

Baker River Project License Implementation

Aquatic Resources Group

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

PRESENT

Arnie Aspelund, Nick Verretto, Doug Bruland, Scott Heller and Caitlin Faulkner by phone, Jory Oppenheimer, Jacob Venard and Kevik Rensink (PSE); Nancy Gleason (USACE); Brock Applegate and Joan Thomas, Edward Eleazer, Steve Stout and Kevin Kurras (WDFW); Stan Walsh (SRSC), Bob Helton (Citizen); Jeff McGowan (Skagit Co.); Lyn Wiltse and Jamie Riche (PDSA Consulting).

DECISION: None today.

2015 ARG DATES: Jan. 13, Feb (Date TBD for Bull Trout Consult), Mar. 10, June 9, **Oct. 6 (new date)**

ACTION ITEMS

- Jory Send Co-Managers and DOE a proposed downramping schedule for Unit 4 testing.
- Co-Mgrs Review the proposed downramping schedule, provide feedback to Jory.
- Caitlin Send Brock information about the elevations at the decommissioned spawning beach site.
- Nick Meet with Co-Managers and any other interested Co-Managers to review and update the Upper Baker sub-sampling protocol.

PREVIOUS and/or ONGOING ACTION ITEMS

- Nick Develop a plot overlaying fry stocking numbers with annual out-migrant collection numbers.
- Nick Distribute the draft upstream protocol (downstream complete) and the upstream fish trap harvest distribution contacts list to the Co-Managers for review & edit.
- Co-Mgrs Review & update the draft upstream fish facilities protocol and send to PSE.
- Co-Mgrs Send a draft Fish Production Plan to Arnie ASAP, as per FPPF.
- All Review / update the ARG representation list for your organization (ongoing, as needed).

Action Item Update: Jacob reported that the existing Large Woody Debris (LWD) is almost certainly too small for use on the erosion control project, so they will be sourcing their materials elsewhere.

SAFETY MOMENT

Jamie and Bob each shared stories about staying safe when driving. Leave plenty of distance (at least three seconds – “one thousand one, one thousand two, one thousand three”), especially if you can’t see around the vehicle in front of you. Watch for speeders, watch for school kids ... basically, “expect the unexpected.”

BRCC, LICENSE PROCESS UPDATES

Jacob walked the group through the most recent update Tom sent out. He also shared an update on property acquisitions in the works related to Article 505 and the TRIG. He announced that Irena Netik, with experience from the Baker relicensing days, has assumed Paul Wetherbee’s role as Director of Hydroelectric Resources. The next BRCC meeting is scheduled October 22 at Snoqualmie.

Unit 4 – FLOW COORDINATION UPDATE

Jory reminded the group that Unit 4 is the new turbine PSE is building to meet the new instream flow and downramping requirements listed in Aquatics Table 1. The powerhouse and new bypass valve were completed in June 2013. When they began to commission the new turbine in July 2013, they found excessive vibration. The manufacturer tried several things to resolve the issues; all were unsuccessful. They determined that the only way to move forward was to build a physical model of the new unit (Jan – July 2014). This delayed the project's completion date, and FERC approved a one-year extension to maintain the Interim Protection Plan (IPP) operation through October 17, 2015.

The good news is that the manufacturer believes they have identified the problem, which seems to be related to an uneven coating on the wicket gates. Accordingly, they are repairing the coating.

Next Steps:

- Sept. – Dec. 2014: Testing to verify problem and solutions under a variety of operational conditions and possible initial facility controller testing
- Apr. – July 2015: Outage to install a new turbine runner
- Aug. – Sept. 2015: Testing of facility controller and email excursion notification system
- Oct. 17, 2015: Expect to be operating according to Aquatics Table 1

Flow Coordination:

- Interim Period: Oct. 17, 2014 – Oct. 17, 2015
- Minimum In-stream Flow: Aquatics Table 1
- Maximum In-stream Flow: Aquatics Table 1
- Downramp Rate: IPP, Use Aquatics Table 1 trigger
- Unit Trips: Respond within one hour
- Unit 4 Outage (Spring, 2015): Supply Aquatics Table 1 Minimum In-stream Flows (MIFs)
- Flow Deviations: Report any deviations within 2 weeks of occurrence
- Coordination on testing

Jory asked the ARG for guidance about the best time to schedule the extended downramp testing this autumn. The tests may run the system up to 5,600 cfs, then ramp down to 1,000 cfs Minimum In-stream Flow (at new rates, Jory estimated this will require around 14 hours). Stan suggested scheduling the tests in late October, aiming between the peak Chinook and chum spawning periods. Nancy cautioned that waiting until late October increases the risk of bumping into storm season and high flows.

Jory agreed to email a proposed schedule to Brett and the Co-Managers and Dept. of Ecology for review and feedback.

FRY RELEASE SITE TECHNICAL WORK GROUP UPDATE

Jacob reported that this group has been meeting since the last ARG meeting and is making progress. The next meeting will be September 24, and the team will be scheduling site-visits to ground-truth the ideas considered so far. They will provide an update at the next ARG meeting.

HEADWORKS WATER SUPPLY

Jacob updated the group on the work to stabilize the hillside near the hatchery. PSE has been working on this in consultation with the Forest Service and WDFW. Shannon & Wilson has been contracted to develop a draft design. The longer-term erosion control measures are scheduled for implementation this fall to stabilize surface erosion in the construction area this summer. PSE will meet with the Forest Service Sept. 26 to review the draft design and agree on next steps.

FRY PRODUCTION, AI & SB4 OPERATIONS

Kevin reported that they met their goals for loading the beaches and Artificial Incubation (AI). A normal amount of pre-spawn mortality was observed (80 so far), mostly from AI 3 and 4. All those morts had clear cause up until a mystery mort last week. Kevin sampled that fish and sent it off for IHN testing. Hatchery staff needs confirmation on the disposition of any IHN-hot carcasses. Jeremy is coordinating with WDFW on a disposal site. Kevin will contact the Jeremy.

Spawning is scheduled to start October 14 and will continue every Tuesday after that. They will hold back 7K of fall release Sockeye and 7K Coho for pit-tag testing.

HATCHERY INVENTORY

Doug walked the group through the hatchery inventory:

- 12K steelhead fry are held in the shallow #3. Kevin says the healthy ones are doing great (have doubled in size). These will be pit-tagged and put into the reservoir to help evaluate trap efficiency.
- 20K rainbow trout are held in the circulars for release in spring 2015. They will be released into Depression Lake, Grandy, or wherever WDFW prefers.
- 300K sockeye are in Raceways 1-3 for fall 2014 release into Baker and 2015 biological studies.
- 65K coho are in Raceway 4 for spring 2015 release to SRP and 2015 biological studies. 1 in 5 no-mark and coded-wire tagged coho are being held for broodstock. Joan noted that the prescriptions will need to be updated for antibiotic and formalin administration. Brock shared Brett's friendly reminder to sample throughout the entire season.

CLARIFICATION OF HATCHERY NAME

Edward reported that the Co-managers noticed a lack of consistency in the name of the hatchery in various license-related documents. After reviewing the settlement agreement and license, it appeared that the proper name of the hatchery was Sulphur Creek. Jacob and Arnie noted that PSE has been calling it the Baker Fish Hatchery. PSE considers this the official name as it appears on all design documents and drawings relating to the site. Everyone agreed that consistency is important. Jacob and the Co-managers will talk off-line to confirm.

SPAWNING BEACH DECOMMISSIONING

Caitlin Faulkner called in to walk us through a PowerPoint presentation with photos of the spawning beach decommissioning work that was resumed this summer. She displayed the modifications of the LWD installations with the notches, temporary side channel and lining material. Jeremy has been working with her closely on this project which is coming in on budget, with the original contractor assuming responsibility for many of the cost over-runs. The decommissioning will be complete when the former channel is re-vegetated next month, along with completing the plantings started last fall.

FISH PASSAGE OUTMIGRATION UPDATE

Doug reported that it was a very successful/record breaking smolt season. There were a milestone 1,037,001 fish through the system! Outmigration numbers are record-breaking at Lower Baker this year, and are at near-record numbers at Upper Baker as well. Sampling was 100% at Lower Baker due to a gill ATPase analysis and the performance study. Subsampling occurred on 11 days during the peak outmigration at Upper Baker – the same as in 2013. Subsampling has occurred at Upper Baker since 2012, following a test of alternatives in 2011. Subsampling will occur at both facilities in 2015.

Nick showed the ARG the spreadsheet the hatchery staff use to track the migration, identify the peak of the season (generally May 1-21), and determine when to shift to subsampling and direct-transfer. Nick explained the process of analyzing and predicting migration timing for managing holding distribution and sampling. Field data sheets were reviewed to describe the process of data analysis and for identifying areas for focused improvement in subsequent years. Annual biologists' load estimate verification data was reviewed, the risk of underestimates and extrapolation accuracy described. The average of all visual estimates is very accurate; however, individual estimates are more important in that they determine transport tank loading. For example,

the highest single-load underestimate was 38%, which means that actual transport loading was 38% higher than the visual estimate. There is risk of overloading if the visual estimate approaches maximum transport loading, so a few operational changes will be made in 2015 to avoid any potential issue.

Last Friday, Nick sent the Co-Managers PDFs of the subsampling data sheets along with the latest FSC subsampling proposal. He suggests moving the trigger date to be 3 days earlier and also extending the subsampling protocol to Lower Baker in 2015 in addition to the work at Upper Baker. He will meet with the Co-Managers to review the process in detail, discuss other suggestions and make any adjustments that are needed.

FISH PASSAGE STUDIES

PIT-tagging data is not yet available, so recovery numbers are unknown, but indications are that they are high (92% of the release groups were recovered last year). Lower Baker performance study releases consisted of 2,400 fish of each species (sockeye and coho) in three consecutive 800-fish evening releases, as in past years. The Upper Baker long-term monitoring releases were of 1,500 fish of each species, in two consecutive 750-fish releases.

Nick may schedule a full-day fish passage technical working group meeting in early December to discuss 2014 study and operational results and to finalize the plans for next year.

2015 Biological Studies:

As noted in the hatchery inventory report above, 7,000 of each species (sockeye and coho) are being held for PIT-tagging December 15-19. Those fish will then be held 2-3 months in the hatchery, then spend another month in the net pens prior to release.

BAKER RIVER UPSTREAM FISH TRAP HARVEST DISTRIBUTION LIST

Nick projected the contact list, and confirmed with attendees that the correct contact people are listed.

DEPRESSION LAKE / WEST PASS DIKE

Rainbow trout have been planted in Baker and Depression Lakes since initiation of the recreational stocking program in 1971. Concerns of non-native trout interactions with native species caused the Baker plants to be shifted entirely to Depression Lake during the earlier stages of Project relicensing. At the last meeting, the ARG asked PSE to prevent rainbow trout stocked in Depression Lake from being entrained in the pump-back station and ending up in Baker Lake. Nick showed photos of the West Pass Dike and Depression Lake and described some of the alternatives under preliminary evaluation, which include a barrier net of various configurations and locations, a hardened screen of some sort, asking the Co-Managers for an alternative stocking location, and canceling the program. Nick has requested cost quotes and noted that the ones he has seen so far are coming in more expensive than he had expected. He will continue to research options and bring this up for additional review and consideration at the December fish passage technical working group meeting.

FSC REPAIRS, SCREENS UPDATE, LONG TERM MONITORING

Nick briefly recapped the background information on the Lower Baker FSC screened channel flow control baffles that PSE has been working on and consulting with the NMFS and the ARG over the course of the past year. The issue relates to lack of full hydraulic control at the screen face due to material selection and fabrication. Nick reported that there has been one meeting since the last ARG meeting to evaluate results of early modeling. Additional modeling and analysis are underway and PSE is working closely with NMFS to develop a solution. Any FSC modifications will need to be scheduled between seasons, and are tentatively planned to begin immediately following the 2015 season.

PLANS AND REPORTS

Arnie reviewed the schedule of reports coming out this fall, before we move over to the new annual reporting cycle. Article reports for SA 103 Upstream Fish Passage and SA 104 Fish Connectivity were distributed to the ARG for 30-day review on August 31.

505 - AQUATIC RIPARIAN HABITAT WORKING GROUP UPDATE

Scott reported that the Aquatic Riparian Habitat Working Group held a process improvement meeting July 30, largely focused on how to best manage scope changes that emerge in approved projects. Notes were sent out August 28; comments and edits are due next week. He also updated the group on work to acquire land related to one of the approved projects.

2015 MEETING DATES

Nick suggested moving the September date to October to better align with the fish passage season. The group agreed. So the September 8, 2015 meeting has been moved to October 6, 2015 (**Note this is the first Tuesday**).

MEETING EVALUATION

- Food was good. Salmon chowder is always appreciated.
- Limit our use of acronyms.
- Thank you for keeping side conversations to a minimum.
- Nice to have Kevik here; Doug will invite different Baker fisheries staff to each meeting.
- When possible, advance distribution of major presentations is appreciated, especially when they are data-heavy. Perhaps post to FTP site in advance like TRIG does.
- Finished a little early.
- Missed the Dove chocolates.

January 13, 2015 Draft Agenda Topics:

- Usual ARG welcome and standard updates / reports
- Update from USACE re: Skagit GI
- Update from Fish Passage Technical Working Group
- Update on Unit 4
- Standard updates on hatchery and fish passage
- Other license implementation updates
- Update on SA505