



Dworshak Fisheries Complex

Monthly Activity Report



February Highlights

Dworshak

SST BY16 -1,232,736
 SST BY15 - 2,435,182
 SCS BY15 - 2,310,335
 SCS BY14 - 1,471,836
 COS BY 15 - 554,450
 COS BY14 - 552,132

Kooskia

BY 14 Chinook fish on station - 660,198
 BY 15 Chinook sac fry on station - 777,440

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U.S. Fish & Wildlife Service, Region 1

Managers Message - Steve Rogers

This month I want folks in the Complex to meet Tim Bundy, our new Fish Biologist at the Idaho Fish Health Center. Tim graciously did the lion's share of putting this together on very short notice, to his credit.

Tim grew up in Sherwood, Oregon, just south of Portland. After high school he attended Oregon State University and originally went into Business Administration. After his first Economics course Tim decided that business was not his niche and he decided to pursue a career in fish and wildlife. A trip to Hainan Island in China (where he worked at a non-profit Sea Turtle Hospital) was instrumental in this change, as it confirmed his passion for fisheries work. In 2011 Tim received his Bachelors of Science degree from OSU in Fisheries and Wildlife.

Shortly after college Tim moved to Pensacola, Florida where he spent a year observing on commercial fish vessels in the Gulf of Mexico. He met a lot of interesting fisherman and one talked him into going to Alaska and trying out observing up there. He worked on commercial trawlers in the Bering Sea in Dutch Harbor for a year and half, and then decided it was time to move into a job that would allow him to settle down. He landed a seasonal Hatchery Technician job working for Oregon Department of Fish and Wildlife at a Steelhead acclimation facility in Enterprise, Oregon. His work there hooked him on the hatchery life so he

started applying for other hatchery-related positions throughout the US.

In September of 2014 Tim moved to Parker, Arizona to run a small hatchery raising Bonytail Chub and Razorback Sucker for the USFWS. The job was great but the summer heat was intense. Tim had a great supervisor named Tom Frew who got him out of the heat and into his new position at the IFHC.

Tim loves to be outside, where he enjoys hiking/shed hunting. He's very excited about hunting this fall. He's also being encouraged by his friends to take up fly fishing so you may see him on the river in the near future. Please take a few minutes to meet Tim if you haven't already, and welcome him to the Dworshak Complex.



Tim bow fishing for carp on Lake Sakakawea in North Dakota. Credit: Tim's personal files

Dworshak Hatchery Production - Izbicki, Sommer, Bisbee

Dworshak Stock - Spring Chinook Salmon (SCS)

Brood Year 2015 (BY15)

Eggs from all 7 egg takes were enumerated. 2.85 million eggs were enumerated with 2.61 million eyed eggs going into production. Enumerated eye up was 91.4%. 23 females were culled due from BKD (ELISA values 0.249 or more) and 20 females were culled for low eye up (>60% dead eggs). Fecundity was very high this year averaging 4,024 eggs per female.

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

Brood Year 2014 (BY14)

At the end of February there were 1,471,836 fry at 25 fpp. Mortality was 1.73%. Many ponds have developed low level bacterial infections and have been treated with salt and Chloramine-T. Pond A-11 has IHNV. Fish will be released in March.

There are 10 distinctive PBT groups ponded: 6 for the density study (3 high density and 3 low density), 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. Fish are slightly smaller than previous years but are still expected to make size.

Coho Salmon (COS)

Brood Year 2015 (BY 15)

There are currently 554,450 Coho eggs incubating in 9 stacks.

Brood Year 2014 (BY 14)

Coho were transferred to Kooskia NFH for final acclimation on February 25-26. At the time of transfer there were 552,132 fry at 28 fpp being reared in six Burrow's ponds.

Dworshak Stock- Summer Steelhead (SST)

Brood Year 2016

Spawning continued through February beginning with a supplementary egg take on February 2 to complete our early egg take goals. We spawned 23 females during this take and wrapped up our early eggs take. We began our air-spawn takes on Feb 9, Take 3 and on February 23, Take 4. We spawned 62 females during take 3 and 63 females during take 4.

We enumerated takes 1, 2, 2.1, and 3 in February. Enumerated eye up for our early takes averaged 91%. Egg quality for take 3 was poor with enumerated eye up at 73% and total eye up at 69%. At the end of February there were 866,736 eyed eggs/fry in production from takes 1-3, and 366,000 green eggs from take 4.

There are currently no fish in the nursery. Cleaning and repairs will be on going until BY2016 SST are moved in early March.

(Continued page 3)



Credit: KNFH

Coho smolts from the Dworshak Hatchery were transported to the Kooskia Hatchery by Nez Perce Tribe Cherry Lane Facility starting on February 24, and 25th.



Credit: FWS

Fish and Wildlife FRO from Dworshak PIT tagged fish at Kooskia National Fish Hatchery.

Dworshak Hatchery Production

(Continued from page 2)

Brood Year 2015 (BY 15)

At the end of February there were 2,310,335 fry in the BPs averaging 8.5 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 (2/31/16).

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS BY 15	15	Incubation/Eggs	2,435,182				
SCS BY14	14	Raceways	1,471,836	59,182	25	5.1	130
COS BY15	15	Incubation/Eggs	554,450				
COS BY 14	14	Raceways	552,132	19,799	28	4.7	119
SST BY 16	16	Incubation/Eggs	1,232,736				
SST BY 15	15	Raceways	2,310,335	291,075	8	7.1	180
Total Fish/Fry on Station EOM			8,556,671	370,056			

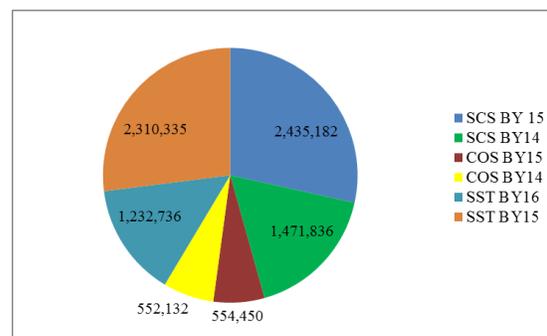


Figure 1. February 29, 2016 Total Fish/Eggs on Station.

Dworshak NFH Meetings, Training and Conferences - Drobish

On February 2nd, Dworshak Fisheries Complex staff attended and participated in the Clearwater Annual Operating Planning meeting held at the Clearwater State Fish Hatchery.

On February 3rd, Zach Spruell, Region 1 Mechanical Engineer visited the facility for a site visit along with multiple IDIQ contractors for the Raceway Bar Grating project. Zach also reviewed the raceway effluent pump and sump infrastructure which has limited pumping capability and restricts cleaning operations for the raceways.

On February 3rd, Lucian Stewart, Electrical Engineer, U.S. Army Corps of Engineers, Dworshak Project reviewed electrical issues in one of the hatchery vaults and coordinated with our maintenance staff to conduct “megger testing” on several lines to assess and develop plans for operations specific to the Nursery/Mechanical II Building and for long-term repairs to ensure operational reliability. This effort was in response to an electrical explosion in one of the vault leaving us without power to the Mechanical II Building which is the “lifeline” for supplying water to the Nursery for steelhead rearing. Fortunately, the Nursery was off-line when the incident occurred resulting in no fish losses!

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Dworshak NFH Meetings, Training and Conferences (continued from page 3)

On February 10th, Dworshak Fisheries Complex staff participated in a coordination conference call to develop plans for collecting B-Run Steelhead from the South Fork Clearwater River for the Idaho Department of Fish and Game's egg collection production needs and for Dworshak Fish Hatchery's off-site releases in the South Fork Clearwater River per Hatchery Review Team recommendations.

On February 17th-18th, National Seminars provided a two day on-site (i.e. Dworshak Fisheries Complex) training, "How to Deal with Conflict" for Dworshak Fisheries Complex staff. The first day included all staff and the second day included supervisors and team leaders with emphasis on implementation strategies.

On February 19th, Bart Jones wrapped up his "Emergency Hire" appointment working with our maintenance staff. Bart started a permanent position with the U.S. Army Corps of Engineers on the 22nd of February as a Forestry Technician at the Dworshak Project. Thank you Bart and good luck in your new position!

On February 24th, the U.S. Army Corps of Engineers conducted a Hazardous Energy Control Program Audit. The audit included Delbert Draper of the Walla Walla District Office, Roger Hilt, McNary Dam Operations Manager and John Chatfield, Operations and Maintenance Manager, Dworshak Project. Scott Koehler, Acting Maintenance Supervisor was the primary representative for the Dworshak Fisheries Complex providing access to records and training documents for the audit.

On February 25th, Lucian Stewart, Corps of Engineers was back on-site and conducted additional megger testing to further evaluate the integrity of electrical lines in coordination with our maintenance staff.

Rob Bohn, Rob Kellar and Joe Livesay attended the Wage Grade Conference held at the Double-Tree Hotel in Portland on February 29th through March 3rd.

Dworshak Complex Monitoring and Evaluation Team

Participated in the Clearwater River Annual Operating Plan (AOP) meeting at Clearwater Hatchery.

Participated in the Salmon River Annual Operation Plan Coordination Meeting, Boise.

Met with the Dworshak Hatchery Evaluation Team and IDFG to discuss proposed steelhead study.

Participated in two day Conflict Resolution Training.

Met with Jack Christensen to discuss potential production plans for fall Chinook salmon associated with John Day Mitigation Plan.

Swept raceways and burrows ponds for shed PIT tags from recently tagged Chinook salmon and steelhead.

Conducted third spawn day for Broodyear 2016 steelhead at DNFH. This completes the spawning for the early returning component of production. Next week will begin the spring spawning groups.

(continued page 5)



Credit: KNFH

Idaho State Fish and Game held a hunter safety shoot at Kooskia Hatchery on February 13, 2016.



Credit: KNFH

Dworshak Complex Monitoring and Evaluation Team

(continued from page 4)

Conducted fourth spawn day for Broodyear 2016 steelhead at DNFH. This was the initial spawning for the spring-returning component of production.

Participated in DNFH Management Team Meeting.

Participated in the RO Project Leaders call.

Participated in coordination meeting to develop localized broodstock for South Fork Clearwater River B-run steelhead.

Participated in meeting with Lower Snake River Compensation Plan to discuss effects of PIT tag loss/differential mortality on run forecasting and harvest allocations. Plans for presentation at March meeting were discussed.

Discussed participation in BPA Atlas Project with David Kaplowe.

Hired Chris Griffith as new Fisheries Technician

Aquatic Conservation Team

Worked with Kalispel Tribe, Idaho Panhandle National Forest, and University of Idaho Aquaculture Institute, to gather information for upcoming agreements for fish passage projects and the burbot thermal tolerance study.

Organized and participated in the Redband Conservation Kootenai GMU meeting.

Reviewed and provided editorial comments for the Lochsa River Mountain Whitefish Climate change report.

J. Brostrom; Reconfigured existing FY15 NFPP projects (substitute and deobligation for new project), and put a call out for additional FY16 projects using FY16 expected allocations. Updated FONS entries.

Participated in Regional NFPP call to discuss allocation of regional funds and defend annual allocation to project offices

Sent starter paperwork out to successful NFPP and NFHAP projects to begin grant process to be ready for final allocations.

Participated in Upper Salmon Basin Watershed Tech Team meeting

Coordinated work on pollinator fence and coordinated with area schools on Monarch projects.

Attended bull trout eDNA webinar

Met with Nez Perce Tribe and CRITFC to begin coordinating this year's Pacific lamprey adult releases and juvenile surveys.

Finalized report to COE on Adult Pacific Lamprey Snake River Passage Project.

Snake River Fall Chinook Team

Connor worked with statisticians from the University of Idaho to complete a draft of a journal manuscript on the use of drones to count fall Chinook salmon redds. He also spent time on a monograph describing flow augmentation.

Connor worked on a method for estimating passage abundance of natural-origin fall Chinook salmon at Lower Granite Dam during the period the juvenile fish bypass is dewatered from November through March.

Connor completed the first draft of a review of summer flow augmentation.

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

Idaho Fish Health Center - Blair

Dworshak NFH

Steelhead juveniles: No increased mortality events. Monthly monitoring showed no external parasites. Pre-release sampling is scheduled for early March.

Steelhead adults: Ovarian fluids were sampled individually (not pooled) from 30% of all steelhead females spawned during two separate spawn days for virus testing by cell culture in February.

Spring Chinook juveniles: Increased mortality remained an issue in A bank and some raceways in B bank. Bacteriology and virology did not detect pathogens in fish examined in January. Further recommendations were to improve water quality and increase cleaning of affected raceways. After meeting with Dworshak Hatchery biologists and managers, it was decided a two week experiment would be conducted in which two raceways (A2, A3) would be either vacuumed or broomed with improved fish culture techniques (careful feeding, extra sweeping).

Diagnostic examination before start of the experiment revealed gills were still severely swollen with excess mucus. At the end of the two week experiment, both raceways showed significant improvement in gill health, but no discernable difference in mortality. Furthermore, 6 fish were sent to Bozeman FHC for histology; the report concluded that the primary problem for these fish was the severe swelling and problems with the gills due to chronic poor water quality. Hatchery managers were advised to continue extra cleaning and care given to these fish, and perhaps incorporating further techniques, such as vacuuming, may be helpful to improving water quality to reduce effects of chronic poor water quality.

A pre-release exam was conducted on Feb. 24. Fish examined still had parr marks and did not show early signs of smoltification. A final fish health report will be submitted when all laboratory tests are completed.

Coho juveniles: A pre-release exam was conducted 18 February 2016. Size distribution was normal. Fish had greater than 50% fat internally on the pyloric caecae. Fish were moved to Kooskia National Fish Hatchery the week of February 22.

Kooskia NFH

Spring Chinook juveniles: A pre-release exam was conducted for spring Chinook at Kooskia on Feb. 11. Fish showed early signs of smoltification including minor scale loss and some silvering. A final fish health report will be submitted when all laboratory tests are completed.



Credit: Kooskia NFH

Uhlenkott Pumping Service returned and installed the cleaned and repaired pump in well #1.



Credit: Kooskia NFH

DNFH Maintenance and Operations Activity Report - Koehler

- COE registered a potable water leak in January. Maintenance found a leak in the curb stop feeding the NPT church located on site. The leaking valve was unearthed and replaced.
- In preparation of the last two Pentair pump deliveries, abandoned equipment was removed from the main pump house.
- Three offices in the main building received new furniture. Old furniture was removed and new furniture was put together and installed.
- Modifications were made to display cases in the front lobby and a new monitor was installed for the public.
- Winter is just about over. (We hope!) Snow plows were removed and stowed for the year.
- Two 8 inch check valves in the raceway sump was replaced. Original check valves were so old, no repair parts were available.
- Pipe racks for the aluminum pipe was fabricated and installed in the new metal storage building between system 2 and 3.
- Ongoing maintenance on COE tankers is moving forward. Batteries for belly pumps have been tested and where needed, replaced.
- All manholes on the facility, had standing water pumped out.
- Winter's over and spring is here. Began seeding bare areas in the green space.
- Gearing up for mud valve replacement in the raceways.
- Still working with COR engineers to complete repairs of shorted electrical conductors.

Maintenance has completed all 67 Preventative work orders for the month of February.

48 Mechanical, 19 electrical. Also completed 11 written request from our staff here at the hatchery.

That's it for February. See ya next month.

Kooskia NFH - Hills



Credit: KNFH

Log jam was cleared from Kooskia weir on February 1.



Credit: KNFH

Kent Hills works to clear log from Kooskia NFH weir.



Credit: KNFH

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 are 660,198 fish on station, they are an average of 27.7 fish per pound and are 4.94 inches (125mm). All fish are in the Burrows ponds on creek water at an average temperature of 38.8 degrees. Total mortality for the month was 139. The fish consumed 2,772 pounds of 2.0mm Bio-Vita feed. Guppy from the Idaho Fish Health Center performed the pre-release inspection. The fish were exhibiting pre smoltification and some minor scale loss/silvering fish were showing a 70% visceral fat coverage. The Fish and Wildlife FRO from Dworshak PIT tagged 8,189 fish 4,000 from pond 1 and 4,189 from pond 2. Carrie will be coming back to the hatchery the first of March to perform tag retention. Smolts will be released on March 18, and the Clearwater Fish Hatchery will be bringing in smolts on March 21, for a 14 day acclimation.

Kooskia Chinook Brook Year 2015

There are 777,440 sac fry on station; we have had mortality this month of 916, most of which were deformities. They are on chilled well water at 47 degrees. On the 25th of February, the water temperature was increased gradually from 39 to 47 to allow the later take to catch up with take 1. Take 1 was moved into a rearing tank to begin manual feeding on the 26th of February. Take 1 and 2 will be moved out to the outside vat area the first of March.

Kooskia Coho Brood Year 2014

Steve Coomer and Tui Moliga from the Coho project started working on cleaning and setting up the 12 Raceways at the Kooskia Hatchery on February 22, and completed set up and started water on the 23rd. Coho smolts from the Dworshak Hatchery were transported to the Kooskia Hatchery by Nez Perce Tribe Cherry Lane Facility starting on February 24, and 25th. A total of 552,132 were moved for acclimation.

Kooskia Adult Trap Operations:

Trap was closed all month.

Maintenance & Operations:

Feb 01: Log jam was cleared from the weir.

Feb 08: Fisheries Resource personnel from Dworshak began pit tagging SCSBY14. They tagged 4,000 fish in burrows pond 1.

Feb 08: Uhlenkott Pump Service arrived at the hatchery to remove the pump from well #1 to inspect it for cavitation issues, it was determined there was scale build up in the pump intake.

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Kooskia NFH - Hills

(Continued from page 8)

Maintenance & Operations:

- Feb 10: A temperature logger was placed in upper Clear Creek, 11 miles above the hatchery to compare water temperature above the hatchery to hatchery water. Fisheries Resources completed pit tagging operations, they pit tagged 4,000 fish in Burrows pond 1 and 4,189 fish in Burrows pond 2.
- Feb 11: All staff had hearing tests at Valley Ear Nose and Throat in Lewiston.
- Feb 13: Idaho State Fish and Game held a hunter safety shoot at Kooskia Hatchery.
- Feb 17: Uhlenkott Pumping Service returned and installed the cleaned and repaired pump in well #1.
- Feb 18: Staff began preparing the bio-filter and the outside rearing tanks for moving BY15 to the rearing tanks.
- Feb 22: Personnel from the Coho project arrived at the hatchery to ready the Raceways for the arrival of Coho for acclimation to Clear Creek water.
- Feb 23: Creek water was turned into the raceways.
- Feb 24: Coho arrived for acclimation to Clear Creek water.
- Feb 25: The remainder of the Coho arrived bringing total number of Coho on station at 552,132.
Kent and Kenny to Dworshak for Fish Inventory System (Fins) training.
- Feb 26: Take 1 was buttoned up and put into the picking tank to begin feeding, they were at 1,668 temperature units.
- Feb 27: There was a bio Filter power alarm at the hatchery at 7:30 pm, which was handled by Gerry. It was determined that the breaker failed and will require replacement.

Kooskia NFH Training and conferences:

- Kent attended an AOP meeting at Clearwater Hatchery on the 2nd of February.
- Kenny had on line Fins training on the 9th.
- All staff had hearing tests at Valley Ear Nose & Throat in Lewiston.
- Kent & Kenny went to Dworshak for training on the Fins program.
- Kent attended a project leaders meeting by phone for the FWS.
- Kent attended a 401k Board meeting.

Information and Education**Dworshak - Jill Olson**

- Facebook:** Reach - 8,356 Engagements-797 **Website:** Page Views- 256; Unique Visits - 190; First Time- 157; Return- 33
- Visitors:** We had 47 visitors from eight states. **Tours:** Three guided spawning-day tours engaged 36 kids and 32 adults.
- Outreach:** Jayson Thompson with 24 students and 10 adults at Orofino Head Start enjoyed a day of gyotaku on February 8.
- Volunteer Hours:** Nine Volunteers put in 84.75 hours the month of February. Idaho Youth Cadets contributed 192 hours .

Kooskia - Kent Hills

- Visitors:** There were 245 visitors to the hatchery during this month; this figure is compiled by staff. The trap is still attracting visitors in search of adult Steelhead.

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/pages/Dworshak-Fisheries-Complex/411264238917917#>



Let's Go Outside!

Connecting People With Nature

<http://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, Lou Ann Lasswell, 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, Joe Livesay

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

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

Complex Information and Education: Jill Olson

Kooskia NFH: Art Broncheau, Kenny Simpson,