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## BAKER RIVER PROJECT RELICENSE

### Aquatic Resources Group

June 6, 2006

9:00 a.m. – 2:00 p.m.

USFS Supervisor's Office

21905 64<sup>th</sup> Avenue W

Mountlake Terrace, WA

(425) 775-9702

### Conference Call Procedures-Dial In Info :

**1-866-297-7238** (call automatically charged to PSE)-Dial in at the designated date and time –

**Conference ID: 276430**

**Conference Password: 8719**

### DRAFT AGENDA

1. Review Agenda, Notes, Actions	9:00 – 9:15
2. Fish Facilities Operations Topics	9:15 – 11:30
<ul style="list-style-type: none"><li>• Juvenile Fish Facilities Migration Update</li><li>• Juvenile Passage Biological Studies</li><li>• Sockeye Spawning Beach Loading Plan</li><li>• Artificial Incubation Operations</li><li>• Fish Rearing Inventories &amp; Releases</li><li>• Trout in Future Brood Document</li><li>• Adult Trap Protocol Update or Changes</li><li>• Update on Imprinting/Release Sites for Chinook study</li><li>• Update on Lower Baker Outage (September)</li></ul>	
<i>Break at 10:30</i>	
3. Update on Early Implementation Activities	11:30 - 12:00
<ul style="list-style-type: none"><li>• Fish Propagation Facilities Design Update</li></ul>	
<i>Lunch (provided)</i>	12:00 – 12:30
4. Early Implementation Activities (cont.)	12:30 - 1:00
<ul style="list-style-type: none"><li>• Fish Propagation Facilities Design Update (cont)</li><li>• Fish Passage Technical WG Report</li></ul>	
5. Relicense Studies Update	1:00 - 1:30
6. BRICC/FERC DEIS Update	1:30 - 1:45
7. Confirm Date & Agenda for Next Meeting (Sept 12), Mtg Evaluation	1:45 - 2:00

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**Baker River Project License Implementation**

**Aquatics Resource Group Meeting  
Final Meeting Notes**

June 6, 2006  
9:00 am - 2:00 pm  
**USFS Mountlake Terrace Office**

**FINAL MEETING NOTES**

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

**PRESENT**

Arnie Aspelund, Cary Feldmann, Jacob Venard, Doug Koens, and Doug Bruland (PSE); Steve Fransen (NOAA Fisheries); Arn Thoreen (Skagit Fisheries); Chuck Ebel (ACE); Kirt Hughes, Rich Johnson, Kevin Kurras; Jed Varney, and Ted Thygesen (WDFW); Scott Lentz (USFS); Bob Helton (Citizen); Stan Zyskowski (NPS); Jon-Paul Shannahan (Upper Skagit Indian Tribe); Mike McGowen by phone (HDR); Lyn Wiltse, facilitator, and Jamie Riche, note-taker (PDSA Consulting, Inc).

**NEXT MEETING DATES**

**September 12, 2006,** 9:00 – 3:00, ARG (USFS Mountlake Terrace)

**Tentative:** January 9, 2007, 9:00 – 3:00, ARG (location TBD)

**Arn's Annual "Maltby" Party:** August 12 weekend (Contact Arn with any questions)

**AGENDA TOPICS**

9:00 – 9:15 Review Notes, Agenda

9:15 – 11:30 Fish Facilities Operations Topics

- Juvenile Fish Facilities Migration
- Juvenile Passage Biological Studies
- Sockeye Spawning Beach & Artificial Incubation Operations
- Update on Allocation of Artificial Incubation Operations
- Fish Rearing Inventories & Releases
- Trout in Future Brood Document

- Adult Trap Protocol / Changes
- Update on April Lower Baker Outage
- Imprinting / Release Sites for Chinook study
- Update on LB Outage
- 11:30 – 1:00 Update on Early Implementation Activities
  - Fish Propagation Facilities Design Update
  - *Lunch (provided)*
  - Fish Passage TWG Report
- 1:00 – 1:30 Relicense Studies Update (A-38 Native Char & A-09 Instream Flow)
- 1:30 – 1:45 BRICC / FERC DEIS Update
- 1:45 – 2:00 Confirm date (Sept. 12) & agenda for next meeting; evaluate meeting

## NEW ACTION ITEMS

- Kirt - Work with other co-managers to get sockeye beach loading plan confirmed by the 3<sup>rd</sup> week of June.
- Kirt - Follow up with Tim Tynan and review HGMP and talk with co-managers to give PSE (including hatchery managers) direction re: implementing adult trap (sampling and collecting CWT information) protocol. [*After this meeting, Steve Fransen confirmed that NMFS and the co-managers do want hatchery Chinook with CWTs sampled and tags recovered and there is no legal issue with regards to lethal sampling these fish at the Baker Trap. Kirt will need to resolve that WDFW will take delivery of these fish to Marblemount hatchery per the protocol*].
- All - Review the proposed hatchery design, construction & operation schedule (6/5/06 draft) to be prepared to discuss at our next meeting in September.
- Kirt - Investigate phone options for the big conference room at WDFW Mill Creek office.
- All - Note the tentative 2007 dates in your calendar (the full list is at end of these notes).
- Arnie - Send this group's meeting norms to our new members to review.

## OLD (STILL PERTINENT) ACTION ITEMS

- Cary - Work with Arnie to find a way to summarize BRC activities for the rest (BRC 101).
- Gary - Come up with directive to handle brook trout, coordinate with other co-managers and bring back to the group (Is Kirt now handling this?)
- All - Ensure your organization has a primary and back-up rep to the Aquatics Group listed on the Attendee List.

## FISH FACILITIES OPERATIONAL TOPICS

### Juvenile Fish Facilities Migration Update

Doug Bruland walked the group through the Baker Project Juvenile Fish Trap & Haul Results handout and the 2006 Upper Baker Juvenile Fish Trap Data handout. He reported that this year's smolt outmigration season has been very successful. Both UB and LB traps were online by early April. The sockeye migration came on strong in the first week of May, indicating an early run. With 262,080 through June 3<sup>rd</sup>, this was the largest unmarked sockeye smolt migration by far. There was great rejoicing. Adding ad-clipped and freeze branded hatchery release groups would add another 20,000 to this number. We will keep the juvenile fish traps operational until the first week in August. The numbers for the other species are tracking at normal levels.

The percentage of fed hatchery release Coho (branded in late winter, released in April) is tracking well at about 59%. And 65% of the 5,000 branded fed hatchery Sockeye released were recovered (also a high percentage). Thirty-one percent of 54,000 ad-clipped fed hatchery sockeye released in October 2005 were recaptured, also considered a modest recovery rate for a large group that reared over-the-winter in Baker Lake. This beckons further consideration of this kind of rearing strategy in future fish propagation program strategies.

PSE has maintained and operated the temporary Little Park Creek smolt trap again this year. Approximately, 38% of the wild Coho coming out of Little Park Creek have come through at Upper Baker. PSE will remove the trap by the middle of June, which is normal time for removal consistent with migration slowdown. We will discuss the future operation of this trap at our September meeting; who will maintain it? Is it necessary to go on supplementing wild Coho population in the Baker Basin?

The table below summarizes the 2006 juvenile outmigration at the Baker Project, so far:

	Unmarked Coho	Marked Coho	Unmarked Sockeye	Marked Sockeye	Chinook	Pink	O.mykiss	Native Char	Cut-throat	Other
<b>Upper</b>	31,704	8,558	262,080	20,316	505	0	184	8	18	6
<b>Lower</b>	1,230	785	3,972	35	2	0	8	0	33	9
<b>Total</b>	32,934	9,343	266,052	20,351	507	0	192	8	51	15

*Through June 3, 2006*

### Juvenile Passage Biological Study

PSE is devising a biological testing program for the future new downstream passage facilities. This past spring PSE began developing and testing the methodology prior to the functional testing of new facilities in 2008. PSE is marking and re-capturing Coho-fed fish to help identify what a migrant is. We pit-tagged “surrogates,” held them in net pens, and released 150 each week. As we recover them, we are monitoring their gill (ATPase) activity to evaluate the rate of smoltification. We will then compare the gill (ATPase) activities to the control group to determine what percentage of the fish become migrants. We are in the midst of this study; the last release is the end of June and we will continue to recapture fish through July. These results will be used to help inform future studies. We hope to have preliminary results to share at our September meeting.

### Sockeye Spawning Beach

Kevin Kurras noted that counter issues continue. They have been recalibrated (again!) and there are still issues around the accuracy of the counts, especially at Pond A. He reviewed the fry numbers by month; things went as well as could be expected. They counted approximately 1.6 million fry out of Beach 4. We were able to release most sockeye fry at Blue Tarp. He observed some predators during releases. A few char, some coho and sockeye/kokanee (~14”-16”). Some predators observed were marked sockeye. No Chinook were seen this year.

Beach maintenance is proceeding well. Beach 4 was shut down last week. We ran bleach through it. Beach 3 will be drained to re-grade the bed gravel with the tracked vehicle and then turned back on. Water levels are high. The con-managers projected the 2006 adult sockeye return to be approximately 14,000.

Kirt Hughes reported that initial co-manager talks have resulted in a recommendation of: 550 Beach 3 and 3,550 in Beach 4 distributed as 850 in A, B, & D and 1,000 in C... 1,300 allocated to the sockeye supplementation pilot Artificial Incubation. Additional talks will occur and they will let PSE and the ARG know when they have reached consensus and what to use for the weekly distribution rate according to the goal.

#### Proposed Brood Year 2006 Sockeye Loading Plan

Beach 4A	850
Beach 4B	850
Beach 4C	1,000
Beach 4D	850
Artificial Incubation	1,300
*Beach 3	550

\*Concern was expressed over how to handle Beach 3 potentially drying up. Maybe we load Beach 3 last? We could defer this decision until the run is in (mid-July). In the meantime, we agreed to load Beach 3 as usual as an 'insurance policy.'

Cary Feldmann reported that per the Chinook Interim Protection Plan (IPP), PSE will draw down the reservoir to create 115,000 acre-feet of storage by Sept. 15.

#### Lower Baker Outage

The four-week LB outage will coincide with the IPP shutdown period. This outage was originally scheduled for last spring, but was postponed due to ground saturation, movement and dangerously high slide potential. Coordinating the outage to coincide with the September IPP outage makes this safer for people and for fish. PSE is now reconsidering where to locate the new powerhouse.

Cary reported that a slight sheen was recently observed near the old powerhouse site. It was found to consist only of mineral oil and PSE is currently cleaning it up.

The current outage plan is to spill from LB 1,000 cfs for 3 hours/day to bring fish into the adult trap.

#### Artificial Incubation

Kevin Kurras discussed the Incubation Worksheet handout. The first two spawning groups had a higher than expected egg loss; we will supplement with a saline solution next year.

We had 1,134,000 total fry produced by artificial incubation; of that, 1,004,742 were released to Baker Lake with most of the releases occurring from mid March and after (a time when normally seeing fry emigrating from Beach 3) and 130,000 were held for the extended rearing program. Our protocol has been slightly adjusted each year; most were released into Channel Creek this year. At our September meeting we will discuss the future allocation for fry. Do we go back to the original protocol? Stay tuned...

#### Fish Rearing Inventories/Release

Doug Bruland walked us through the Baker Project Fish Inventory handout and Puget Sound Energy's Salmon & Trout Planting History handout. He reported that 68,000 sockeye of the 130,000 reared were

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released from Raceway 1 to Baker Lake @ Blue Tarp (upper end of Baker Lake) on June 5<sup>th</sup>. The remaining fish are being held for eventual marking and extended rearing - 5,000 will be marked before a spring 2007 release; the other 55,000 will be marked before a fall 2006 release. From raceway 2: 96,000 Coho were released to Lake Shannon on June 2. The remaining 65,000 Coho are held for a spring 2007 release. We had 5% loss from the program, which is considered low. PSE is releasing Rainbow trout into Depression Lake and is providing 300 trout for Troutfest and 300 trout for other charity events (in coordination with the co-managers- Jon-Paul Shannahan says are a huge success). The last releases will be the end of this month.

Doug walked us through the Salmon Planting History handout, noting this year's releases to date.

### **Adult Trap Protocol**

We reviewed the Baker Adult Fish Trap Protocol handout (last revised 8/18/05). Doug expressed a need for consistent instruction; he is currently being told to take fish to Marblemount Hatchery and Marblemount doesn't want them. This is confusing. Concern was also expressed over sacrificing potentially ESA listed fish. We need to ensure that whatever we do is in compliance with the Tribe's and Agencies' Section 10 permits. Kirt will follow up on this. Pending clarification of the applicable law, PSE will return unmarked coded wire tagged fish to the Skagit River. *[After this meeting, Steve Fransen confirmed that NMFS and the co-managers do want hatchery Chinook with CWTs sampled and tags recovered and there is no legal issue with regards to lethal sampling these fish at the Baker Trap. Steve wrote, "These Skagit hatchery Chinook are part of the ESA listed ESU, but the adipose fin-clipped (marked) salmon are NOT subject to the take prohibition of listed species". Kirt will need to resolve that WDFW will take delivery of these fish to Marblemount hatchery per the protocol].*

### **Update on Imprinting/Release Sites for Chinook Study**

Chinook juveniles are no longer being planted in the Adult Trap since they were released above the barrier dam (between the barrier dam and the tailrace).

## **UPDATE ON EARLY IMPLEMENTATION ACTIVITIES**

### **Fish Propagation Facilities Design**

Arnie recapped our previous activities re: the design process for the Baker Hatchery. At our last meeting, there was a question about how best to manage sockeye fry. Arnie met with a teamlet on April 27 to discuss this and its impact on the facility design process. They noted pilot incubation fry were being fed and released later to get them to a larger size (Beach 4 fry were emigrating at a larger size than the emergent fry from the incubators). The teamlet discussed including some shallow troughs into the new hatchery design and holding the sockeye for a few days before a volitional release. Mike was going to do the math, given a peak period of 25% of the egg take. They also discussed plumbing for vertical stack incubators.

Mike then walked us through the current design concepts, highlighted changes made to accommodate feedback from our last review in March. In reviewing the hatchery building floor plan, we agreed to create more capacity by pushing the swim-up tanks together (separating them with a splash shield).

Separator / head tank building: Cary asked why the flow was bifurcated to the adult holding and spawning beach at the separator/head tank building instead of being bifurcated further downstream. Mike noted that

this was done intentionally. He will research the reason and let Cary know.

Arnie noted that we'll get another progress report at our next meeting. He also noted that PSE will be working with the USFS in the meantime to do the permitting needed to go forward. We will likely see Dave Jenness, PSE's Project Manager for this project, attend our next meeting. The aim is to finish the design work by the end of this year to initiate construction in 2007. Arnie walked us through the Draft Schedule of Fish Propagation Facilities Design, Construction and Operation handout, noting the current timeline for phasing over from the current to the new facilities.

We discussed the need to consider where we release the fish in terms of predator behavior. Does it make sense to release them all at Blue Tarp? Should we release some into Channel Creek? It was generally agreed we might want to have more than one release site.

### **Fish Passage TWG**

Doug reported that this group met May 30. They are working out a transport mechanism (maybe a self-contained hopper or pod), to get the fish from the FSC raceway to the top of the dam. They discussed hydraulic flow in the center of the FSC to create optimum approach conditions for attracting fish and encouraging them to want to stay. Revised specifications include: acceleration (.2 ft/second/ft); capture velocity (started at 8, went to 7, is now at 8.2 and sustaining 7 or better); and, capture size (started at 9 ft/second, went to 3.75 ft/second, is currently 8 ft/second). They also discussed moorage lines location to shore; Doug noted that the report on the proposed moorage locations is pending.

The design team has made significant strides, bringing the FSC design to the 30% level with most of the major hurdles being behind the group.

For ARG consideration, how do we design the FSC to accommodate the various fish handling tasks that will be required? We will be looking to the co-managers to define a species handling protocol. Between the FSC and new hatchery, we are going to be seeing greater numbers of a larger variety of fish than ever before. We may need to separate fish by size within the raceways. This may impact the plumbing design.

There will be ongoing meetings throughout the construction process.

### **LICENSE STUDIES UPDATE**

#### **A-38 Native Char**

Arnie reported that a draft report for the 2005 investigations was out in January of this year. Phil Hilgert (R2) and Nick Verretto (PSE) met with USFWS to discuss this report along with the plan for 2006. They will be incorporating comments from the USFWS and finalize the report and study plan. The general plan for 2006 is to continue snorkel surveys of Sulphur Creek and collect tissue samples of juvenile char. We will discontinue angling and tagging efforts. A finalized version of the 2005 report and study plan for 2006 will be out for the ARG this summer and discussion at our September meeting.

#### **A-09 Instream Flows**

The Middle Skagit spawning surveys will be conducted this fall as part of continuing the IPP monitoring. Phil is currently drafting the final chapter and appendix of the A-09 report and it will be out for our review prior to our September meeting and discussed at that meeting.

## **BRICC UPDATE**

Cary shared that the BRICC (Baker River Interim Coordinating Committee) met via conference call April 24 to review the DEIS and formulate responses to the changes FERC proposed in the license articles.

FERC has posted the transcripts from the May 1 & 2 public meetings to their website. Comments are due by June 16. PSE will send their comments to all by the end of this week for review. The 10(j) conference call on article 505 (riparian areas) was held June 1; FERC remained firm in their position.

FERC is asking us to provide clarity/nexus in areas that are not possible for us to answer if we stick to the Settlement Agreement. Cary assured us that PSE's intent is to support and fulfill the SA. Our challenge is how to provide FERC with sufficient detail so they can support the SA, while sticking to the terms of the settlement.

FERC has stated they still intend to have the license prepared for Commission Approval by September of this year.

## **HANDOUTS**

- Agenda & Notes
- Baker Project Juvenile Fish Trap and Haul Results (updated 6/5/06)
- 2006 Upper Baker Juvenile Fish Trap Data (revised 6/5/06)
- BY05 Spawning Beach Fry Production
- Spawning Beach Update
- Baker Project Fish Inventory (June 1, 2006)
- PSE Salmon Planting History
- Baker Adult Fish Trap Protocol (revised 8/18/05)
- Draft Schedule of Fish Propagation Facilities Design, Construction and Operation
- Proposed 2006 Baker Basin Native Char Study Efforts
- HDR Baker Fish Hatchery Concept Drawing Index

## **MEETING EVALUATION**

### **What Went Well**

- Great food!
- Out early
- Colored handouts for easy navigation
- Clear presentations on complex issues
- Welcome Jacob and Kirt
- Good news about Rod Sakrison

### **What to Do Differently**

- Missed some folks
- Need fewer sidebars
- Cary's analogy quality
- We've lost some continuity/momentum



- Lyn's picking on Doug B.

### **TENTATIVE TOPICS FOR NEXT ARG MEETING**

**September 12, 2006 at USFS Mountlake Terrace**

**9:00 a.m. - 3:00 p.m.**

1. Welcome, review notes, action items, agenda
2. Fish Facilities Operational Topics
3. A-09 Instream Flow Report
4. Hatchery Update
5. FSC Update
6. BRICC/FERC DEIS update
7. Early Implementation Activities Update (Fish Passage/Fish Propagation Facilities)
8. Relicense Studies Update
9. Evaluate meeting, set next meeting (tentatively Jan. 9) agenda & location

### **TENTATIVE 2007 MEETING DATES**

January 9  
February 13  
March 13  
April 10  
May 8  
June 12  
July 10  
August 14  
September 11  
October 9  
November 13  
December 11