Manager's Message....

Find Solutions and Move Forward

In November, 2007, the Environmental Protection Agency issued a Notice of Violation to the Dworshak Hatchery for various issues specific to our NPDES Permit. A few of these items were easily addressed and corrected. One of the tougher challenges (not easily addressed) was our inability to treat cleaning waste from System III. The Dworshak Hatchery was constructed prior to environmental laws such as the Clean Water Act of 1973 and therefore, the original construction didn’t allow for treatment of cleaning waste (unless System III was operated on reuse continuously). Earlier this fall, a series of infrastructural changes were made, the plastic bio-filter media was removed from System II and operational procedures were modified. As a result of the staff’s efforts here at the hatchery with support from the Walla Walla District and the Lower Snake River Compensation Program, we are now able to operate System III and direct cleaning waste water and allow solids to a settling basin rather than running this cleaning waste directly to the river. Although this is a temporary solution while we move forward with the rehabilitation project, it allows us to be aggressive in our efforts to produce Steelhead, Chinook and Coho Salmon for all intended purposes. Thanks to all for your efforts and let’s move on to the next challenge! - Mark Drobish

Special points of interest:
- Total Fish on station at Dworshak: 6,418,293
- Total Fish/Eggs on station at Kooskia: 687,065
- Dworshak’s Facebook page is going strong!
- Coho salmon spawning began in October.

Production Summary: Dworshak National Fish Hatchery

Figure 1. Total Production—Fish on Station (10/31/12).

SCS=Spring Chinook; CW SCS=Clearwater Hatchery Spring Chinook; SST= Steelhead; COS=Coho
**Hatchery Headlines: Dworshak Spring Chinook Salmon (SCS)**

**Brood Year 2011 (BY11)**

At the end of the month there were 1,381,450 BY 11 SCS on station averaging 42 fish per pound (fpp) and 109 mm (4.3 inches) total length. There were 597 (0.04%) SCS mortalities in the raceways (RWs) during the month. Fish in the B bank raceways are on serial reuse and average flow is 978 GPM. Water temperature averaged 50.0°F in the RWs.

**Brood Year 2012 (BY12)**

October was a very busy month shocking, enumerating, and shipping SCS eggs. Of the 1.9 million eggs taken for Rapid River, 659,000 eyed eggs were shipped to the hatchery. Clearwater Hatchery took 378,000 eyed eggs for additional production from eggs collected for Rapid River. Another and 367,000 eyed eggs were shipped to Clearwater from Kooskia broodstock as part of the AOP. Dworshak plans to rear the remaining SCS collected for Rapid River, approximately 1 million fish. In total there were 2.04 million eyed eggs enumerated for Dworshak and eye up was 96%. Kooskia enumerated and shipped 757,920 eyed eggs with eye up at 92.1%. These eggs will be reared to release at Kooskia NFH. Enumeration will continue into early November. All Dworshak SCS eggs are being incubated on chilled water at about 38°F. With the additional broodstock our chiller is at maximum capacity. We are in the purchasing stage for getting a second chiller which will allow us to slow BY 12 SCS growth enough to allow ponding after BY 11 SCS release.

**Hatchery Headlines: Clearwater Hatchery SCS**

**Brood Year 2011 (BY11)**

At the end of August there were 2,514,478 SCS averaging 32 fpp and 114 mm (4.5 inches). There were 5,508 mortalities in October (0.23%). Fish in BP 54 were diagnosed with BKD and were treated with Aquaflor for 10 days. This treatment was followed up with a 28 day Erythromycin medicated feed treatment. Water temperature averaged 46.6 and flow was 600 gpm.

**Hatchery Headlines: Dworshak Summer Steelhead (SST)**

**Brood Year 2012**

At the end of the month there were 2,203,033 BY 12 SST in the BPs averaging 23 fpp and 127 mm (5.0 inches) total length. There were 1217 (0.06%) mortalities this month. Systems I, II, & III are on river water; average water temperature was 50.3 °F and average flow was 600 gpm.

**Hatchery Headlines: Dworshak Coho Salmon (COS)**

**Brood Year 2011**

There were 319,332 Coho at the end of the month. Fish averaged 28 fpp and 118 mm (4.65 inches). Total mortality for the month was 210 (0.07%).

Spawning for BY12 began in October. A total of 422 females were spawned with 413 males. Spawning will continue into November until egg take goals are met. Coho eggs are being incubated at Dworshak on non-chilled water. The full Coho report can be seen on page 4.
Hatchery Headlines: Kooskia

Kooskia NFH Monthly Activity Report

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.

Art Broncheau is still out on medical leave from his car accident. Hope is that he will return to work the middle of November.

My thanks goes out to Kenny Simpson in assisting in all report writing, and to Gerald Fogelman and Kenny Simpson for stepping up and keeping the hatchery operations running smoothly in my absence.

Kooskia Adult Trap Operations Brood Year 2012

The Kooskia Adult Trap was opened on the 1st of October for Coho capture.

During the month of October 501 male Coho and 404 female Coho were trapped, gathered and transported to DNFH by tribal fisheries personnel.

The trap remains open.

Kooskia Chinook Brood Year 2011

Fry have been in the Burrows Ponds (BP) for six months and are growing well and mortalities are low. At the end of the month, the fry are 27.5 fish to the pound and 4.95 inches (126 mm) long. We have a total of 687,065 on station. Total feed consumed this month was 3,020 lbs. BP water temperature for the month has varied, the wells and the chiller were turned off and the BP’s were put on creek water, the average temperature was 46 degrees F. Data sheets for feed consumption and fish inventory are attached.

Fish health inspected the fish on October 25. It was determined the fish are healthy with no bacteria or parasite issues.

(Continued on page 5)

Total Fish on Station: Dworshak, 10/31/2012

<table>
<thead>
<tr>
<th>SP</th>
<th>BY</th>
<th>Location</th>
<th>Number</th>
<th>Wt (lbs)</th>
<th>FPP</th>
<th>L in</th>
<th>L mm</th>
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</thead>
<tbody>
<tr>
<td>SCS</td>
<td>12</td>
<td>eggs/incubation</td>
<td>2,040,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SCS</td>
<td>11</td>
<td>RWs 1-30</td>
<td>1,381,450</td>
<td>32,985</td>
<td>42</td>
<td>4.3</td>
<td>109</td>
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<tr>
<td>COS</td>
<td>11</td>
<td>System III</td>
<td>319,332</td>
<td>11,259</td>
<td>28</td>
<td>4.7</td>
<td>118</td>
</tr>
<tr>
<td>SCS</td>
<td>11</td>
<td>System III</td>
<td>2,514,478</td>
<td>78,767</td>
<td>32</td>
<td>4.5</td>
<td>114</td>
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<tr>
<td>SST</td>
<td>12</td>
<td>System I</td>
<td>802,417</td>
<td>25,411</td>
<td>32</td>
<td>4.5</td>
<td>114</td>
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<tr>
<td>SST</td>
<td>12</td>
<td>System II</td>
<td>1,118,966</td>
<td>77,044</td>
<td>15</td>
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<td>148</td>
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<tr>
<td>SST</td>
<td>12</td>
<td>System III</td>
<td>281,650</td>
<td>20,988</td>
<td>13</td>
<td>6.0</td>
<td>152</td>
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<tr>
<td>SST</td>
<td>12</td>
<td>SST on feed Tot/Avg</td>
<td>2,203,033</td>
<td>202,210</td>
<td>23</td>
<td>5.0</td>
<td>127</td>
</tr>
<tr>
<td>Total Fish/Fry on Station EOM</td>
<td>6,418,293</td>
<td>246,454</td>
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</tr>
</tbody>
</table>
Hatchery Headlines: Nez Perce Tribal Fisheries

Performance for September 2012, BY 11 Coho

The inventory of Brood year 2011 Coho on November 1st showed 319,332 Clearwater-stock are being reared in four Burrows Ponds at Dworshak National Fish Hatchery (DNFH) as shown in Table 1 below.

Table 1. Brood year 2011 Coho inventory as of November 1, 2012.

<table>
<thead>
<tr>
<th>Ponds</th>
<th>Number of fish</th>
<th>Weight (lbs)</th>
<th>FPP</th>
<th>Length (inch)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>85146</td>
<td>3063</td>
<td>27.83</td>
<td>4.68</td>
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<td>78</td>
<td>85159</td>
<td>2896</td>
<td>29.44</td>
<td>4.60</td>
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<td>80</td>
<td>85133</td>
<td>2990</td>
<td>28.51</td>
<td>4.64</td>
<td>CWT 22-00-08</td>
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<tr>
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<td>2322</td>
<td>27.53</td>
<td>4.70</td>
<td>CWT 22-00-08</td>
</tr>
<tr>
<td>Totals</td>
<td>319332</td>
<td>11259</td>
<td>28.36</td>
<td>4.65</td>
<td></td>
</tr>
</tbody>
</table>

MORTALITY:

The average percent mortality for Clearwater stock Coho during October was 0.07%.

Total monthly mortality was 210 as collected by staff

GROWTH:

Fish per pound (fpp) decreased from an average of 34.20 fpp to 28.36 fpp.

Length increased from an average of 4.37 inches 4.65 inches.

CONDITION FACTOR:

150 fish were sampled for weight and length from each pond. Average length was 110.4 mm, average weight was 16.14 g, and average condition (K) was 1.20.

FEED:

Coho fry were fed Bio-Pro 2.0 mm at 1.2% of their body weight.

A total of 1,617 pounds of feed was fed during the month of October. The total cost of feed for the month of October was $3,568.

FISH HEALTH:

Corrie Samson (USFWS) conducted monthly fish health testing on Coho (case # 13-017).

PERSONNEL:

10/1 – Dexter Rickman was hired.

10/11 – Ryan Jain was hired.

10/15 – Casey Mitchell and Joe Samuels were hired.

MEETINGS/TRAINING:

o Mike Bisbee attended weekly supervisor meeting at Dworshak.
Volume 1, Issue 12

Page 5

Dworshak Stats: Tours-0, 0 people; Register– 91 visitors from 13 states, 2 countries; Volunteers– 1 logging 8 hours; Website visitors– 221; Blog Visitors– 661 from 10 countries!

On Site:

• Posted one article to the Dworshak Fisheries Complex Blog. Please visit the site: The Fish Ladder: Notes from Dworshak Fisheries Complex; your contributions and comments are always welcome!
• Do you have a Facebook account? Have you “Liked” the Dworshak Fisheries Complex Facebook page yet? Our page is getting a lot of views, shares, and has over 60 likes. We are trying to make daily posts about activities, nature sightings, and general goings-on at Dworshak and the Clearwater River area. If you haven’t yet, take a minute to look at the page: Dworshak Fisheries Complex, and like us!
• Completed target setting goals for FY 2013 in ECOS.
• Updated Dworshak web page.

Off-site:

• Tom Tighe conducted an after school program at the Orofino Library on October 10.

Kooskia

Hatchery Personnel are trying to keep a number count of visitors on the grounds. We had approximately 175 visitors for the month by the manual count.

Broodstock On Hand in HP2:

Lapwai Males = 80, Dworshak Males = 119, Kooskia Males = 381
Lapwai Females = 92, Dworshak Females = 118, Kooskia Females = 300

SPAWNING:

Take # 1 – 10/23/12 – Adult Coho Spawned - Females = 287, Males = 283
Take # 2 – 10/30/12 – Adult Coho Spawned – Females = 135, Males = 130
All Coho eggs are being incubated at Dworshak NFH in Banks F,G, and H.

Hatchery Headlines: Kooskia

(Continued from page 3)

Kooskia Chinook Brood Year 2012

The incubation system is up and running maintaining a temperature of 39 degrees F.

Kooskia Hatchery personnel traveled to DNFH on several occasions this month to shock and enumerate eyed eggs. A total 757,920 eyed eggs were transported to KNFH; eyed eggs will be picked weekly and evaluated for fungus growth until hatch.

Information and Education Corner

Dworshak

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**Maintenance Activities**

**Dworshak**

October maintenance activities included:

- Began installation of four new nursery tanks.
- Terry Weeks and Jamie Henderson attended water reuse course.
- Repaired asphalt voids around the facility.
- Installed flowmeter on pump #3.
- Installing wiring in Mech II for new controllers.
- Installed VFD ultrasonic probe on main aeration.
- Ordered parts for new chiller installation.
- Repair public restroom plumbing.
- Attached Lab bookshelves to wall for seismic code.
- Serviced Chevy Trailblazer.
- Repaired overhead door on feed building.
- Tied in old incubation chiller to 8” supply line to new chiller.

**Kooskia**

10/01: Trap was opened to trap Coho.
10/08: Gerry installed a new compressor in the shop.
10/09: Switched from well water to creek water, turned off the chiller, bio-filter and aeration units. Reduced well productions from 300 gpm to 30 gpm to prepare for egg incubation.
10/10: Gerry put together a new trailer for maintenance transport issues.
10/11: Gerry turned on the incubation chiller.
10/17: Burton Construction began work on the domestic well contract.
10/22: Kenny went to DWFH to enumerate KFH take 1 and brought them back to KFH.
10/23: Kenny & Kent went to DWFH to assist in spawning Coho.
10/24: Staff removed shade screens from Burrows Ponds.
10/25: Gerry winterized the lawn mowing equipment.
10/29: Kenny went to DWFH, enumerated and transported take 3 to KFH.
10/30: Kenny went to DWFH to shock KFH take 4&5.
10/31 Kenny went to DWFH to enumerate KFH take 4&5.
Idaho Fish Health Center

Complex Hatcheries

**Kooskia:** Guppy performed routine monitoring on 10/24. Fish were healthy upon examination. Kidneys from 10 fish were sampled for R. salmoninarum monitoring by ELISA.

**Dworshak:** Rick sampled sixty BY11 juvenile SCS from each of two density treatment groups in B series raceways for the initial fish health monitoring for a pilot density study on October 17. No external or internal abnormalities observed. No external parasites were observed. Screening for bacterial and viral pathogens is pending.

Monthly monitoring of Dworshak juvenile STT was performed, and fish were found to be healthy. Fish appear a little crowded, but no external parasites seen. However, gills were a little swollen and had excess mucous.

Liz sampled 30 adult steelhead fresh from the Clearwater River for IHNV study on 10/22.

**Nez Perce Tribe:** Take one samples were collected by Rick from 287 female and 30 male spawning adult COHO salmon at Dworshak on October 23. Take two Coho spawning samples (77) were collected by Liz on 10/30.

Spawning began for NPTH FCS adults on 10/23.

The Cooperative agreement with the Nez Perce Tribe for fish health services expired September 30, 2012. Guppy and Laura met with Steve Rogers and separately with Mike Bisbee to discuss temporary MOUs to get them through FCS and COS spawning, which will give more time to write a new longer term Cooperative agreement.

Corie conducted the monthly monitoring for the Nez Perce Tribe COS. Fish were all healthy at the time.

**Bacteriology:** 60 Kokanee collected from Dworshak Reservoir for Wild Fish Health Survey samplings were cultured and only environmental bacteria found. No reportable bacteria were found. Four samples Corie brought back from Hagerman NFH are pending for CWD confirmation.

**Virology:** Corie ran a total of 259 samples from NPT Coho salmon, NPTH fall Chinook salmon, Kooskia Spring Chinook salmon, Kootenai Tribe of Idaho rainbow trout, and Dworshak NFH. Dworshak samples included steelhead fresh from the river for epidemiological study purposes. She ran 48 blind passes from the Wild Fish Survey and NPTH.

**PCR:** Rick assisted Laura with the second round of Renibacterium salmoninarum PCR laboratory proficiency testing for the USGS Western Fisheries Research Center. Laura ran the nested PCR tests while Rick ran the qPCR tests.

Rick set up a new magnetic bead nucleic acid purification instrument for extraction of DNA and RNA from fish tissues for pathogen screening. This extraction instrument was used for the Plate 1 proficiency test for extraction of RNA for ISAv screening using real-time RT-PCR for the Pacific Northwest Surveillance Program administered by the US Dept. of Agriculture Animal and Plant Health Inspection Service. Gill/kidney/heart tissues were also collected from early run steelhead to compare real-time RT-PCR screening for IHNv versus traditional cell culture.

Monthly samples from Hagerman NFH, as well as some diagnostic samples were found to be positive for Nucleospora salmonis. Further samples are being extracted from virology pellets to be run at a later date.

**ELISA:** Guppy ran 8 samples for a second round of R. salmoninarum (BKD) ring testing from the USGS Western Fisheries Research Center on Oct. 17-18.

**Parasitology:** Thirteen cases from 2012 wild fish health survey were screened for Mxyobolus cerebralis by pepsin trypsin digest. Twelve of the thirteen cases are suspect Mxyobolus cerebralis positive. All suspect positives will be confirmed by nested PCR.

**Wild Fish Survey:** Kokanee were received from the IDFG Dworshak Trawls. No virus detected. Laura produced reports for 2010 and 2011 WFS positive Myxobolus cerebralis (Whirling Disease) results and mailed to IDFG Eagle lab and IDFG managers. Laura attended a UAT WFS Database conference call. She also finished an additional 13 Use Cases for requirements for the new AQHIS system.

(Continued on page 9)
Meetings....Training....Travel

Dworshak

10/2-3 Rick Allain, Rob Bohn, Wayne Hamilton, Tom Tighe, Jeremy Sommer, LouAnn Lasswell, Carter Lopez and Kent Hills attended the Aquaculture Reuse Workshop held at the Best Western in Orofino, Idaho on October 2nd and 3rd, 2012. The Course was taught by Dr. Brian Vinci and Dr. Chris Good of the Freshwater Institute.

10/2 Jack Christiansen and Mark Drobish participated in a conference call with CH2MHill to discuss technology and operational logistics for planning ahead for the Rehabilitation Project

10/4 A meeting was held to review and discuss the hatchery’s infrastructure and operational changes relative to previous violations of the National Pollutant Discharge Elimination System (NPDES) permit. Chris Gebhardt, EPA was on-site along with representatives from the U.S. Army Corps of Engineers, Bonneville Power Administration, the Nez Perce Tribe, Idaho Fish and Game and the U.S. Fish and Wildlife Service. The infrastructure and operational changes enable the hatchery to treat all cleaning waste from fish reared in System III

10/9 Mark Drobish provided an update on the Project Leader’s call on how Dworshak Hatchery has implemented Parental Based Tagging

10/11-12 Mark Drobish participated in the Strategic Habitat Conservation workshop in Portland

10/25 The Dworshak Complex enjoyed a generous “Subway Lunch” courtesy of Robyn Thorson and Rich Hannan. Subway-Eat Fresh! Thank you Robyn and Rich!

10/25 Becky Johnson and Kent Hills, Nez Perce Tribe and Nate Wiese and Mark Drobish met for the monthly Snake River Basin Adjudication meeting to discuss funding, upcoming staffing and vacancies, cost allocation and lease agreements

10/29 Roto-Rooter of Lewiston, Idaho began removal of the plastic media from the System II chamber (old bio-filter)

Kooskia

10/2-3 Water reuse for intensive fish culture class was held in Orofino, all staff members attended.

10/16 Kent attended the Northwest Tribal Fish Conference in Portland, OR.

10/26 Gerry met with Mark Harris to go over the domestic well project.

**Special note to Gerry for handling fish culture in addition to his other duties while Kenny was a DWFH handling KFHBY12.
Administrative Activities

Safety

None Reported for October

Personnel Actions

Nothing reported for October

Staff Service Anniversaries and Birthdays

October Birthdays  Years of Service
Wayne Hamilton  Carrie Bretz, 10 years
Angela Feldmann

Idaho Fish Health Center

(Continued from page 7)

Guppy participated on an all FHC conference call coordinated by Joel Bader, FWS National Aquatic Animal Health Coordinator on 10/1.

Rick and Corie attended the Water Reuse for Intensive Fish Culture Course on October 2 and 3 in Orofino, Idaho sponsored by the Fresh Water Institute and Dworshak National Fish Hatchery.

Guppy participated in RO target setting training webinar on 10/18.

Rick and Guppy participated in the Dworshak Complex Evaluation Team Meetings to discuss the spring Chinook salmon rearing density study on 10/9, 10/17, 10/23, and 10/31.

Rick, Liz and Guppy attended the Coho pre-spawning meeting on 10/9.

Guppy attended 3 EEO/Diversity training webinars on 10/10, 10/16, and 10/25.

Guppy and Sonia Mumford (Olympia FHC) submitted a presentation abstract for the NW Fish Culture Conference.

Laura updated detailed budgets for funding sources; and completed a draft on a 1311 detailed budget for RO. In the early years of fish health, virology services were not available for commercial and private aquaculture. It was written into USFWS policy that our fish health centers would provide this service free of charge. It was decided by many PL’s that since we were already taking 60 fish per lot for virus, we would provide total inspection services. During the late 90’s and early 2000’s more labs outside FWS started up virology services. In the face of declining budgets, some FHC’s started charging small fees for service, however they were not standardized in those charges within the lab, let alone nationally. In 2005, the 9 PL’s developed a fee schedule for 15 years to be implemented starting in 2006. The Idaho FHC has been slow in implementing the fee schedule, so we produced a standard fee schedule based on the 2005 guidelines. This will be used to determine fees for services to non-funding sources because the fee does not fully reflect the actual cost to do business.

Laura also completed a detailed budget for ISAv Samples for HQ and RO.
Staff List

Complex Management
Mark Drobish, Acting Complex Manager
Kent Hills, Acting Nez Perce Tribe Co-Manager
Nate Wiese, Acting Hatchery Manager
Assistant Hatchery Manager
Jack Christiansen, Aquatic Engineer

Dworshak Production Staff
Mark Bright, Angela Feldmann, Jill Olson, Rick Allain, Rob Bohn, Wayne Hamilton, Ben Wright, Tom Tighe

Nez Perce Tribe Production Program
Mike Bisbee, Tuianna Moliga, Lou Ann Lasswell, Steve Coomer, Jeremy Sommer, Clarice Holt, Carter Lopez

Administration
Penny Hasenohrl, Steve Bradbury

Maintenance
Adam Izbicki, Ben Greene, Terry Weeks, Rick King, Rob Kellar, James Oatman, Jamie Henderson

Idaho Fish Health Center
Dr. Marilyn Blair, Liz Steiner, Laura Sprague, Corie Samson, Rick Cordes

Idaho Fishery Resource Office
Howard Burge, Mike Faler, Dr. William Conner, Ray Jones, Aaron Garcia, Carrie Bretz, Frank Mullins, Dr. Chris Peery, Jody Brostrom, Randy Bowen, Ken Bugler

Kooskia National Fish Hatchery
Kent Hills, Art Broncheau, Kenny Simpson, Gerry Fogelman

Nez Perce Tribe and Dworshak NFH Production, Maintenance, and Administrative staff.
Credit: Angela Feldmann/USFWS

Parting Shot
Ray Jones presents Carrie Bretz with a 10 year service award.
Credit: Angela Feldmann/USFWS