table 3. Adult disposition of BY07 SCS held at Dworshak.

Destination	Dworshak Number	Kooskia Number	Comments
Nez Perce Tribe	362	0	Subsistence
WSU Grizzly Bear Program	360	211	Captive Bear Program
WSU/IDFG Stream Nitrification	790	0	Payette, Weiser, Boise River Syst
Landfill	598	202	Excess Carcasses from spawning
Total	2,110	413	

Source: BY07 SCS Spawning Activity Report

Spawning Season

The BY07 SCS spawning season began August 14, 2007, and ended on August 29 for Dworshak stock. Spawning for Kooskia stock SCS began August 15 and ended September 4. Fish from each HP were sorted and spawned once each week along with new fish coming up the ladder into HP9. There were 392 males (including 17 jacks) and 502 females (1:1.3 ratio) of Dworshak stock spawned during the season. There were also 112 males (including 17 jacks) and 136 females (1:1.2 ratio) of Kooskia stock spawned during the season.

The females averaged 4,256 eggs/female for Dworshak stock and 3,953 eggs/female for Kooskia stock. Dworshak put 1.12 million eyed eggs into its program. Kooskia females yielded 479,854 eyed eggs. There were also 265,000 Dworshak stock eyed eggs sent to Kooskia to make up for the shortage of Kooskia eggs. The number of adult spawners, eggs produced, and survival of BY07 SCS are illustrated in Table 4.

Table 4. Dworshak and Kooskia adult spawners, and both green & eyed egg numbers, BY07 SCS.

Location of Broodstock Return	Males Spawned	Females Spawned	Females Culled BKD	# Eggs/Female	Total Eggs Enumerated*	# of Eyed Eggs	% Enum Eye-up
Dworshak	392	502	10	4,256	1,455,383	1,396,225	96.0
Kooskia	112	136	3	3,953	498,094	479,854	96.3
Total/Ave	504	638	13	4,174	1,953,477	1,876,079	96.1

*Dworshak total eggs also includes 400 green taken by research

Source: DNFH - Spawning Activity Report BY07 SCS

DNFH - BY07 SCS Spawning Report

Idaho Fish Health Center (IFHC)

On July 24-25, personnel from IFHC injected all Dworshak and Kooskia stock females with erythromycin. This was done to help prevent vertical disease transmission of BKD to the egg.

During spawning, 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 2006, 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 2.0 percent (10/502) greater than 0.250 ELISA for Dworshak stock and 2.2 percent (3/136) for Kooskia stock. Eggs from females which were in the upper range of ELISA were culled for both stocks.

Research

Dworshak continued to coordinate with researchers from the U of I. Rolf Ingermann, Professor of Zoology from the University of Idaho, is studying motility and sub-populations of SCS semen under various applications. The hatchery provided a total of 12 ml milt from 28 Dworshak males and 400 green eggs from one Dworshak female. Rolf also collected 33 ml of ovarian fluid from 16 females. All gamete samples were from excess spawning requirements at Dworshak.

Kathleen Carter from Northwest Pacific National Laboratory (PNL) in Richland, Washington, collected 6,089 eyed eggs from Take 3 of Dworshak stock. These eggs were collected on November 20, 2007. They will be hatched at PNL and the fingerlings used for research in assessment of turbine design and fish passage at the dams on the Columbia River.

Spawning Summary

BY07 SCS adult return numbers were adequate to fulfill Dworshak's production goals. Excess eyed eggs (265,000) from Dworshak stock SCS were used to complete Kooskia's program. Projected release of BY07 smolts in the year 2009 at Dworshak National Fish Hatchery (DNFH) is approximately 1.0 million smolts of Dworshak stock.

Coho Salmon

Brood Year 2006

Coho salmon smolts (COS) are being reared in the C-bank raceways in a cooperative program with the NPT. As of February 28, 2008 there were 292,496 BY06 Coho presmolts from two stock sources, 1) Clearwater River – 236,000 fish and 2) Eagle Creek, Clackamas River, lower Columbia - 56,000 fish. March 12 to 14, 2008 they will be moved to Kooskia NFH for acclimation and smolting until release occurs in early May. These fish presently average 15 fpp.

An additional 74,889 Coho smolts (29.77 fpp) from Cascade Hatchery, Oregon on the lower Columbia are in acclimation at Kooskia NFH; this group is CWT. The CWT will help us understand the adult survival and return difference between fish reared outside the Clearwater

basin and released as smolts following acclimation as compared to fish reared outside the basin and released without acclimation as well as a comparison with fish reared in the basin and acclimated prior to release.

On March 5 and 7, 2008, approximately 550,000 Coho smolts were transported from Eagle Creek NFH on the Clackamas River, Oregon for direct-release at two locations. On March 5 - 275,000 transported smolts were released into Clear Creek at Kooskia NFH and on March 7 - 275,000 smolts were released into the Lapwai Creek watershed at three locations, Web Creek, Mission Creek and lower Lapwai Creek.

Total smolts released in 2008 are estimated at 917,000 smolts. Adult return from these releases will occur in the October thru November 2009.

Brood Year 2007

A total of 561 Coho adults (BY07) were trapped at Dworshak and Kooskia NFH, Lyons Ferry Hatchery Complex and Nez Perce Tribal Hatchery during October and November 2007. A total of 236 females were spawned and yielded an estimated 355,500 eyed eggs. The eggs were incubated at Dworshak NFH. Adult were also observed spawning in Lapwai Creek and the Potlatch River in the Clearwater basin, but funding for operation of weirs was not available to trap these fish. It is estimated that more than 200 adults spawned in these two streams combined. Natural spawning is one of the goals of the program; funding to monitor natural production over the past two years was not sufficient to implement this portion of the program. Coho have also been observed spawning in the lower Tucannon River, tributary to the lower Snake River for the past 6 years; numbers of spawners in unknown.

Spawning of BY07 Coho returns began October 17 and ended November 28th. A total of 236 females returning above Lower Granite dam were spawned as Clearwater stock. There were also 55,000 eyed eggs from Eagle Creek NFH transported to Dworshak by the NPT in December as an effort to ensure the 280,000 smolt release goal could be obtained. However, by the end of February, 2008, only an estimated 212,151 Coho fry remained. On January 15, 2008, a power outage caused a 10°F temperature change resulting in mortality event called coagulated yolk. Survival decreased from 70% to 49% and resulted in a loss of 154,000 eggs/alevins. The remaining fry were transferred from the egg trays to the nursery early to prevent further loss due to fungus related to the coagulated yolk disease.

All Coho fry will be transferred from the nursery to the C-bank raceways during the last week of March, 2008. A detailed inventory will be conducted at the time of transfer and again approximately 30 days after ponding to reassess numbers and establish the actual production for the year.

Rainbow Trout

Brood Year 2006

There were a total of 16,642 BY06 Rainbow Trout (RBT) in BP51 at the beginning of FY2007. On May 9, 2007 there were approximately 4,600 BY06 RBT transferred from Dworshak to

KNFH for their June Open House program. Dworshak held its annual Open House held on June 15. Approximately 850 were caught by the 422 kids 12 years of age and under who took part in the activities.

Table 1 illustrates outplanting of BY06 RBT from the Open House fishing pond at Dworshak.

Table 1. Fish Distribution Summary BY06 RBT (06/30/2007).

Date 2007	Number	Wt (lbs)	fpp	L in	L mm	Location
9-May	4,600	2,885	1.6	11.6	295	Kooskia NFH
15-Jun	850	708	1.2	12.8	324	Dworshak Open House
18-Jun	115	97	1.2	12.8	326	Dworshak Veterans Hospital
20-Jun	1,800	1,500	1.2	12.8	324	Worley Pond CDA Tribe
June 21 & 26	3,435	2,862	1.2	12.8	324	Mud Springs NPT
June 21 & 26	3,252	2,710	1.2	12.8	324	Talmacs Pond
22-Jun	1,812	1,510	1.2	12.8	324	Tilma Pond
Total/Ave	15,864	12,272	1.3	12.5	316	

Source: DNFH - RBT MIS, June 2007

DNFH - Fish and Egg Fiscal Year 2007 Distribution Summary

IFRO - Rainbow Trout Planting, Dworshak and Kooskia. RBTPLN06.wk4

Brood Year 2007

RBT from BY07 will be used for Open House/Kids' Fishing Day, 2008. On January 17, 2007, Dworshak received Shasta strain RBT eyed eggs from Ennis NFH. For ease of record keeping at Dworshak, these RBT will be recorded as BY07. At the end of FY2007 there were approximately 18,295 BY07 RBT in BP 51 and 53. These fish were 6.9 fpp and 7.1 inches total length.

Dworshak Hatchery Production Summary FY 2007

Steelhead Brood Year 2006

There were 2.15 million steelhead smolts released from Dworshak in April, 2007. The steelhead at release averaged 6.0 fpp and 199 mm in total length. The smolts were outplanted to the South Fork of the Clearwater River the week of April 9, 2007 and direct-released from Dworshak the following week of April. There were 361,613 pounds of steelhead produced from BY06 SST. Under the Harvest Settlement Agreement with the Columbia River Tribes and included in the final release numbers were approximately 233,471 unmarked smolts. These SST were released without an adipose fin clip or mark/tag to designate them as a hatchery fish.

Steelhead Brood Year 2007

There were 3,514 adult steelhead returned to DNFH in the fall of 2006 and spring of 2007. A total of 2.8 million eyed eggs went into Dworshak's production program. Dworshak provided 1.2 million eyed eggs for the Clearwater Hatchery. Also, 1.6 million green eggs were taken for Magic Valley Hatchery and another 18,000 green eggs for Potlatch Pulp & Paper school projects. As in 2006, spawning of Take 1 began at the end of January, resulting with a 30 percent increase in eyed egg survival versus starting in February. The timing for spawning the mid and late returning adults remained the same, helping to maintain the entire spectrum of the run. At the end of FY2007 there were 2.38 million BY07 SST on station.

There will be approximately 200,000 BY07 SST released in 2008 for the NPT which will have no external mark designating it as a hatchery fish. These fish will be counted in the Dworshak SST production program.

Chinook Salmon Brood Year 2005

DNFH released 963K BY05 spring Chinook salmon weighing 54,374 pounds. These fish were released on March 28 and 29, 2007.

Chinook Salmon Brood Year 2006

At the beginning of FY2007, BY06 SCS eggs of both Dworshak and Kooskia stock were incubating at Dworshak. During October, 2006 there were 700K eyed-eggs of Kooskia stock shipped to Kooskia for final incubation. Dworshak incubated 1.1 million Dworshak stock SCS over the winter. At the end of FY2007 there were 973,432 Dworshak stock SCS on station, averaging 65 fpp and 94 mm (3.7 inches) total length.

Chinook Salmon Brood Year 2007

Adult returns of BY07 SCS produced 2,110 Chinook adults to Dworshak. Kooskia trapped 589 adult fish, 21 of which were passed over the weir as Idaho Supplementation Study fish (ISS), and 413 transferred to Dworshak for spawning. There were a total of 502 Dworshak and 136 Kooskia females spawned during the season.

Coho Salmon Brood Year 2005

The COS at Dworshak are being reared in a cooperative program with the NPT. On February 28 – March 1, 2007 there were 292,000 BY05 COS transferred from Dworshak to KNFH by the NPT with assistance from Dworshak staff

Coho Salmon Brood Year 2006

Adult coho were trapped at Dworshak and various tributaries on the Clearwater River. Personnel from the NPT conducted the spawning at Dworshak with assistance from Dworshak staff. The eggs were incubated at Dworshak. There were a total of 188 female COS from the Clearwater Basin which were spawned. There were also 170,000 eyed COS eggs from Eagle Creek NFH transported to Dworshak by the NPT in December. Also during December, 2006 an unreported number of COS eggs were transferred from Dworshak to the Clearwater State Hatchery. All COS were transferred from the nursery to C-bank RW's on March 29, 2007.

Rainbow Trout Brood Year 2006

Dworshak raised approximately 16,000 BY06 RBT. On May 9, 2007 there were approximately 4,600 BY06 RBT transferred from Dworshak to KNFH for their June Open House program. There were 422 participants fishing at the Open House for Dworshak on June 15, 2007. Approximately 10,000 12-inch RBT were stocked into tribal and public fishing lakes from Dworshak in June 2007.

Rainbow Trout Brood Year 2007

On January 17, 2007, Dworshak received Shasta strain RBT eyed eggs from Ennis NFH. At the end of FY2007 there were approximately 18,000 BY07 RBT on station averaging 6.9 fpp and 7.1 inches total length.

Administration

Meetings

October, 2006

- Project Leader meeting in Portland, OR, Oct. 2-4, attended by Bob Semple, Howard Burge & Mike Faler.
- Admin. Office suffered many ceiling water leaks, Oct. 16-19 due to the Main Building roof being repaired.
- Dana Perez, EEO Manager and Angela Butsch, Accessibility Coordinator from Regional Office Division of Diversity and Civil Rights (DCR) were on-site Oct. 24 to review the hatchery's handicap accessibility.
- Janette Brummel, Region 1 Property Utilization Specialist on-site Oct. 25 to review USFWS property inventory including laptops, etc.
- Combined Federal Campaign (CFC) chili luncheon and baked food sale held on Oct. 31 as a fundraiser to kick off the annual CFC.

November, 2006

- Susan Sawyer and Megan Johnson attended the Hatchery Manager Workshop held in Richland, WA Nov. 1-3.
- Dworshak Complex Manager, Larry Peltz, arrived on Nov. 9 to begin new duties. A Supervisor meeting was held with the following staff: Larry Peltz, Diane Praest, Howard Burge, Bob Semple, John Vargas, Hubert Sims, Adam Izbicki and Kathy Clemens.
- Rich Johnson from Regional Office on-site for a visit Nov. 14-17.
- Ren Lohofener, Region 1 Regional Director and Dan Diggs, Region 1 ARD, visited DNFH Nov. 16-17. An all-employee staff meeting was held prior to Ren's departure.
- An Annual Operating Plan (AOP) partner meeting was held on Nov. 29 in the Conference Room.

December, 2006

- Penny Hasenoehrl, OAC and Randy Bowen, IT specialist attended the Web Developers National USFWS Workshop at NCTC Dec. 4-7.
- UNICOR furniture representative on-site Dec. 12 to view Admin office and Complex Manager's office to offer layout and furniture suggestions.
- A Complex Christmas party was held at Dining on the Edge restaurant in Orofino which was well attended with several fun games and great food.
- An employee potluck Christmas Party and Retirement party for Diane Praest was held on Dec. 20 in the hatchery Conference Room.

January, 2007

- Larry Peltz, Kathy Clemens, Ray Jones & Thomas Trock visited Hagerman National Fish Hatchery, Jan. 16-17 for a steelhead evaluation meeting.
- Larry Peltz attended a meeting in Portland to meet the Regional Office staff on Jan. 22-24.
- A Web meeting was held with Larry Peltz, Susan Sawyer, Randy Bowen, Megan Johnson and Penny Hasenoehrl to discuss changes to DNFH & KNFH Web sites on Jan. 26.
- Bob Semple and Penny Hasenoehrl conducted the annual COE property inventory Jan. 22-

31.

- An impromptu birthday party was held on Jan. 30 for Bill Anderson who turned 80. Information/Education (I/E) staff presented him with presents and cake and ice cream was served to staff. Bill has assisted with steelhead spawning over 12 years, coming from Montana every year for the season.

February, 2007

- NPT representatives here on Feb. 1 to present morning and afternoon programs to DNFH & KNFH staff on the cultural aspects of the tribe and Snake River Basin Adjudication (SRBA) updates.
- Julie Dean from Regional Office here on Feb. 28 to meet with NPT representative regarding USFWS hiring policies and how that would be implemented in conjunction with the SRBA plan.

March, 2007

- Supervisors meeting held on March 1 at DNFH.
- A St. Patrick's Day Chili Feed potluck was held in the Conference Room on March 21.
- Approximately 40 people attended a waste water treatment course put on by the Dpt. of Environmental Quality on March 29 in the complex Conference Room.

April, 2007

- Larry Peltz attended a meeting in Boise, ID, April 17 & 18.

May, 2007

- Maintenance and Production staff received Fork Lift and Farm Tractor certification by Regional Office staff, May 1 & 2.
- Penny Hasenoehrl traveled to Lewiston, ID on May 7 for a meeting with Northwest Mailing on new postage rates.
- Larry Peltz, John Vargas, Thomas Trock and Dave Trainor traveled to Lyons Ferry NFH to look at scrubber head they use to clean their ponds May 16.
- A potluck to celebrate Cinco De Mayo and May employee birthdays was held on May 10.

June, 2007

- A monthly Supervisors meeting was held on June 6. Attending were: Larry Peltz, Susan Sawyer, Joan Sperber, John Vargas, L. Hahn, Hubert Sims, Bob Semple, Ed Larson, Howard Burge, Adam Izbicki. Penny Hasenoehrl taking minutes.
- Larry Peltz, Complex Manager gave a presentation on the SRBA to the Orofino Kiwanis club on June 12.
- John Hitron, Carson NFH Manager on-site June 14 to lend expertise/ideas on reuse and re-circulating systems.
- Two staff members from the Freshwater Institute on-site here June 20 & 21 to advise and lend expertise on system improvements, fish production and waste water issues.
- A potluck with birthday cake and ice cream was held in the Main Conference Room to celebrate June employee birthdays on June 14.
- Domestic water contractors started project June 14 on-site installing equipment for new drinking water system.

July, 2007

- Hatchery Evaluation Team (HET) members here July 10-12 to tour complex grounds.
- Cake and ice cream served in the Main Building Conference room to celebrate July employee birthdays on July 18.

August, 2007

- Supervisors meeting held on August 7. Attending were Larry Peltz, Megan Wandag, Joan Sperber, Corie Samson, Hubert Sims, Bob Semple, John Vargas and Howard Burge.
- Larry Peltz, Complex Manager, Billy Connor, Fishery Biologist and Howard Burge, FRO Project Leader attended at meeting Aug. 9 & 10 at the CRFO in Richland, WA.

September, 2007

- Supervisors meeting held on September 6. Attending were Larry Peltz, Joan Sperber, Kathy Clemens, Hubert Sims, Bob Semple, John Vargas, Howard Burge and Ed Larson.
- Dave Hurson, COE here for a final hatchery tour on Sept. 17 as he will be leaving the COE.
- A birthday party to celebrate September employee birthdays was held on Sept. 26 in the Conference Room.

Training

- Joan Sperber, Budget Tech, Terry Weeks, Maintenance and Jill Olson, Fishery Biologist attended "*Managing Emotions Under Pressure,*" training in Lewiston, ID on Dec. 7.
- Penny Hasenoehrl, OAC, attended "*Simplified Acquisition Training*", in Albuquerque, NM, Feb. 5-9.
- Penny Hasenoehrl attended FFS training in Portland, OR March 6-9.
- Joan Sperber attended BTS training in Portland, OR March 26-30.
- Penny Hasenoehrl, Kathy Clemens & Laura Kessel attended Admin. Training in Portland, OR, April 10-11.
- Penny Hasenoehrl attended Mastercard Training for purchasing in Portland, OR on April 12.
- Joan Sperber attended Data Mart training in Portland, OR June 27-29.
- Rick King and Mark Bright attended "*Recirculating Aquaculture,*" class in Dubois, WY, July 9-13.
- Penny Hasenoehrl and Megan Wandag attended Retirement Training in Portland, OR, July 16-20.
- Wayne Hamilton, Animal Caretaker, attended a Supervisor's Course for non-supervisors in Washington, D.C. and a retirement Training class in Maryland.

Safety & Wellness

October 2006

- Staff safety meeting held on Defensive Driving, Oct. 26

November 2006

- Penny Hasenoehrl, OAC, instructed CPR/AED/First Aid training to the following employees: Corie Samson, Laura Kessel, Carrie Bretz, Megan Johnson, Stuart Rosenberger, Frank Mullins, Thomas Biladeau, Susan Sawyer, Jody Brostrom and Randy Bowen.

December 2006

- Penny Hasenoehrl instructed a CPR/AED/First Aid class to the following staff: Aaron Garcia, Dave Trainor, Rick Allain, R.J. Hemingway and Steve Bradbury.

January 2007

- Staff safety meeting held on Jan. 24 with employees viewing a video on “Hazardous Chemicals.”

February 2007

- Clearwater County Sheriff’s Dpt. presented a program to staff on Safe Driving on Feb. 8.

March 2007

- Fire extinguisher safety course presented to staff on March 28 by Oxarc.

April 2007

NA

May 2007

- Hearing tests conducted on May 15 for all hatchery employees by OSHA.

June 2007

NA

July 2007

NA

August 2007

NA

September 2007

- Program presented to staff on a new Security Plan for Dworshak NFH.

Staffing

DNFH Employees, FY 2006.

Name	Position Title	Period of Employment	Status
Allain, Richard E.	Animal Caretaker	10/01/06–09/30/07	Permanent
Bisbee, Mike	Fishery Biologist	10/01/06–09/30/07	Permanent
Bright, Mark	Fishery Biologist	10/01/06–09/30/07	Permanent
Greene, Benny C	Electronics Mechanic	10/01/06–09/30/07	Permanent
Hamilton, William W	Animal Caretaker	10/01/06–09/30/07	Permanent
Hasenoehrl, Penny	Office Automation Clerk	10/01/06–09/30/07	Permanent
Henderson, Audra	Office Clerk	03/16/07–09/30/07	Permanent
Hostetler, Krista	Maintenance Worker	03/16/07–9/30/07	Permanent
Johnson-Wandag, Megan	Information/Education Asst	10/01/06–09/30/07	Permanent
Kellar, Robbie D	Animal Caretaker	10/01/06–09/30/07	Permanent
King, Rick	Maintenance Worker	10/01/06–09/30/07	Permanent
Peltz, Larry	Complex Manager	10/29/06–09/30/07	Permanent
Praest, Diane E	Supv. Admin Support Assistant	10/01/06–12/31/06	Permanent
Sawyer, Susan D	Information/Education Manager	10/01/06–09/30/07	Permanent
Semple, Robert A	Supv. Fishery Biologist	10/01/06–09/30/07	Permanent
Sims, Hubert M	Maintenance Mechanic	10/01/06–09/30/07	Permanent
Sperber, Joan	Budget Technician	10/01/06–09/30/07	Permanent
Stretsbery, Gerald	Laborer	10/01/06–09/30/07	Permanent
Trainor, David A	Maintenance Worker	10/01/06–09/30/07	Permanent
Trock, Thomas J.	Fishery Biologist	10/01/06–09/30/07	Permanent
Vargas, John J	Animal Caretaker Leader	10/01/06–09/30/07	Permanent
Weeks, Terry C.	Maintenance Worker	10/01/06–09/30/07	Permanent
Wright, Benjamin A	Animal Caretaker	10/01/06–09/30/07	Permanent

Personnel

- Diane Praest retired on 12/31/06 from the USFWS with 22 years, 2 months and 2 days. Many former employees dropped in to wish her the best. She was presented with a retirement plaque, framed and signed hatchery photo, gift certificates and a photo story board.

- I/E Assistant, M. Johnson-Wandag began working her summer schedule, Tuesday-Saturday with tours being offered on Saturday at 10 a.m. and 2 p.m. – April-September.
- Josh Bradley (Washington, D.C. office) began his tour of duty June 11 here at the Idaho Fish Health Center.
- Four local high school students began a 8-week tour of duty June 11 under the Clearwater River Youth Program (CRYP). They are: Daniel Donovan, Ashley Oatman, Kalli Pattan and Justin Gering.
- Final day of work for Ralph Roseberg, fisheries biologist, retiring after 34 years of service to the USFWS.
- Animal Caretaker Jim Minnick, 65, passed away suddenly on the evening of September 16, near his home, after a full day of work at the hatchery. Jim had been employed in a temporary position first at KNFH, then at DNFH since 2002.

Facilities Maintenance

October 2006

- Repairs: broken sprinklers and plumbing in valve pits, removed #5 main pump, broken sign standard for sludge ponds, a gate latch to access gate, cracked welds to the pond access ladder, a motor to the gearbox coupling on the trash rake.
- Installed several safety signs on inspection ladders and steps for loading fish into trucks.
- Fabrication and installation projects: new hinges for fishermen's access gate, built new lifting device for lifting main pumps, new coupling for trash rake, new auto-clave stand for IFHC, wrenches for opening and closing pond valves.
- Electrical repairs: ran new 110 volt circuit to HP's for new treatment tank, replaced battery in welder, repaired broken battery leads on cart and installed a wall heater in Main Pump House.
- Winterized all irrigation systems; performed daily building and grounds maintenance and cleaning; checked traveling water screens; cleaned trash and moss from collection grates; inspected and cleaned screen baskets in the Fire Maintenance Pump House daily.
- Welded tractor snow blade to a hitch.

November 2006

- Electrical projects: replaced and installed a new pump in Chinook ponds; adjusted and did repairs on incubator chiller; repaired Mech II #4 boiler; lighting in Mech Bldg.; reassembled lighting in Admin Office after roof leak was fixed; repaired heat in Incubator Room; repaired screen on call back computer; readjusted System I reuse pump sump level probe and adjusted fish ladder barrier gate controls.
- Fabrication and installation projects: hand hooks for removing stand pipes in the fish ponds; new safety chains across entrances to ladders and stairs on System I reuse and main aeration chamber; built and installed a frame for cover of the back of Cart #3 to protect fish feed, installed a canvas cover on frame and two media screens for System II bio-filters.
- Made daily rounds consisting of: cleaned trash and moss from input grates; checked main pumps for problems and aeration chamber for flow; care of flags; recording and reporting the weather; cleaning intakes and trash trap; checking pumps in main pump house; checking and cleaning screens in fire maintenance pump house.
- Started System I & II reuse for warm-up before system goes on reuse.
- Changed belt on air compressor in Furnace Room and pump motor on heat pump.
- Installed snow plows on one-tone truck and tractor, plowed snow.
- Mounted brushes on pond scrubber.

December 2006

- Repair projects: hand dryer in Visitor parking lot rest room; #1 main pump motor; service air compressor in Furnace Room; removed Chinook sump pump for repair; refrigeration compressor control in Feed Bldg; new brushes and rollers on pond scrubber and fixed the heater in Main Pump House.
- Started System I & II reuse, started boilers and activated alarms for reuse systems.
- Daily duties: monitored and flushed System I & II sludge basins, checked and exercised

traveling water screens; main pumps and fire maintenance screens; cleaned carpets in complex buildings; checked weather and raised and lowered flags.

- Inventory and initialed all hatchery fire extinguishers.
- Installed a hard surface on snow plow blade skids.
- Designed and fabricated projects: frame for cover on Cart #10 and a stand for the welding shop.
- Troubleshooting and electrical repair projects: heat system for Feed Bldg. office and FRO; ballast in light in IFHC; energize 12.5 K feeds to primary side of boiler transformer; defective light fixture in System II chemical shed; control circuit for #3 boiler in Mech II; calibrate chiller control in Incubator room; installed J-box and rewired LAN system wiring for IFHC.

January 2007

- Replacement and repair projects: damaged fork lift towing adapter; drawer in Admin Bldg.; heat in Main Pump House; ice machine in Feed Bldg; replacement of three heater fan motors in Incubator Room; replacement of Zone 2 hot water pump in Furnace Room; new faucet in Spawning Room.
- Fabrication Projects: repaired and welded aluminum cover for Chinook sump pump chamber; built a stand for a black light to be installed on spawning table; two brackets to heating unit in Complex Manager's office; cut holes in metal cover for System II reuse sump for a chemical line.
- Electrical Projects: computer switch in Production office; 480-receptacle in Feed Bldg. basement; 120-volt receptacle in Mech II; main pump #5 in Main Pump House; LAN panel and drop to Histology lab in IFHC; boiler #in Mech Bldg.
- Assisted divers who were diving in the main pump chamber #4 & 5 to look for broken pump parts and removed hydraulic motor from pond scrubber.
- Daily: inspected and cleaned baskets in Fire and Maintenance Pump House; monitor and flush System I & II reuse sludge basins; check and exercise traveling water screens in Main Pump House; clean trash and moss from output grates; check and record weather, take care of flags.
- Removed 3# of Freon from incubator chiller.
- Serviced various complex vehicles.

February 2007

- Replacement and repair projects: broken light on Feed Bldg. loading dock; broken cord on charger circuit for Cart #32; broken shier pin in water control valve; chlorine leak in Mech I; broken pad on HP crowder.
- Electrical projects: boosting transformers in tagging trailer circuits; domestic pump #1 in Mech I; new bad egg totalizer in Incubator Room; removed heaters in Admin. office; added a LAN drop in Admin.
- Fabrication projects: a lifting apparatus for boom truck that lifts media back into System I reuse #4 filter; new lock parts for visitor center cabinet and new stand pipes and rods in Nursery Room.
- Installed hydraulic motor in pond scrubber.
- Pumped tribal Coho onto trucks for outplant at KNFH.
- Daily checked fire maintenance pumps filters, screens; boilers; performed grounds maintenance and building maintenance.

- Serviced Pump House trash rake; #3 generator radiator; traveling water screens and bridge crane and various complex vehicles.

March 2007

- Replacement and repair projects: removed aeration pump from System II for repair.
- Troubleshooting and electrical repair: air compressor in Furnace Room; plumbing and wiring for new air compressors in Mech I; did annual safety inspection of all electrical safety items; upgrade alarm system; relocated and put in new conduit and wire.
- Serviced various complex vehicles, replaced wheels on pond scrubber.
- Cut and installed pipe for testing in Nursery room; fabricated mud valve wrenches for Production.
- Set up circular tanks for FRO.
- Pumped tribal Coho into trucks for outplant.
- Cleaned and flushed System I & II reuse filter beds, scrapers and digester; hauled rock and dirt; crushed granite for various projects.
- Daily duties of traveling water screens; cleaning trap; Fire Maintenance pumps; filter screens; grounds and building maintenance; taking care of flags; recording weather.

April 2007

- Replacement and repair projects completed: Pressure washer sprayer for Production; repaired leaks in street; dug up fire maintenance water line; repaired broken sprinkler; replaced pressure switch on air compressor; installed new Chinook pump sump; repaired I/E aquarium chiller.
- Pumped steelhead smolts into COE trucks for outplanting.
- Fabrication and installation projects: Cut and installed cast iron grating for storm sewer drain; built and installed a new pit tag detector for Spawning Room; welded new funnel for egg shocking; attached fish killer to the wall; welded extension to repair the sludge basin aerator; installed new grate inside Nursery Room; fabricated an adaptor for handheld threading machine in aeration chamber.
- Maintenance on main aeration chamber performed.
- Vehicle maintenance performed on several hatchery vehicles.
- Did some remodeling touch-up in Admin office.
- Routine maintenance performed on a daily basis: fire maintenance pumps; demolished old cart and hauled to bone yard; building and grounds maintenance; took care of flags and recorded weather.
- Checked fire extinguishers on hatchery and house; replaced pond scrubber brushes; lubed traveling water screens and exercised reservoir valves with Clearwater Hatchery.

May, 2007

- Troubleshooting and electrical projects: Worked with Clearwater Power on annual power outage May 16; assisted with Sub 2 transformer repair and reviewed electrical equipment with their foreman; set up transformer for USFWS marking trailer; installed new circuitry for major remodeling in Admin office; mounted new tv in Main Bldg. lobby.
- Replacement and repair projects: Columns from the main aeration chamber; broken sprinkler lines; #1 channel crowder; leak at evaporator in Feed Bldg; ice machine in Feed Bldg; #2 channel crowder gate had a broken barrier; broken chain for the NPT ladder stand; welded two propeller fins on ladder pump and removed System II pump for repair.

- Fabrication projects: platform for pressure washer for Production; canopy ceiling rack to hold electric shocking wands, nets and probes for IFHC pick-up and test pond vacuum head.
- Cleaned System I, II and II, started System II & III reuse for disinfection.
- Routine maintenance performed daily: checking fire maintenance pumps; traveling water screens; building and grounds maintenance; care of flags and recording daily weather.

June 2007

- Prepared for Open House by setting up piping and moving RBT from System I to fishing pond; set up tents and tables; trimmed shrubs; removed brush; set up fishing poles; took all down after event for storage.
- Routine maintenance performed daily: checking fire maintenance pumps; traveling water screens; building and grounds maintenance; care of flags and recording daily weather.
- Installation and repair: new canvas top on Cart #10; new aqua-matte flotation collars for fish ponds; built a 5' T-handle valve wrench.

July 2007

- Electrical projects: Moved USFWS tagging trailer from System III to System II; repaired power cord on charger; repaired roll-up door on Mech I; repaired sump pump in Mech I; street light fixture on overpass; pressure switch on #1 air compressor in Mech I; power outage of HSQ-2 for contractor wire pull and disconnected install for new domestic water plant.
- Installation and repair projects: Chlorine injection line leak on the domestic water in Mech I; replaced media in pack columns in main aeration chamber; welded cracks and broken braces on boat trailer; installed valve on condensate drain line for air dryer in Furnace room; installed pond feeder guard in Pond #53 for testing; broken sprinkler lines in control box.
- Hauled SCS from KNFH to DNFH.
- Hauled top soil from COE to DNFH; cleaned up 7 dump truck loads of sand that Midco Diving cleaned out of main aeration chamber; hauled rock and dirt to dump site at Ahsahka; removed asphalt and filled sink hole at System III and A-bank.
- Serviced and cleaned diverter gate control valve in Spawning Room.
- Maintained filter beds in all three reuse systems.
- Moved old media from main aeration chamber for storage.
- Daily maintenance included checking traveling water screens in Main Pump House; fire maintenance pumps; building and grounds maintenance.

August 2007

- Electrical projects: Assisted contractor for alarm circuits; set up transformers for voltage in tagging trailers; repaired charger for Feed Bldg. electric forklift; repaired traveling water screen #2 in Main Pump House; conducted voltage on #1 and #2 boilers in Mech I; checked Chinook sump pump B and sent for repair; replaced control transformer in Control panel 9; repaired starter/contacter for Chinook sump pump A; replaced temp display in Nursery Room, and ice machine in Feed Building.
- Fabrication projects: Built deflectors for floating collars in Pond #55; built frames for fans in Nursery Room; swivel elbow line for Production; hitch on new Pump wagon for Production; drop leaf table for fish whacker and a salmon overflow table for Spawning

Room.

- Cleaned water from air lines, valves and cylinders in Spawning Room, shut Mech I air off in Spawning Room, started Incubator Room compressor.
- Exercised trash pumps in System I diggers.
- Collected water samples from System I, Main Aeration chamber and Nursery Room.
- Loaded chemical drums, surplus property.
- Performed maintenance work on House #2.
- Performed annual maintenance on Mech I boilers.
- Performed grounds and building maintenance daily, checked pump house, traveling water screens, fire maintenance screens and cleaned moss trap.

September 2007

- Installation and fabrication: Frame for new fans in Incubator room; installed the fans and louvers; built and installed new overflow steelhead and salmon rack in Spawning Room; made new gaskets for fire maintenance pump.
- Electrical repairs: Control circuit for System I reuse scrapers and blower; incubator units in lab; performed control voltage test of contactors and temp controller for boilers in Mech II; repaired air compressors in Mech I; installed new sign in IFHC and installed new sight glass in Incubator chiller.
- Pumped Coho for NPT tribal outplant.
- Assisted contractor in installing a door in the IFHC, unloaded new furniture for Conference Room.
- Put new scrub brushes on axles and installed.
- Performed daily duties of building and grounds maintenance; checking traveling water screens and moss trap; fire maintenance pump house; took care of flags and recorded weather.

Outreach and Visitor Activities

Statistics

Dworshak NFH Visitor Use Statistics, FY2007

Program/Contact Type	# of Contacts	% Change From FY2006
On-site Hatchery Visitors (Visitor Register and self-guided tour)	5,427 *	+21%
Guided Tours	84 □	+29%
Tour Visitors	1,624*	+27%
Web Visitors (virtual contacts from all sources)	10,962*	- 5%
Open House (children 12 & under)	425*	No change
Open House (other visitors)	450 *	(-48%)
Total On-Site Contacts (all *)	18,888	+3%
Off-site Programs/Displays/Events	195 □	+13%
Off-Site Contacts	20,694 * *	+21%
Total FY07 Programs (total all □)	279	+17%
Total FY07 Contacts (total on + offsite)	39,582	+11%

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

Table Summary

Hatchery visitation (as measured by on-site visitor log and self-guided tours) increased well above the FY06 total, despite the skyrocketing fuel costs which make Idaho one of the most expensive states to travel. A full complement of well-trained Hatchery Hosts greeted more school groups during steelhead spawning season this year, and the mandatory visit by participating Hatchery in the Classroom (HIC) project schools (10) also added to the higher total. Visitors who made the journey to the hatchery were greeted by a full information kiosk in the main parking lot, a newly landscaped entryway by the native plant garden, and the viewing pond/fountain.

The Information/Education Office (I/E) provided 24 more guided tours than last year, to nearly 500 more visitors. Summer Saturday tours were well-attended this year, and helped increase overall visitor contacts and program numbers. There were several independent television/cable producers who visited and filmed hatchery operations, most for satellite dish broadcast, to countless viewers (Outdoor Channel, Men's Outdoor Recreation TV – MOR, and Versus). Two university graduate students from Montana State and University of Montana toured and filmed separate ecology/natural history journalism graduate projects over several days each.

With continued proactive school outreach, flexible scheduling with I/E and Production staff, more tour groups could attend on the weekly spawning day and receive a quality fish-viewing interpretive experience the entire season.

The Volunteer program saw a slight decrease in total volunteers and hours worked on a variety of hatchery projects. A total of **34 volunteers contributed 405 hours** of service towards spawning, field work, outreach events and public contact duties. The annual volunteer appreciation potluck was held in October. Information/Education Assistant Megan Wandag continued as the Complex Volunteer Coordinator.

The 17th annual Open House/Kids Fishing Day saw virtually no change in attendance this year in children 12 years and under (425 registered to fish) with ideal weather and fishing conditions. Those who attended or worked the event felt it went very well, with vendors, exhibitors, staff and volunteers pleased with the manageable, steady turnout and catchable trout. The NPT provided a hands-on demonstration of traditional fishing tools and techniques to the delight of many children.

For the second year, Idaho State Veterans Home in Lewiston brought 8 disabled World War II/Korean War veterans out the week after Open House for a day of fishing on the trout pond. The Marine Corps Activity League (Orofino), the VFW (Orofino Post) and many family members assisted the vets, along with a high turnout of hatchery staff who paid their respects to these gentlemen. Local media again provided excellent coverage, as did the Regional FWS Accessibility website. On the same day, the local assisted living facility brought 22 residents to fish, and those folks kindly donated their trout to the Veteran's home for a group fish fry – a total of 115 fish were cleaned by hatchery staff.

Once again, virtual visitors were included in the on-site contact total. The website was in transition for part of the year, so the visitor numbers were down about 600 visits from last year, which would account for about 1 month of being under web construction. The highest counts were again recorded during the calendar school year – September to May – with an average of 847 visitors/month.

Outreach and off-site programs were quite successful again, posting higher numbers than last year: **25 more individual natural resource education programs were provided to almost 3,500 more people.** The marked increase was due to the inclusion of I/E staff participation at the Salmonfest event in Leavenworth, WA on Oct 1-2, 2006 (the start of FY07) and for 4 days in September, 2007 (at end of FY07).

Additionally, hatchery I/E staff coordinated and worked the Idaho Sportsman's Show in Boise (**1,900 contacts**), and the Spokane Outdoor Adventure Show (**3,908 contacts**) in March, with local FWS offices and staff, providing comprehensive and informative displays on FWS Refuges, Fisheries and Ecological Services programs. Dworshak I/E staff worked on a new partnership team (Palouse Clearwater Environmental Institute, Moscow School District, Palouse Ranger District, U.S. Forest Service) to acquire and implement a national initiative, "*More Kids in the Woods*", on a local scale, with programs for a summer school group related to outdoor education and fisheries. It was extremely successful and will carry over into FY08. I/E staff also provided outdoor learning stations at the 4th Grade Rendezvous for 1,000+ students Lewiston; four County Extension Office sponsored 6th grade environmental education programs (Nez Perce Co.

program returned this year); school career fairs; public meetings; the 13th annual Clearwater Earth Week events; and rounded out the year with a busy September, staffing the 11th Idaho Salmon and Steelhead Days in Boise for 1,100+ 5th graders, the Clearwater County Fair booth (**winning a first place ribbon!**) with **1,752 contacts (500 more than 2006!)**

The successful after-school program “**Dworshak Extreme Explorers Club**” was again implemented at Orofino Elementary school, coordinated by I/E Assistant Megan Wandag, COE and Dworshak State Park education staff.

Other I/E business:

Participated as the prize/entertainment coordinator for the Northwest Fish Culture Conference in Dec. 2006, hosted by the FWS. Both I/E staff attended for 4 days and worked to produce one of the best attended events in the past 5 years. Hatchery worker Jim Minnick donated a custom knife for the grand prize drawing, won by an Alaskan fisheries manager.

Drafted the new Complex brochure to include FRO, IFHC and KNFH, along with NPT tribal history and SRBA information. Production expected in mid-2008.

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

- Challenge Cost Share \$10,000 grant and ID Governors Lewis/Clark Trail grants (\$13,650 + 11,350) remain in the Friends account for completion of interior visitor balcony exhibit project, FY08.

FWS - managed grant funds (from Idaho Community Foundation) project balance = \$2,814.00 which will go towards the balcony exhibit project or to purchase education materials.

Hatchery in the Classroom projects went well in 10 participating schools this year, with an egg-to-fry success of 84%. All schools had post-project release activities with the students and hatchery staff participating. The McSorley Elementary school project in Lewiston, ID was a success again, with the multi-partner aspect and improved class and outdoor environmental lessons. More schools have contacted the hatchery with interest in obtaining their own classroom incubation systems or applying for the HIC project.

Travel and training for the Information/Education staff included:

- Idaho Environmental Education Association annual conference planning and presentation in Boise (BSU) - March.
- Coordinate and staff Idaho Sportsman’s Show exhibit booth in Boise – March.
- Bighorn Outdoor Adventure Show, Spokane, WA – March; coordinated and staffed.
- Annual Open House/Kids Fishing Day event – June.
- Salmon and Steelhead Days in Boise – September; coordinated Gyotaku station.
- Wenatchee River Salmon Festival, Leavenworth NFH, WA – Oct. 06, and Sept. 07
- Soil Conservation District environmental education outreach events - April and May.
- Nez Perce National Historic Trail board of directors and agency partner meeting – August.
- North Central Idaho Travel Association board and annual meetings .

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
 - Corps of Discovery II National Planning Team
- 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 National Fish Hatchery
 - Lower Snake River Compensation Plan Office
- 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
- 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

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

Special Interest Groups

- Friends of Northwest Hatcheries, Inc.
- Idaho Community Foundation
Northern Region Grant Program
- Idaho Food Commodity Program
- Kiwanis Club
- Orofino Lewis/Clark Bicentennial Committee
- Project WET, Idaho
- Pulp and Paperworkers Resource Council (PPRC)
- Retired Senior Volunteer Program (RSVP)
- Rotary Club

Other

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

