



Baker River Project License Implementation

**Aquatic Resource Implementation Group
Final Meeting Notes**

June 08, 2010 ~ 9:00 am – 10:40 am
Baker Lake Lodge

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

PRESENT

Cary Feldmann, Kim Lane, Ed Schild, Arnie Aspelund, Elizabeth Dubreuil, Tony Fuchs, Mel Walters, Haley Edwards, Mark Killgore, Jory Oppenheimer, Scott Williams Doug Bruland, Lynda Kupfer, Kellie Anderson, Anna Wingfield, and Nick Verretto (PSE); Stan Walsh (SRSC); Lou Ellyn Jones (USFWS); Steve Fransen (NMFS); Lorna Ellestad and Kara Symonos (Skagit Co.); Phil Hilgert (R2 Resource Consultants); Brock Applegate, Brett Barkdull, and Mike Barber, Tom Burns, Dave Collins, Susan Cierebiej (WDFW); Chris Maynard (WA DOE); Bob Helton (Skagit County Citizen), Craig Olson (NW Indian Fisheries); Greta Movassaghi (USFS); Chuck Ebel and Dan Johnson (USACE), Lyn Wiltse (PDSA Consulting)

DECISIONS

- None today

2010 ARG MEETINGS: July 13 (9-11am conference call), Aug. 10 (9-3pm meeting at Snoqualmie Ops Center), Sept. 14 (9-11am conference call), Oct. 12 (9-3pm meeting at Snoqualmie Ops Center), Nov. 9 (9-11am conference call), Dec. 14 (9-3pm meeting at Snoqualmie Ops Center)

NEXT FPTWG MEETINGS: July 14 (360 review) and August 24 (60% design submittal) at Sea-Tac

NEW ACTION ITEMS

- All Let Arnie know if you would like a tour of the new watered-up facilities.
- All Let Kim know if you want additional information on the new Baker powerhouse plans or proposed license amendment.
- Jon-Paul/Jed Reconvene teamlet ASAP to address sockeye release strategies.
- Arnie Send reminder to co-managers re. defining brood stock allocation protocol (see below).
- Co-Mgrs Define brood stock allocation protocol and send to Arnie ASAP.
- Steve Before the July 13 ARG conference call, check with the co-managers and PSE about requirements for the HGMP for the Baker Hatchery.

PREVIOUS - STILL RELEVANT - ACTION ITEMS

- Kim Send Brock an electronic copy of the Article 407 Flow Continuation Study.
- Kim Send information about the Flow Continuation Study to Chuck at the Corps.
- All Review the ARG representation list for your organization. This directs where reports are sent for official review.

Lyn noted that Cary has been sending out monthly updates to BRCC members and that these updates would be covered in the BRCC portion of the meeting. The next BRCC meeting is scheduled for October 27 at a location to be determined.

BAKER ADULT FISH TRAP AND HATCHERY UPDATE

Scott reported that the fish hatchery is nearly complete. They are in day 2 of commissioning scheduled for this week. The new facility has been watered up and they are working through the punch list to take care of final details. There will be a more detailed description of the new facility during the tour scheduled for this afternoon. The renovation of the spawning beaches is also well underway. They will be pouring concrete in the next couple of weeks. The renovation should be complete by the end of this year.

Scott (the PM for the adult fish trap) reported that the issue with the fish lock entrance gate that was reported at the last ARG meeting has been resolved, tested, and is working very well. They expect to be watering up on June 9, 2010. The electro-anesthesia trial last week (with various experts in the field) went very well last week. We will learn more about it at the tour this afternoon.

FISH FACILITY OPERATIONS UPDATES

Nick reported that this has been a record-breaking year in many respects for the Upper Baker FSC. Records broken include: 1) all-time sockeye record (broken May 11; previously 274,338 in 2009), 2) all-time daily passage (85,335 May 5; exceeding 60,633 in 2009), 3) UB FSC all-time total fish record (broken May 24; 443,751 in 2009), 4) Project all-time total fish record (broken May 28; 474,513 in 2009), and 5) ½ million fish mark (reached Saturday, June 5). A hoped-for target of 550,000 may be achievable by the July 31 shutdown date, although numbers have fallen off dramatically.

The all-time daily record is significant, in that it indicates that facility capacity and staff capabilities are within future predicted run numbers. Prior to last year, the daily record was 28,294 fish in single day. Last year they had 58,275 and 60,633 fish on consecutive days, working till 2 a.m. to sample and transport 100% of the fish. This year, Doug's crew successfully handled over 85K fish in a single day from 8 a.m. to midnight at the UB FSC, representing a 41% increase over last year's numbers in less time. We are all proud of the job Doug and his folks have done and how well the facilities have performed. They are currently doing 100% upstream and downstream sampling. Nick noted that for a future agenda topic, we will consider how best to transition to sub-sampling, as well as undergo a review of existing mark-release-recapture studies to minimize handling requirements.

Steve agreed that we are getting excellent survival out of the Baker system, and agreed that sub-sampling should be considered. Bob Helton asked whether there was a good understanding of the mechanism involved for the apparently great outmigration success. Steve responded that, although no definitive reasons could be provided, likely causes include the fact that some of the sockeye are going into the reservoir as fingerlings instead of fry and are experiencing very high survival. Sockeye from the Baker also historically migrate out at a larger size than other systems. Also the FSC appears to be doing the job we designed it to do. Additional credit goes to the complicated guide net system. The managers, however, need to continue focusing attention on the system and reviewing existing information to more fully understand the causal mechanisms involved in the successes we've experienced.

All in all, it has been a very good year! There was great rejoicing and cake to celebrate!

Nick explained that the performance study on the FSC is a flow preference study (i.e., to determine whether capture rates vary at 500-cfs flow vs. 1,000-cfs flow). FSC flow changes 8 a.m. daily between high and low settings for the six-week study period. A separate holding raceway is dedicated for all fish entering during a specific flow condition. Results appear similar to those from the 2009 study, however thorough statistical analysis will be performed only after the end of the study period June 11 (this Friday). Coho appear to show no flow preference, while sockeye seem to favor 1,000-cfs flow. Preliminary data will be reviewed at the FPTWG meeting on July 14.

Design of the Lower Baker FSC is at the 30% stage, with the design package formally submitted and comments received from interested parties. PSE is considering a modified approach to the tailored Lower Baker design, whereby the Upper Baker FSC design would be used, but for critical changes and slight site-specific modifications.

This represents a slight departure from the present path, and should accelerate the design and bidding process. The end product at Lower Baker will look very similar to the current FSC.

Nick noted that the Lower Baker upstream fish trap construction is complete, and start-up scheduled tomorrow. Action on the punchlist items continue, and will likely be pursued into the peak of the run. Two notable items were described. The first was the results of fish lock damage suffered mid-May which has now been redesigned, repaired, tested, and is ready for service. The second was the fish electro-anesthesia system, which has garnered considerable attention due to the comparably new technology. A recent test of the electro-anesthesia system at the adult fish trap, with participation by PSE operators and biologists, a Smith-Root technical representative, WDFW pathologist, a Cowlitz hatchery operator, a biological consultant and the design engineer, was very successful. A number of replicate tests were conducted with rainbow trout, spring chinook and a bull trout. Everyone walked away with confidence in the system, and that it is the appropriate device for the facility.

Doug also reported that everything is now also out of the artificial incubation program. The egg to fry loss was fairly low. Of a total of 1.7 million total green eggs, the final fry ponding numbers were about 1.6 million. WDFW performed a small test with calcein marking to see how useful that might be in the future. All remaining inventory will remain at the old hatchery until testing of operational procedures in the new hatchery is complete to ensure everything works as designed. This is the time of year when we have the smallest number of fish. All these fish are now on the domestic water supply.

Sockeye fry (166,000) from the incubation stacks will be held through June. We will release all but 65,000 which will be held through the summer and then moved to the new hatchery and released into Baker Lake in the fall. The remaining will be held and freeze branded for studies.

Coho (219,000) in Raceway 2 came from the incubation program brood stock. As with sockeye, we will save 65,000 and hold through to fall and carry to spring as smolts, releasing the remaining fish in the Lake Shannon.

Trout –these most are released into Depression Lake. They normally hold some for derbies or other special events and charities. They are holding a total of 1,300. These have been moved into one of the circulars. All should be released by the end of June.

Arnie observed that with the new hatchery coming online soon, we need from the co-managers, an annual production plan for the 20K program as called for in Fish Propagation Facilities Plan. We need the annual propagation plan from the fish co-managers by September 30 of this year, as PSE plans and budgets for funding the operation of the hatchery and use for the next year.

Steve believes that Baker will need its own *Hatchery & Genetic Management Plan* (HGMP). He will research this before the July ARG meeting. The co-managers need to state their intentions for this.

Doug reported we will be collecting sockeye very shortly and putting them in the sockeye broodstock pond.

We were pleased to learn that there has been no evidence of IHN.

Handouts:

- 6/8/10 Meeting Agenda, 5/11/10 Notes, ARG Meeting Schedule and Participation List
- Adult Fish Trap Destination Protocol
- 2010 Fry Outmigration
- Incubation Worksheet
- Baker Sockeye Data Sheet
- Baker Lake Smolt Scales
- Lake Shannon Smolt Scales
- Baker Shannon Smolt Scales