



Dworshak Fisheries Complex

Monthly Activity Report



March Highlights Dworshak

SST BY16 eggs - 823,005
 SST BY16 fry - 1,831,488
 SST BY15 - 2,304,342
 SCS BY15 - 2,435,182
 SCS BY14 - 1,454,208
 COS BY 15 - 541,223

Kooskia

SCS BY 14 released-
660,034
 SCS BY 15 - 759,990
 Coho BY 14 - 551,159
 SCS BY 14 -597,693

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U.S. Fish & Wildlife Service, Region 1

Managers Message - Steve Rogers

The manager's message this month is all about fins. No, not fish fins...why would I want to talk about those? I'm going to discuss FINS, which stands for "FISH INVENTORY SYSTEM". What is it and what's it going to do? Why are Carrie, Adam, and Jeremy going on these joy rides to Boise? Who's on first?

FINS is a database in development to store all manner of fish data related to our fish production program and many others in the Columbia Basin. Trapping/holding, spawning, incubation, and rearing are the main categories within the database, and our folks are members of a technical team providing input on this new tool. The Lower Snake River Compensation Plan is paying for the database, after recognizing the need for a singular clearinghouse for the data generated by its many fish hatcheries. The technical team providing input into how it functions and what it looks like has members from Idaho Fish and Game, the Nez Perce Tribe, and the Fish and Wildlife Service.

When completed, FINS should accomplish several things:

It should be easy to use; for a seasoned professional biologist who enters fish data routinely, or a remotely located technician just starting out in fisheries, or a policy-level manager looking at inventories across an entire watershed.

FINS data will automatically be uploaded to a centralized database, either immediately when connected to the internet, or later from a thumb-drive or some other storage device in the case of remote users.

The system should force everyone, in all locations and in all programs, to report data consistently using the same terminology.

FINS will have the ability to generate reports (as designed by the users) on behalf of those who use it, saving time. A goal of this effort is to avoid creating more work. Rather, FINS should make life easier when completed.

This database will allow for queries, on a small or large scale, to identify trends and make informed decisions. Hatchery Managers will be able to look at their facility data for the week, or month, or season, or across multiple years. Fisheries Managers will be able to analyze data across entire brood years, or watersheds, or however they need to so decisions are well-informed.

FINS will have user roles and permissions, meaning some users will only be authorized to enter data, some will be able to edit the data, some will only be allowed to query the data, and some will have access to all functions. This will simplify use, streamline the system, and minimize data loss.

This database will provide web-access from anywhere with an internet connection. This should save time as everyone with permission will have access regardless of location.

Most importantly, FINS will provide a stable, secure, and accessible storage location for the important and vast datasets that are generated as folks produce and evaluate fish in the basin.

So now you know a bit about FINS. It's still in development, and there are lots of bugs to work out. It's not an inexpensive venture, but will be worth the cost when functioning as intended. If the developers and technical team (with oversight from the policy group) follow through on their commitment, FINS should be a real asset for fisheries management in the PNW for years to come.



Steve Rogers, Complex Manager

Dworshak Hatchery Production - Izbicki, Sommer, Bisbee

Dworshak Stock - Spring Chinook Salmon (SCS)

Brood Year 2015 (BY15)

There were 2.44 million sac fry in incubation at the end of March. Eggs are being incubated on chilled water and will be ponded as swim up fry in May 2016.

Brood Year 2014 (BY14)

Spring Chinook smolts were released into the North Fork Clearwater River March 23-24, 2016. At the time of release there were 1,454,208 fry at 22 fpp. Mortality was 1.2% for the month. Many ponds struggled with low level bacterial infections throughout their rearing but were given a clean bill of health at their pre-release inspection.

There are 10 distinctive PBT groups ponded: 6 for the density study (3 high density groups and 3 low density groups), one for general Dworshak production, one for Selway production, one for Nez Perce Tribal Hatchery (NPTH) additional Lower Snake River Comp. Program (LSRCP) production, and excess fish production.

Coho Salmon (COS)

Brood Year 2015 (BY 15)

There are currently 541,223 Coho eggs incubating in 9 stacks.

Dworshak Stock- Summer Steelhead (SST)

Brood Year 2016 (BY 16)

Spawning continued through March. We spawned take 5-9, including eggs takes for Clearwater Hatchery South Fork Localized Broodstock (SFLB) and an egg take for Magic Valley. Take 5 was our final air-spawn egg take. See Table 2 for the spawning summary through March. We enumerated takes 4-7 in March. Enumerated eye up for kill spawn egg takes (1, 2, & 7) averaged 91%. Egg quality for takes 3-5 was very poor with average enumerated eye up at 78% and total eye up at 51%.

We had to make up for the poor egg quality of takes 3-5 by spawning extra females during takes 7, 8, and 9.

Takes 1, 2, and 3 were moved into the nursery in March. This brood year all fish are being moved into the nursery as fry.

At the end of March there were 823,005 fry in the Nursery from takes 1-3; 838,638 eyed eggs in production from takes 4, 5, & 7; and 992,850 green eggs from takes 8 & 9.



Credit: FWS

Spring Chinook smolt were released into the North Fork on March 23 and 24.



Credit: FWS



Credit: FWS

There are 10 distinctive PBT groups ponded.

Dworshak Hatchery Production

(Continued from page 2)

Brood Year 2015 (BY 15)

At the end of February there were 2,304,342 fry in the BPs averaging 7.5 fish per pound. Mortality was 0.3%. All takes are on schedule to meet size at release. All takes are on demand feeders and are on a maintenance diet. Steelhead from takes 9 & 10 being hand fed in order to help them to meet size. This is a supplement to the demand feeders.

SUMMARY

Table 1. Total Production—Fish on Station (3/31/16).

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS BY 15	15	Incubation/Eggs	2,435,182				
SCS BY14	14	Raceways	1,454,208	65,909	22	5.3	135
COS BY15	15	Incubation/Eggs	541,223				
SST BY 16	16	Raceways	1,831,488				
SST BY 16	16	Incubation/Eggs	823,005	701	1174	0.7	18
SST BY 15	15	Systems	2,304,342	345,956	7	7.5	192
Total Fish/Fry on Station EOM			9,389,448	412,566			

Table 2. Spawning Summary for Takes 1-9; Steelhead Brood Year 2016.

E = Early Return	Spawn Date 2016	Total DW Female Spawned	Female DW	SFLB female for DW red house	Female CWH	Female Fork Local BS CWH	Female MVH	Female NPT Kelt	Eggs / Female	Gm Eggs incub @ DWO for DWO	Gm Eggs incub @ DWO for CWH	Gm Eggs incub @ DWO for Local BS CWH	Gm Eggs incub @ DWO for MVH	Eyed Eggs into DW Nursery
1 E	Tuesday, January 12, 2016	57	50						6,619	330,950				264,892
2 E	Tuesday, January 19, 2016	40	31						6,619	205,189				191,758
2.1 E	Wednesday, February 03, 2016	23	21						6,619	138,999				124,207
3	Tuesday, February 09, 2016	63	59					55	5,906	348,454				243,102
4	Tuesday, February 23, 2016	63	28					48	5,906	165,368				132,361
5	Tuesday, March 01, 2016	63	63			12		62	5,906	372,078				297,811
6	Tuesday, March 08, 2016	0	0			30			6,619	0		198,570		0
7	Tuesday, March 15, 2016	81	75	0		103			6,619	496,425	0	681,757		397,339
8	Tuesday, March 22, 2016	118	40	30		76	64		6,619	463,330	0	503,044		211,914
9	Tuesday, March 29, 2016	54	20	60	16				6,619	529,520	0	0	0	105,957
10	Tuesday, April 12, 2016								0	0				0
TotAve		562	387	90	16	221	64	165	5,823	3,050,313	0	1,383,371	0	1,969,341

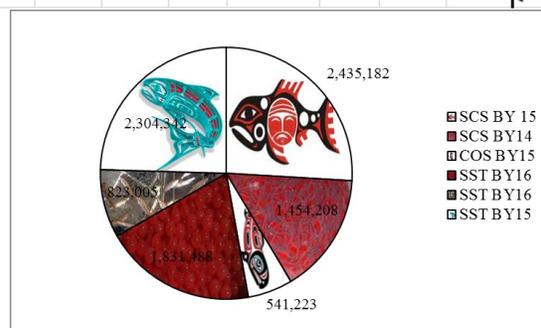


Figure 1. March 31, 2016 Total Fish/Eggs on Station.

Dworshak NFH Meetings, Training and Conferences - Drobish

On March 2nd, the Corps of Engineers (Portland and Walla Walla Districts) met with hatchery staff to discuss potential options for rearing Fall Chinook Salmon at Dworshak to meet downstream production shortfalls.

March 3rd-24th, Mark Drobish detailed into the Fisheries Line Supervisor position (vice-Rich Johnson) in the Regional Office.

On March 9th, General Spellmon visited the facility.

March 15th-17th, Steve Rodgers, Adam Izbicki and Jeremy Sommer attended the Lower Snake River Compensation Plan annual production meeting in Boise, Idaho.

Adam presented water temperature data and resulting fish impacts with an overview of the last 5 years and our experience with high temperatures in 2015. Jeremy presented on the seasonal use of "Shade Cloth" over the Chinook raceways and the multiple resulting benefits for the fish and staff.

Dworshak Complex Monitoring and Evaluation Team

Participated in 5th, 6th, 7th and 8th steelhead spawn days.

Participated in call to coordinate reallocation of PIT tags to SF Clearwater steelhead with IDFG.

Participated in meeting with USACE to discuss potential to rear Columbia River fall Chinook salmon as part of the John Day Mitigation Program.

New hire Chris Griffith started work.

Participated in HET meeting to set Chinook salmon release dates.

Delivered eggs to school in Moscow for Hatchery in the Classroom program.

Met with production staff to adjust steelhead spawn plan to compensate for low survival in takes 3 & 4.

Assisting with collection of adult steelhead from the South Fork Clearwater River for IDFG localized broodstock.

Participated in Lower Snake River Compensation Plan annual meeting in Boise.

Participated in monthly Regional Project Leaders call.

Conducted a meeting with Clearwater AOP workgroup to discuss steelhead trap and spawn timing. Options were discussed on how spawn timing might be adjusted in the future.

Conducted last sampling of Chinook salmon prior to release.

Aquatic Conservation Team

Gathered information and initiated agreements for the Burbot CESU with University of Idaho, and two fish passage agreements with ID Panhandle National Forest.



Credit: DNFH

Jeremy presented on the seasonal use of "Shade Cloth" at the LSRCP annual production meeting. Held in Biose, Idaho March 15-17.



Credit: File Copy FWS

The Aquatic Conservation Team initiated agreements for the Burbot CESU with University of Idaho.



Credit: USFWS

The M& E Team helped coordinate the reallocation of PIT tags to SF Clearwater steelhead with IDFG.

Aquatic Conservation Team

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Worked with Sam Lohr to set up a session for working on the Climate Change Monitoring data entry programs.

Participated in NWR Climate Change conference call.

Reviewed Draft summary report for NWR monitoring project.

Provided comments to IDFG for Kootenai GMU redband assessment chapter.

Participated in the ACT conference call.

Reviewed the Kootenai GMU redband Conservation Assessment.

Finalized report on Mt. Whitefish project.

Attended monthly Upper Salmon Basin Tech Team meeting

Researched various aquatic interactive displays/activities for construction by YIGO intern

Participated in Pacific Lamprey Conservation Team spring phone call

Worked on Pacific Lamprey Snake River Regional Implementation Plan

Coordinated native pollinator seed distribution

Worked to set up grant agreements for NFPP/NFHAP projects

Participated in call to discuss freshwater mussel conservation

Participated in weekly Pacific Lamprey Conservation Team conference call

Provided additional information to Forest Service team developing eDNA monitoring technique for Pacific lamprey

Worked on Partners for Fish and Wildlife agreements

Reviewed NFHP National Assessment

Participated in the Desert Fishes Habitat Partnership call

Initiated grant paperwork for Salmon Valley Stewardship intern funded by Youth in the Great Outdoors

Started project proposal for Connecting People with Nature funds

Attended two webinars: Landscaping for Butterflies and Incorporating Non-Game species in Stream Habitat Restoration

Fall Chinook Salmon Research Team

Submitted an abstract for consideration for the science symposium in April and met with staff of NOAA about recovery modeling.

Summarizing the 2015 redd count data and continued preparations for a field study to assess tagging sub-yearling Chinook salmon with 8-mm PIT tags.

Completed BPA annual and BiOP reports to BPA.

Worked out details for testing the detection efficiency of 8-mm PIT tags at Lower Granite Dam in 2016.

(continued page 6)



Credit: FWS

The Fall Chinook Salmon Research Team began the 2016 beach seining season in cooperation with the USGS.



Credit: FWS

Interestingly enough, *Yersinia ruckerii* was isolated from returning males for the first time since at least 2002.



Credit: FWS

IFHC sampled 30% of all female ovarian fluids individually, for IHNV for Takes 6,7,8, and 9.

Fall Chinook Salmon Research Team

(Continued from page 5)

Finalized the first full draft of “Testing Small Unmanned Aircraft Systems for Spawning Surveys in a Large River Landscape” and forwarded the draft to his coauthors at Idaho Power Company and the University of Idaho.

Completed the first draft of Part III of a monograph on Snake River basin fall Chinook management and forwarded it to coauthors from the Idaho Power Company, NPT, NMFS, USGS, and WDFW for review prior to posting on StreamNet.

Posted the 1992-2015 beach seining data set on StoreNet as per contractual obligation to BPA, and began to peer review an article on bioenergetics of Snake River fall Chinook salmon adults that was submitted to the journal Ecology of Freshwater Fish.

Began the 2016 beach seining season in cooperation with the USGS.

Idaho Fish Health Center - Blair

Dworshak NFH

Steelhead juveniles: Monthly monitoring was conducted on the juveniles in the nursery on March 25. Light bacteria was observed on the skin scraping and also around the gills. Concerns were voiced to the hatchery regarding bacterial gill disease and ensuring that fish are eating the feed being fed. Recommendations were made to feed less at each feeding and to increase the number of feedings while ensuring that the tanks stay as clean as possible. It was also recommended to check flows.

A pre-release exam was conducted mid-month on steelhead smolts in systems 1 and 2.

Steelhead adults: Dworshak completed spawning takes 6, 7, 8, and 9 of adult brood stock. IFHC sampled 30% of all female ovarian fluids individually, for IHNV for each take. 152 ovarian fluids were collected as well as cranial elements, bacterial samples, and 20 kidney/spleen tissue samples from males.

Interestingly enough, *Yersinia ruckerii* was isolated from returning males for the first time since at least 2002.

Spring Chinook juveniles: Spring chinook smolts were direct released from Dworshak on March 23 and 24.

Coho juveniles: Juveniles were moved to Kooskia National Fish Hatchery the week of February 22 and are close to release. Mortality remained low after the transfer and fish didn't appear to have any issues with *F. psychrophilum*. The fish did not receive any treatments for Coldwater this year!

Kooskia NFH

Spring Chinook juveniles: A monitoring exam was conducted on March 2 at Kooskia NFH. Chinook fry were examined in nursery tanks. Two fry with spinal deformities were noted, however the general population appeared healthy at this time.

DNFH Maintenance and Operations Activity Report - Koehler

The final two Pentair main river pumps have been delivered and installed. Pump and motor #2 is up and running and performing better than expected. Upon installation and startup it, pump and motor #3 shaft had a wobble and it is thought that the motor shaft is not true, causing the problem. The shaft has been removed and sent to a certified repair shop in Spokane for repair.

- Window blinds are being replaced in offices upstairs in the main building.
- Maintenance is looking into ways to increasing flows from the raceway sump to better facilitate raceway cleaning.
- Hose racks were fabricated and installed under the metal storage building between system 2 and 3 to store hoses out of the sun.
- New mud valves were installed in the raceways this month. We will need to make some adjustments to the installation due to water leaking past between valve and existing pond floor.
- Additional pipe rack was fabricated and installed for hose storage.
- New concrete installed in the visitors parking area was sealed
- Flow meters were installed in the two 20 inch main lines supplying water to A and B bank of the raceway. Electrical was run to the displays located at each meter location
- All snow tires have been removed for the year.

Maintenance has completed all 40 Mechanical work orders and 3 Electrical work orders for the month of March. The department has also completed 14 work order requests from hatchery staff.

Information and Education

Dworshak - Jill Olson

Facebook: Reach - 2,155 Engagements— 35 **Website:** Page Loads - 370; Unique Visits - 286; First Time - 247; Return-39

Visitors: We had 133 visitors from ten states & Canada **Tours:** Twenty-five spawning-day tours reached 441 kids and 101 adults. We provided guided tours for two adult groups for an additional 30 adults.

Outreach: We visited ten area classrooms and provided eggs for 23 hatchery in the classroom projects. Karen and Jill lead adult fish dissection at Palouse Prairie School in Moscow, Id. This month's environmental education programs reached out to 140 students and 25 adults.

Volunteer Hours: Eleven volunteers contributed 257.25 hours in March. Idaho Youth Cadets contributed 192 hours.

Kooskia - Kent Hills

Visitors: There were 205 visitors to the hatchery during this month; this figure is compiled by staff.

Kooskia National Fish Hatchery Headlines - Hills

This activity report is implemented by the Tribal Fish Hatchery Manager, Kent Hills. All information in this report was collected and or performed by the hatchery staff during the preceding month.

Under SRBA and the Clearwater Annual Operating Plan, the Tribe, Service and Idaho Fish & Game have agreed to implement other fish production actions related to KNFH mitigation. Reports will include additional information about other species reared, processed and released in relation to KNFH operations.

Kooskia Chinook Brood Year 2014

There were 660,034 fish released into Clear Creek on the 18th, they were an average of 25.1 fish per pound and were 5.10 inches (130mm). All fish were in the Burrows ponds on creek water at an average temperature of 41 degrees. Total mortality for the month was 164. The fish consumed 2,418 pounds of Bio-Vita feed.

Kooskia Chinook Brook Year 2015

There are 759,990 fry on station, we have had a mortality this month of 9,663, most of which were deformities. They are on well water at 53 degrees, all takes have been moved to the outside rearing tanks and the incubation system was turned off. The Idaho Fish Health Center was present to examine tanked fry on March 3rd. No evidence of coagulated yolks and no parasites found. The general population of fry is healthy.

Kooskia Coho Brood Year 2014

There are 551,159 Coho smolts on station acclimating to Clear Creek water. We had a mortality of 973 fish. The average creek water temperature is 41 degrees. Coho are due for release into Clear Creek April 7th.

Clearwater Brood Year 14 Acclimation

A total of 598,400 smolts arrived at Kooskia Hatchery on March 21st, from Clearwater Hatchery for acclimation purposes. They were put into the Burrows ponds in creek water at 41 degrees. We had a mortality of 707 fish for the month, leaving us with 597,693 Clearwater fish on station. An additional 193,178 smolts from Clearwater Hatchery were directly released into Clear Creek.

Kooskia Adult Trap Operations:

Trap was opened on March 15th for Steelhead trapping.

Maintenance & Operations:

- Mar 01: Received the Bio Oregon feed.
- Mar 02: Idaho Fish Health Center was out to examine the By15 Fry in the vats.
- Mar 04: Kent and Gerry went to Lapwai to inventory parts for the circular tanks which are to be installed at Kooskia Hatchery.

(Continued on page 9)



Credit: KNFH

Extremely high winds caused two trees in the Looking Glass viewing area to fall which damaged the recently installed fence.



Credit: KNFH

Chinook smolts from Clearwater Hatchery will be acclimated on Clear Creek water and due for release on April 4th.



Credit: KNFH

Kooskia NFH - Hills

(Continued from page 8)

Maintenance & Operations:

- Mar 07:** Take 1 and 2 of BY15 were moved to the outside rearing tanks.
- Mar 10:** Set up the release pipe at the trap in preparation for directly releasing Coho and Chinook into Clear Creek.
- Mar 12:** Take 3 was moved to the outside rearing tanks. The tribe released Coho smolts into Clear Creek in front of the trap.
- Mar 13:** The hatchery experienced extremely high winds this evening causing two trees in the Looking Glass viewing area to fall which damaged the fence that was recently installed.
- Mar 14:** Kenny took water samples for NPDES bi-annual testing.
- Mar 15:** Trap was opened for Steelhead trapping.
- Mar 16:** Take 5 moved to outside rearing tanks.
- Mar 18:** A total of 660,034 BY14 Kooskia chinook were released into Clear Creek.
- Mar 21:** A total of 598,400 Chinook smolts were put into the Burrows ponds, they are from Clearwater Hatchery they will be acclimated on Clear Creek water, they are due for release into Clear Creek on April 4th.
- Mar 23:** Moved BY15 take 5 to the rearing tanks.
- Mar 28:** Moved BY15 take 6 to the outside rearing tanks, this was the last take to be moved and the chiller and incubation system was turned off.

Kooskia NFH Training and conferences:

- Mar 4:** Kent had a Production leaders meeting.
- Mar 7:** Kent attended an HET meeting at Dworshak.
- Mar 8:** Kenny & Kent attended an hour online FINS training session.
- Mar 10:** Regional Project Leaders phone meeting
- Mar 29:** Kent attended a meeting in Lewiston concerning the recirculating tanks.

We can also be found on the web @ <http://www.fws.gov/dworshak/>



Like us on  and keep up with what is happening at the **Dworshak Fisheries Complex**

<https://www.facebook.com/Dworshak-Fisheries-Complex-411264238917917/>



Let's Go Outside!

Connecting People With Nature

<https://www.fws.gov/letsgooutside/>

Staff List

Dworshak Fisheries Complex Management:

Steve Rodgers, Dworshak Fisheries Complex Manager

Mark Drobish, Dworshak NFH Manager

Adam Izbicki (FWS) & Jeremy Sommer (NPT)
Dworshak NFH Assistant Hatchery Managers

Mike Tuell, SRBA Coordinator

Dr. Marilyn "Guppy" Blair, Project Leader-Idaho Fish Health Center

Scott Koehler, Dworshak NFH Maintenance Supervisor

Vacant, Project Leader, Idaho Fishery Resource Office

Mike Faler, Aquatic Conservation Lead

Dr. William Conner, Fall Chinook Research Lead

Dr. Chris Peery, Fish Production M&E Lead

Kent Hills, Kooskia NFH Manager

Gerry Fogelman, Kooskia NFH Maintenance Supervisor

Dworshak NFH Production: Angela Feldmann, Tom Tighe, Rob Bohn, Wayne Hamilton, Mike Bisbee, Tui Moliga, Steve Coomer, Carter Lopez, Zach Broncheau, Jayden Hudson, Steve Jeffers, Jayson Thompson

Administration: Heather Leopard- Administrative Officer, Brian Devin- Budget Technician,

Dworshak NFH Maintenance: Terry Weeks, Rick King, Rob Kellar, James Oatman, James Paddelty, Melissa Wright

Idaho Fish Health Center: Laura Sprague, Corie Samson, Sean Roon, Tim Bundy

Idaho Fishery Resource Office: Ray Jones, Aaron Garcia, Carrie Bretz, Frank Mullins, Jody Brostrom, Chris Griffith

Complex Information and Education: Jill Olson

Kooskia NFH: Art Broncheau, Kenny Simpson,