



## **BAKER RIVER PROJECT LICENSE IMPLEMENTATION**

### **Aquatic Resources Group**

**August 11, 2009 (9:00 a.m. - 2:00 p.m.)**

**WDFW Mill Creek Office, 16018 Mill Creek Boulevard  
Mill Creek, Washington 98012-1296, Telephone (425) 775-1311**

**Conference Call Line:** 1-888-228-0484, ID: 6058, Password: 12345

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

### **AGENDA**

1. Review meeting notes/agenda/action items from May 12th, 2009 meeting	9:00 - 9:15
2. BRCC and License Process Update	9:15 - 9:30
3. FPTWG Update	9:30 – 10:20
<ul style="list-style-type: none"><li>• Outmigration Summary (PSE)</li><li>• Adult Trap Construction (PSE)</li></ul> <i>Break at 10:20</i>	
4. Required Decision Today: <ul style="list-style-type: none"><li>• None</li></ul>	
5. Flow & Flood Storage Topics (PSE) <ul style="list-style-type: none"><li>• Columbia R. no spill test and influence on cycling at Baker (PSE)</li><li>• Flows during 2009 Steelhead Spawning Season (PSE)</li><li>• Article 107(c) &amp; 4.1.1-cooperation regarding flood control-drawdown target elev.</li></ul>	10:30 - 11:30
6. Hatchery Update (PSE-Jenness)	11:30 - 12:00
<i>Lunch Provided at 12:00</i>	
7. Brief Updates Fish Facilities Operations Topics <ul style="list-style-type: none"><li>• Sockeye Loading, 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>	12:00 – 12:30
8. Other License Implementation Updates <ul style="list-style-type: none"><li>• Article 101 Draft Fish Propagation Facilities Plan Update (PSE)</li><li>• Article 101 Sockeye Smolt Capacity Study Update (R2)</li><li>• Article 110 Draft Reservoir Shoreline Erosion Control Management Plan (PSE)</li><li>• Article 505 Teamlet update (PSE)</li></ul>	12:30 – 1:45
9. Evaluate meeting, set agenda for next meeting(Sept. 8 <sup>th</sup> , 2009 at Mill Creek) <ul style="list-style-type: none"><li>• Discuss frequency and meeting conduct efficiencies for ARG meetings</li></ul>	1:45 – 2:00



**Aquatics Resource Group Meeting  
Final Meeting Notes**

August 11, 2009 ~ 9 am – 3 pm  
**WDFW Mill Creek Office,**

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

**PRESENT:** Arnie Aspelund, Cary Feldmann, Doug Bruland, Jacob Venard, Gene Galloway by phone, and Nick Verretto (PSE); Kevin Kurras, Steve Stout, Brock Applegate, and Brett Barkdull (WDFW); Arn Thoreen (Skagit Fisheries Enhancement Group); Steve Fransen (NOAA); Stan Walsh (SRSC); Lorna Ellestad (Skagit County); Jon-Paul Shannahan (Upper Skagit Tribe); Bob Helton (Citizen); Chuck Ebel (USACE); Bart Madison by phone (Trout Unlimited); Phil Hilgert, (R2 Resource Consultants), Marty Vaughn (Biota Pacific), and Lyn Wiltse (PDSA Consulting)

**UPCOMING 2009 ARG MEETING DATES**

October 13 and December 8 from 9:00 – 3:00pm

**TENTATIVE 2009 ARG CONFERENCE CALLS**

September 8 and November 10 from 9:00 – 11:00am

**DECISIONS** – None Required Today

**WELCOME**

We were pleased to welcome the following new members to the ARG:

- Brock Applegate (taking Rich Johnson's place for WDFW)
- Steve Stout (Kevin Kurras' new supervisor, taking Kevin Clark's place for WDFW)
- Lorna Ellestad (taking Jeff McGowen's place for Skagit County)
- Bart Madison, representing Trout Unlimited

**NEW ACTION ITEMS**

- All Plan to attend September 23 walkthrough of the Baker License, hosted by PSE in Summit Conference Room of their Bellevue Office. More details to come.
- All Reserve 9-11 am second Tuesday of every other month, starting in September, for ARG conference calls.
- All By August 21 send comments to Jacob on the Article 110 Draft Reservoir Shoreline Erosion Control Management Plan.
- All Let Jacob know if you are interested in joining the Article 505 (Aquatic Riparian Habitat) Teamlet.
- Cary Check to ensure current ARG meeting notes are posted to Baker Relicense website.



- Cary Head up analysis on flows during steelhead spawning season (see p. 4).
- Doug Remind Chuck when doing snorkeling surveys. Send snorkeling schedule to co-managers and Chuck.
- Marty Update the picture on the Article 505 Plan.
- Jacob Resend Shoreline Erosion draft plan to Skagit County.

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

- Jed Reconvene a teamlet in April / May 2010 to address sockeye fry release strategies
- Mark K Convene an Article 107c Teamlet Fall 2009, including Stan W., Bob H., USACE, Skagit Co., and a PSE hydrologist(s) and biologist(s) (Anticipate at Oct 13, 2009 ARG meeting)

### **REVIEW OF AGENDA, NOTES, HANDOUTS**

The May 12, 2009 Draft ARG Meeting notes were approved without edits.

### **BRCC / LICENSE PROCESS UPDATE**

Cary Feldmann reported that the last time the BRCC met was April 22. The next meeting will be September 23 in the Summit Room (2<sup>nd</sup> floor) of the PSE Building in Bellevue. The purpose of this will be to catch up on housekeeping issues and do a walk-through of the license to ensure a common understanding among all Baker license implementation participants. All are welcome. This will help with new members as well as serve as a refresher for “old” members. Cary suggested that this will likely be an annual process.

Cary also reported that as we are nearing our first year since license issuance, there are many plans out for review. The various resource groups are sending the plans out to members first for informal review, with the idea that by the time of the official review, all comments would have been addressed. The plans will be submitted to FERC by October 1.

Going forward, BRCC meetings will be held on a quarterly basis. The Web-ex connection at the Mill Creek location is generally poor. PSE is exploring a variety of options to allow for greater electronic connectivity e.g., videoconferencing, etc. Stay tuned for more information on this.

### **FISH PASSAGE TECHNICAL WORKING GROUP UPDATE**

#### **Outmigration Summary (PSE)**

Doug Bruland reported the Upper Baker FSC is now off line and will be taken out for annual maintenance next week. PSE has concluded a study switching between operating 24 hours at 1000 cfs and then 24 hours at 500 cfs when pit-tagged fish were waiting to migrate out. The results will be reviewed by FPTWG members August 18 and then discussed at the ARG meeting either September or October.

2009 Upper Baker Juvenile Fish Trap Data: Doug reported we had a phenomenal recovery this year. High level summary: We had the largest outmigration ever recorded from the Baker System. They collected nearly a half a million at the FSC. The second highest number was with the old gulper in 2006 when they collected 336,000.

Doug also reported they collected 52% of sockeye ad-clipped fish. Got a combined of nearly 70% of the freeze-branded fish – this was the highest since 1994. They also collected nearly 100,000 unmarked coho – this was the most ever collected!

We are eagerly awaiting the results of the PIT-tagged study. We will continue this discussion at our next meeting.

Doug reported that at Lower Baker the nets are deployed with the new net configuration. They found low numbers of sockeye showing up (this hasn't always been the case). The guide net at Upper Baker seems to be continuing to keep fish from making it down to Lower Baker.

### **Adult Trap Construction**

Doug reported that large walls and piping that supplies water to the new facility have been installed. They are putting in sheet pile and separating flows to allow for further construction. They are also working on the grating for the outfall and structures for stress relief ponds. There is currently no visitor access. They have been able to do this construction without interfering with operations of the *adult trap*.

The sockeye adult return turned out to be larger than expected – 6,443. This might go as high as 6,500 by the end of the season. Spawning beaches and incubation facility are full. Wahooo! We have 1,135 surplus in the lake. They are planning to do spawning surveys beginning the end of August and will also do some tributary surveys.

Brett explained that our survival rates indicate poor ocean conditions. We are still at less than half of average.

## **FLOW & FLOOD STORAGE TOPICS**

### **Columbia River No Spill Test and Influence on Cycling at Baker (PSE)**

Cary and Gene Galloway discussed how these tests impact cycling at Baker in 2010 and beyond. Regarding Chelan's plans for 2010 survival studies; they report anticipating a repeat of the day/night release strategy for sockeye and are contemplating the benefit of a "pre-test" of yearling Chinook (day/night release) prior to the expiration of the 5-year additional juvenile study period allowed by the HCP. They will need to complete a 3<sup>rd</sup> year of survival testing for yearling Chinook at Rocky Reach in 2011. At Rock Island, they will resume testing the 10% spill program for yearling Chinook, sockeye and steelhead. In summary, they predict a 2010 survival testing schedule for both projects that will look very similar to that of this year.

We are still waiting to hear plans from Grant and Douglas.

Stan reminded everyone that 6-9 down-ramp episodes between in a single day is problematic for fish as that increases *frequency* and causes mortality to increase. Gene reported that in 2008 PSE was very careful with ramping in the spring to protect fish to the extent possible. Key influences: weather and snow pack and air quality.

PSE has to meet spinning reserve requirements while managing flows. With the mandate for additional renewables to be added to the PSE portfolio, we might need to conduct additional analysis / consultation with NMFS. The new units at Lower Baker are set to be online 2014.

Steve explained when it comes to project testing and fishery needs, the Baker and Skagit system fish will be super ceded by the needs of the Columbia River system. It's not just that the Columbia is larger with more and bigger hydro projects. All the mid-Columbia salmon and steelhead populations are ESA listed and in worse condition and with a lower likelihood of recovery than are the listed stocks in the Baker and Skagit. We should interpret that as a good thing that the Baker populations are less imperiled and more likely to recover.

### **Flows during 2009 Steelhead Spawning Season**

In the Interim Operating Conditions (in effect until the new powerhouse is constructed in 2014) we aren't bound to lower *maximum flows in the spring* like we are in the fall for Chinook. Stan was surprised that steelhead weren't covered in the same way as salmon (3,200 cfs). This was not called out in the NMFS Interim Flow Bi-Op which addresses Chinook since they were the only listed species at the time. Steelhead were listed after the Baker Settlement but before the Baker Relicense Bi-Op. "Best Efforts" or adaptive management might apply here. We don't know what the effects might be – biologically, hydrologically, economically, operationally, etc. Do we have data showing that flows are declining after steelhead spawning? This might be a starting place. PSE could then review prior (or conduct new) Hydrops runs to get an idea of the impact.

Next Steps: Cary will lead a background analysis on this and we will discuss it again at our next ARG meeting. We should be clear on a direction by mid-December.

### **Article 107(c) & 4.1.1 – Cooperation regarding Flood Storage - Drawdown Target Elevation**

- 107(c) involves consultation to address imminent floods. We have 3 years to produce a report.
- 4.1.1 deals with target elevations.
- 4.1.2 deals with amendments to the Water Control Manual (USACE).

Cary believes that PSE and Skagit County sent a letter to the USACE in compliance with the S.A. regarding these articles. Lorna and Chuck will follow up. The ARG will conduct studies as necessary to form their recommendation to the USACE around proposed amendments to the Corps' Water Control Manual. We will get an update at our next meeting.

## **FISH FACILITIES OPERATIONS**

### **Fish Rearing Inventories**

Doug Bruland reported we have sockeye, Coho and rainbow trout on the facility.

- Sockeye: Current numbers are 64K (10K of which will be tagged for studies this fall).
- Coho: Current numbers are 64K (15K reserved for freezebrand groups, plus there will be about 5K for other studies. The rest will be released in spring to the Skagit River).
- Broodstock: Sockeye adults, sufficient number to fill the Trout Pond – Close to 1,500 with normal pre-spawn mortality. Treating the fungus with formalin – will spawn in October.

- Arlington sent us the Rainbow Trout mid-July – are distributed into 3 circulars.
- Circular. 4: Trout from last year were donated to support various organizations. The rest are now in Depression Lake.

Refer to the handout for greater detail.

### **Sockeye Spawning Beach and AI Operations**

All sockeye unit loading goals were met. Kevin thanked the co-managers for all their support in loading the beaches. He reported the sockeye seemed a little larger than normal. The pre-spawn mortality rate is normal (i.e. low).

There is great coordination with construction activities. We should get 2 million fry from this broodstock supply for incubation. The first spawning will occur October 13.

### **Adult Trap Protocol Update or Changes**

There were no changes.

### **Skagit River Fish Update (WDFW)**

Bret reported WDFW is looking at the worst Steelhead return on the Skagit since they've been keeping records (~2.5K). Hatchery Spring Chinook are close to the forecast of 1,400. We won't know about wild spring or summer Chinook for a while.

### **HATCHERY UPDATE**

Arnie walked us through a PowerPoint that displayed some of the above-ground construction that has occurred on the hatchery. Much of the work since construction began in April has been site-civil, foundational setting and underground pipeline installations for all the components in the site layout. Work in July more focused on erecting concrete structures such as the hatchery building, head tank and transfer structures. Kevin reported that they were able to keep the turbidity sensor going throughout the construction. They have been laying the foundation for the building slabs and some of the construction is starting to take place on the hatchery building above ground. Masonry work will commence soon on the hatchery building. We will get another update from Dave at our next meeting.

### **OTHER LICENSE IMPLEMENTATION UPDATES**

#### **Article 101 Draft Fish Propagation Facilities Plan Update**

Arnie reported that comments on this plan were due June 1. PSE received a response from USFWS (that they had no comments). They received comments from the USFS wanting to accelerate the decommissioning of spawning beaches to address what they considered urgent issues. Cary said, PSE has addressed their concerns and has drafted a response to that effect. They will set up a conference call with ARG on the plan for an official ARG decision to file the plan with FERC. The Plan remains unchanged – PSE is doing some final formatting to update it to current standards to ready it for submission to FERC.

#### **Article 101 Sockeye Smolt Capacity Study Update (R2)**

Phil walked us through a PowerPoint of the *preliminary* results on water quality and zooplankton for



Baker Lake and Lake Shannon. They had fewer samples to analyze *in February and March* as they had problems early in the spring due to ice cover. Preliminary results for *March through June*: Nitrogen seems fairly high. Total phosphorus was pretty low. Baker Lake is definitely phosphorus limited. Lake Shannon was a couple of degrees warmer than Baker Lake. Otherwise, trends are similar. Temperature profiles were as expected.

Phil also reviewed with us the Baker Lake and Shannon zooplankton results for March and April. Holopedium densities were *high and increasing in March/April*, though these are considered not a preferred prey item by sockeye. Other than these, the numbers look pretty low, – as expected for that time of year. We appear to be getting more organisms in a downstream direction (from 10 meter and full depth vertical tows). This observation *appears to hold true for both lakes*. Inflow into Baker Lake is could be relatively non-productive. *Inflow to Lake Shannon could be drawing from below the depth of greatest zooplankton density, or there could be more predation going on in upstream reaches in Lake Shannon*. These are all speculative effects. Phil will give us another update at our December meeting.

#### **Article 110 Draft Reservoir Shoreline Erosion Control Management Plan**

The Shoreline Erosion Plan is due to FERC by October 1. Jacob explained that they are hoping to get all comments reviewed and incorporated prior to the official 30-day review. Phil walked us through a draft process flow outlining Article 110 process chart. The flow chart allows for new sites that were previously unidentified – or identified initially. Stan suggested adding consultation with the CRAG in the pre-screening process. Jacob explained that this ties in with Article 201. All were asked to send input on this plan to Jacob by August 21.

#### **Article 505 Teamlet Update**

Jacob explained that the Aquatic Riparian Habitat Teamlet was formed to address this article that deals with terrestrial and aquatic issues. They have been meeting for the past few months. A plan is due to FERC within 2 years of license issuance. Marty Vaughn has been helping the TRIG with their preliminary draft plans. He distributed a preliminary draft (due to ARG and TRIG within one year of license issuance). It is out for informational review. Anyone interested is invited to join this teamlet that will be meeting on the heels of TRIG meetings.

The format we are using for the plans is continuing to evolve. There is a focus on local control. This format and focus is being used across all resource groups. We have a good system down for content control. Marty walked us through highlights of the Plan. He encouraged members to pay particular attention to Chapter 6 of the Plan which deals with implementation. The funding piece is set.

Marty requested specific feedback on Appendix A, which likely contains extraneous information. LouEllyn (USFWS) will provide a sample of what was used for the Lewis Project.

Next Steps: All will receive this plan electronically as a Word document (from Jacob) by September 1. Comments in track changes are due to Jacob by October 30.

#### **HANDOUTS**



- Agenda, 5/12/09 Notes, Meeting Schedule, ARG Representative List
- Baker Project Juvenile Fish Trap & Haul Results
- 2009 Upper Baker Juvenile Fish Trap Data
- 2009 Lower Baker Juvenile Fish Trap Data
- Baker Beaches 2009 – Adult Arrival and Disposition
- Baker Hatchery Fish Inventory – August 7, 2009
- Baker River Adult Fish Return – Season June 2009-2010
- Preliminary Draft, Aquatic Riparian Habitat Protection, Restoration and Enhancement Plan (Settlement Agreement Article 505, Baker River Project, FERC No. 2150)
- Reservoir Shoreline Erosion Control Plan – Plan Implementation (Baker Settlement Agreement Article 110)

## **MEETING EVALUATION**

### **Worked Well:**

- Becky's charts are beautiful!
- Welcome to new folks!
- Soup
- Presentations

### **Do Differently:**

- Facilitator shut down Arn!
- Need better salad tongs
- Soup

## **FREQUENCY OF ARG MEETINGS**

Arnie proposed going to an every-other-month meeting schedule for the ARG. As decisions are required, we could set up conference calls on our “off months”. ARG members were asked to hold 9am-11am so they can be available if conference calls need to be set up in the off-months. PSE will continue to explore other opportunities to connect electronically (Web-ex, video conference, etc.).

## **AGENDA TOPICS FOR NEXT ARG MEETING: October 13, 2009**

1. Welcome, review notes, action items, agenda, norms
2. BRCC and License Updates
3. Brief Updates Fish Facilities Operations Topics
4. FPTWG Update
5. Flow & Flood Storage Topics
6. Hatchery Update
7. Other License Implementation Updates
8. Convene an Article 107c Teamlet
9. Evaluate meeting, set next meeting agenda & location