
BAKER RIVER PROJECT RELICENSE

Aquatic Resources Group

May 13, 2008 (9:00 a.m. - 3:30 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 February 12th, 2008 meeting	9:00 - 9:30
2. Review recent BRICC meeting activities, licensing updates?	9:30 – 10:00
3. Decisions Required at Today's meeting (Detailed information Attached (if needed)) 1. Decision Item #1 (Title of Issue, Name of Proponent), etc. 2. Decision Item #2 (Title of Issue, Name of Proponent), etc. • Please Designate Proxy to express your view if you can not attend!	
4. Brief Updates Fish Facilities Operations Topics • Downstream Fish Passage Facilities (PSE-Bruland) • AI Sockeye Production (PSE-Feldmann) • Sockeye Spawning Beach and AI Operations (WDFW/PSE) • Fish Rearing Inventories & Releases (PSE-Bruland) • Adult Trap Protocol Update or Changes <i>Break at 10:30</i>	10:00 – 11:00
5. Hatchery Update - Design changes since 60% submittal	11:00 – 12:00
6. FPTWG Update • Biological Evaluation • Downstream Passage • Adult Trap Design • Connectivity <i>Lunch Provided at 12:00</i>	12:30 - 2:30
7. Other Implementation Update • Reservoir Capacity Study Approaches (R2/PSE)	2:30 - 3:25

Baker River Project License Implementation**Aquatics Resource Group Meeting
Final Meeting Notes**

May 13, 2008 ~ 9:00 am - 3:00 pm
WDFW Office, Mill Creek, WA

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

PRESENT

Arnie Aspelund, Cary Feldmann, Doug Bruland, Jacob Venard, Dave Jenness, Ginette Lacasse, Andy Whitaker and Nick Verretto (PSE); Ted Thygesen, Jed Varney, Rich Johnson, Brett Barkdull, Kevin Kurras, Kevin Clark (WDFW); Steve Fransen (NMFS); Stan Walsh (SRSC); Phil Hilgert and Tim Sullivan (R2); Mort McMillen (McMillen Engineering); Craig Olson (NW Indian Fisheries); Lou Ellyn Jones by phone (USFWS); Lyn Wiltse and Jamie Riche (PDSA Consulting, Inc.), and members of the Magic Hour Production Team

NEXT ARG MEETING: June 10, 2008, w/ FSC tour at Baker Lodge

Future meetings, second Tuesdays, *except Nov.*: July 8, Aug. 12, Sept. 9, Oct. 14, *Nov. 13 (Th)*, Dec. 9

NEW ACTION ITEMS:

- All: Continue to give hatchery feedback to Arnie.
- All: Ensure your organization's primary and backup representatives' names and contact information is accurate on the ARG group list.
- Jed: Prior to the next meeting, send out information about Fry Plants.
- Nick: Send First-Year Performance biological study presentation to all.
- Arnie: After the summer field season, bring together smolt capacity study teamlet (Arnie, Stan, R2).

PREVIOUS, STILL RELEVANT, ACTION ITEMS:

- Jed: Follow up with Scott Lentz re. Beach 3 release sites.
- Rich: By end of June get with Co-Managers re. release sites beyond Beach 3.

MEETING VIDEOGRAPHY

PSE is in the process of documenting the Baker Story and the construction/deployment of the FSC. A film crew from Magic Hour Production joined us for the first part of the meeting.

BRICC MEETING ACTIVITIES, LICENSING UPDATES

Steve reported that the Bi-Op is still undergoing administrative review in the Portland office and simultaneously legal review in the Seattle office. The April and May BRICC meetings were cancelled; the next BRICC meeting will be from 1:30–3:30 pm up at Baker following the FSC field trip(s) on June 10. Cary reported that the Diking District #17 board took action to withdraw their protest of the license.

[PLACEHOLDER] RESOURCE GROUP DECISION PROCESS

Quorum Met? (YES / NO)

Decisions Required at Today's meeting

1. Decision Item #1 Discussion (Title of Issue, Name of Proponent)
 - Results (Consensus, Dropped, Appealed to BRCC)
2. Decision Item #2 (Title of Issue, Name of Proponent), etc.
 - Results (Consensus, Dropped, Appealed to BRCC)

FISH FACILITIES OPERATIONS UPDATES

Downstream Fish Passage

Doug reported that the old gulper has been replaced by the new FSC and they are working out the operational kinks of using a new system. They have released 51k Sockeye ad-clipped in the fall and have recovered 24%. They've also recovered almost 60% of the marked Sockeye that were released in April. Doug noted that it is typical to get more than one peak in an annual Sockeye run, so we're expecting more fish to come. Current numbers have the potential to be comparable to the numbers we saw in 2006 (a big Sockeye year), so we might set another record. He shared that the fish are coming into the FSC in good shape, without de-scaling ... the efficiency of fish handling with the FSC is markedly better than the old system.

We aren't expecting many Coho smolts this year. WDFW started coded-wire tagging non-marked Coho this week. PSE is operating Little Park Trap. It allows now for spill over on screen, which has kept it intact. Not seeing many Coho yet.

Increasing Sockeye Production

With the delay in license issuance, PSE is looking at potential ways to increase Sockeye production using the existing hatchery. We might be able to increase production by 1.5 million by increasing fry output from Spawning Beach 4 and the Artificial Incubation program (for a total release of 4.5 million Sockeye into the lake). Co-managers are looking at using 950 adults per each section of beach 4 as loading goals. We want to make the best use of all available space until the new hatchery is constructed. There would be no change in the Coho program this year.

We also discussed numbers for the artificial incubation program. There was general consensus of the potential for increasing the artificial incubation to 2 million fry with the existing facilities. From 1,500 adults, we'd likely get 2.3 million green eggs. The co-managers have been talking about using 1,300 adults for the artificial incubation program. Next steps: the co-managers will discuss the possibility of increasing the number from 1,300 adults to 1,400 or 1,500; Doug stated that he felt comfortable with the ability to manage that possible increase. By our June 10 meeting, the co-managers will provide the allocation plan and weekly distribution goal sheets.

Adult Trap Protocol Update or Changes

Kevin asked for clarification by asking if we could wait as many as three days before hauling a very small number of Sockeye out of Pond 2 (the large holding pond). "If there's more fish than we can count, we'll

haul them.” These low numbers typically only occur during the first 10 days of the run. Team members noted that this is basically the same protocol we use during the fall, and the ARG agreed with this process.

Kevin reported on another counter failure (4B on March 5). Kevin is pleased to see 1.8 million total fry into the lake; with 935k from the incubation group, he thinks we maximized what we could out of incubation. There was not a single incidence of IHN in any fish this year (...and there was great rejoicing!).

General operations numbers have all but dropped off; will be pulling the counters next week. We will be chlorinating the beaches after Memorial Day and will be back online by the third week in June. The hopper counter appears to be working well. We continue to be plagued by counter problems, which is an industry-wide challenge. We’ll investigate getting back-up counters (repairs take a long time). For 2009, PSE and co-managers will coordinate closely on the annual maintenance shutdown schedule for spawning beach 4, in consideration of piggybacking new hatchery construction activities.

Raceway 1 – has Sockeye from the incubation program; we retained 140k, will release 80k in June. 60k that will be held for fall release and the additional 5k that are saved for freeze-branding and the biological study.

Raceway 2 – has 173k Coho now; will retain 60k to ad-clip and hold through the winter, and will send some to Shannon and Baker, reserving 15k for bio studies.

Trout Pond – has rainbow now. Upper Skagit Tribe will pick up fish for their derby later this week. PSE will be conducting their annual Creel study the end of May. Will release 5k trout for recreational fishing before Memorial Day weekend, will release the rest in early June and will hold a few hundred for other derbies throughout the summer.

We’re at the end of our rearing season for the hatchery. Last group is the yearling Coho, which are being held in three large circulars and should be released by the end of the week to match the peak of the normal Coho outmigration (coordinating this w/ WDFW). We’re still scheduled to receive rainbow trout from the Arlington Hatchery. PSE’s annual Troutfest Derby was cancelled this year (and probably the next couple years) due to anticipated hatchery construction. Folks agreed that it is a great event and noted anticipation for reinstituting the event when the new hatchery is completed.

ARTICLE 505 UPDATE / DISCUSSION

Article 505 is the acquisition article the ARG shares with the TRIG. Jacob shared information about a property that is currently available (ask Jacob or Tony for details). This property was originally identified by the TRIG’s work to acquire elk land, and may fit the requirements of 505.

Cary reviewed the TRIG’s conversation around our decision making process, including the possibility of elevating an issue to the BRCC; he noted that this article is one of the few which receive special treatment and qualify for “majority rule” decision if needed (no one has veto power). He also noted that the TRIG emphasized the desire to maintain our strong working relationships by finding consensus through our collaborative approach. In the last TRIG meeting, it was suggested that it might be helpful to review core values / interests-based problem solving as a refresher from our early Settlement Agreement process

training; this may have value for us – and/or the larger BRICC group – as well.

Concerns were expressed about price and existing structures. We'll keep this property in mind and look for further updates along the way.

We would ideally like to find matching funds for the Article 505 acquisition. Doug noted that the SRF (Salmon Recovery Fund) Board grant selection committee looks favorably upon projects that protect the Chinook corridor. It is probably too late to apply for funding this year; we'd need to submit a proposal by February to be considered next year.

HATCHERY UPDATE

Dave reported that construction is scheduled for March 2009 due to license non-issuance. We will be at 90% design on May 23 and will get a formal 90% design review at our June 10 meeting (see below for details). Ernie Brannon will be reviewing the 100% design (September timeframe).

Mort gave us a design process update, focused on the changes since the 60% design, and gave us a preview of what to expect at the June meeting when we review the 90% design (detailed 3-D 360-degree rotatable models for each facility). The major changes to date include: inclined rather than vertical Lakos Sand Separators, extending the roof between the AI spawning / hatchery buildings, modifying the admin area to include more open office space and a second bathroom, and modifications to the AI handling area. There have been a number of additional minor modifications to rooflines, door locations, pipe locations and fittings, etc. to improve work flow and weather protection.

Design Schedule:

May 23, 90% design submittal

June 10, ARG presentation

June 16, 90% design review w/ PSE and ITR (independent technical review)

July 11, 100% design submittal

July 28, 100% design review w/ PSE and ITR

Aug 15, Stamped / signed drawings to PSE

Early procurement will begin this fall/winter, anticipating construction to begin March 2009 (dependent upon weather), and complete construction of all facilities is anticipated for November 2010. The PowerPoint presentation was emailed to the group 5/12/08 and distributed at the meeting as handouts. Mort noted that the spawning beaches and artificial incubation facilities will be online during construction to minimize impact to operations.

FPTWG UPDATE

Biological Study

Nick walked the group through a presentation of the first-year performance biological study to evaluate the effectiveness of the FSC. He will email the presentation materials to the full ARG. Releases started two weeks ago, tonight's release will be third of seven total releases of Coho and/or Sockeye, so it is too early to make determinations. We are also holding some fish for 72-hours to test collection survival and conducting some minor hydro-acoustic tagging studies.

Connectivity

Article 104 addresses connectivity between Lake Shannon and Baker Lake by providing for a fish-way between the two bodies of water for native char and other native fish species. The work includes 2 years of biological study, site placement, design, construction and operation of a prototype fish-way. Permanent trap-and-haul was designed and constructed or an alternative plan will be submitted to the ARG if the prototype fails.

Native Char (Bull Trout) Biological Study:

Nick shared information about the 2005 and 2006 Native Char Studies, which included sampling and Floy tagging adult trap, gulper on Sulphur Creek below UB dam (discontinued in 2006). It also included length, weight, scales, tissue samples; snorkel surveys; temperature monitoring; electro-fishing, etc. Questions include:

- Do significant differences exist between UB tributaries?
- Are there significant differences between UB and LB tributaries?
- Between UB and the Baker Adult Trap?
- Are the fish Dolly Varden or bull trout?

In consultation with UFSWS, PSE has been looking for labs to expedite the review of the 2006 season survey results. Phil is developing a scope of work for this. Lou Ellyn believes it may be best to continue to pursue getting results through the WDFW lab. We hope to get these results by the middle/end Nov.

Next Steps:

- Study design will be out late winter
- Tissue analysis by WDFW in Fall 2008
- Consult with all (USFWS, Tribes, WDFW, ARG) and develop and conduct 2 year study
- Develop and construct prototype
- Complete in 2011

Floating Surface Collector

Nick walked us through some photos showing the log boom is still there and the NTS that has been changed out and how the FSC has replaced the old gulper. He walked us through a photo journey of the construction process and actual operation of the facility. The group discussed a variety of operational questions, including fish operations, screens and debris removal, fish crowding / transport (new operations with the FSC represent a big improvement over old gulper operations), and staffing.

Doug shared that the improvement to fish passage is markedly and noticeably improved. Scale loss from transit through the facility has been nearly eliminated (now happens mainly during fish counting / handling). He noted the improvement in the fish experience; for example, you can't feel vibration from the pumps and the noise level has been significantly reduced (no high whine from the motors, can talk without having yell over the sound). Folks were thrilled with the improvement to the fish experience and expressed satisfaction with the outcome.

Adult Trap Design

Nick walked us through a photo tour of the new adult trap design and major features, including several comparative illustrations (now and after construction) from various perspectives. Designed for 3K fish a

day, there should not be capacity issues. Construction is expected to be complete June 2009.

Reservoir Capacity Study Approaches

The Settlement Agreement calls for a study within two years of license issuance to estimate smolt production capacity in Baker Lake and Lake Shannon. The study we had done during the relicensing process indicated that smolt production capacity might be 2-3 times the current production.

Tim Sullivan walked the group through a PowerPoint presentation describing the various methodologies to help us understand this issue. The presentation reviewed the following methods: Feedback on Smolt Numbers and Size; Primary Production (PR); Bioenergetics; Zooplankton (ZB); and Light, Nutrients (EV, TP, MEI). Knowing what we want to use this information for will help us decide which method(s) to employ. Phil believes the best way to determine smolt carrying capacity is to “listen to the fish” – something we are able to do quite well currently. There were some unanswered questions, e.g., Lake Shannon data, plankton blooming data and nutrient distribution at various water levels.

We need to determine what meaningful study we can conduct in the first two years of license issuance. Are we safe if we increase capacity by 10-20% per year and review trend data? What if we create a social dependency and/or crash the system? Should we conduct additional scale growth rate analyses? Do we already have the systems in place to test production capacity? How do we account for limiting factors such as reservoir drawdown, turbidity, etc?

Next Steps: We formed a teamlet - including Stan W., Arnie, Peter Kiffney (NOAA), and R2 - to address where we go from here. Arnie will call the teamlet together after the summer field season, with a goal of bringing a recommendation back to the ARG in the October / November timeframe.

HANDOUTS

- Agenda, Notes, 2008 Meeting Schedule
- ARG Representative List
- 2008 Upper and Lower Baker Trap Data (2 handouts)
- Draft Beach 4 Fry Production 2007-08
- Incubation 2007-08
- PSE Salmon Release Record
- PSE Trout Release Record
- 2007-08 Baker Adult Trap Returns
- Adult Trap Protocol, Updated 11-19-2007
- Baker Sockeye Production Methods, 05-09-2008
- PowerPoint: PSE Baker Fish Hatchery Renovation Design Process
- PowerPoint: Methods for Estimating Sockeye Smolt Production Capacity

Well Done

- Mort's presentation – covered a lot of ground well (and efficiently)
- Nick's presentation – great photos
- Tim's presentation – animated plankton tower!
- Facilitation

Do Differently Next Time

- Need more analogies
- Lunch (timing)
- No coffee for Lyn
- Filming was distracting

AGENDA FOR NEXT ARG MEETING

June 10, 2008; 9 – 11 am at Baker (*FSC Tour and BRICC Mtg. will follow the ARG Mtg.*)

1. Welcome, review notes, action items, agenda (10 minutes)
2. Hatchery 90% Design Review (1+ hour)
3. Fry Plants (30 minutes)
4. Quick Operational Updates (10 minutes)
5. Evaluate meeting, set next meeting agenda & location

<ul style="list-style-type: none">Article 505 Update (PSE-Venard)	
8. Evaluate meeting, set location (Baker Lodge) and agenda for next meeting (June 10 th , 2008 -ARG meets in AM - FSC Tour - BRICC meets PM)	3:25 – 3:30