BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group
Technical Sub-committee on Instream Flows

January 30, 2004
9:00 a.m. - 3:00 p.m.
U.S. Forest Service
Conference Room A/B (425/775-9702)
21905 - 64th Avenue West, Mountlake Terrace, WA
(Call in number 1-866-280-6429, participant number 144995#)

Final Meeting Notes

Meeting Purpose: Develop a process to resolve flow-related issues for Baker River Project relicensing

Fish Team Leader: Arnie Aspelund, 425-462-3442, aaspel@puget.com

PRESENT: Arnie Aspelund (PSE), Cary Feldmann (PSE), Paul Wetherbee (PSE), Phil Hilgert (R2), Jeff McGowan (Skagit County), Chuck Ebel (USACE), Gary Sprague (WDFW) Mike Stansbury (Skagit County), Brad Caldwell (DOE), Ruth Mathews (TNC), Stan Walsh (Skagit River System Cooperative), Steve Fransen (NOAA), Gene Stagner (USFWS), Rob Mohn (Louis Berger), Jon Vanderheyden (USFS), Arn Thoreen, on the phone (Skagit Fisheries Enhancement Group), Margaret Beilharz, on the phone, (US Forest Service), Irena Netik (Powel Group (Powell), on the phone, and Lyn Wiltse, facilitator (PDSA Consulting), and Dawn Schink, (PSE) note taker.

Next Meeting – February 27, 2004. The Camelot Room (2nd floor) PSE-Bothell Office. 1900 North Creek Parkway, Bothell,WA (425/424-6550)

Handouts

Skagit County letter regarding Flood Control Coordination with Aquatics Workgroup
Skagit County PDEA Initial Review Comments, FERC (excerpt)
Skagit County HYDROPS Run Request
Draft 5 Baker River Draft Proposed Actions – Aquatics Resources Revision (1/21/04)
Baker Comparison 2 page table (version 1/30/04)
BakerRiverRampingRestrictions-01-30-04 handout

1) Review Draft Agenda

2) Status of Action Items from January 23, 2004 Meeting

- √ Stan: Follow up with R2 regarding additional information requests
- √ Stuart: Translate stage change to inches at the Baker Gage to tie the relationship together with the stable Skagit gage.
- √ Cary: Follow up with Joel about PSE plans to meet State ramping guidelines. Make it an agenda item for February 12 meeting.
- √ Arnie: Send out announcement that the next Instream Flow Technical Working Group meeting will be at the USFS Mountlake Terrace Office on January 30, 2004.
- √ Paul: Work with Steve to flesh out his suggested run: NMF.01 and share output prior to the 1/30 meeting of the Instream Flows Tech Working Group Meeting
- √ Stan: Will draft suggested language for 3.2.1 that would meet the interests of the tribes he represents.
- √ Dee: Re-write rationale under 3.2.2 to clarify meaning.
- √ Greta: Work up alternate cost estimate for erosion PME (3.4.3) and get to Arnie within a week.
- √ Arnie: Add language that includes water quality to 3.4.3 (erosion).
- √ Cary: Button up with Bob Wright regarding agreement with water quality PME's.

3) Skagit County request for increased flood control

- Cary distributed a Jan 27th letter from Dave Brookings requesting the ARWG analyze the proposed operational parameters for the additional and earlier 26,000 acre-feet (kaf) flood storage at Upper Baker and 40 kaf at Lower Baker outlined in the County's proposed license article. He further distributed p.11 of Skagit County's comments on the PDEA requesting that their proposed flood levels be run through HYDROPS to determine their feasibility.
- Jeff would like to see the flood control option incorporated as separate HYDROPS analyses for existing runs, and analyzed concurrently when future pre-Settlement scenarios are run through HYDROPS (run it concurrently). He suggested that not analyzing the flood control option would weaken public relations.
- Cary believes that incorporating flood control options into operational scenarios at this point in the process would be disruptive, and suggested that flood control options be run after the group gets close to Settlement (run it sequentially).
- After considerable discussion, members agreed to defer further discussion until the end of the meeting. At the end of the meeting, folks other than Skagit County, agreed that it made sense to apply Skagit County's proposed flood control constraint to one or two of the most-promising regimes that we want to go forward to assess the relative magnitude of impacts. The group emphasized that we are a technical working group interested in science rather than public relations.
- Chuck was asked who would pay for study costs, and any mitigation costs that were identified by the study. Chuck responded that the Corps/Skagit County are responsible for mitigation costs. The Corps could do the study, but the results would not be available by April.
- Ruth wondered if we could add flood control to one scenario to evaluate potential effects. Cary noted that evaluating operational scenarios under the existing level of flood control was already agreed upon by the Solution Team; adding other variables just complicates an already overwhelming evaluation process.

- It was agreed that Skagit County's alternate flood control option would be examined under one of the promising scenarios, but the task would be a lower priority than Settlement runs (after doing the runs already queued up.)

4) Lower Baker Turbine Configuration and Meeting Ramping Rate Criteria

- This will be on the agenda for discussion at the February 12 ARWG meeting. Joel Molander is PSE's project manager for this issue, and will attend the meeting to discuss opportunities and constraints of Lower Baker turbine configurations.

5) Status of New/revised HYDROPS Runs

• **NMF** - We will look at modifying recreational levels (Lower by 2' to 4', and lower earlier, a week at a time). The minimum level is set at 720, to keep the boat launches under water.

- Look at percentage of euphotic zone loss.
- Address "high level escape hatch" maximum general constraints to 23,000 cfs
- Relax maximum generation constraints to 23K cfs Skagit flow.
    - ♦ Upper Baker Inflow greater than or equal to 10 % exceedance level
    - ♦ Upper Baker Water Surface elevation greater than or equal to Flood Control Buffer
    - ♦ Include an ability to generate when reservoir levels are too high. (Need to define this number).

  This number can be triggered by Skagit flow, pool elevation and Baker inflow but we need to further identify trigger points and constraints.
- We don't want the reservoirs to be held irresponsibly low or irresponsibly high. Irresponsibly low would take into account the amount of water in the reservoir and the predicated water supply through April 30th.
- Minimum flow – highest incubation flow the basin supports thru April 15th.
- During spawning period, in normal conditions, examine whether it maximum flows could be lower than 3,000 cfs Sept 15th – Dec. and 1,500 cfs minimum Jan through April 15th,
- Running ramping under year-round state ramp rate guidelines.

6) Middle Skagit River Salmonid Rearing Habitat (revisited)

• Distribution of woody debris along middle Skagit River transects

– **Table this discussion until the 02/12/04 meeting**.

7) A-24 Part 1 Addendum No. 1 (Level 2-3 hydrologic analyses for 5 Energy Years)

- Phil explained that R2 has prepared an addendum for this report for the Baker River containing Level 2 and Level 3 statistics for the five selected Energy Years.
- The second addendum will contain these data for the Skagit River for 12 contiguous Energy Years.
- Each addendum is nearly 200 pages. Phil will post that to the E-room and bring CD's with him to the February 12th meeting.

8) Revised Summary Comparison Table

- Paul walked us through the revised and (ever expanding) summary comparison table.
- We discussed the merits of attempting to summarize data for comparison purposes in our quest for the best flow regime. Summarizing data may overlook or skew critical information, while most people simply do not have time to wade through hundreds of pages of output

- We decided to keep the format of the table.
- Stan's run, SSC.21-25, still has revisions to be made.
- Specific additions/modifications to the table:

HYDROLOGIC

1. Add the total volume of spills to Lower Baker to number spill events.
2. Add average duration to the last row (Baker: Number of low flow pulses).
3. Define how freshets and low flow pulses are being computed.

ECONOMIC

4. Delete row 5, Scenario cost w/o cost of dependable capacity
5. Change row 3 to NPV of lost generation over 30-year license.
6. Change row 6 to NPV dependable capacity

- The HYDROPS model makes it difficult to track cause-and-effect since the varying monthly energy values appear to drive the output counter to what might otherwise be expected. Paul suggested that HYRDOPS could be run with a static price schedule to cancel out the effect of the varying price of power, but this has the drawback of requiring additional runs to try to identify a product that satisfies multiple interests.

RAMPING and VARIAL

- Gaps on the backside of the table are due to running out of time; R2 will fill in the table for the February 12 meeting.
- Ramping violations and down ramping events were added for expanded information. There will always be a varial zone, even in natural flow regime situations.
- Stan believes the summary may only tell part of the story and wants to look at varial zones at each transect to evaluate what is going on in the areas where you want to protect fish. Phil agreed that the summary does not replace detailed investigation of transect specific data.

SPAWNING/INCUBATION

- Middle Skagit River spawning/incubation analyses were expanded to include gross, scour only, dewatering only and net effective channel width.
- Stan noted the Baker River spawning flow analyses suggests that 43% of the time there is no protection while 57% of the time there is 100% protection. This type of analyses does not reflect partial protection afforded by spawning flows that are only slightly over two times the incubation flow. In other words, the analysis suggests that spawning flows of 2,500 cfs and 4,680 cfs are both not protected by a 1,000 cfs incubation flow – yet more redds would be at risk under a 4,680 cfs spawning flow compared to a 2,500 cfs spawning flow. Phil noted that using a range of percentages would help address that issue, and as the group closes in on a preferred flow regime, we should run the analyses using incremental percentages. He also noted that as you develop a fancier model that tracks the Skagit and the Baker, and flood effects and dewatering, you might end up at the middle Skagit Effective Spawning/incubation model.
- Steve questioned only protecting the middle 80% of spawning. Without protection of both outer shoulders, this could reduce species diversity.
- Cary suggested creating 3 tables instead of one: one with the middle 60%, and the other two describing the 20% on either side.

- Phil suggested that the pink salmon analyses would also approximate the effects of early Chinook, while the chum salmon analyses would approximate late Chinook. After some discussion, it was decided to have R2 add lines for Baker River specific, spawning/incubation analyses for pink, Chinook and chum - which will also provide some insight into early, middle and late Chinook runs.
- Margaret asked why use 50%? Phil mentioned 50% is used for Upper Skagit River while some other projects use 66%; R2's site-specific data for the middle Skagit suggested 52% to 58%. At this point, the 50% value is close, and is used as an index to compare the effects of different scenarios.
- Evacuating the Baker reservoirs to provide flood control storage creates high flows downstream when the evacuation period cannot start until after Labor Day due to recreation concerns. The group asked Margaret whether recreational pool levels could be relaxed. Margaret agreed they could, especially in dry years, when levels could be dropped several feet starting a week before Labor Day.
- Ruth thinks levels are harder to maintain in wetter years than drier years, between flood control and recreation.

9) New Action Items

- Phil – have Stuart translate stage change data to inches for Skagit River at first transect (through the Dalles gage)
- Phil – Update Summary Comparison Table
- Stan - Review Middle Skagit River cross-section profile/LWD locations by the next meeting. Paul - Coordinate HYDROPS with SRSC, TNC, NMFS
- PDEA – Rob explained that he will use "bookends" flow regimes in the PDEA. Baseline will be PSE.01 Recent Conditions and a variation of PSE.02 (Draft Action) and DFW as the two "bookend" comparisons. Irena and R2 will need to provide the analyses of the three scenarios within the next week or so if they expect to get the PDEA out on time.