



Dworshak Fisheries Complex

Monthly Activity Report



August 2014

U.S. Fish & Wildlife Service, Region 1

Volume 3, Issue 9

Manager's Message

Highlights:

- The egg take goal for Dworshak was met on August 26, 2014 (Take 3).
- DNFH Fish ladder was closed on August 22, 2014.
- KNFH Trap was closed on August 18, 2014.
- Total Fish on station at Dworshak: 9,075,996
- Total Fish on station at Kooskia: 666,159

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Credit : E. Rodgers

Steve Rodgers, Complex Manager

There's an age-old question: "Which came first, the chicken or the egg?" In fisheries management, there's a similar question: "Who is more important, the fish culturist or the evaluation biologist?" I've worked in hatcheries for twenty-six years, and alongside evaluation biologists at every one of them. Why is that? Who is more important?

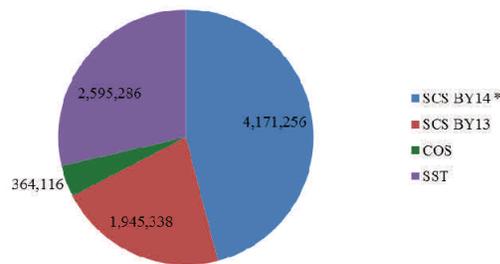
The answer, in my opinion, is neither is more important than the other. The reality is fish production and evaluation of that production is so intertwined that they may as well be the same job. It's obvious to all of us that the day to day work of a fish culturist is very different than the day to day work of an evaluation biologist. One produces and releases the fish, the other analyzes how those fish perform both within the walls of the hatchery and once released into the wild. That doesn't sound intertwined, but without fish production there is no need for evaluation of that production; and without evaluation how do we know how we're doing? Lack of evaluation often leads to no fish production.

What was that? No fish production? How is that possible?

It's important for all of us animal caretakers and fish culturists to recognize that our monitoring and evaluation biologists are our best ally for continued fish production. Why? Because our biologists are ensuring we release high quality fish that have the best chance of returning as adults, based on real data and real science. They ensure our programs impact wild fish and the natural environment within acceptable limits, they monitor straying, they watchdog genetic diversity, and on and on. Basically, they monitor our production programs, recommend improvements, and help us adapt to changes in the envi-

ronment, both natural and political. Without their help, many hatchery programs would fail to meet ever-changing expectations. Some of you can probably think of a hatchery or two that closed because its programs didn't evolve to meet dynamic change.

For example, the evaluation biologists at Lyon's Ferry Complex (where I used to work) recommended a variety of changes in how we trapped and spawned Chinook, to ensure we kept stray rate incorporation in the broodstock below 5%; and to infuse natural genetics into our hatchery program while maintaining adequate natural fish production in the stream. When the Hatchery Scientific Review Group (HSRG) came along, they didn't have a lot to say about that program. Why? Because our evaluation biologists were "ahead of the curve" and had changed our operations in advance of HSRG review.. However, it goes both ways. Our animal caretakers are usually the best experts when it comes to the fish on station. They observe the fish every day, from adults to eggs to fry to smolts. They care for our fish like no other, and know them like a farmer knows his cows. Fish culture IS an art, and our fish culturists are the artists. Our evaluation team relies on that expertise when designing and implementing studies that lead to improvements...hand in hand we go.



Hatchery Headlines: Dworshak Spring Chinook Salmon (SCS)***Brood Year 2013 (BY13)***

All SCS with the exception of the Selway Parr went through the marking trailer in August. Marking took place from Aug. 13-23 where 1.56 M fish were Ad clipped and 110K were coded-wire tagged. There was a surplus of 38,845 fish that were not marked and went towards the Selway Parr program, bringing our total number of Selway Parr fish to 384,890. Marking was the first full inventory for the SCS and differed from our estimated number of SCS by 1.4% (or 28,000 fish). At the end of August there were 1,945,338 fish in 30 RWs 100 fpp (3.2 inches). Mortality dropped from 0.37 % to 0.21% (4,104). There are four distinct ponding groups: Low-density, high-density, flow study, and Selway. Each group can be identified through parental based tagging (PBT) and/or lack of Ad fin. Raceway flow averaged 1000 gpm and water temperature was 44.6 degrees. The Selway group remains ad-intact and will be out-planted September 8-15.



Credit: FWS

Fish Culturist , Rob Bohn, loading chinook onto truck.

Brood Year 2014 (BY14)

Dworshak completed three spawning takes in August, where 801 females (or 3,139,920 green eggs) were spawned for Dworshak and 247 females (or 1,031,336 green eggs) were spawned for Kooskia. The fish ladder was closed on August 22. The egg take goal for Dworshak was met at take three, however, spawning will continue until broodstock needs for all hatcheries basin wide are met.

Hatchery Headlines: Dworshak Summer Steelhead (SST)***Brood Year 2014***

Marking was completed in August; take 10 was moved, Ad-intact, from the Nursery into 2 system 1 BPs. At the end of August no SST remained in the Nursery.

There were 2,595,286 SST in the Burrow's Ponds at the end of August averaging 41 fpp (4.2 inches). There were 9,889 mortalities (0.4%). Fish were split from system 1 into System 2 once the fish reached a minimum of 60 fpp. System 1 is on primary reservoir water and system 2 is on river water.

Hatchery Headlines: Dworshak Coho Salmon (COS)***Brood Year 2013***

At the end of August there were 364,116 Coho in 5 RWs averaging 105 fpp (3.06 inches). There were 693 (0.19%) mortalities during the month. Coho were inventoried and CWT this month. The full Coho report can be seen on page 4.



Credit: FWS

Tribal Intern, Savion Henry, moves female to sampling rack. During DNFH spawning

Hatchery Headlines: Dworshak (continued)**Total Fish on Station: Dworshak, 8/31/2014 (continued from page 2)**

SP	BY	Location	Number	Wt (lbs)	FPP	L in	L mm
SCS*	14	incubation	4,171,256				
COS	13	BP 74-82	364,116	3,837	95	3.1	79
SCS	13	RWs 1-30	1,945,338	19,496	100	3.1	78
SST	14	System 1-2	2,595,286	63,670	41	4.1	105
Total Fish/Fry on Station			9,075,996	87,003			

* SCS BY14 includes DNFH and KNFH egg production

Hatchery Headlines: Kooskia

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 2013

There are 666,159 Spring Chinook on station, at 52.1 fish per pound. These fish were fed 3,408 pounds of feed this month. Total mortality for August was 1,972, which is higher than normal mortality due to the tagging operation. The fish are on well water at an average temperature of 50 degrees F.

Kooskia Adult Trap Operations:

Adults taken to DNFH for spawning included 22 males and 30 females. Wild fish included, 3 wild jacks, 5 wild males and 1 wild female released into Clear Creek above the weir. In addition 31 hatchery jacks and 12 hatchery adult males were released into the Clearwater River.

The trap was closed on the 18th August.

Kooskia Chinook Brood Year 2014

A total of 818 Kooskia stock Spring Chinook were transported to the Dworshak Hatchery for brood stock this year. Eggs from 108 females were spawned and eggs from three females were culled on the table, leaving eggs from 105 females placed into incubation. After pathology sampling was evaluated, we will lose eggs from 4 Kooskia females for high BKD leaving 101 Kooskia females for enumeration. We also spawned a total of 210 DNFH females with pathology culling 11 for high BKD. This left 199 females eggs added to Kooskia stock to enumerate from the DNFH stock.

Hatchery Headlines: Nez Perce Tribal Fisheries At Dworshak**Performance August 2014**

The inventory of BY13 Coho on September 1st showed a total of 364,116 Clearwater stock Coho in five Burrows Ponds (74, 76, 78, 80, and 82). On the week of August 18th, a total of 292,458 BY13 Coho were inventoried through the marking trailer. A total of 205,315 were marked with CWT. All fish were split out of BP 80 and into BPs 74, 76, 78, and 80. BP 82 was not inventoried.

Table 1. Brood year 2013 Coho inventory as of September 1, 2014 at DNFH

	Number of Fish	Weight (lbs.)	FPP (average)	Length (inch)
BP 74	80,194	701	114.46	2.92
BP 76	79,704	697	114.33	2.92
BP 78	80,079	715	112.00	2.94
BP 80	51,817	393	132	2.79
BP 82	72,322	1332	54.3	3.75
TOTALS	364,116	3837	105.42	3.06

MORTALITY:

- The average percent mortality for Clearwater stock Coho for the month was 0.19%.
- Total monthly mortality after inventory was 693 collected by staff. 984 morts were picked and counted before inventory.

GROWTH:**DNFH**

- Average fish per pound (fpp) decreased from 141 fpp to 118.2 fpp.
- Average length increased from 2.73 inches to 2.89 inches.

KNFH

- Average fpp decreased from 63.03 fpp to 54.3 fpp.
- Average length increased from 3.57 inches to 3.75 inches.
- Overall average fpp decreased from 121.51 fpp to 105.42 fpp.
- Overall average length increased from 2.94 inches to 3.06 inches.

FEED:

- A total of 948 pounds Bio-Oregon's BioPro starter #1 crum, #2 crum, and 1.2mm feed was fed for the month. The cost of feed for the month was \$1,511.32.

FISH HEALTH:

- Monthly fish health samples were collected by Corrie Samson. See fish health report 14-211

REPORTS: NA**MEETINGS/TRAINING: NA**

Credit: Jill Olson/FWS

Mike Bisbee monitors fish counter as coho are moved from raceways to Burrows ponds .



Credit: Jill Olson/FWS

Laura Sprague inspects fish from Hagerman NFH

Idaho Fish Health Center—August 2014

Bacteriology: Laura performed bacteriology on 21 cases, including hatchery inspections, diagnostic cases and commercial inspections. 13 identifications were made. Laura also read FAT samples for 7 lots of commercial inspections and 2 lots of wild fish.

Virology: Corie ran a total of 342 samples representing 1348 fish from Dworshak NFH, Kooskia National Fish Hatchery, Nez Perce Tribal Hatchery, Aquaculture Research Institute – University of Idaho, Black Canyon Trout Farm, IDFG Clearwater Hatchery and the Wild Fish Health Survey. Corie ran 244 blind passes representing 635 fish from Dworshak NFH, Kooskia NFH, Nez Perce Tribal Hatchery – Lamprey program, Kootenai Tribe of Idaho, Nez Perce Tribe Coho Program and the Wild Fish Health Survey.

PCR: Rick confirmed IHNv in juvenile spring Chinook salmon from the B bank raceways in early August prior to tagging operations and splitting to A bank raceways. IHNv was also detected in juvenile steelhead trout in system 2 burrows ponds in late August by reverse transcriptase real-time PCR. After visiting with the Qiagen product manager from the molecular products section, regarding extraction and purification of nucleic acids from fish eggs, Rick was able to successfully extract nucleic acids from three day old spring Chinook salmon eggs with no inhibition exhibited during PCR.

ELISA: Guppy analyzed 211 samples by the ELISA test for Bacterial Kidney Disease (*Renibacterium salmoninarum*) on 8/19-8/20. She also tested 513 samples on 8/27-8/28. These primarily included samples from Dworshak NFH, Kooskia NFH, and Nez Perce Tribal Hatchery spring Chinook spawning female adults and 2 cases of monitoring juvenile spring Chinook at Kooskia NFH.

Parasitology: Rick processed heads from the wild fish survey, commercial hatchery inspection, adult spring Chinook salmon spawning and transfer inspections for screening for *Myxobolus cerebralis*.

FWS Hatcheries**Kooskia:**

Rick was assisted by Corie and Jill with sample collection during spring Chinook salmon spawning for Take 1 and 3 Kooskia. Tissue samples were collected during the spawning operations for the IHNv study from previously PIT adult spring Chinook salmon tagged and sampled at the time of trapping at Kooskia NFH.

Guppy visited Kooskia on 8/1 due to reported white areas on gills of some of the fish noticed while tagging. The white areas were due to a parasite called *Dermocystidium*, not new to Kooskia NFH.

Hagerman:

Corie visited Hagerman for routine exam on 8/08. The Rainbow trout were exhibiting some tail rot in a small number of the fish. Gas bubble was observed in some of the moribund fish. Steelhead tanks 23, 48 and 66 were also examined from Hatchery 1 and Hatchery 2. Some long rod bacteria were observed on the gills in tank 66; bacterial samples were taken.

Guppy visited Hagerman on 8/24 to confirm an infestation of the parasite *Ichthyophthirius* (Ich) on steelhead in the raceways. Recommendations were given to start treatment as soon as possible with formalin drip at 50 ppm over 6 hours, every other day. Fish from hatch house one were also examined, with no positive detections of Ich.

Dworshak: Rick was assisted by Corie and Jill with sample collection during spring Chinook salmon spawning for Take 1 and 3. Volunteer help during spawning was provided by Cameron Olson, Taylor Samson, Karee Wilson and Trevor Samson. Rick performed a follow up diagnostic case on the status of IHNv in juvenile spring Chinook salmon prior to tagging. IHNv was still present in SCS with typical clinical symptoms.

respectively, due to high mortality in several burrows ponds in system 2. IHN virus was suspected as the causative agent



Credit: USFWS

Idaho Youth Challenge Cadets aid Dworshak maintenance staff in cleaning up planter boxes at the Fish health Lab.



Credit: USFWS

Electrician Joe Livesay used the Youth Challenge Cadets to install a new conduit run to a failed light standard.



Credit: USFWS

Maintenance staff Scott Koehler supervises Youth Challenge Cadets in installing new sod at the hatchery entrance.

Maintenance Activities

Dworshak

Repaired outlets at chemical shed and feed building
 Replaced conduit to outside light standard at visitor lot
 Annual Generator service performed
 Completed installation of new irrigation system at housing and park area
 Seeded entrance berms
 Installed white board in production room
 Completed landscaping work at Fish health Lab
 Replaced Heat exchanger 8" valves in Mech I
 Incubation air compressor annual service
 Annual service on Komatsu Forklift
 Replaced brake master cylinder on Komatsu Forklift
 Traveling screen quarterly maintenance

Kooskia

Aug 01: 3 adult male Chinook were taken from the trap and transported to DNFH for spawning.

Aug 05: 5 female adults and 4 male adult Chinook were taken from the trap and transported to DNFH for spawning.

Aug 11: 6 adult female and 2 adult male Chinook taken from the trap and transported to DNFH for spawning also taken from the trap was 1 wild jack which was released into Clear Creek above the weir, also 5 jacks and 1 male adult were released in the Clearwater River at Pink House.

Aug 12: Kent, Art and Lindy to DNFH for spawning, they spawned 23 Kooskia Females and 171 DNFH females.

Aug 15: Staff moved 286 pounds of fish from BP 5 to BP1 to balance the number of fish in each pond.

Aug 18: 19 female and 13 male Chinook were taken from the trap and transported to DNFH for spawning, 1 wild female adult, 5 wild male adults and 2 wild jacks were released into Clear Creek for natural spawning. Also removed from the trap were 11 adult hatchery males and 26 hatchery jacks were released into the Clearwater River at Button Beach. The trap was closed.

Aug 19: Kent, Kenny, Art and Lindy went to DNFH for spawning, 370 DNFH females were spawned and 26 Kooskia fish were spawned. Art took the fish truck and went to McCall to assist Idaho State Fish and Game and Tribal Fisheries to capture Chinook for spawning in the South Fork of the Salmon River.

Aug 26: Kent, Kenny, Art and Lindy went to DNFH for spawning, 249 DNFH females were spawned which completed the egg take for DNFH. Due to high mortality among the Kooskia females, remaining DNFH females were spawned and put into Kooskia stock. Between the DNFH and Kooskia females, 177 were spawned.

Manager's Message (continued from page 1)

When an evaluation biologist asks you (the fish culturist) to divide the fish in some unusual way, or check for PIT tags on that nasty carcass, or do some other task not related to your fish production work, take it seriously and do your best. He or she needs your help to accurately evaluate our program and help us succeed. And the next time a fish culturist asks you (the biologist) to “stay off the pond wall” or “don’t crowd them that tight”, listen to what they say. They know our fish and how best to treat them. Show me a hatchery without meaningful evaluation and I’ll show you a closed hatchery. Show me a team of evaluation biologists with no fish production to evaluate, and I’ll show you a team of unemployed biologists. Like it or not, the culturist and biologist need each other, like our fish need water.

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Hatchery Headlines: Nez Perce Tribal Fisheries At Dworshak (Continued from page 1)

CONDITION FACTOR: Table below shows averages for all Coho BPs. 150 fish / pond sampled. Condition Factor = weight / length³ * 100000

BP	LENGTH (mm)	WEIGHT (g)	CONDITION FACTOR (K)
74	69.01	4.10	1.25
76	69.11	4.26	1.29
78	67.86	3.96	1.27
80	67.61	3.67	1.19
82	89.47	8.85	1.23

Information and Education Corner

August: Tours– 1, 9 people; Register– 67 visitors from 14 states, Canada; Website -X visitors; Facebook reach-3,254

Dworshak A total of 8 civil and hydraulic engineers and a biologist toured the facility on August 26 at 12:30. Hoopa Valley Tribal Fisheries from Northern California observed spawning operations and toured the facility on August 26.

Off-site: Jill Olson took NPT Intern and a student volunteer into field to plant Lamprey Geocache Travel Bug!

Kooskia: There were 401 visitors to the hatchery during this month; this figure is compiled by staff. The hatchery was visited by a group from the Hoopa Valley Tribal Fisheries from Northern California; they were interested in the operation and goals of Kooskia hatchery to include trapping, spawning and rearing.

Off-site: NPT Intern to field to learning about geocaching and plant Lamprey Travel Bug!



Credit: Jill Olson/FWS

Ripe spring chinook eggs



Credit: NPT-Kooskia

Spawning day at DNFH



Credit: NPT-Kooskia

Rinsing eggs from
Kooskia broodstock at
DNFH

Aquatic Conservation

- Met with Bihn Quan(QW Consultants) to assist the Council with their bull trout “Dashboard” and identification of High Level Indicators (HLI). We discussed the timeline associated with the new draft recovery plan and how to approach the work needs when the plan gets released..
- Completed FRO Accomplishments for the Aquatic Conservation Program in FIS.
- Met with Brandon Glaza (Idaho Panhandle National Forest) to tour the Bonners Ferry Ranger District and visited several potential fish passage project sites in the Kootenai River Basin.
- Attended the monthly meeting of the Clearwater Basin Collaborative.
- Coordinated with Sam Lohr, Denise Hawkins, and R.D. Nelle via teleconference on August 18 to discuss approaches and protocol for Aquatic climate change monitoring on National Wildlife Refuges.

Meetings....Training....Travel

Dworshak

Aquatic Resources- Salmon Office: Jody Brostrom attended the National Fish Passage and Habitat Partnerships Coordinators meeting in Arlington, VA. Attended the Western Lampreys Conservation Team meeting in Vancouver, WA to discuss Regional Implementation planning and convene Conservation Plan Steering Committee.

Information and Education- Jill met with Cheri Anderson at Spring Creek Hatchery to tour Columbia River facilities to view interpretive panels and develop plan for DNFH.

Kooskia

Kent had a meeting at Kooskia concerning the installation of recirculating tanks.

Kent went to DNFH weekly to teach Cold Water Fish Culture classes.

Lindy spent two days training with Fish Health at the Fish Health Center in Ahsahka, Id.

Idaho Fish Health Center (continued from page 5)

Laura performed monthly monitoring on system 1 and 2 this month. Laura and Guppy examined steelhead on 8/28 and 8/29, respectively, due to high mortality in several burrows ponds in system 2. IHN virus was suspected as the causative agent and was confirmed by qPCR by Rick on 8/29. Cell culture samples were also taken and found to be positive for IHNV.

NEZ PERCE TRIBE: Laura collected fish for a transfer inspection of

SCS being transferred from Clearwater State Hatchery to NPTH for their yearling release program. In addition, a transfer inspection was performed on 60 fish from the

Sweetwater Springs facility; 30 from fish destined for Newsome Creek Acclimation site and 30 from fish destined for Yoosa Camp Acclimation site. No fish were on station at NPTH, so Laura performed no monthly monitoring there.

Monthly monitoring on Coho salmon at Dworshak was conducted on 8/29 by Corie. BP 76 was examined. Fish were eager to feed. Fish looked good. No parasites or bacteria were observed. 5/5 had food in their stomachs. There was a moderate amount of debris on the skin and gills possibly from the net. Ponds looked very clean and routine cleaning and disinfecting of the nets was recommended.

Wild Fish Survey

Kidneys from Lake Pend Oreille and Preist Lake were submitted for FAT. Previous samples were processed by ELISA, but AVISTA wanted them processed by FAT for consistency.

Other

Laura and Guppy submitted accomplishment reports for the Idaho FHC in FIS as requested by the regional office. Corie also compiled and Guppy submitted the Idaho FHC's annual conference plan.

Laura traveled to Grace, Idaho and performed an inspection for Black Canyon trout Farm. In addition to normal sampling, she inspected for gill copepods and New Zealand Mudsnaills.

Kooskia NFH's tribal intern, Lindy, spent two days at the Idaho FHC to learn about and gain experience in fish health.

Guppy attended the regional Project Leader meeting in Vancouver, WA during the week of Aug. 11.

Guppy compiled and submitted the USFWS fish health report to the Pacific NW Fish Health Protection Committee (PNFHPC) for all four fish health centers in Regions 1 and 8 for an upcoming PNFHCP meeting in Sept.

Guppy gave a presentation for an overview of the IHN virus at Dworshak for a Corps of Engineers meeting and tour of Dworshak NFH on 8/25.

Corie attended training for the RAS system at the Hagerman National Fish Hatchery on 8/8.



Credit: Jill Olson/FWS

Can you find me?

I am a Pacific Lamprey travel bug hiding at a geocache site within the Clearwater Basin . Find me, record me , and help me migrate to the Pacific Ocean and back one cache at a time..



Credit: Jill Olson/FWS

Students plant Luna the Lamprey geocache travel bug as part of a Region 1 effort to educate people about Pacific Lamprey and the FWS initiative Take Time to Connect!

<http://on.fb.me/1CYieo7>



Credit: Jill Olson/FWS

Administrative Activities

Personnel Actions- IFRO: 1

Safety Incidents—None reported

Staff Birthdays



Penny Hasenoehrl

Rob Bohn

Laura Sprague

Staff List

Complex Management

Steve Rodgers, Complex Manager
 Mark Drobish, Dworshak NFH Manager
 Mike Tuell, SRBA Coordinator
 Nate Wiese, Assistant Hatchery Manager
 Dr. Marilyn “Guppy” Blair, Idaho Fish Health Ctr.
 Mike Faler, Aquatic Conservation Lead
 Adam Izbicki, Maintenance Supervisor
 Dr. William Conner , Fall Chinook Research Lead
 Kent Hills, Kooskia NFH Manager
 Dr. Chris Peery, Fish Production M&E Lead

Dworshak Production Staff

Angela Feldmann, Jill Olson, Rob Bohn, Wayne Hamilton, Tom Tighe, Mike Bisbee, Tui Moliga, Lou Ann Lasswell, Steve Coomer, Jeremy Sommer, Carter Lopez, Mike Murphy, Casey Mitchell

Administration

Penny Hasenoehrl, Steve Bradbury, Randy Bowen

Maintenance

Adam Izbicki, Terry Weeks, Rick King, Rob Kellar, James Oatman, Scott Koehler, James Paddelty, Melissa Wright, Joe Livesay

Idaho Fish Health Center

Dr. Marilyn Blair, Laura Sprague, Corie Samson, Rick Cordes, Chelsea Weeks

Idaho Fishery Resource Office

Ray Jones, Aaron Garcia, Carrie Bretz, Frank Mullins, Jody Brostrom, Ken Bugler, John Hook, Brad Buechel

Kooskia National Fish Hatchery

Art Broncheau, Kenny Simpson, Gerry Fogelman