



# Dworshak Fisheries Complex

## Monthly Activity Report



### April Highlights

#### Dworshak

SST BY16 eggs -  
1,157,292

SST BY16 fry -  
1,573,941

SST BY15 - 2,300,876

SCS BY15 - 2,435,182

COS BY 15 - 541,223

#### Kooskia

BY 15 Chinook - 753,483

BY 14 Coho - 551,021

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## U.S. Fish & Wildlife Service, Region 1

### Managers Message - Steve Rogers

I hope everyone is enjoying this spring weather...it's always beautiful in Idaho this time of year. This month I'd like to introduce another new employee of the Dworshak Fisheries Complex. His name is Aidan Frye, and he's very excited to be here.

Aidan was born in Idaho Falls, Idaho. While growing up there, he learned to fish; chasing rainbow, cutthroat, and brown trout and other species whenever he got the chance. He loved fishing the Snake River and Henry's Fork, both famous for their high-quality angling opportunities.

Just after high school, Aidan went directly into the U.S. Army in January of 2000. He attended basic training at Fort Leonard Wood in Missouri. He then attended Advanced Individual Training (AIT) at Georgia's Fort Gordon. He became trained as a 31 Romeo, which means he was a multi-channel radio systems operator. He spent time in South Korea and Germany, and was also deployed to Iraq. He has some interesting stories, which Aidan can tell you himself.

After military service, Aidan moved to Orofino to be a corrections officer for the Idaho Department of Corrections. He really enjoyed working in the prison system, but has a serious passion for fish and wildlife. He applied at Dworshak National Fish Hatchery (DNFH) several times but never made the certification lists for an interview. Not to be undone, Aidan started volunteering at the hatchery about a year-and-a-half ago. Based on his excellent attitude and work performance, he was recently hired full time under the Veteran's Recruitment Appointment (VRA) special hiring authority. Aidan loves working with fish, and is fascinated by their various life stages. Since coming on

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Credit: Olson, FWS

full time, he's enjoyed working outdoors in our scenic location, nestled in the mountains of Idaho.

Aidan loves backpacking, fishing, hunting, floating the river...anything outside. One of his hobbies is diving in the local rivers and removing tackle and other garbage to help the salmon. His two favorite areas to spend time are the North Fork Clearwater River and the Sawtooth Mountains. He's also an avid huckleberry picker.

Married to his wife Sarah for eleven years, Aidan has three children; Demetrius age 10, Sean age 8, and Catlyn age 6. The family lives in Orofino on Wells Bench on 3 acres. Aidan has a giant dog named MacDougal, who is half Saint Bernard and half Black Lab. He considers his dog the best friend in the world.

If you've gotten to know Aidan, you're already aware he has an unwavering can-do attitude. He's a great addition to the production team at DNFH, and his energy and positive outlook are assets that will carry him far in his career. Welcome to the crew, Aidan... we're glad you're here!

## 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 April. Eggs are being incubated on secondary water and will be ponded as swim up fry in May 2016.

### 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)*

The final take for brood year 2016 steelhead was April 12. We spawned 51 females with 43 males. Surplus, non-wired fish were released at the Ahsahka boat ramp. Takes 8 & 9 were enumerated in April. Enumerated eye up for kill spawn egg takes (1, 2, & 7-9) 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 4, 5, & 7 were moved into the nursery in April. This brood year all fish are being moved into the nursery as fry.

At the end of April there were 1,573,941 fry in the Nursery from takes 1-7 and 1,157,292 eyed eggs/sac fry in incubation from takes 8, 9, & 10.

#### *Brood Year 2015 (BY 15)*

Steelhead were released in April. Trucking to the Red House Hole, Clear Creek, and Lolo Creek took place from 4/11-4/19/2016. Direct release of steelhead smolts to the Clearwater River took place on 4/20/16. Fish averaged 5.9 fpp (7.9"). Table 2 describes the final release numbers by site for brood year 2015 steelhead.



Credit: Olson, FWS

Egg quality for takes 3-5 was very poor with average enumerated eye up at 78% and total eye up at 51%.



Credit: Olson, FWS

Takes 8 & 9 were enumerated in April

### Dworshak Hatchery Production

(Continued from page 2)

### SUMMARY

Table 1. Total Production—Fish on Station (4/30/16).

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS BY 15	15	Incubation/Eggs	2,435,182				
COS BY 15	15	Incubation/Eggs	541,223				
SST BY 16	16	Incubation/Eggs	1,157,292				
SST BY 16	16	Nursery	1,573,941	3,116	505	1.4	36
SST BY 15	15	Systems	2,300,876	391,200	6	7.9	201
<b>Total Fish/Fry on Station EOM</b>			<b>8,008,514</b>	<b>394,316</b>			

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

Release Site	Number	Weight	FPP	Length(in)
On-Site	1,274,013	233,043	5.7	8.0
Clear Creek	361,081	57,714	5.5	7.7
Red House	424,642	71,206	6.0	7.8
Lolo Creek	241,140	29,237	8.2	7.0
<b>Totals/Average</b>	<b>2,300,876</b>	<b>391,200</b>	<b>5.9</b>	<b>7.9</b>

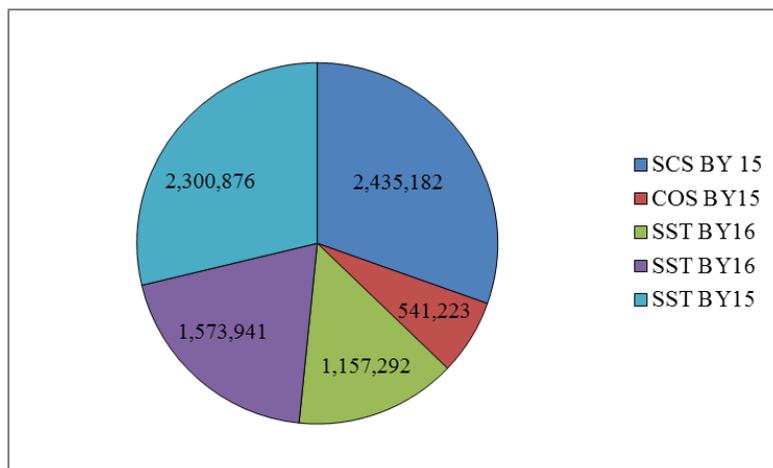


Figure 1. April 30, 2016 Total Fish/Eggs on Station.

## Dworshak NFH Meetings, Training and Conferences - Drobish

April 4th and 5th, Tom Tighe, Adam Izbicki, Mark Drobish and Marilyn “Guppy” Blair attended Leadership training titled, “Emotional Awareness” in the Regional Office in Portland.

April 8th, Dworshak Fisheries Complex staff participated in a coordination call with the Corps, multiple FWS offices and the Nez Perce Tribe to discuss “Spill Testing” operations from Dworshak Dam to produce high Total Dissolved Gas (TDG) levels below Dworshak Dam to evaluate the effectiveness of the Dworshak Hatchery’s vacuum degassing system. This is pre-planning looking for solutions to effectively treat the incoming water supply when TDG levels exceed the water quality cap of 110% and may reach levels of up to 125% TDG in the North Fork Clearwater River. These conditions are expected during the upcoming maintenance window as the Dworshak Dam makes repairs to Unit #3 starting in September and running through March or later due to nature of this maintenance project.

April 18th, a spring Chinook trapping conference call was hosted by Steve Rodgers and included participation from the Dworshak Fisheries Complex, Idaho Fish and Game and the Nez Perce Tribe to discuss plans for Chinook broodstock trapping, coordination and prioritization of broodstock.

April 20th, the LSRCF staff, Dworshak Fisheries Complex staff and Nez Perce Tribe reviewed TDG data based on pre-spill testing data. Some of this data indicated high TDG levels in the rearing units and main supply after vacuum degassing. These data were inconsistent with on-site spot check data. After further review with the Corps, a calculation error was identified which clarified the errant data points.

April 25th, Dworshak Fisheries Complex staff, Corps of Engineers staff and Barnaby Watten, Branch Chief of the Conte Anadromous Fish Research Center, USGS, all participated in a conference call to discuss potential solutions/options to address TDG levels exceeding 110% in our incoming pumped water supply from the North Fork Clearwater River resulting from Dworshak Dam operations. Additional follow up discussions will occur following the “Spill Test” when the latest data is available.

April 28th and 29th, the Dworshak Dam operations increased TDG levels in the North Fork Clearwater River to approximately 115% and 120% respectively. The testing occurred each day between 10 am and 4 pm. The purpose was to simulate expected TDG levels during the upcoming maintenance window in September 2016. Multiple Hydrolab continuous monitoring sondes were deployed prior to the testing and continued to collect TDG data until April 30th. These data will be utilized to determine the effectiveness of our existing vacuum degassing system and provide baseline data for developing or modifying the existing degassing system to provide gas levels at saturation or slightly below.



Credit: KNFH

Kent gave a tour of the fish in various stages of growth to preschoolers on April 18.



Credit: Olson, FWS

Volunteer Cynthia Tewes explains egg fertilization and rinsing to Orofino Jr. High School Students.

**Dworshak Complex Monitoring and Evaluation Team - Peery**

The 9th and 10th steelhead spawn days were completed and all broodstock 2016 needs were met.

Offsite releases for BY15 steelhead were completed.

Planned annual reporting to LSRCP with Rod Engle

Called into the April RO project leader call.

Participated in the complex management meeting

Participated in a meeting with COE to plan and coordinate the increased spill and TDG management for Dworshak associated with Dworshak Dam turbine replacement.

Completed pre-release steelhead sampling and assisted production staff with direct release of BY15 steelhead smolts.

Participated in the pre-season spring Chinook salmon coordination meetings with basin partners to discuss broodstock collection and holding strategies.

Updated the Dworshak NFH steelhead HGMP and sent to Steve Rodgers for review.

Participated in a radio interview about the Dworshak NFH program with Mark Drobish.

Developed statement paper on size selective procedures used for Dworshak NFH steelhead and sent it to Steve Rodgers for review.

Participated in the Coordinated Assessments workshop in Portland.

Edited the 2015 Chinook salmon annual report

Worked on the annual property inventory.

**Aquatic Conservation Team - Brostrom/Faler**

Chris Peery met with Amy Horstman to coordinate his upcoming detail as Fish Passage and Habitat Coordinator.

Participated in NWR Climate Change conference calls.

Worked on presentations for upcoming NWR-Fisheries Annual meeting.

Worked on the funding agreements for fish passage projects and the burbot study.

Input the FY15 NWR climate change data into the region-wide database.

Met with partners for Connecting People with Nature RFP - Lemhi Pollinator Project which incorporates pollinator theme cutouts painted by students, pollinator curricula, outreach and a senior project.

Coordinated with the Youth in the Great Outdoors interns for Salmon Valley Stewardship (one college and one high school). These interns will assist with collaborative habitat restoration and monitoring, the Lemhi Pollinator Project and job shadowing.

Called into Snake River GMU Redband meeting

Coordinated with the R1 Cultural Resources and Lemhi Regional Land Trust on SHPO issues on a Partners for Fish and Wildlife Project

## Aquatic Conservation Team - Brostrom/Faler (Continued from page 5)

Coordinated with the Leadore School District on their School Garden, Pollinators and Partners for Fish and Wildlife, as well as the Lemhi Pollinator Project. Wrote and submitted proposal for Connecting People with Nature funding.

Started combining Pacific Lamprey Regional Implementation Plan spreadsheets by major basin

Attended monthly Upper Salmon Basin Tech Team meeting



Credit: Olson, FWS

School group looks on as Rick King tosses a steelhead into the truck for outplanting.

## Fall Chinook Salmon Research Team - Connor

Reviewed a manuscript on bioenergetics of Snake River fall Chinook salmon that was submitted to the journal Ecology of Freshwater Fishes.

Prepared a talk and presented it at the first annual science in the service symposium.

Submitted the manuscript "Testing Small Unmanned Aircraft Systems (sUAS) for Spawning Surveys within in a Large River Landscape" to the Canadian Journal of Fisheries and Aquatic Science.

Worked with staff of WDFW and the USGS to finalize the first draft of Part III of a five-part monograph on Snake River fall Chinook salmon.

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



Credit: Olson, FWS

Students brave the rain to hear Volunteer Alice explain fish migration and how fish climb up the Dworshak ladder.

## Idaho Fish Health Center - Blair

### Dworshak NFH

**Steelhead juveniles:** For **BY 2016** Two tanks in the nursery were examined on five different occasions over a two week period while Dworshak NFH was conducting a Nursery Degasing test. The packed column was removed from tank 102 while the packed column remained on all of the other tanks. Tanks 101 and 102 were then monitored for total gas by the hatchery. Fish were examined for external gas bubbles in the eyes and the non-paired fins (dorsal, caudal, and anal). The gills were also examined for gas bubbles. Overall, more gas bubbles were observed in the gills of tank 102 plus gas bubbles were observed in the eyes of 3/50 fish samples from Tank 102. No gas bubbles were observed in the eyes of fish from Tank 101. Bacteria on the gills of both tanks was observed on the last two sampling dates. It was recommended to keep the tanks cleaner and ensure that the fish were eating all the feed being fed. For **BY2015** Juvenile yearlings located outside in burrows ponds were released in April.

**Steelhead adults:** Final spawn date was April 12, in which 18 females were sampled.

**Spring Chinook juveniles:** **BY 2014** Juveniles were released from the hatchery at the end of March. **BY 2015** Chinook fry will be moved mid-May to confined portions (with mesh grating) of the outdoor raceways.

**Coho juveniles:** Juveniles have been moved to Kooskia National Fish Hatchery and are awaiting release.



Credit: Olson, FWS

Dworshak Hatchery Host Tom has kids gather around to start their hatchery tour.

## Idaho Fish Health Center - Blair

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### Kooskia NFH

**Spring Chinook juveniles:** Spring Chinook juveniles: A monitoring exam was conducted on April 26 at Kooskia NFH. Chinook fry were examined from 2 nursery tanks. Several abnormally light colored fish were examined, but no other physical deformities were noted. The general population appeared healthy at this time.

## DNFH Maintenance and Operations Activity Report - Koehler



Credit Koehler, NPT

- Potable water leaks were repaired this month.
- Waiting on additional blinds to complete installation in the main building.
- 43 pieces of 20 inch PVC were cut per productions specifications for use as standpipes in the raceways.
- Phase 1 of the Bar grating project was completed and maintenance needed to make a few adjustments to allow for valve manipulation.
- The newly re-roofed digester pump house has had a roof coating applied to increase its life.
- Final run through on the fish tankers in preparation for release has been completed. All looks good to go.

Maintenance has completed a total of 54 mechanical work orders and 3 electrical work orders for the month of April. Also 13 work order requests from hatchery staff have been completed.

## Kooskia NFH - 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.



Credit: KNFH

On April 5th 551,021 Coho smolts were released into Clear Creek after acclimating on Clear Creek water.

## Kooskia Chinook Brook Year 2015

There are 753,483 fry on station; we have had mortality this month of 6,507. They are on well water at 55 degrees and all takes have been moved to the outside rearing tanks. The fish consumed 684 pounds of feed and grew a half inch this month. The average pound count was 413 fish per pound. The incubation system was turned off and will be cleaned. The Idaho Fish Health Center examined the fish on the 28th and all fish collected had food in their stomachs. They did show low levels of Sanguinicola, no skin parasites were seen. Over all the fry were screened as healthy at this time.

## Kooskia Coho Brood Year 2014

On April 5th 551,021 Coho smolts were released into Clear Creek after acclimating on Clear Creek water. The Coho were 20 fish per pound and mortality was very low this year.



Credit: KNFH

A total of 597,693 smolts were released into Clear Creek after acclimating on Clear Creek water.

## Clearwater Brood Year 14 Acclimation

A total of 597,693 smolts were released into Clear Creek after acclimating on Clear Creek water.

## Kooskia Adult Trap Operations:

The trap was opened on March 15th, and operated for 28 days. The trap was closed on April 11. Total fish trapped: 15 adults, eight hatchery males and 5 hatchery females. These were released back into Clear Creek below the weir. One wild adult male and one wild adult female were transported nine miles upstream to the second bridge and released.

## Maintenance & Operations:

**Apr 4:** A total of 597,693 Spring Chinook from Clearwater Hatchery were released into Clear Creek after acclimating on Clear Creek Water since Mar 21st.

**Apr 5:** A total of 551,021 Coho smolts were released into Clear Creek after acclimating on Clear Creek water since Feb 22nd.

**Apr 5:** USGS installed flow and turbidity meters at the intake.

**Apr 11:** Steelhead smolts from Dworshak began being released into Clear Creek in front of the trap.

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Credit: KNFH

USGS installed flow and turbidity meters at the intake.

## Kooskia NFH - Hills

(Continued from page 8)

### Maintenance & Operations:

**Apr 11:** Staff went through the trap to inventory trapped Steelhead. There were 8 hatchery adult males and 5 hatchery adult females released into Clear Creek below the weir. There were also 2 wild adults, 1 male and 1 female released into Clear Creek above the weir. The trap was then closed.

**Apr 13:** The release of Steelhead smolts from Dworshak ended today, total released into Clear Creek were 378,000.

**Apr 18:** Avista had a tree trimming company come to the hatchery and trim the trees under the power lines.

**Apr 19:** Funds were released today for the turbidity and flow meters installed by USGS at the intake.

**Apr 20:** Staff began cleaning the Burrows ponds in preparation for moving BY15 from the rearing tanks to the Burrows ponds.

**Apr 20:** Kent & Gerry went to Lewiston to pick a new bathtub for quarters 4, the current one is cracked and leaking causing a mold problem.

**Apr 25:** Increased the flows in the rearing tanks to 24 gpm. Gerry and Kent replaced the bath tub in quarters 4.

**Apr 26:** Two more circular tanks arrived at the hatchery for installation.

**Apr 27:** Mike with Burton Construction came to the hatchery to inspect the burrows ponds for repairs. Fish health personnel came to the hatchery for the monthly inspection. Samples were taken from tank 14 & tank 19, they had the highest mortality. All samples appeared to be healthy and parasite free. The higher fish mortality is possibly due to genetic issues.

**Apr 28:** The installation of the new bath tub was completed.

### Kooskia NFH Training and conferences:

**Apr 07:** Kent attended the Production Leaders meeting at Dworshak.

**Apr 11:** Kent attended the Regional Production Leaders meeting.

**Apr 13:** Kent attended the Spring Chinook meetings in Lewiston.

**Apr 16:** Kenny completed the security awareness training.

**Apr 18:** Kent attended a meeting at Dworshak on adult holding and then traveled to Clearwater Hatchery to meet with Tony on adult holding and egg transport from spawning at Dworshak.

**Apr 26:** Kent attended an HET meeting at Dworshak.

**Apr 27:** Kent traveled to McCall for a Human Resources meeting.

**Apr 28:** Kent traveled to Lapwai for a 401k Sub Committee Meeting.



Credit: KNFH

Avista had a tree trimming company come to the hatchery and trim the trees under the power lines.

## Information and Education

### Dworshak - Jill Olson

**Facebook:** No posts this month      **Website:** Page Views– 333 ; Unique Visits - 265; First Time - 222; Return– 43

**Visitors:** We had 95 visitors from ten states & Canada **Tours:** We provided guided tours to four groups reaching 65 kids and 12 adults.

**Outreach:** We conducted fish anatomy dissections with six classrooms throughout the month. Participated in Environmental Education Days at Deyo Reservoir on April 28. This month's activities reached to 238 students and 20 adults.

**Volunteer Hours:** Ten volunteers put in 44.75 hours this month. Idaho Youth Cadets contributed 192 hours of service.

### Kooskia - Kent Hills

**Visitors:** On Apr 18 students from a local preschool came to the hatchery for a tour. Picnic tables were set up on the main lawn and Kent gave them a narrative of the hatchery operation as well as a tour of the fish in various stages of growth. There were 185 visitors to the hatchery during this month; this figure is compiled by staff.



Credit: Olson, FWS

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[http://www.fws.gov/pacific/experience\\_nature/](http://www.fws.gov/pacific/experience_nature/)

## 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 Devlin- 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,