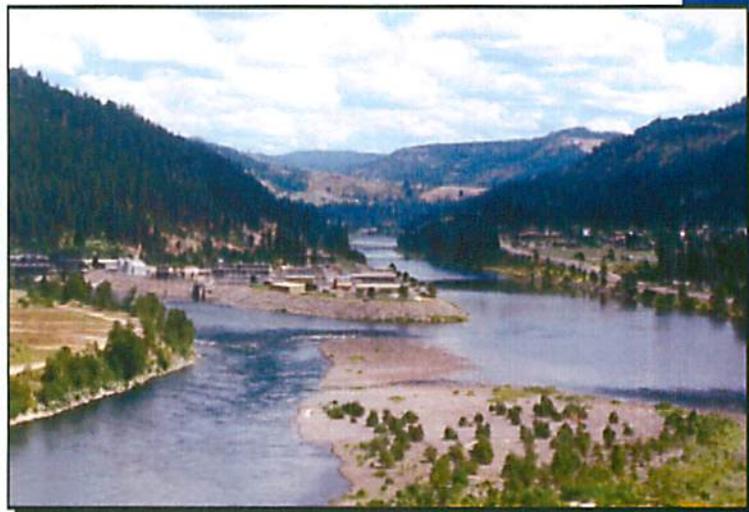


Annual Report for

Dworshak National Fish Hatchery

Ahsahka, Idaho
Fiscal Year 2008



Complex Manager

Larry Peltz

Date

2/13/09

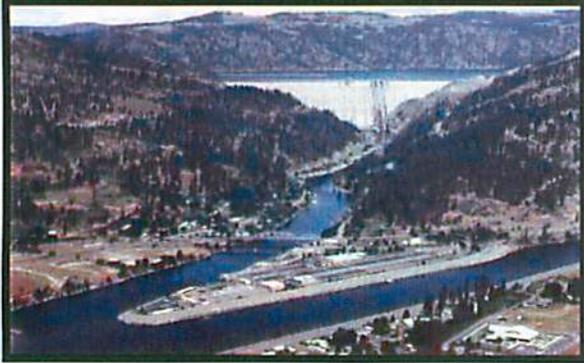
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John Doe

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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 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 LSRCP 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, replacing the Nursery Building roof 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 2007. 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 2007 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, 2007, to September 30, 2008.

PRODUCTION PHOTOS, FY2008

The Production Staff at Dworshak national Fish Hatchery worked successfully to spawn, incubate, rear and release over 2 million summer steelhead trout and nearly 1 million spring Chinook salmon as part of the annual hatchery production cycle. Additionally, they raised over 10,000 rainbow trout averaging 1 lb. and 15" long, for the annual Kids' Fishing Day event and assisted the NPT with Coho salmon spawning in the fall.



Production photo highlights include: **Top Left: Animal Caretaker, Wayne Hamilton** cleaning fry tanks. **Center: Animal Caretaker, Gia Growing Thunder**, cleaning outside raceways. **Right: Animal Caretaker, Ben Wright** harvesting steelhead eggs. **Bottom Left: Animal Caretaker Supervisor, John Vargas** marking incubation trays. **Bottom Right: Fish Biologist (l-r) Zach Penney, NPT; Veterinarian, Marilyn. Blair, Fish Biologist Jill Olson, Hatchery Manager, Mark. Drobish and Fish Biologist, Tom Biladeau** spawning coho.

FY 2008 Highlights

Summer Steelhead Brood Year 2007

At the beginning of October 2007, all of the summer steelhead (SST) from Brood Year 2007 (BY07) were outside in Burrows ponds (BP's). Overall mortality from October 1, 2007 through final release on April 25, 2008 was approximately 5.4 percent. Table 1 illustrates the SST on station at the start of Fiscal Year 2007 (FY07) until final release. Table 2 illustrates the survival rates of various stages of development for BY07 SST along with a five-year comparison of brood years.

Table 1. Fish inventory summary for BY07 SST on October 1, 2007 and release in April, 2008.

Location	October 1, 2007				Oct 1 - April 25 % loss	Final Release April 14 - 25, 2008			
	Number	Wt (lbs)	Lgth in	Lgth mm		Number	Wt (lbs)	Lgth in	Lgth mm
Syst I	766,751	21,371	4.3	109	6.5	716,988	111,281	7.6	194
Syst II	745,241	30,408	4.9	124	2.5	726,257	123,971	7.9	200
Syst III	871,504	56,859	5.7	145	6.9	811,162	148,981	8.1	205
Tot/Ave	2,383,496	108,638	5.1	129	5.4	2,254,407	384,233	7.9	200

Source: DNFH - Final Release Summary, May 2008.
 Monthly Inventory Summary (MIS), October 1, 2007.
 Production Narrative, May, 2008.

Table 2. Survival summary from green eggs to released smolts, BY03 through BY07 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
2003	92.5	94.2	92.9	74.1	56.1	64.8	68.8
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	65.9	74.5	79.4
2007	95.7	94.7	94.2	89.9	75.6	80.3	84.7
5 Yr Ave	93.6	93.4	92.0	83.4	61.6	72.0	77.1
2008 YTD	96.3	92.9	94.8				

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- EgEnumST08.xls
 Nursery Loss-nulo08st.wpd; Spawning/Egg Take Plan, BY08 SST

Outside ponding of SST included System I receiving SST from Takes 9-12, System II being stocked with Takes 6-8, and System III receiving Takes 1-5.

Reuse and heated water were used with SST in System I and II during the winter. Steelhead in System III did not require reuse or heated water to reach the target size of 200 mm at release.

Some SST in all systems received adipose (AD) fin clips, coded-wire-tags (CWTs) and left ventral (LV) clips. As in FY07, 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, offsite release contribution, broodstock evaluations, and early-run predictions at Lower Granite Dam. A total of 133,347 BY07 SST received CWTs in September, 2007 along with LV clips. All fin clipping and coded-wire-tagging was done by the Columbia River Fishery Program Office (CRFPO) using an automatic marking trailer.

Steelhead were PIT (passive integrated transponder) tagged for two studies this year. There were 27,938 SST which received PIT tags as part of a hatchery evaluation study of smolt to adult returns. There were also 1,499 SST PIT tagged for smolt monitoring and evaluation studies at the Fish Passage Center. See the marking/tagging tables under each System for details.

Included in Dworshak production numbers were 228,954 BY07 SST which were unmarked/untagged and released from Dworshak. This represents about 10 percent of the BY07 SST released at Dworshak. These are the ninth 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

Twenty-five BP's were used in System I for BY07 SST production. This System had 766,751 SST in it at the start of the fiscal year and 716,988 at release in April, 2008 (Table 3).

Table 3. System I BP 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	07	766,751	35.9	109	0.8	20	3.67	47.2
November	07	738,602	21.5	130	0.6	16	1.35	46.5
December*	07	728,623	15.3	145	0.5	12	0.32	45.3
January*	08	726,290	12.2	157	0.7	18	0.76	51.3
February*	08	720,787	8.9	174	0.4	9	0.13	46.9
March*	08	719,827	7.6	184	0.3	7	0.26	44.5
April	08	717,948	6.7	191	0.1	3	0.13	41
Total/Ave	08	716,988	6.4	194	3.33	84	6.49	46.1

* System under reuse part or all of month.

Source: DNFH - MIS, Sept 2007-May 2008

Final Release summary, BY07 SST

Production Narratives Sept-May, 2007-2008; Daily Water Temperature Records, Oct-April, 2007-2008

System I converted to reuse and the boilers for heated water on December 26, 2007. The boilers were turned off in System I on February 15, 2008 due to a boiler malfunction. Reuse was turned off February 22.

Adipose fins were clipped on BY07 SST in System I from August 10-28, 2007. Other marking of BY07 SST in System I is summarized in Table 4.

Table 4. Marking and tagging of BY07 SST, System I.

Released from BP #	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 15	09/15/07	22,377		AD LV	System I Contribution	Dworshak
BP 15	01/10/08		250	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 17	09/17/07	21,970		AD LV	System I Contribution	Dworshak
BP 21	01/10/08		250	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 33	01/07/08		5,643	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
Total		44,347	6,143			

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

Source: DNFH- MIS System I, October 2007, January 2008

CRFPO marking summary for CWTs, January 2008

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, 2007 until final release in April, 2008 was approximately 6.5 percent. Details of the formalin treatments are in the chemical treatment log at Dworshak.

Truck drivers from the U. S. Army Corps of Engineers (COE) stocked a total of 170,112 BY07 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 Harvest Settlement agreement with the Columbia River Tribes.

On April 15-16, 2008, there were 342,845 SST outplanted from System I (this includes the 170,112 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 374,143 BY07 SST from System I took place on April 24, 2008, into the mainstem of the Clearwater River. The total release from System I was 716,988 BY07 SST (Final Release Summary, BY07 SST).

System II

Twenty-five BP's were used in System II for BY07 SST production. This System had 745,241 SST in it at the start of the fiscal year and 726,257 at release in April, 2008 (Table 5).

Table 5. System II 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	07	745,241	24.5	124	0.84	21	1.05	47.2
November	07	737,424	15.2	146	0.52	13	0.32	46.5
December*	07	735,028	11.7	159	0.65	16	0.12	48.4
January*	08	734,176	8.7	175	0.34	9	0.16	48.7
February*	08	732,997	7.5	184	0.31	8	0.31	40.2
March*	08	730,746	6.7	192	0.22	6	0.38	40.6
April	08	727,979	6.1	197	0.11	3	0.24	41
Total/Ave	08	726,257	5.9	200	2.99	76	2.55	44.7

* System under heated reuse water for part or all of month

DNFH - MIS, Sept 2007-May 2008

Final Release summary, BY07 SST

Production Narratives Sept-May, 2007-2008

Daily Water Temperature Records, Oct-April, 2007-2008

System II converted to reuse and the boilers for heated water on December 17, 2007. Reuse and the boilers were turned off January 22, 2008 due to a high infestation of *Ichthyophthirius multifiliis* (ICH).

Adipose fin clipping was done on BY07 SST in System II from July 17 through August 9, 2007. Other marking of BY07 SST in System II is summarized in Table 6.

Table 6. Marking and tagging of BY07 SST, System II.

Released from BP #	Date	Number CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 18	9/13/07	22,285		AD LV	System II Contribution	Dworshak
BP 18	1/10/08		249	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 20	9/14/07	22,257		AD LV	System II Contribution	Dworshak
BP 20	1/10/08		250	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 32	1/7/08		5,641	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
Total		44,542	6,140			

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

Source: DNFH- MIS System II, October 2007, January 2008
CRFPO marking summary for CWTs, January, 2008

Mortality was approximately 2.6 percent from October 1, 2007 until release in April, 2008.

There were a total of 58,842 BY07 SST from System II stocked into 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 16-18, 2008, there were 291,035 SST outplanted from System II (this includes the 58,842 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 435,222 SST from System II took place on April 23 into the mainstem of the Clearwater River. The total release from System II was 726,257 BY07 SST (Final Release Summary, BY07 SST).

System III

Thirty-two BP's were used in System III for BY07 SST production. This System had 871,504 SST at the start of the fiscal year and 811,162 at release in April, 2008 (Table 7).

Table 7. 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	07	871,504	15.3	145	0.66	17	2.62	47.2
November	07	850,032	11	162	0.49	13	0.92	46.5
December	07	842,212	8.8	175	0.38	10	0.71	44.2
January	08	836,213	7.5	184	0.25	6	0.71	41.5
February	08	830,307	6.8	190	0.23	6	0.88	40.2
March	08	822,964	6.2	196	0.23	6	1.09	40.6
April	08	814,029	5.7	202	0.12	3	0.35	41.1
Total/Ave	08	811,162	5.4	205	2.35	60	6.88	43.0

Source: DNFH - MIS, Sept 2007-May 2008
 Final Release summary, BY07 SST
 Production Narratives Sept-May, 2007-2008
 Daily Water Temperature Records, Oct-April, 2007-2008

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

Adipose fin clipping was done on BY07 SST in System III from May 23 through July 16, 2007. Other marking of BY07 SST in System III is summarized in Table 8.

Table 8. Marking and tagging of BY07 SST, System III.

Released from BP #	Date	CWT	Number PIT tags	Fin Clips	Study	Release Site
BP 65	9/13/07	22,348		AD LV	System III Contribution	Dworshak
BP 35	1/10/08		250	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 68	9/11/07	22,110		AD LV	System III Contribution	Dworshak
BP 68	1/10/08		250	AD	Smolt Monitoring at Fish Passage Ctr	Dworshak
BP 69	1/10/08		4,412	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
BP 79	1/14/08		6,356	AD	Hatchery Evaluation Smolt to Adult Return	Dworshak
Total		44,458	11,268			

Fin Clips = AD-Adipose fin; LV-Left ventral fin
 Source: DNFH- MIS System II, October 2007, January 2008
 CRFPO marking summary for CWTs, January, 2008

On April 14-18, there were 321,679 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 489,483 SST from System III took place on April 21-22 into the mainstem of the Clearwater River. The total release from System III was 811,162 BY07 SST (Final Release Summary, BY07 SST).

Distribution Summary

Release of BY07 SST began April 14 and ended April 24, 2008. Final release numbers are illustrated in Table 9.

Table 9. Fish distribution summary by site, BY07 SST, April 14 to April 24, 2008.

Site	Number	Weight	fpp	Length	
				in	mm
Outplants 4/14 - 4/18					
Clearwater R. - Red House Hole	407,116	69,722	5.8	7.9	200
Clear Creek	319,489	53,836	5.9	7.8	199
Newsome Ck Unmarked SST	111,694	18,189	6.1	7.7	197
American R. - Unmarked SST	117,260	17,924	6.5	7.6	193
Subtotal	955,559	159,671	6.0	7.8	199
Direct Release 4/21 -4/24					
Main Stem of the Clearwater River	1,298,848	224,562	5.8	7.9	201
Totals/Averages	2,254,407	384,233	5.9	7.9	200

Source: Final Release Summary, BY07 SST

Brood Year 2008 SST

Adult Collection

Adult summer steelhead (SST) for BY08 were collected in the fall of 2007 and in the winter and spring of 2008 to represent the entire run. The ladder was open on October 1, 2007 until October 11 for collection of early-return SST. During this period there were 323 early-run steelhead collected. The ladder was reopened October 18-19 and 180 more SST were put into holding pond one (HP1). The ladder was also opened intermittently during the fall for collection of coho salmon. There were an excess of 1,057 BY07 SST trapped during this process and anesthetized with carbon dioxide. They were then 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 26, 2007. The ladder was reopened intermittently from February 21, 2008, and closed for the final time April 25. This staggered ladder operation throughout the spring helped to limit the number of SST entering the hatchery. There were a total of 3,374 adult SST trapped at DNFH, including 503 jacks. There were a total of 12 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 was also one 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 12 wild and one unclipped fish were included in the 3,374 total return for BY08. Figure 1 illustrates the numbers of returning SST adults since 1995.

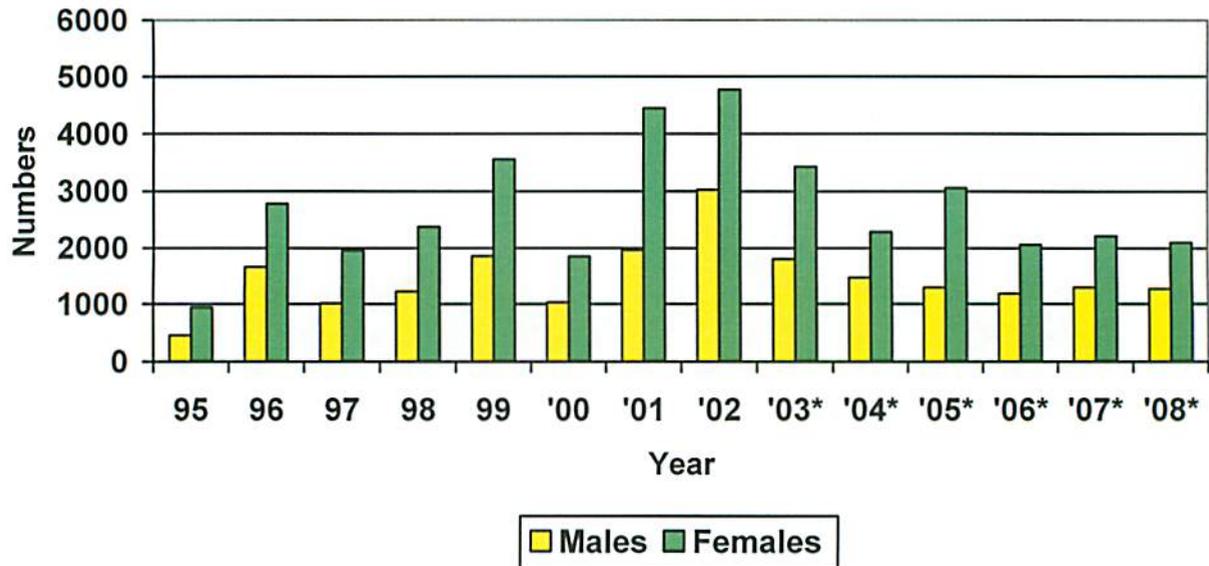


Figure 1. Dworshak adult SST returns 1995-2008

*Ladder opened only part of season

Source:DNFH -Spawning Report SST BY08

Spawning/Egg Take Plan SST BY08, ST08EgTk.xls

IFRO - SST Rack Returns, Sth08ent.xls

There were 18 fish of the early return adults which died before spawning began (prespawning mortality). Formalin treatments were started in October 2007 and appeared to control fungus.

Spawning numbers/ratio

There were 1,756 SST spawned over the BY08 season, 744 males (including 128 jacks) and 1,025 females. Females have always outnumbered males in returns to Dworshak, so the goal of having a 1:1 male:female spawning ratio is difficult to achieve. While the male:female return ratio was 1:1.7 for BY08 SST, the spawning ratio was reduced to 1:1.4. Of the 128 jacks spawned during the season, 62 were for DNFH, 47 for Clearwater State Fish Hatchery (CWH), and 19 for Magic Valley State Fish Hatchery (MVH).

On January 8, 2008, there were 75 males from the early-returned BY08 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.

There were 24 females (24/265) of the MVH lot which tested positive for *infectious hematopoietic necrosis virus* (IHNV). These females came out of Takes 7-8-9. Testing was done by personnel from the Idaho Fish Health Center (IFHC). Disease testing on eggs for CWH was done by the Idaho Fish & Game (IDFG) Eagle Creek Laboratory. There were 27 positive IHNV results from the CWH SST (27/195) of the females from Takes 6-6A. All eggs taken for either MVH or CWH which tested positive for IHNV were discarded for the IDFG program. There were 33 (33/48) adult

SST sampled for Dworshak which tested positive for IHN. All tests for Dworshak fish were from Egg-Takes 1-2. Dworshak does not cull eggs which test positive for IHNV in its production program.

Ponding of fingerlings out of the nursery

As with BY07, SST from Egg-Takes 9-13 were ponded in System I rather than in System III. This is done in an effort to reduce the amount of labor and formalin needed to treat later Takes of SST over the winter. Overall ponding of SST included System I receiving SST from Takes 9-13; System II being stocked with Takes 5 (partial)- 8; and System I receiving Takes 1-5 (partial).

Two BP's are being renovated in an attempt to improve the rearing environment for SST at Dworshak. Water flow along with overall water consumption, ease of cleaning, the condition factor of the SST, possible decreased effluent and reduced chemical treatments for disease are being studied. The center walls of BP's 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 painting of the ponds with a concrete sealer was not complete by the end of FY08. Due to the timing of the pond renovation, initial stocking of these ponds was not done using BY08 SST as originally planned.

Spawning Summary

A total of 13 egg Takes were spawned this season, beginning on January 22, 2008, and ending on April 29. There were 1,012 females and 744 males spawned and the average fecundity of SST enumerated at DNFH was 7,103 eggs/female. Early-returning adults (October) were spawned in Takes 1-3, and later returning adults (February-April) were spawned from Takes 4-13.

Egg Disposition

There were an estimated 7.0 million green eggs from BY08 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. After enumeration, personnel from CWH stated there were 1.13 million eyed eggs available for their program, exceeding their 960,000 target. Eye-up for these eggs enumerated at CWH averaged 92 percent.

There were 1.37 million green eggs shipped from Dworshak to CWH for MVH from Takes 7-8-9. These eggs were shipped to CWH the same day spawning took place. Personnel from CWH reported a 91 percent eye-up on these eggs. 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 and MVH, Dworshak put approximately 2.74 million eyed eggs into either hatching jars or incubator trays for its production. Eye-up for the BY08 SST eggs enumerated at Dworshak was 96 percent.

Research

Dworshak provided opportunities for university research projects during BY08 SST spawning by the University of Idaho. A summary of their research is in the BY08 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 1,044 hatchery adults outplanted from Dworshak during the spring return of BY08 SST. There were four of these fish which returned to the hatchery. The fish were transported to Hog Island near Lewiston, Idaho, for release in the Clearwater River.

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 BY08 SST from Dworshak.

DESTINATION	NUMBER	COMMENTS
Bear/Eagle Program	425	Idaho Fish & Game bear program
Food Bank	1,612	Western Meats Processing, Grangeville, ID
Outplanted	1,044	Four returned to the hatchery
Research	27	University research, School programs
Mainstem Clearwater River	12	Wild fish returned to river
Mainstem Clearwater River	1	Unclipped (not wild) w/various tags
Landfill	253	Carcasses deteriorated beyond use
Total	3,374	

Source: DNFH-Spawning Activity Report BY2008 SST, Final for BY08 SST Spawning and Run Summary, BY2008 SST

Nursery and Early Rearing

The first three 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 10-13 were hatched in Heath trays (6,000 eggs per tray). These were moved as fry from the incubation trays into tanks vacated once Takes 1-3 were transferred outside. Dead eggs and fry were picked and enumerated from each tank and tray. There was a 92.9 percent survival from the eyed-egg stage to feeding fry for BY08 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. Dworshak was informed by the COE late in the spring that the roof replacement would not take place in 2008 and was rescheduled to begin in August, 2009. Once the marking trailer arrived the transfer of SST from the nursery was adjusted to allow for the smaller fish to be moved outside in August.

This year the fry from the nursery averaged 77 fish per pound (fpp) when moved out of the nursery into BP's. Except for Take 1, fish were transferred from the nursery directly to the marking trailer. This year the adipose (AD) fins were clipped using a manual trailer from the U.S. Fish & Wildlife Service (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.

Steelhead from Take 1 broke out with IHNV during June. The marking trailer did not arrive on May 19 as scheduled and subsequently SST from Take 1 had to be moved out of the nursery directly into BP's instead of through the marking trailer. This was done to make room for fry in incubation trays from Takes 10 and 11 that needed to be moved into the nursery and started on feed. Take 1 SST had to then be crowded in the BP's and handled a second time to be processed through the marking trailer.

After IHNV broke out in Take 1, it spread throughout the next seven Takes during the summer. By mid-summer, personnel from the Idaho Fish Health Center diagnosed gas-bubble disease, IHNV, and cold-water disease in the SST. Mortality of the SST from June until September 30, 2008 was approximately 570,000 fish, or 23 percent of the SST moved out of the nursery. A total of 2.45 million BY08 SST were moved from the nursery to the BPs beginning with Take 1 on May 15, 2008, and ending with Take 13 on August 20.

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 in previous years. There appeared to be no detrimental effects by skipping this feed size. Steelhead from Takes 8-13 in the nursery and several Takes in outside ponds were treated with Florfenicol medicated feed for ten consecutive days to combat cold-water disease.

System I

System I received 712,462 BY08 SST during the summer of 2008. Steelhead in System I were moved out of the nursery beginning with Take 9 on August 8, 2008 and ending with Take 13 on August 20. Most of the SST were loaded from the nursery into a transport tank and transferred to the marking trailer. In the trailer, the fish were AD clipped and then stocked at final rearing numbers into the outside BPs.

There were two ponds of SST in System I that received CWTs which were moved to the marking trailer, tagged, AD and LV clipped. There were 30,119 SST which received CWTs in BP15 and 30,095 SST which received CWTs in BP17. This tagging was done on August 9 and 13, respectively, and is for evaluation of System I SST contribution to the fishery and hatchery returns.

Six ponds of fish (174,327 SST) remained unclipped under the U.S. vs. OR Harvest Settlement Agreement. These SST were weighted in the nursery and moved directly into BP's 3, 5, 29, 31, 37 and 39.

System II

System II received 786,716 SST during the summer. Fish in System II were moved out of the nursery beginning with Take 5 on June 28 and ending with Take 8 on August 7. The majority of the SST were loaded from the nursery into a transport tank and moved to the AD clipping trailer. In the trailer, fish were AD clipped and then stocked at final rearing numbers to the outside BP's.

There were 30,208 SST which received CWTs in BP14 and 30,096 SST which received CWTs in BP12. This tagging was done on July 15 and August 5, respectively and the study is for evaluation of System II contribution to the fishery and hatchery returns.

Fish in BP's 4 and 6 (59,373 SST) received no AD clip or CWT to designate them as hatchery fish. These fish were weighed in the nursery and moved directly into BPs and are under the U.S. vs. OR Harvest Settlement Agreement.

System III

System III received 917,057 SST from Takes 1 through 5 beginning with Take 1 on May 15 and ending with Take 5 on June 27. Except where noted under *Nursery Early Rearing*, most of these fish were transferred from the nursery to the marking trailer and then stocked at final rearing numbers into System III BPs.

There were 26,111 SST which received CWTs in BP 65; 6,073 in BP67; and 30,188 in BP68. This tagging was done on June 4, 5, and 19, respectively, 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 FY2008 and projected release numbers.

Table 2. BY08 SST on station and projected release summary from 9/30/2008.

As of September 30, 2008					Projected to Release - April 2009		
System	Number	Weight (lbs)	fpp	L mm	Proj % Mortality until Release	Projected Release Number	Proj Release size mm *
System I	710,906	25,009	28.4	118	7	661,143	195
System II	667,537	37,150	18.0	138	9	607,459	215
System III	505,472	44,813	11.3	161	12	444,815	219
Total/Ave	1,883,915	106,972	17.6	139	9.3	1,713,417	208

*Projected length based on Systems I & II going on reuse January through March 1.

Source: DNFH - MIS data, October 1, 2008

DNFH - Production Narrative, September, 2008

Spring Chinook Salmon

Brood Year 2006

On October 1, 2007, there were 973,432 BY06 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 3-9, 2008, there were a total of 51,923 BY06 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 Fishery Resource Office (FRO) Annual Report.

Release dates of the BY06 SCS were the evenings of April 2 and 3, 2008. There were 939,000 BY06 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. BY06 SCS in System I Raceways, 10/1/07, and release data, April 2-3, 2008.

October 1, 2007				% Loss 10/1/07 to 4/3/08	Release April 2-3, 2008			
Number	Wt (lbs)	fpp	L mm		Number	Weight lbs	fpp	L mm
973,432	14,937	65.2	94	3.5	939,000	40,039	23.5	133

Source: DNFH- MIS, Oct 1, 2007

Production Narrative, April, 2008

Final Release Summary, BY06 SCS

Dworshak stock BY06 SCS had an enumerated survival of green to eyed egg of 96.5 percent. As was done in the past, all BY06 Kooskia stock SCS eyed eggs were shipped to Kooskia National Fish Hatchery (KNFH) for incubation after enumeration at Dworshak. All Dworshak stock SCS eggs remained at Dworshak over the winter for incubation. Once the eggs at Dworshak hatched and the fry were ready to go on feed, they were placed directly into outside rearing ponds from the incubation trays.

Brood Year 2007

There were 2,110 adult BY07 SCS which returned to Dworshak and 589 returned to KNFH. Adults spawned and eggs produced from BY07 SCS are represented in Table 1.

Table 1. Dworshak and Kooskia adult broodstock and both green & eyed egg numbers, BY07 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	392	502	10	25	4,256	1,454,983	1,396,225	96.0
Kooskia	112	136	3	7	3,953	498,094	479,854	96.3
Total/Average	504	638	13	32	4,174	1,953,077	1,876,079	96.1

Source: DNFH - Final BY07 SCS Enumeration and % Survival of Eggs. SC07EGEN.xls
BY07 SCS Spawning Report

As was done with BY99-06 SCS, BY07 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 2009.

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. 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.

After enumeration at Dworshak there were 479,854 Kooskia stock eyed eggs shipped to Kooskia from October 29 through November 5, 2007. There were also 265,000 Dworshak stock eggs shipped to Kooskia during this time for a total of 744,854 eyed eggs transferred from Dworshak to Kooskia. Dworshak incubated 1,120,000 eyed eggs of Dworshak stock for its program. An estimated 1.1 million fry of Dworshak stock were moved from Dworshak incubators to outside raceways during April, 2008.

The USFWS fish marking trailer from the CRFPO began coded-wire-tagging the BY07 SCS on August 5, 2008 and ended on August 18. The tagging is being done for contribution research. Personnel from the marking trailer also clipped adipose (AD) fins on all BY07 SCS and split fish into several raceways during the marking/tagging operation.

By the end of FY08, there were 1,030,003 BY07 SCS at Dworshak. Table 2 illustrates the size and number of BY07 SCS on station at the end of the fiscal year and projected release numbers.

Table 2. BY07 SCS at the end of the FY and projected release from Dworshak, April 2009.

As of September 30, 2008					Projected to Release - April 2009		
Stock	Number	Weight (lbs)	fpp	L mm	Proj % Loss to Release	Projected Release Number	Proj Size at Release mm
Dworshak	1,030,003	20,921	49	104	1.5	1,014,553	142

Source: DNFH - MIS, October 2008
DNFH - Production Narrative, September 2008.

Brood Year 2008

Fish traps at both Dworshak and Kooskia were operated to collect BY08 SCS. The Dworshak fish ladder was opened June 16, 2008 and closed July 29 for collection of BY08 SCS for spawning. The ladder was then opened twice more in August to collect SCS for outplanting to the Selway River for the Nez Perce Tribe (NPT). The total Chinook returning in 2008 to Dworshak and Kooskia were 1,857 and 816 fish, respectively (Table 1). This includes 319 jacks returning to Dworshak and 105 jacks to Kooskia. There were 576 fish transported from Kooskia to Dworshak for spawning.

Table 1. Adult returns, BY08 SCS. (09/30/08).

Age	Number/Dworshak	Number/Kooskia*	Total
I - Ocean	319	107	426
II - Ocean	1,201	647	1,848
III - Ocean	337	62	399
Total	1,857	816	2,673

*15 of these fish were passed over weir into Clear Creek - ISS fish
Source: IFRO - Dworshak/Kooskia Complex SCS News - 2008 Edition
DNFH - Spawning Activity Report BY2008 SCS

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

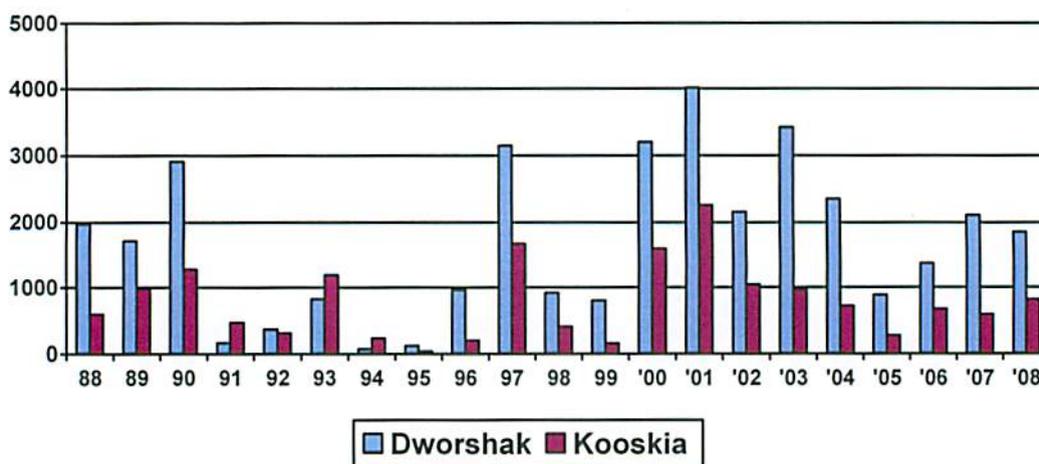


Figure 1. SCS returns to Dworshak/Kooskia 1988-2008
Source: IFRO - SCS rack returns

Adult returns for BY08 SCS were enough to meet the production requirements for Dworshak. A sport fishery took place in the Clearwater River in the spring of 2008. A tribal harvest also took place along the Clearwater River and Clear Creek below KNFH during the spring and summer of 2008.

Adult Holding

Dworshak stock SCS were kept in HP's 1, 2, and 9. The 576 Kooskia stock transfers were held in HP3. Kooskia stock received a right opercle punch in order to distinguish between the two stocks. Formalin treatments were administered to the adults in order to impede fungus infection. On July 22-23, personnel from IFHC injected all Dworshak and Kooskia stock females with erythromycin. The females were injected with erythromycin 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 26 adult SCS of Dworshak stock and 13 of Kooskia stock which died before spawning began on August 12 (prespawning mortalities). Table 2 depicts the mortality for adult BY08 SCS held at Dworshak.

Table 6. Mortality of adult BY08 SCS held at Dworshak.

Mortality	Dworshak		Kooskia	
	Number	Percent of total return at Dworshak	Number	Percent of Kooskia return transferred to Dworshak
Prespawning	26	1.4	13	2.3
During Spawning	70	3.8	62	10.8
Total	96	5.2	75	13.1

Source: DNFH - Spawning Activity Report, BY08 SCS

Adult Disposition

Table 3 illustrates BY08 SCS adult disposition from both Dworshak and Kooskia stock held at Dworshak.

Table 3. Adult disposition of BY08 SCS held at Dworshak.

Destination	Dworshak Stock	Kooskia Stock	Comments
Nez Perce Tribe	275	0	Subsistence
Outside Research Info/Education	4	0	NMFS, Univ of Idaho, School Prog
WSU Grizzly Bear Program WSU/IDFG Stream Nutrifcation	774	458	Captive Bear Program Payette, Weiser, Boise River Syst
Adult Outplants	649	28	Selway River
Landfill	155	90	Excess Carcasses from spawning
Total	1,857	576	

Source: BY08 SCS Spawning Activity Report

Spawning Season

The BY08 SCS spawning season began August 12, 2008, and ended on September 2 for both Dworshak and 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 379 males (including 37 jacks) and 384 females (1:1.01 ratio) of Dworshak stock spawned during the season. There were also 217 males (including 43 jacks) and 247 females (1:1.12 ratio) of Kooskia stock spawned during the season.

The females averaged 4,300 eggs/female for Dworshak stock and 3,817 eggs/female for Kooskia stock. Dworshak put 1.19 million eyed eggs into its program, keeping 372,000 eggs at Dworshak and shipping 820,000 for incubation at Kooskia. There were also 724,874 eyed eggs of Kooskia stock shipped to Kooskia. The number of adult spawners, eggs produced, and survival of BY08 SCS are illustrated in Table 4.

Table 4. Dworshak and Kooskia adult spawners; both green and eyed egg numbers, BY08 SCS.

Location of Adult Return	Males Spawned	Females Spawned	Females culled BKD	Eggs/ Female	Total Eggs Enumerated	Eyed Eggs Enumerated	Percent Enumerated Eye-up
Dworshak	379	384	31	4300	1,216,845	1,193,435	98.1
Kooskia	217	247	19	3817	748,048	724,784	96.9
Tot/ Ave	596	631	50	4102	1,964,893	1,918,219	97.6

Source: DNFH - Spawning Activity Report BY08 SCS
DNFH - BY08 SCS Spawning Report

Idaho Fish Health Center (IFHC)

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 2007, 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 from both stocks.

Research

Dworshak NFH continued to coordinate with outside researchers. Matt Campbell from the IDF&G 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.

Billy Connor from the Idaho FRO archived scales from 160 SCS in order to document age. Most of the scales came from adult fish which received coded wire tags before being released from the hatchery in prior years. Scales may be used in the future to help determine the age of returning adults.

Spawning Summary

BY08 SCS adult return numbers were adequate to fulfill both Dworshak's and Kooskia's production goals. Projected release of BY08 smolts in the year 2010 at DNFH is approximately 1.05 million smolts of Dworshak stock.

Coho Salmon

Brood Year 2006

Coho salmon (COS) were reared in raceways (RW) in C-bank. On March 12-13, 2008 all BY06 COS (approx 292,000 fish) were moved from Dworshak to Kooskia. These fish averaged approximately 16 fpp at this time.

Brood Year 2007

BY07 COS were trapped at Dworshak hatchery and several other sites in the Clearwater Basin. Spawning of BY07 COS began in the fall of 2007 and ended November 28. There were a total of 235 female COS from the Clearwater Basin which were spawned. There were also 70,000 eyed COS eggs from Eagle Creek NFH transported to Dworshak on December 29, 2008. These eggs were incubated at DNFH.

Coho were transferred from the egg trays to Dworshak's nursery during January and February of 2008. All COS were transferred from the nursery to C-bank RW's on March 27-28, 2008. At the end of FY 2008 there were 287,560 BY07 COS on station. These fish were 26 fpp at the time.

Rainbow Trout

Brood Year 2007

There were a total of 18,295 BY07 RBT in BP's 51 and 53 at the beginning of FY2008.

On June 3, 2008 there were 3,930 BY07 RBT transferred from Dworshak to KNFH for their June Open House program. Dworshak held its annual Open House on June 13 at the Tunnel Pond in Orofino, Idaho. Approximately 400 RBT were caught by the 183 kids 12 years of age and under who took part in the activities. Table 1 illustrates outplanting of BY07 RBT from Dworshak.

Table 1. Fish Distribution Summary BY07 RBT from Dworshak NFH.

Date 2008	Number	Wt (lbs)	fpp	L in	L mm	Location
23-Apr	866	528	1.6	11.5	292	Tunnel Pond NPT
23-May	559	504	1.1	13.1	333	Mud Springs NPT
3-Jun	3,930	3,000	1.3	12.4	315	Kooskia NFH
10-Jun	2,762	2,200	1.3	12.6	320	Tunnel Pond NPT
10-Jun	2,904	2,400	1.2	12.7	324	Mud Springs NPT
10-Jun	2,449	1,900	1.3	12.5	317	Talmacs Pond NPT
19-Jun	2,239	1,850	1.2	12.7	323	Worley Pond CDA Tribe
Total/Ave	15,709	12,382	1.3	12.5	318	

Source: DNFH - RBT MIS, June 2008

DNFH - Fish and Egg Fiscal Year 2008 Distribution Summary

IFRO - Rainbow Trout Planting, Dworshak and Kooskia. RBTPLN07.wk4

Brood Year 2008

Rainbow Trout from BY08 will be used for Open House Fishing Day on June 12, 2009. On January 15, 2008 Dworshak received 11,000 Shasta strain RBT eyed eggs from Ennis NFH. On January 16 Dworshak received 5,500 eyed eggs of both Hayspur and Kamloops strain triploids from Hayspur State Fish Hatchery. For ease of record keeping at Dworshak, these fish were recorded as BY08 RBT.

The RBT were put into four circular tanks in the incubation room for initial rearing and into two BP's for outside rearing. These fish were being considered at the end of FY08 to be used in the experimental BP's (see BY08 SST, *Ponding of Fingerlings Out of the Nursery*). Although the 11,000 triploid RBT from Hayspur SFH did fairly well during initial rearing in the incubation room, they suffered heavy mortality once moved to outside ponds. At the end of FY08 there were approximately 9,700 diploid Shasta RBT and 3,400 triploid RBT in BP's 60 and 62, respectively. These fish averaged 7.7 fpp and 7.0 inches total length at the end of the fiscal year.

Dworshak Hatchery Production Summary FY 2008

Steelhead Brood Year 2007

There were 2.25 million steelhead smolts released from Dworshak in April, 2008. The steelhead at release averaged 5.9 fpp and 200 mm in total length. The smolts were outplanted to the South Fork of the Clearwater River the week of April 14, 2008 and direct-released from Dworshak the following week. There were 384,233 pounds of steelhead produced from BY07 SST. Under the Harvest Settlement Agreement with the Columbia River Tribes and included in the final release numbers were 228,954 unmarked smolts. These SST were released without an adipose fin clip or mark/tag to designate them as a hatchery fish.

Steelhead Brood Year 2008

There were 3,374 adult steelhead returned to DNFH in the fall of 2007 and spring of 2008. A total of 2.74 million eyed eggs went into Dworshak's production program. Dworshak provided 1.1 million eyed eggs for the CWH and 1.37 million green eggs were taken for MVH. As in 2007, 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. Heavy losses due to IHNV and other diseases reduced the number of BY08 SST on station to 1.88 million at the end of FY2008.

There will be approximately 230,000 BY08 SST released in 2009 for the NPT which will have no external mark designating them as a hatchery fish. These fish will be counted in the Dworshak SST production program.

Chinook Salmon Brood Year 2006

Dworshak NFH released 939,000 BY06 spring Chinook salmon averaging 23 fpp and 133 mm total length. These fish were released on April 2-3, 2008.

Chinook Salmon Brood Year 2007

At the beginning of FY08, BY07 SCS eggs of both Dworshak and Kooskia stock were incubating at Dworshak. During October/November of 2007 there were 480,000 eyed-eggs of Kooskia stock shipped to Kooskia for final incubation. There were also 265,000 Dworshak stock SCS eggs shipped to Kooskia as well. Dworshak incubated 1.1 million Dworshak stock SCS over the winter. At the end of FY08 there were 1,030,003 BY07 SCS of Dworshak stock on station, averaging 49 fpp and 104 mm (4.1 inches) total length.

Chinook Salmon Brood Year 2008

Adult returns of BY08 SCS produced 1,857 Chinook adults to Dworshak. Kooskia trapped 816 adult fish, transferring 576 to Dworshak for spawning. There were a total of 384 Dworshak and 247 Kooskia females spawned during the season. All BY08 SCS eggs were incubating at Dworshak at the end of FY08.

Coho Salmon Brood Year 2006

On March 12-13, 2008 there were approximately 367,000 BY06 coho transferred from Dworshak to KNFH.

Coho Salmon Brood Year 2007

Adult coho were trapped at Dworshak and various tributaries on the Clearwater River. The eggs were incubated at DNFH. There were a total of 235 female COS from the Clearwater Basin which were spawned along with 70,000 eyed COS eggs from Eagle Creek NFH transported to Dworshak in December, 2007. Approximately 340,000 BY07 COS were transferred from the nursery to C-bank raceways on March 27-28, 2008.

Rainbow Trout Brood Year 2007

Dworshak raised 18,000 BY07 RBT. On June 3, 2008 there were 3,900 BY07 RBT transferred from Dworshak to KNFH for their June Open House program. There were 183 participants fishing at the Open House for Dworshak on June 13, 2008. This year the event was held at Tunnel Pond in Orofino, ID. Approximately 15,700 13-inch RBT were stocked from Dworshak into tribal fishing lakes in the spring and summer of 2008.

Rainbow Trout Brood Year 2008

On January 15, 2008, Dworshak received 11,000 diploid Shasta strain RBT eyed eggs from Ennis NFH. The next day Dworshak received 5,500 eyed eggs of both Hayspur and Kamloops strain triploids from Hayspur State Fish Hatchery. There was heavy mortality with the triploids once they were put on river water in outside ponds. At the end of FY08 there were approximately 9,700 diploid Shasta RBT and 3,400 triploid RBT averaging 7.7 fpp and 7.0 inches total length on station at the end of FY08.

Administration

Meetings

October, 2007

- Supervisors meeting held on Oct. 10.
- Managers meeting in Richland, WA from Oct. 31-Nov. 2 attended by Larry Peltz, Bob Semple, Ray Jones and Thomas Trock.
- Potluck held in the Conference Room on Oct. 10 to recognize the volunteers for the fish hatchery.
- On Oct. 25, Penny Hasenoehrl gave a presentation to staff to kick off the Combined Federal Campaign (CFC).
- On Oct. 30, a Chili Feed/Bake Sale was held in the Conference room as a fundraiser for the CFC.

November, 2007

- Megan Wandag, I/E Assistant, attended the North American Association for Environmental Education conference in Virginia Beach, VA.
- Elmer Crow, a member of the Nez Perce Tribe (NPT) gave an informative talk to hatchery staff on what it was like to grow up in Ahsahka before Dworshak Dam was built.
- October and November employee birthdays were celebrated with cake in the Conference Room.

December, 2007

- Larry Peltz, Complex Manager; Lou Ann Lasswell and Wayne Hamilton, Animal Caretakers and Ray Jones, Fishery Biologist, attended the Northwest Fish Culture conference, Dec. 3-6.
- Complex Christmas party held at Dining on the edge in Orofino. The employees enjoyed a fine dinner, played games and had a Christmas gift exchange.
- The Complex Christmas potluck was held in the Conference room on Dec. 19, which was well attended by staff.

January, 2008

- Former Idaho State Senator, Larry LaRocco (D) visited the hatchery on Jan. 18 as part of his pre-campaign Workforce efforts; he helped clean ponds, feed fish and toured with Hatchery and Tribal managers. Local media outlets provided coverage of his activities.

February, 2008

- Larry Peltz traveled to Boise for a one day Hatchery Review Team (HRT) meeting.
- The Annual Operating Plan (AOP) meeting was held in the Main Building Conference Room. On Feb. 20.
- Dave Trainor, Maintenance worker, taught a SMAW welding class to 5 employees who were from various locations within Region 1.
- On Feb. 13 a Valentine's Day potluck was held. In conjunction, prizes were awarded to CFC participants for the campaign that ended 12/31/07.

March, 2008

- Larry Peltz, Howard Burge, Kathy Clemens, Bill Connor, Fishery Biologist and Ray Jones, Fishery Biologist attended a Lower Snake River Complex Plan (LSRCP) meeting in Boise March 5 & 6.

April, 2008

- Larry Peltz traveled to Enterprise, OR for a tour of NPT tribal projects.
- U.S. Army Corps of Engineers (COE) on-site for a meeting with Larry Peltz on April 17.
- Penny Hasenoehrl met with officials from the Spokane CFC as well as other local CFC representatives from area to finalize merger plans.

May, 2008

- Retirement Training by Ann Fagelson Seminars was held in DNFH Conference Room, May 20-22 with attendance by U.S. Fish & Wildlife (USFWS) staff as well as COE staff from Dworshak Dam.

June, 2008

NA

July, 2008

- Dan Forney (USFWS, Region 1) conducted an Environmental Compliance inspection at DNFH on July 7-9.
- Hatchery employees gathered in the conference Room on July 29 to congratulate the Clearwater River Youth Summer Program (CRYP) workers who were presented with certifications of appreciation. Cake and ice cream were served.
- An informational presentation on post-release hatchery Chinook mortality by National Marine Fisheries Service (NMFS) was well attended by hatchery staff.

August, 2008

- Jill Olson, Fisheries Biologist and Terry Weeks attended an oil recovery course in Orofino sponsored by the environmental Protection Administration (EPA).
- A going-away party was held in the Main Bldg. Conference Room for the Clearwater River Youth Program. Staff from Clearwater Fish Hatchery and Kooskia NFH were also on hand to give certificates of appreciation to Nathan Polk, Lee cob, Kory Parker, Jesse Faler, Sarah Nemeth and James Oatman. Stefan Hiebert was not present. Cake and ice cream served.
- August birthdays and a going-away party for Audra Henderson, Clerk, was celebrated in the Conference room with cake and ice cream served on Aug. 14.

September, 2008

- Joan Sperber and Penny Hasenoehrl met with Maintenance staff on Sept. 11 to go over proper Admin Procedures on Tim Sheets, Purchasing, Travel and Personnel.
- NOAA personnel Gary Kedish and Eric Morgan met with USFWS personnel: Carrie Bretz, Fisheries Biologist, Larry Peltz, and Adam Izbicki, Kooskia Asst. Hatchery Manager on Sept. 15.
- Rick Allain, Animal Caretaker and Dave Trainor attended the National Wage Grade conference at NCTC. Dave Trainor was presented a STAR award by John Streufert, Chief, DNFHS, Branch of Hatchery, Ops/Main for his idea/fabrication of a safer method to load,

unload and transport 150 lb. oxygen cylinders for hatchery distribution trucks will be used Service-wide.

- Joan Sperber and Penny Hasenoehrl met with I/E Dpt., Production Dpt. and IFHC regarding Admin. Procedures.
- September birthdays were celebrated in the Main Bldg. Conference Room where the IFHC staff served dessert to employees.

Training

- Susan Sawyer, Information/Education (I/E) Supervisor attended a one-day intensive media training in the Spokane Fish & Wildlife Service office, instructed by Region 1 Public Affairs Chief.
- Megan Wandag attended WET Facilitators training in Boise, ID, Jan. 10 & 11.
- Larry Peltz, Kathy Clemens, Idaho Fish Health Center (IFHC) Project Leader and Howard Burge, Fishery Resource Office (FRO) Project Leader attended Tribal Trust training in Portland, OR, Jan. 30-31.
- Joan Sperber attended training for the new payroll system which will be implemented within the next month.
- Joan Sperber, Budget Tech, attended Budget Tracking System (BTS) training in Portland, OR, Jan. 22-25.
- Mike Bisbee, Fisheries Biologist and Krista Hostetler, Maintenance Worker attended a course at Bozeman Fish Technology Center in Bozeman, MT on "*Cold Water Fish Culture*," March 10-21.
- Penny Hasenoehrl, OAC, attended the "*Administrative Assistants*" conference in Spokane, WA on March 19.
- Mike Bisbee attended, "*Applied Supervision*," at NCTC, May 5-9.
- Larry Peltz and Joan Sperber attended Admin Training in Portland, OR, June 3-4.
- Joan Sperber attended Contract Training in Portland, OR, June 9-11.
- Penny Hasenoehrl, Purchasing Agent, attended TAVS training in Portland, OR.
- Larry Peltz attended, "*Supervisory Training*" at NCTC in Shepherdstown, WVA.
- Penny Hasenoehrl traveled to Portland, OR for Admin. Training July 1 & 2.
- Rick King and Terry Weeks, Maintenance workers, completed Heavy Equipment training at Dworshak Dam offered by the COE.
- Wayne Hamilton, Krista Hostetler and Jill Olson attended UFWS Haz Mat training in Portland, OR, Aug. 19-20.

Safety & Wellness

October 2007

- Staff safety meeting held on importance of flu immunization, Oct. 25.

November 2007

- Penny Hasenoehrl, OAC, instructed CPR/AED/First Aid training to the following employees: Wayne Hamilton, Carrie Bretz, Thomas Trock, Mark Bright, Aaron Garcia, Frank Mullins, Stuart Rosenberger, Adam Izbicki and Lou Ann Lasswell.

December 2007

- Safety program on winter driving was presented to Complex staff with several videos being shown on Dec. 18.

January 2008

- Blood Drive was hosted by Dworshak Safety Committee, open to the Community on Jan. 24.
- All staff safety meeting held with employees viewing a video and taking a written test on Bloodborne Pathogens Jan. 31.

February 2008

- Staff safety meeting held with video viewed on communication in hazardous conditions/accidents. Discussion held with staff afterwards on Feb. 27

March 2008

- Staff safety meeting held with a viewing of video on "*Bloodborne Pathogens*", March 27.

April 2008

- Penny Hasenoehrl facilitated a CPR/AED/First Aid/Bloodborne Pathogen class to: Art Broncheau, Kenny Simpson, Jill Olson & Steve Bradbury on April 23.

May 2008

- All station fire extinguishers were checked and signed off.

June 2008

- Penny Hasenoehrl instructed a CPR/AED/First Aid/Bloodborne Pathogens to the following employees: R.J. Hemingway, Thomas Biladeau, Gia Growing Thunder, Marilyn Blair and Corie Samson.

July 2008

NA

August 2008

NA

September 2008

NA

Staffing

DNFH Employees, FY 2007.

Name	Position Title	Period of Employment	Status
Allain, Richard E.	Animal Caretaker	10/01/07-09/30/08	Permanent
Bisbee, Mike	Fishery Biologist	10/01/07-09/30/08	Permanent
Bright, Mark	Fishery Biologist	10/01/07-09/30/08	Permanent
Drobish, Mark	Hatchery Manager	08/27/08-09/30/08	Permanent
Greene, Benny C	Electronics Mechanic	10/01/07-09/30/08	Permanent
Hamilton, William W	Animal Caretaker	10/01/07-09/30/08	Permanent
Hasenoehrl, Penny	Purchasing Agent	10/01/07-09/30/08	Permanent
Henderson, Audra	Office Clerk	10/01/07-08/15/08	Permanent
Hostetler, Krista	Maintenance Worker	10/01/07-9/30/08	Permanent
Kellar, Robbie D	Animal Caretaker	10/01/07-09/30/08	Permanent
King, Rick	Maintenance Worker	10/01/07-09/30/08	Permanent
Peltz, Larry	Complex Manager	10/01/07-09/30/08	Permanent
Sawyer, Susan D	Information/Education Manager	10/01/07-09/30/08	Permanent
Semple, Robert A	Supv. Fishery Biologist	10/01/07-08/01/08	Permanent
Sims, Hubert M	Maintenance Mechanic	10/01/07-09/30/08	Permanent
Sperber, Joan	Admin. Officer	10/01/07-09/30/08	Permanent
Stretsbery, Gerald	Laborer	10/01/07-09/30/08	Permanent
Trainor, David A	Maintenance Worker	10/01/07-09/30/08	Permanent
Trock, Thomas J.	Fishery Biologist	10/01/07-09/30/08	Permanent
Vargas, John J	Animal Caretaker Leader	10/01/07-09/30/08	Permanent
Wandag, Megan	Information/Education Specialist	10/01/07-09/30/08	Permanent
Weeks, Terry C.	Maintenance Worker	10/01/07-09/30/08	Permanent
Wright, Benjamin A	Animal Caretaker	10/01/07-09/30/08	Permanent

Personnel

- Joan Sperber promoted to Administrative Officer in April, 2008.
- Penny Hasenoehrl promoted to Purchasing Agent, GS-1105-5 on April 27, 2008.
- CRYP entered on duty at DNFH and Clearwater Fish Hatchery. Employees are: Stefan Hiebert, Nathan Polk, Lee Cobb and Kory Parker at DNFH; Jesse Faler & Sarah Nemeth at Clearwater Fish Hatchery on June 9, 2008.
- James Oatman (CRYP staff) entered on duty at KNFH on June. 11.
- Last day for CRYP staff was Aug. 1, 2008.
- Bob Semple, Hatchery Manager, retired on Aug. 1, 2008 with over 20 years of service to USFWS.
- Last day for Audra Henderson, Admin Clerk was August 15, 2008.
- Mark Drobish, new Hatchery Manager began work on August 27, 2008
- Gerald Stretsbery promoted to Maintenance Worker-WG-5 in August, 2008.
- Megan Wandag promoted to I/E Specialist, GS-9 effective Sept. 28, 2008.
- Jill Olson promoted to Fisheries biologist, GS-11 in September, 2008.

Administration/Complex Photos, FY2008

Dworshak Fisheries Complex Administration under the guidance of Larry Peltz, Complex Manager assisted staff in getting paperwork, etc., in place to complete projects around the complex. Whether it's remodeling administrative offices, managing a major holding pond renovation, overseeing the Clearwater River Youth Program (CRYP) during the summer or participating in the Combined Federal Campaign Drive, the staff demonstrates a great work ethic and teamwork.



Top left: & bottom left: Office Remodeling Project created 2 new offices.

Top Center: Burrow's Pond modification.

Top Right: Congratulations to the CRYP crew for a 8-week job well done. Cake & Ice Cream served.

Center: Larry Peltz, Complex Manager.

Bottom Left: Ben Greene, Electrician, rewires Admin Offices for remodel project.

Bottom Right: Combined Federal Campaign raised had a successful fundraising year with a Chili Feed/Bake Sale/Auction.

Facilities Maintenance

October 2007

- Repairs: broken catwalk for Coho ponds; lid covers for pipe in walkway by waterfall; System I sludge pumps and routing system for digesters.
- Fabrication projects: five raceway (RW) flow adjustment wrenches; a demand feeder deflection rod; a gate lock rod for attraction channel gate; a paint and mount trailer hitch for shop truck and trolling motor bracket for FRO
- Run power for new exhaust fans in Incubator room.
- Completed Mech II boiler annual maintenance, changed oil in air compressors and watered up Mech I boilers.
- Monthly maintenance and exercise done on #1, 2 & 3 generators, cleaned fire maintenance pump screens, took care of flags, hatchery ground maintenance and hatchery buildings, vehicle maintenance and replaced brushes on pond scrubber.
- Constructed 15 flotation hoops for aqua mattes, installed brackets on front gate, modified a 5-gallon bucket for egg shocking funnel stand.
- Removed furniture from Admin office for carpet replacement and put back after installation.

November 2007

- Electrical projects: Ran wiring and install operator for new front gate; met with U.S. Army Corps of Engineers (COE) concerning electrical upgrade; started Mech I boiler for building heat; replaced control voltage transformer in System I digester; assisted contractor with de-energizing and removal of old control system; pumps and wiring prior to switching to new system; removed old air compressor circuit in Furnace Room; repaired charging system for electric forklift; assisted contractor with troubleshooting of domestic water system controls.
- Repair Projects: Cool Room door latch in Feed Bldg., Main. Bldg heating system, domestic water leak repaired.
- Daily maintenance done on hatchery buildings, checking Main Pump House, Fire Maintenance building; equipment maintenance performed; winterized sprinkler systems; installed snow tires and snow plows on hatchery equipment.
- Removed dirt and dried sludge from drying beds and hauled to dump site.
- Met with COE regarding Nursery Room roof replacement.
- Assisted contractor with valves and pumping at truck fill station to transport sludge to settling ponds, cleaned System I clarifiers, pumped sludge to digesters, digesters to settling ponds.
- Installed new air line from Incubator Room.
- Assisted biologist in taking EPA water samples.

December 2007

- Electrical projects: Adjusted superheat on # chiller in Incubator Room; moved alarm systems components; re-configured wiring and lighting in new offices in Admin; worked on generator alarm with Clearwater Power and set up sump pump in digester tank.
- Repair projects: Broken piping in Nursery room; replaced pond scrubber brushes; installed a valve in the reservoir water supply line for Nursery Room drains; repaired holes in bird netting; repaired sink drain in housing and repaired domestic water leak under street.

- Fabrication projects: Installed new Tig-Torch hand control on shop welder; fabricated a glove drying rack for Production Dpt; welded corners on pond scrubber that were cracked and built a new basket for drain trough in Spawning Room.
- Cleaned and flushed system I clarifiers, flushed System II and started System I & II on reuse.
- Made regular daily rounds of Main Pump house, Fire Maintenance Bldg., greased traveling water screens; grounds, building and vehicle maintenance; straightened out crowder screen for RW's.

January 2008

- Electrical projects: Reset breaker for #4 make-up pump in Mech II, repaired ice machine; repaired #2 chiller in Incubator room; run new circuit for copier/fax machine in Admin office; repaired lighting in System I chemical Bldg; troubleshoot call back system for alarms; fixed waste oil furnace in Shop and refilled; set up heating and piping for tagging tent in System I, II & III, installed new outlets and moved lights for new offices in Admin
- Repair Projects: fish killer needed repaired and lubricated; several small pieces of equipment; cart gate rollers between System I & III; repairs and wheel replacement on pond scrubber.
- Assisted contractor with Infrared Scan O control centers and boilers.
- Performed monthly exercise on back-up generators and trucks.
- Installed shelving and furniture in Admin office.
- Set up tank outside of Mech I for fish study.
- Replaced sump pump discharge pipe in System I Chemical Room.
- Performed preventative maintenance on air compressors.
- Took monthly water samples for domestic water.
- Worked on salt tank grates for removal.
- Daily rounds on Mech I and two boilers, traveling water screens in Main Pump House, Fire Maintenance Bldg; monitored domestic water system; grounds, building and vehicle maintenance and made new labels for motor control centers.

February 2008

- Electrical projects: repairs started on boilers in Mech II that blew up; located, repaired and re-energized alarm power circuit; installed cooling fan in computer compartment in the hatchery alarm system; wired temporary exhaust fan for welding class in Welding Shop; installed new LAN line in Main Bldg. for copy machine; ran and maintained System I & II reuse and assisted contractors with de-energizing and lock out for domestic water system.
- Moved new furniture into new offices in Main Bldg. and copy/fax machine.
- Pumped water from man holes.
- Fabrication projects: built new welding stands for welding class; built an aluminum pike pole to remove dead adults from HP 9.
- Daily cleaned all hatchery buildings, grounds and vehicle maintenance, cleaned traveling water screens, check main pumps, checked fire pumps.

March 2008

- Electrical projects: Re-wired and repaired #1 boiler in Mech II; repaired lighting in Nursery room; re-started #1 chinook pump; replaced pressure switch in #2 compressor in Mech I; installed new cooling fans in Mech I air compressors.

- Fabrication projects: two fan covers for Mech I air compressors and fabricated and installed new step for upper walkway in Spawning Room.
- Pumped Coho from HP RW's for NPT.
- Performed vehicle maintenance on several pieces of hatchery equipment; grounds and building maintenance daily.
- Daily checks for domestic water systems; cleaned traveling water screens and trash trap in pump house, checked and cleaned water filters in Fire Maintenance Bldg.
- Took monthly water samples of domestic water and sent to Department of Environmental Quality (DEQ).

April 2008

- Electrical projects: Installed cooling fans on Mech I air compressor; changed all lights in Main Pump House; repaired fire maintenance pump controls and replaced control relay for FRO grinder pump.
- Hauled fall Chinook from Umatilla hatchery to DNFH and pumped fish in COE trucks for outplanting.
- Repaired fire maintenance water leak in housing and leveled dirt.
- Repaired #6 main pump, performed a pump down; shut down on Incubator chillers end of season; adjusted Feed Bldg. ice machine; repaired egg sorter and repaired system I reuse #1 digester.
- Performed preventative maintenance on electric carts and vehicle maintenance on hatchery vehicles; daily rounds of cleaning traveling water screens, cleaning trash rake in Main Pump House; water screens in Fire Maintenance Bldg; building and grounds maintenance.
- Set up irrigation control pits for lawn irrigation and built a cover plate in grating.

May, 2008

- Electrical projects: worked with Clearwater Power during annual power outage on May 14; installed circuit for new HVAC system in Water Quality office; repaired underground feed in housing and assisted Clearwater Power with locating primary power to housing; moved ice machine from Feed Bldg. to Mech I which involved repair; installed rebuilt Chinook sump pump; troubleshoot power monitor for Boiler #2 in Mech II and repaired light in Nursery room.
- Installed new attraction water pump in attraction channel.
- Exposed piping for low flow ponds in System III, removed coke ring media, welded pip back up and covered.
- Removed all walking rating and drain screens from BP's 64 and 66.
- Pumped steelhead into COE trucks for outplant.
- Monitored and cleaned System I clarifiers and digesters.
- Assisted Clearwater Fish Hatchery in annual valve exercise.
- Performed preventative maintenance on electric carts and vehicle maintenance on hatchery vehicles; daily rounds of cleaning traveling water screens, cleaning trash rake in Main Pump House; water screens in Fire Maintenance Bldg; building and grounds maintenance.
- Assisted biologist in DNFH water evaluation.

June 2008

- Electrical projects: Installed operator and circuitry for front gate and troubleshot and repaired pond cleaning pumps.
- Fabrication projects: Mounting post for new security gate; aqua matte diverter brackets for Production Dpt. and aqua mattes for BP and made an easel for the I/E department.
- Removed concrete walls from Ponds #62 and 64 and hauled away.
- Started System II reuse pumps for disinfecting system.
- Cleaned and monitored system II clarifiers and digesters.
- Repaired fire maintenance water leaks in street.
- Assisted I/E Dpt in setting up tents, tables, etc. at Tunnel Pond for Kids' Fishing Day.
- Performed preventative maintenance on electric carts and vehicle maintenance on hatchery vehicles; daily rounds of cleaning traveling water screens, cleaning trash rake in Main Pump House; water screens in Fire Maintenance Bldg; building and grounds maintenance.

July 2008

- Electrical projects: Troubleshot and repaired pond crowder; switched Main Bldg. air HVAC system from heat to air conditioning; repaired diverter gates in Spawning Room; charged and adjusted air conditioning unit in FRO; ran conduit and circuits for remote key pad for security gate; troubleshot loss of control power in System I reuse pump house.
- Fabrication projects: Aqua-matte bumpers for BP's; warning sign for automatic gate at main entrance; post for key pad for gate and shelves for the IFHC.
- Pressure washed and painted entrance gate, filled holes around hatchery with asphalt.
- Vehicle maintenance, grounds and building maintenance performed daily.
- Daily checks for domestic water systems; cleaned traveling water screens and trash trap in pump house, checked and cleaned water filters in Fire Maintenance Bldg.

August 2008

- Electrical projects: Replaced burned wire and contactors in Boiler #2 in Mech II; ran all three stand-by generators in monthly exercise; built a 200-amp power supply for auto trailers; connected portable generator to emergency bussing.
- Fabrication projects: built dam boards for SCS RW's; aluminum mail box support plank for new mail boxes in housing; fabricated parts for smolt transportation carriers for FRO; rebuilt plasma torch head; parts for new pond cleaning brush; mid rail installed at NPT's Coho pond access ladder; shelf assembly for IFHC; drain camps for mixed cell ponds; framed basket for fish tagging trailer; fabricated pattern for drilling holes in drive wheels for pond crowder and welded elbow on two 12" pipes for mixed cell ponds.
- Performed maintenance on shop tools.
- Daily checked traveling water screen; cleaned moss from trap, checked pumps in main pump house, vacuumed and cleaned buildings, grounds maintenance.

September 2008

- Electrical projects: Set up and connected 500KW generator at Main Pump House, hooked up electrical to main Pump #6 and test ran in Main Pump House; troubleshot heat pump circuit for House #1; conducted control circuit test on all four Mech II boilers; troubleshot and repaired battery charging circuit on pond crowder and looked for refrigerant leak on cool room compressor in Feed Bldg.

- Installed #6 main pump in Main Pump House, checked all pumps for packing leaks, vibration, lubed all packing on.
- Performed maintenance on System I reuse blower motor and complex vehicles.
- Fabrication projects: 20 dam boards for B-bank Chinook RW's; small table for I/E Dpt and three hanging hooks which was attached to the bird netting frame in the Chinook RW's for weighing.
- Worked on piping and bracing for new mixed cell ponds; cleaned and maintained System I reuse.
- Worked with COE employee, Dave Owens, on domestic water issue.
- Changed out brushes and wheels on pond scrubber.
- Daily duties of checking traveling water screens, trash rake, grounds and building maintenance.
- Enter preventative maintenance (PM) information into computer, printed out PM jobs that need attention, labeled manholes for identification into new PM software program.

Facilities Maintenance Photos, FY2008

The Maintenance staff performed many daily jobs and tasks to keep the hatchery running on a daily basis as well as dealing with ongoing emergencies, in addition to assisting contractors with larger, more extensive equipment repairs and installation projects. Fabrication of new and safer equipment for hatchery work, Pond Renovation Project, office remodeling project and supervision of CRYP staff during the summer kept the maintenance staff busy.



Facilities Photo highlights: **Top left:** Electrician **Ben Greene** works on pond renovation project. **Right:** Welder, **Dave Trainor** instructs a Region 1 Welding class. **Center Left:** Maintenance Supervisor, **Hubert Sims** and Maintenance Worker, **Rick King** work on the Pond Renovation Project. **Center Right L-R:** **D. Trainor**, **Chris Shockman**, unidentified, **K. Parker**, **J. Oatman**, **A. Izbicki**, **H. Sims**. **Front:** **N. Polk**, **S. Nemeth**, **J. Faler**, **D. Cobb** & **K. Hostetler** pose after a 8-week **Clearwater Youth Program** that saw the completion of several hatchery projects. **Bottom Left:** Maintenance Worker, **Terry Weeks**, Electrician, **Ben Greene** operate the crane for Pond Renovation Project. **Center Left:** Maintenance Worker, **Krista Hostetler** tends to the hatchery grounds. **Bottom Right:** Maintenance Worker, **Scoter Stretsbery** cleans all hatchery buildings.

Outreach and Visitor Activities

Statistics

Dworshak NFH Visitor Use Statistics, FY2008

Program/Contact Type	# of Contacts	% Change From FY2007
On-site Hatchery Visitors (Visitor Register and self-guided tour)	3,149 *	-42%
Guided Tours	73 □	-13%
Tour Visitors	1,461*	-10%
Web Visitors (virtual contacts from all sources)	17,602*	+61%
Total On-Site Contacts (all *)	22,214	+16%
Off-site Programs/Displays/Events	229 □	+15%
Off-Site Contacts	18,030 * *	-15%
Total FY08 Programs (total all □)	302	+8%
Total FY08 Contacts (total on + offsite)	40,244	+2%

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

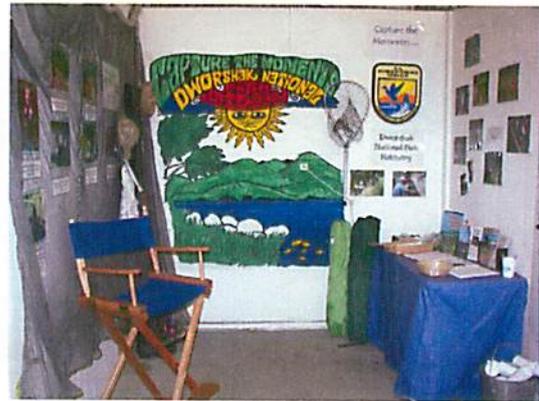
FY08 Outreach Program Summary

Hatchery visitation (as measured by on-site visitor log and self-guided tours) decreased well below the FY07 total, as gas prices reached record highs of nearly \$5/gallon and recreational travel came to a virtual standstill. A full complement of well-trained Hatchery Hosts greeted school groups during steelhead spawning season this year, and the mandatory visit by participating Hatchery in the Classroom (HIC) project schools (12) 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 Office (I/E) provided 11 fewer guided tours than last year, to nearly 1,500 visitors. Again, this was reflective of the extreme fuel prices limiting school field trips. Summer Saturday tours were well-attended this year, and helped increase overall visitor contacts and program numbers. A few television/cable producers visited and filmed hatchery operations, most for satellite broadcast on various outdoor channels, or regional news/sports specials, to an undetermined number of viewers.

The Volunteer program saw a slight increase in total volunteers and huge increase in the hours worked on a variety of hatchery projects. A total of **37 volunteers contributed a record 1,267**

Outreach Program Photos, FY2008



Top Left: I/E had a "Animal Tracks" booth at the Spokane Outdoor Show.

Top Right: Children helped paint a mural for Earth Day at Orofino City Park..

Center Left: Kids' Fishing Day at the NPT's Tunnel Pond is a popular event giving kids a chance to fish for Rainbow Trout raised at DNFH

Center Right: Earth Day activities at Orofino City Park.

Bottom Left: Displays and other activities occupy the children after fishing at Kids' Fishing Day.

Bottom Right: The I/E Dpt. set up a USFWS display for the Clearwater County Fair & Lumberjack Days.

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

Cooperative Program Photos, FY2008

The mission of the Fish and Wildlife Service, "...working with others..." was accomplished at Dworshak NFH over the past year. Photo highlights from a few of the cooperative programs are below.



Top left: After School Club Cooperative Program with Dworshak COE and State Parks.

Top Right: Hatchery in Classroom (HIC) Project at Colton, WA finalizes with release of fish, cooperative program with NPT & National Park Service.

Left Middle: After School Club works on bird beak project.

Bottom Left: Hatchery in Classroom Project at Orofino Elementary.

Center: Fish Dissection Project at Juliaetta, ID, Cooperative Program with schools.

Bottom right: Each student gets a chance to release the HIC fish into the river.