

BAKER RIVER PROJECT LICENSE IMPLEMENTATION

Aquatic Resources Group

March 10, 2009 (9:00 a.m. - 1:00 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 meeting norms, notes/agenda/action items from February 10th, 2009 meeting	9:00 - 9:45
2. BRCC and License Process Update	9:45 - 10:00
3. Review Draft on Fish Propagation Facilities Plan <i>Break at 10:30</i>	10:00 - 11:00
4. Required Decision Today: <ul style="list-style-type: none">• None	
5. Hatchery Update (PSE-Jenness) <i>Lunch Provided at 11:30</i>	11:00 - 11:30
6. Brief Updates Fish Facilities Operations Topics <ul style="list-style-type: none">• Sockeye Spawning Beach and AI Operations (WDFW/PSE)• Sockeye Fry Releases (WDFW/PSE)• Fish Rearing Inventories & Releases (PSE-Bruland)• Adult Trap Protocol Update or Changes• Skagit River Fish Update (WDFW)	11:30 – 12:30
7. FPTWG Updates	12:30 – 12:45
8. Other License Implementation Updates	12:45 – 12:55
9. Evaluate meeting, set agenda for next meeting (April 14 th , 2009 at Mill Creek)	12:55 – 1:00



**Aquatics Resource Group Meeting
Final Meeting Notes**

March 10, 2009 ~ 9 am – 2:30 pm
WDFW – Mill Creek

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

PRESENT

Arnie Aspelund, Cary Feldmann, and Doug Bruland (PSE); Dave Jenness, Nick Verretto, Don Thompson, and Frank Hella by phone (PSE); Mark Hunter, Kevin Clark, Kevin Kurras, and Rich Johnson (WDFW); Jon Paul Shannahan (Upper Skagit Indian Tribe); Arn Thoreen (Skagit Fisheries); Stan Zyskowski (NPS); Bob Helton (Citizen); Lou Ellyn Jones by phone (USFWS); Lyn Wiltse and Jamie Riche (PDSA Consulting).

UPCOMING MEETING DATES:

FPTWG: March 17, 2009

BRCC: March 25, 2009, (Article 505–Aquatic Riparian Habitat Mtg. scheduled to follow the BRCC)

ARG: March 25, 2009, Conference Call (for decision on adult trap shutdown schedule) held between the BRCC and Article 505 meetings; April 14, 2009, and second Tuesdays throughout 2009

DECISIONS – none today.

NEW ACTION ITEMS

- Cary Invite Steve St. Clair to a future ARG meeting to present on wind integration.
- All Review Fish Propagation Facilities Plan; Send feedback to Arnie ASAP (official review draft will go to ARG 3/31).
- Nick Send outage information along w/ FPTWG agenda, give Stan W. a head's up re the issue.
- Arnie Schedule brief ARG meeting / conference call in-between the BRCC and Article 505 mtg. and send out appropriate notice of the decision to be made.

PREVIOUS, STILL RELEVANT, ACTION ITEMS

- Mark K: Convene an Article 107c teamlet during summer of 2009, including Stan W., Bob H., USACE, Skagit Co., and a PSE hydrologist(s) and biologist(s).
- All: Ensure your agency / organization has identified its representatives to the BRCC.
- Cary: Check representative response status, follow up as needed.
- Jed: Look into disease policy issues re: WDFW's request to plant Rainbow in Grandy and Vogler.
- Brett: Set up meeting w/ co-managers to address holding next year's planting of sockeye adults.



REVIEW OF AGENDA, NOTES, HANDOUTS

Mark explained that WDFW is disappointed that at a regional level, wind generation industry does not appear to be mobilized to shut down wind generation on short notice. ARG members had, at a previous meeting, also expressed interest in a discussion about wind integration and the implications for hydro resources. Cary replied that the wind system is set up to “spill” on short notice. “Spilling” in wind generation happens when a utility allows wind to ‘go by’ without generating power from it. Cary will invite Steve St. Clair (PSE’s Asset Manager of Wind Resources) to a future ARG meeting to address the issue of wind integration.

Report on Action Item: The co-managers met and agreed to allocate all sockeye fry to Baker Lake this year.

DRAFT FISH PROPOGATION FACILITIES PLAN

This draft plan illustrates the standardized format of the plan that each of the resource groups will be crafting for various articles to be sent to FERC. The plans focus on process rather than specific actions. Decisions will be left at the resource level to the extent possible. By March 31, Arnie will distribute an official version of the plan via certified mail. This will kick off a minimum 30-day review period. We will put a placeholder for this item on the agenda of the 4/14 ARG meeting in case there is a need for discussion. When consensus has been reached on the content of the plan, we will submit it to FERC.

Arnie walked us through the draft plan and pointed out the “□” bullets, which indicate items specifically to be documented for inclusion in annual reporting to FERC. A question was raised about how success would be measured: fry leaving the project (easier to measure), or fry leaving the watershed (requires some way to measure downstream, and would cause health of river and watershed to be of greater importance).

UPDATE: ERNIE BRANNON HATCHERY REVIEW

Ernie Brannon, a retired UW professor and regional expert on sockeye hatchery fish survival in the wild, was invited by request of ARG members to provide an independent review of the hatchery plans. He met with Cary and Arnie on-site March 4 for a preliminary review. Cary and Arnie reported that Ernie didn’t indicate any “show stoppers.” PSE is expecting written feedback in the near future.

HATCHERY UPDATE

Dave Jenness reported, construction contractor, McDougal-McMillan, will mobilize on-site the week of March 30, install erosion control measures the following week, and is scheduled to begin clearing and grading work April 14. This is a delay compared to the scheduled start date (related to snow onsite), but should not impact the scheduled final completion date. The final stamped designs now incorporate the modification to the adult pond (the Issaquah design) discussed and reviewed in concept at the ARG meeting last September 2008. AI adult pond design also will have the spawning area at ground level like the Issaquah Design.

A question of need was expressed at the lack of bird netting on the adult brood-stock pond. Doug



explained that the current pond does not have netting and there haven't been problems. Co-managers will continue to monitor this and can adjust if needed.

An operational pre-construction review meeting is scheduled for March 25 at the Baker Lodge. During construction the current plan is to leave the administrative office area of the existing Spawning Beach 4 building. Onsite snow may pose challenges.

PRE-SEASON SOCKEYE FORECAST

Jon-Paul noted that the preliminary pre-season Sockeye forecasts for Baker predicts about 3,000 adult returns, due in part to as-yet-unknown ocean impacts on returning fish.

FISH FACILITIES OPERATIONS TOPICS

Spawning Beach and AI Operations: Kevin reported that they're getting good numbers of sockeye fry out. They have fairly high confidence in the counter as it matches visual estimates. As of yesterday, 400,000 fry are out. Kevin reported that the AI fish are looking good. No IHN has been detected after three weeks of sampling. A raccoon got into the shallow trough and ate about half of the 18,000 fish in the first egg take (first time ever); they've taken steps to make the facility predator-proof. Planting sites: Kevin will discuss w/ co-managers after the lake thaw. They will be planting fry at blue tarp and the old beach at Channel Creek.

Fish Rearing Inventories:

Doug B. walked us through the Baker Hatchery Fish Inventory (3/6/09).

Raceway 1 has 6,871 ad-clipped Sockeye (5,110 freezebranded for the recapture study and 1,765 remaining) both to be released into Baker Lake.

Trout pond is holding Rainbow Trout for Grandy and Vogler Lakes. Both lakes are still frozen at this time; PSE will plant some Rainbow in these lakes in April before fishing season, pending approval of the co-managers. The remaining Rainbow – less any claimed by the Tribe - will go into Depression Lake. The Troutfest Derby was cancelled again this year due to hatchery construction activities.

Circulars 1 & 2 are holding freeze-branded Coho; RV-branded group is going to Lake Shannon (not Baker as it states on the handout); LV-branded group is going to Baker Lake.

Circular 3 Coho will be released late April or early May at the Skagit River / Baker River confluence. PIT-tagged fish were moved late last week to the net pens in the Upper Baker forebay. These will be released into Baker Lake periodically for mark/recapture.

Coho incubation = 240,000 eggs; Doug noted that they've had some good takes and some takes with higher losses. The small fry troughs over raceway 2 are being prepped to receive Coho fry. Will feed and hold until May; 65,000 to hold, remainder for Lake Shannon.

Hatchery construction activity should not negatively impact current operations. Doug noted that there have been no problems / landslides at the headworks, despite weather conditions. We have had good water

supply and no fresh sinkholes.

FISH PASSAGE UPDATE

Nick reported that the FPTWG last met on Jan. 12; next meeting is Tues., Mar 17.

Upper Baker FSC:

Nick gave a brief status update on the work currently being done on the FSC: Punch list items, including secondary backwash cleaners and secondary baffle modifications, and other modifications to improve screens balancing are complete. Screens balancing is also complete, with a preliminary review showing good results.

Several holding tank modifications were made in preparation for season two, and many refinements are ongoing. Primary screen-baffle controls are being adjusted to allow for switching between 500 cfs and 1000 cfs more quickly. FSC performance in 2008 was very good – exceeded 95% standard on one of the unadjusted tests (done at 500 cfs), and exceeded *two* more with the adjustments applied, agreed over the last three years of study and consultation. Performance testing in 2009 will include paired tests of 500 cfs and 1000 cfs, cycled on a 24-hour basis, to minimize study impact on results.

Test conditions for 2009 performance levels:

- 6-week study window 4/20 – 5/31
- Release 5500 study fish in bulk two weeks prior to study
- Run 24 hours @ 500 cfs
- Run 24 hours @ 1000 cfs (ganged primary baffles used for each cycle)
- Will use PIT tags like last year. Hold fry in net pens for use in study.
- Have purchased new fish handling transport tank.

UB FSC Debris Exclusion:

Cary described a new debris excluding device that was added upstream of the NTS entrance. It consists of an 8-ft-wide floating walkway, extending from 25 feet upstream along the face of the guide net, perpendicular to flow, and is constructed with an angled 2"x2" wooden frame that supports a 1/4"-mesh screen, extending ~2.5' into the water. The fence concept was used for years at each gulper to exclude debris, and the mesh was used during first-year operation of the FSC in response to significant debris issues in the screens channels, holding raceways and sampling area. There was a question of whether there should be concern about potential bull trout predation beneath the floating walkway. Nick and Doug explained that evidence suggests that bull trout prefer to remain low in the water column, using the backlighting to ambush prey, that they would unlikely remain suspended in the column beneath the walkways or beneath floating debris, that measures could be taken to minimize any detected impact, and that the benefit of debris exclusion to fish health far outstripped the potential hazard of increased predator refuge. Moreover, PSE has observed no bull trout near the debris excluder, and they will continue monitoring the site.

The issue was brought to the ARG's attention due to its significance to the FSC design/operation. There was general consensus that it makes sense to manage the debris at the intake to protect fish, and this seems

to be an effective method.

Lower Baker FSC:

Preliminary design efforts are underway, and PSE has initiated formal design consultation. The design and construction schedule are again compressed, as at Upper Baker. The new design is incorporating lessons-learned from the UB FSC. Nick announced that MWH was selected last week as the primary engineering design consultant. This will be a more complicated system than at Upper Baker; it will be designed for minimum operating elevation pool (373.25 ft), and for the pool fluctuating range of 70 feet (as opposed to 50 feet at Upper Baker). This will be below anything the USACE might prescribe for flood control, although any plans for extending the lower pool range would have to be addressed in the design when those plans are solidified. R2 Resource Consultants is conducting a study, with support from Doug's fisheries staff, to confirm FSC siting assumptions. The acoustic study will identify fish migratory path on approach to the existing log boom (potential site of the future FSC). The acoustic array will consist of 25 receivers suspended from 22" buoys, distributed upstream of the log boom due west of the boat launch, and will provide 2-D data for identifying migratory path.

Connectivity:

Tissue samples from 2005-06 field sampling were analyzed at the WDFW lab and the report submitted January 2009. Additional sampling and expanded analysis (to include more adult samples) will be performed toward the end of 2009.

Adult Trap:

Nick will submit a draft letter to Steve F. and LouEllyn regarding a request from FERC for documentation of acceptance of the adult trap design. Although the full plans and specifications have been submitted, the documentation of acceptance remains unfulfilled.

Construction mobilization will begin April 1, with construction beginning shortly thereafter, and completion scheduled June 2010. Nick revisited the trap outage issue discussed and agreed at the January 13th ARG meeting. A one-month outage was originally proposed, from mid-August to mid-September. This was subsequently shifted ahead one week to accommodate a potential early run of coho. The contractor is now asking for more time, so the new outage request is from August 7 to September 15 (9/17 at the latest). There was concern expressed about the biological impacts of the extended timeframe, and how it might impact an early coho run, as well as potential impacts of the shifted schedule to the small sockeye run (projection) in 2009. The primary concern is about PSE will need to balance construction requirements and biology. There were strong feelings for potential biological impacts, and for the need for further discussion, and for the likely need for real-time discussions on the lead-up to the outage to confirm that the sockeye and coho runs would not be impacted. PSE would therefore have to develop contingency plans for either eventuality. Nick will distribute information regarding the request and coordinate a discussion by the FPTWG at the meeting of March 17 (next Tues.).

Next steps: the FPTWG will discuss the outage proposal and develop a recommendation. The ARG will hold a very brief meeting or conference call in-between the BRCC meeting and the Article 505 meeting on March 25. Arnie will coordinate this ARG meeting or conference call and submit related information required to reach a decision.

OTHER LICENSE IMPLEMENTATION ACTIVITIES

Cary explained the need for all to review activities in other resource groups through the lens of cross-resource implications. An example where this need was evident was the loon nesting platforms scheduled to be installed later this month by the TRIG. They learned late in the game of cultural implications that could have side-tracked the project.

PSE TEMPORARY STAFF

Doug announced that PSE has hired their temporary staff to work the juveniles trap operations (UB & LB). They have initiated downstream passage operation according to the season schedule in the license. Note: the lake is currently still frozen.

HANDOUTS

- Agenda, Notes, 2008 – 2009 Meeting Schedule, ARG Representative List
- Revised BRCC-ARG Norms
- BRCC Notes – 1/28/09
- Draft Fish Propagation Facilities Plan
- Baker Plan Model Purpose
- Fry Production Worksheet
- Baker Hatchery Fish Inventory March 2009
- Baker Adult Trap Protocol
- Baker River Adult Fish Return
- Historical Daily Fish Counts, Adult Fish Trap & Juvenile Fish Stress Relief Ponds
- Baker Adult Fish Trap Construction Details

MEETING EVALUATION

Worked Well:

- Lyn's Galapagos pics
- Very interesting system problems (debris screening, etc)
- Phone participation went smoothly – materials distributed
- Facilitator walking the mic around also helpful
- Cary's internet connectivity helpful
- *Offline networking and collegiality (ex: Allison & Rich sharing articles)*

Do Differently:

- We missed some of our friends (light attendance today)
- HVAC blower in room was noisy

AGENDA FOR NEXT ARG MEETING

April 14, 2009; WDFW Mill Creek

1. Welcome, review notes, action items, agenda, norms
2. BRCC and License Updates



PUGET SOUND ENERGY

The Energy To Do Great Things

3. Implementation Plan Updates
4. Article 505 Aquatic Riparian Habitat Teamlet Update
5. Presentations – Corps on Flood Control Operations (?), Wind Integration (April?)
6. Draft Fish Propagation Facilities Plan – Review comments, discuss goals
7. Skagit Fish Report (Fall returns)
8. Hatchery Update
9. Fish Operations Topics
10. Evaluate meeting, set next meeting agenda & location