

## **BAKER RIVER PROJECT LICENSE IMPLEMENTATION**

### **Aquatic Resources Group**

**January 13, 2009 (9:00 a.m. - 3:00 p.m.)**

**WDFW Mill Creek Office  
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**Please tell Arnie (425-462-3442 (w) or 206-276-0316 (c)) if you plan to call into meeting**

### **AGENDA**

1. Review notes/agenda/action items from December 9th, 2008 meeting	9:00 - 9:10
2. BRCC and License Process Update	9:10 - 9:30
3. Presentation on USACE Flood Control Operations (USACE-Ken Brettman)	9:30 – 10:30
<i>Break at 10:30</i>	
4. Presentation on System Reliability/Mid-C Operations (PSE-Galloway)	10:30 - 11:30
5. Required Decision Today: <ul style="list-style-type: none"><li>• Draft Smolt Capacity Study Plan</li></ul> <i>Lunch Provided at 12:00</i>	11:30 – 12:30
6. Hatchery Update (PSE-Jenness)	12:30 - 1:00
7. Brief Updates Fish Facilities Operations Topics <ul style="list-style-type: none"><li>• Sockeye Spawning Beach and AI Operations (WDFW/PSE)</li><li>• Fish Rearing Inventories &amp; Releases (PSE-Bruland)</li><li>• Adult Trap Protocol Update or Changes</li><li>• Skagit River Fish Update (WDFW)</li></ul>	1:00 – 1:55
8. FPTWG Updates <ul style="list-style-type: none"><li>• Bull Trout Genetic Analysis (PSE)</li><li>• Adult Trap Construction - Shutdown Window (PSE)</li></ul>	1:55 – 2:45
9. Other License Implementation Updates	2:45 – 2:55
10. Evaluate meeting, set agenda for next meeting (February 10 <sup>th</sup> , 2009 at Mill Creek)	2:55 – 3:00

## **Baker River Project License Implementation**

### **Aquatics Resource Group Meeting Final Meeting Notes**

January 13, 2009 ~ 9 am – 1 pm  
**WDFW Office ~ Mill Creek, WA**

**Team Leader: Arnie Aspelund, PSE,** (arnie.aspelund@pse.com)

#### **PRESENT**

Arnie Aspelund, Cary Feldmann, Nick Verretto, Haley Edwards, Jacob Venard, and Doug Bruland (PSE); Phil Hilgert (R2); Kevin Kurras, Brett Barkdull, Kevin Clark and Rich Johnson (WDFW); Jeff McGowan (Skagit Co.); Arn Thoreen (Skagit Fisheries); Stan Walsh (SRSC); Bob Helton (Citizen); Stan Zyskowski (NPS); Craig Olsen (NWIFC); Steve Fransen by phone (NMFS); Jon-Paul Shannahan by phone (Upper Skagit Tribe); Lou Ellyn Jones by phone (USFWS); Lyn Wiltse and Jamie Riche (PDSA Consulting, Inc.).

**NEXT ARG MEETING:** February 10, 2009, and second Tuesdays throughout 2009

**DECISIONS** – Notification requirements were met, a quorum is present, and proxies were noted, so we agreed that we can make decisions today. **Proxies:** none.

The ARG adopted the following decisions by consensus of all members present:

- The ARG approved the study methodology proposed by the Smolt Capacity Teamlet
- The ARG agreed on the in-water and trap shutdown schedule timeframes, with one edit, as noted in the attachment titled “Permitting schedule bullets MS 011209”

#### **NEW ACTION ITEMS**

- All: Ensure your agency / organization has identified its representatives to the BRCC.
- All: Let Nick know if you want copies of WDFW lab analysis of Char tissue samples.
- Kevin: Send out comprehensive AI data to all.
- Cary: Check representative response status, follow up as needed.
- Doug: Draft, distribute memo re: Little Park Creek Trap operation prior to Feb. ARG mtg.
- Arnie: Attach the updated “Permitting schedule bullets MS 011209” to these notes.

#### **PREVIOUS, STILL RELEVANT, ACTION ITEMS**

- Gene: Update High Flows PowerPoint chart to include flood storage.
- Arnie: Schedule a reliability / mid-C study / climate change dialogue for a future ARG meeting.
- Kevin: Work with Doug to compile and send out summary of AI data to all.
- Jacob: Set up cross-resource aquatic riparian teamlet.
- Jed: Report on fry allocation between the two reservoirs (in spring).
- Jed: Look into disease policy issues re: WDFW’s request to plant Rainbow in Grandy and Vogler.
- Brett: Set up meeting w/ co-mgrs to address holding early returns for lake plants of sockeye adults.

### **BRICC / License Updates**

BRCC is scheduled to meet January 28, 2009. Not all parties have declared their representative and back-up representative to the BRCC and each working group. Cary will check on response status and follow up as needed. PSE's operations folks will be meeting with FERC January 27 in Washington DC to transition from license to compliance.

### **FISH OPERATIONS**

#### **Sockeye Spawning Beaches & Artificial Incubation:**

Kevin reported that we got over one million green eggs out of the artificial incubation group. They delayed one week on sections b, c, and d to maximize production due to low the return. There was a ratio of 2:1 females to males this year. This was very unusual. They live spawned lots of the males and got pretty good production.

A file of comprehensive artificial incubation data for the year will be emailed out this week. They will install screens as soon as snow conditions allow. They are going to release artificial incubation fry into Beach 3. As fry season approaches, they will be doing boat reconnaissance to identify other potential release sites.

#### **Fish Rearing Inventory and Releases:**

Snow has been a challenge, but all's well at the headworks. Raceway 1: Sockeye, Coho, Rainbow. Will freeze brand 15k Coho (not 5k ... there was a typo in the handout) in late January. They moved the rainbow trout to the trout pond. Circular 3 has brood stock for Coho, will spawn tomorrow and maybe one more week – 136k eggs currently, anticipating 176k. Circular 5 and the Vault are holding two groups for biological study, will move from hatchery to net pens at Baker. Will be released at Baker and recovered at the Floating Surface Collector. Weather-related slides on road routes have now been cleared. The water supply has been checked and is fine. No IHN was found in testing of beach sockeye adults.

#### **Adult Trap Protocol:**

Brett reported that we are now at less than 20% of our egg take needs for hatchery steelhead for the year. Will try to get a variance on the February 1 capture and spawn dates. These are Chambers fish that have been ad-clipped.

#### **Skagit River Fish Update:**

Brett reported that we didn't get as many coho and chum as he had estimated at last month's meeting. Chums came in at just under 20k; Coho are in the 22k range. It is possible that the coho run might also be over. The wild steelhead forecast is 7,500. WDFW has a fairly high level of confidence in that number.

#### **Little Park Creek Trap:**

Doug reminded folks that PSE has been operating the Little Park Trap for a number of years. This has involved clipping wild migrant coho, releasing them at Baker Lake, and recovering at them gulper / FSC to get mark / recapture data. With the additional data we get from biological studies and the commitment involved in operating this particular trap, PSE plans to discontinue their operation of the trap at Little Park Creek. Doug shared that the trap box is repaired and ready for use if another party wants to operate it.

The trap is usually installed in early to mid March and kept in place through May, and requires a daily commitment. We need to consider whether the info we get from this is worth the cost.

Doug will send out a memo describing the original intent of this mark / recapture program, the time and cost associated with the trap's operation, and suggest its future relevance. We discussed this at some length and decided to bring this up again at our February 10 ARG meeting as the next FPTWG meeting isn't scheduled until mid-March.

### **HATCHERY UPDATE**

We will be reviewing the AI adult pond revisions to support the 100% design. PSE has applied for permits to accommodate site mobilization (Whatcom County Clearing and Grading Permit). Working towards a start in March. Project design docs have been submitted to Ernie Brannon for independent review as requested. Doug reported that operations folks are working closely with the construction crews to minimize impacts to fish during construction.

### **FPTWG REPORT**

The Fish Passage Technical Working Group met yesterday. The adult trap is being constructed one year later than originally scheduled due to the delay in license issuance. PSE will have to re-file for the HPA permit. Nick reviewed the revised construction schedule, which is being shifted two weeks forward. They will need three, 8-12 hour trap shutdowns, between the sockeye and coho runs to seal the base of the sheet pile. Based on our discussion, Nick will look at shifting the drilling window up a week to early August. Everyone agreed on the in water and trap shutdown windows, with one change noted in the table (see attachment titled: "Permitting schedule bullets MS 011209"). The trap shutdown and upgrade is scheduled to begin January 15.

### **Article 104 Connectivity between Lake Shannon and Baker Lake**

This was designed to address the issue of lack of fish passage between Upper and Lower Baker. The goal of this article is to provide a way for fish to move from Lower to Upper Baker. USFWS was a proponent of this article. R2 and PSE conducted two+ years of fieldwork including 2005 and 2006 Native Char studies.

We wanted to see if there was introgression or isolation of the Char population as a result of fish trap operations. Getting tissue samples of adults was insufficient – we needed juvenile samples. We collected 239 total samples for our initial genetic analysis analyzed by the WDFW lab. Nick distributed copies of the lab report. PSE met with USFWS last week to review the results and discuss the plan for 2009. There doesn't appear to be much introgression in the Upper and Lower Baker populations. Adult char at the adult trap came from a number of locations. We will pit tag adults in the reservoir to assess the adult predation on out-migrating smolts in the reservoir

In August 2009, the WDFW lab will analyze the remaining Char tissue samples. We will pit tag juveniles on their way out and release in the Skagit. We will pit tag adults and release near the point of capture. We will transport and release char according to proposed handling and release protocols.

### **Article 105 Downstream Fish Passage**

PSE is pleased with the first year of performance of the Upper Baker FSC, operating at 500 cfs. This year, we will also test operations at 1,000 cfs. The smallest window to test these conditions will be one day over

a six week period. We won't do replicate releases this year (as was done last year).

March 1, 2012 is the startup date for the Lower Baker FSC. Full design will be complete January 2010. RFPs have gone out to four design consultants and are due early February. Interviews will be concluded in late February and we hope to have contracts awarded by the first week of March. Nick walked us through pictures of the potential construction areas. PSE is hoping to complete the design memo by April 1, 2009.

Location of the new FSC is critical. We want to put it as far downstream as possible to locate in the migratory pathway. Underwater trees and steep canyon walls will be considerations. We will have acoustic coho and sockeye data in August to give us an idea of how the fish run. We reviewed potential placement of the log boom, NTS, and FSC, including likely construction areas. We might use the boat launch site for construction. Improvements would be made to the boat launch later.

The next FPTWG meetings are March 17 and April 28; let Nick know if you are interested in attending.

### **SMOLT CAPACITY TEAMLET REPORT**

The teamlet – which included Peter Kiffney (NOAA); Stan Walsh (SRSC); Jon Paul Shannahan (Upper Skagit); Brett Barkdull (WDFW); Arnie Aspelund, Cary Feldmann (PSE); and Phil Hilgert, Tim Sullivan, and Noble Hendrix (R2) – met Friday to look at sample size of the zooplankton piece of the study. They reviewed various methods to estimate Sockeye smolt production in Baker and Shannon in accordance with Article 101 of the license. They ranked four methods as most desirable and then looked at what it would take to estimate one or more of these methods. They decided the photosynthetic rate was impractical because it involves handling radioactive material.

Monthly zooplankton samples have been collected from four locations in Baker and two in Shannon. Based on sample size analysis, a total of eight sample stations are proposed for Baker (10m and full depth tows) during May – October. They proposed six samples in Lake Shannon over the same time period. Additional full depth tows in Baker would be conducted twice a month mid-February through April.

The teamlet also proposed collecting nutrients to get better estimates of nitrogen and phosphorus. This would include collecting nutrient samples vertically within the water column, with six intervals at 1, 10, 20, 30, 40, and 50 meters from the surface. This will help us understand the relationship of nutrients and productivity. They will also use a light meter to get some assessments of euphotic depth. We will define a target smolt size.

Next steps of the proposed combination approach would include drafting detailed survey methods and how the sample locations will be stratified. This study must be complete by October 2010.

### **ARTICLE 505 – AQUATIC RIPARIAN HABITAT**

Jacob joined us to discuss the Aquatic Riparian Habitat article. The settlement agreement calls for completion of an Aquatic Riparian Habitat Protection, Restoration, and Enhancement Plan within two years of license issuance, with a draft due October 2010. \$300k is available during the first two years of the license for acquisition and implementation work. The article also provides \$50k/year for six years for planning and site evaluation activities.

Jacob asked for schedule availability for an Aquatic Riparian Habitat Working Group meeting. This working group held an initial review / planning meeting December 1, 2007 with Jacob Venard, Anna

Kopitov, Tony Fuchs; Bob Nelson; Brock Applegate; Don Gay; Cathy Baker; Scott Lentz; Rich Johnson; Jon-Paul Shannahan; and Stan Walsh in attendance.

Attendees asked that this working group meeting be piggybacked to another existing meeting (BRCC, TRIG or ARG). Jacob will coordinate with the team leaders to look for the best date and will put together a distribution list. Requesting to be on it was Lou Ellyn, Jeff McGowen, Arn Thoreen, and Stan Walsh. He will also touch base with Seattle City Light to explore possible synergies.

## **HANDOUTS**

- Agenda, Notes, 2008 – 2009 Meeting Schedule and ARG Representative List
- Incubation Worksheet 2008
- Baker Hatchery Fish Inventory, January 2009
- Baker River Adult Fish Trap Protocol, Sept. 2, 2008
- Baker River Adult Fish Return, June 2008 – May 2009 Season Totals
- ARG Article 101 Estimating Smolt Capacity Proposed Study Approach, January 13, 2009
- PSE Baker River Fish Passage, Adult Fish Trap, and Stress Relief Ponds Schematic 10/15/08
- Article 103 Upstream Fish Passage Implementation Plan
- Article 104 Connectivity between Lake Shannon and Baker Lake
- Article 105 Downstream Fish Passage Implementation Plan
- Baker River Adult Fish Trap and Juvenile Fish Stress Relief Ponds, Daily Fish Counts, 5/12/08
- Pictures of the LB FSC potential construction areas

## **MEETING EVALUATION**

### **Worked Well:**

- Phone worked well today
- Out on time

### **Do Differently:**

- Presentations: USACE, system reliability/mid-C
- Room temp (too cold today)

## **AGENDA FOR NEXT ARG MEETING**

### **February 10, 2008; Mill Creek**

1. Welcome, review notes, action items, agenda
2. BRCC and License Updates
3. Fish Operations Topics
4. Little Park Creek Trap
5. Hatchery Update
6. FPTWG Updates
7. Presentations
8. Evaluate meeting, set next meeting agenda & location