



BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group

January 9, 2003

8:30 a.m. – 3:00 p.m.

U.S. Forest Service

Conference Room A/B (425-775-9702)

21905 64th Avenue West, Mountlake Terrace, WA

AGENDA

1. Review Agenda and Minutes	8:30 – 8:45
2. Review Relicense Schedule	8:45 – 9:00
3. Settlement Process-Continue 1 st Draft PM&Es	9:00 – 10:30
<i>Break</i>	10:30 – 10:45
4. Report from Fish Passage Technical Working Group	10:45 – 11:00
5. Report from Instream Flow Technical Working Group (A09)	11:00 – 12:00
<i>Lunch (meeting snacks or bring your own)</i>	12:00 – 12:30
6. Review Study Plans/Requests: updates on A17, A36, A38, Others TBD	12:30 – 1:45
7. Action Items	1:45 - 2:00
8. Update from Solution Team Meeting	2:00 - 2:15
9. Additional Issues	2:15 - 2:30
10. Set Agenda for February 13 th 2003 (USFS Mountlake Terrace)	2:30 - 2:40
11. Evaluate Meeting	2:40 – 3:00



January 9, 2003

Driving Directions to US Forest Service Office:

- 1) Driving North from Seattle (or South from Everett) on I-5, take the 220th St. SW exit (exit 179).**
 - 2) Turn west (right if from southbound I-5, left if from northbound I-5) onto 220th St. SW.**
 - 3) Drive west about a block and turn right onto 64th Ave W.**
 - 4) The office building is about ¼ block down the street on the right side of the road.**
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Aquatic Resources Working Group

January 9, 2003
8:30 a.m. - 3:00 p.m.
USFS Building, Mountlake Terrace, WA

MEETING NOTES

***Aquatics Working Group Mission:** "To identify issues and develop solutions and recommendations addressing fish and aquatic resource interests related to the Baker River Project and its operations, leading to a settlement agreement."*

Fish Team Leader: Arnie Aspelund, 425-462-3442, arnie.aspelund@pse.com

PRESENT: Arnie Aspelund and Cary Feldmann (PSE), Arn Thoreen (Skagit Fisheries Enhancement Group), Phil Hilgert and Warren D. Coughlin of (R2), Bill Reinard (Wildcat Steelhead Club), Steve Fransen (NOAA Fisheries), Gary Sprague and Mark Downen (WDFW), Ruth Mathews (Nature Conservancy), Stan Walsh (Skagit System Cooperative), Brady Green and Greta Movassaghi (USFS), Gene Stagner (USFW) by phone, Kevin Malone (Mobrand Biometrics for Louis Berger Group- PDEA), Chuck Ebel (USACE), Rod Sakrison (DOE) by phone, Bruce Freet (Environmental Agreements), Lyn Wiltse, facilitator and Mary Jean Bullock (PDSA Consulting, Inc.).

FUTURE DATES AND LOCATIONS (2nd Thursday of each month):

February 13, March 13, April 10, May 8, June 12, July 10, August 14, September 11, October 9, November 13, December 11, 2003 from 8:30-3:00 at USFS Office in Mountlake Terrace.

Note: Below are 2003 meeting dates where the USFS Office in Mountlake Terrace is NOT available: April 10, May 8, July 10, September 11

January 9, 2003 Agenda

8:30 – 3:00 p.m. at USFS Building in Mountlake Terrace

1. Review Agenda and Minutes
2. Review Relicensing Schedule

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3. Settlement Process – PMEs Select PMEs to write up and share at March workshop
 4. Fish Passage Technical Working Group Report
 5. Instream Flows Update (A9) (A9D – Presentation)
 6. Studies:
 7. Action Items
 8. Update from Solution Team Meeting
 9. Additional Issues?
 10. Set agenda for February 13, 2003 meeting
 11. Evaluate meeting

INTRODUCTIONS

We welcomed first time visitors Kevin Malone (Mobrand Biometrics for Louis Berger Group-PDEA) and Warren Coughlin of (R2).

NEW ACTION ITEMS

- ALL: Send ideas and comments to Bruce re: adaptive management.
- ALL: Review 16 categories of PME for completeness – let Arnie know by January 15.
- ALL: Review Draft PMES below and send Arnie your comments by January 15, 2003
 - 303a-g-Flows
 - 305a – Reservoir Rule Curve
 - 302a – Upstream Fish Passage
- Arnie: Send out consolidated list of comments on each of the three above PME drafts by January 22 for review.
- ALL: Review January 22nd version of the three PMEs (above) and get Arnie feedback by January 31.
- Arnie: Verify reference numbers between current PME documents and October brainstorming session at the Lodge.
- ALL: Send Stan comments on E03 (Examination Of Spawning And Incubation Flows In The Skagit River Below The Baker Confluence In The Brood Year 2000) by January 31.
- ALL: Give Brady feedback on A17 (Tributaries Surveys Upstream of Barriers) prior to our next meeting.
- Brady: Will send out the revised Study Request on A17: Tributaries Surveys Upstream of Barriers (prior to our February meeting) for discussion at our February meeting.
- Cary: Work with PSE team leaders to standardize PME numbering conventions.
- Mark: Will send out the revised Study Request on A36: Native & Wild Inland Fish Population Assessments (prior to our February meeting) for discussion at our February meeting.
- Mark: Will send out the revised Study Request R-A38: Bull Trout Population Assessment & Risk Analysis (prior to our February meeting) for discussion at our February meeting..
- Phil: Set up meeting with Brady, Gene, Mark, PSE, Doug re A38 (Jan. 29).
- Bill: Bring poem!
- Nick: Talk with Stan re: A29.
- Mark – Get Emily juvenile density for multiple age classes in the Sauk.
- Greta: Discuss with Brady, Stan, Gary, etc., and decide who will fund and who(USFS/NPS, PSE?) is going to operate the Little Park Creek smolt trap this spring.

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- Arnie: Check with Joetta re: status of A14 (on shoreline erosion).
 - Arnie: Check with Nick re: status of A25 (on unnatural predation).
 - Lloyd: Check with FERC re: Army Corps of Engineers flood control authority and the law that provides that authority.

REVIEW RELICENSE SCHEDULE

Arnie mentioned that the schedule now includes the March cross-resource workshop.

SETTLEMENT PROCESS – PME

Cross Resource Working Group

We discussed having folks arrive at the Cottontree Inn on Tuesday afternoon, March 4, for a general overview presentation of all PMEs being considered by all Working Groups. There would likely be a large group of participants attending this general information session. The list of PMEs would also be made available for review electronically prior to this presentation.

The actual workshop would start first thing Wednesday morning, March 5. We would finish the workshop by the end of the day on Thursday, March 6. Re: participants at this workshop, the idea is to get good representation across all the resource areas as well at the various governmental and non-governmental organizations. We would also look the group to remain as small as possible.

PME Development

Bruce shared the following agenda for this section of the meeting:

1. Select PMEs to complete 1st draft for March Cross-Resource Workshop by January 31.
2. Select teamlets to work on the above selected PMEs
3. Review Aquatic Workshop table and make changes

The completed 1st Draft PMEs to be distributed in mid-February for review prior to Cross Resource Workshop 5 and 6 (full days). A plenary meeting will precede the workshop where a technical expert from each of the Working Groups presents an overview of each of the PME categories being considered.

General feedback was that the process link was missing on the brainstorm list. Arnie will clean up a list ensuring reference numbers track back to the October brainstorming session at the Lodge.

Phil suggested (and we agreed) that in preparation for the March workshop, it would be good to have a brief description of each of the 16 PME categories we have come up with. We need to at least provide a description of a range of “Proposed Actions”. We will also share some examples of “fleshed out” PMEs. We would include Upstream Passage (as it has been successfully completed).

Other examples we will prepare:

- Flow Regime

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- Reservoir Rule Curve
 - Upstream Fish Passage

Ruth Proposed that by Jan 15, everyone get comments to Arnie on each of the PMEs above. He would then aggregate the comments (referencing who suggested what) and send a new draft for review by Jan. 22. We agreed to use this approach instead of forming teamlet meetings.

FISH PASSAGE TECHNICAL WORKING GROUP REPORT

Arnie reported that the Fish Passage Group will be meeting again on January 14. They will be doing an exercise to help continue narrowing options for downstream passage.

The conceptual design report for upstream passage has been distributed to Working Group members. There will be a comment period following.

REPORT FROM INSTREAM FLOWS TECHNICAL WORKING GROUP

Phil reported that R-2 is still waiting for high flows. He distributed a Field Trip report on chum redds.

They went out December 26 to get some additional measurements around the percentage of redds that were watered. See A09c in table below.

STUDY REQUEST E-03 - Examination Of Spawning And Incubation Flows In The Skagit River Below The Baker Confluence In The Brood Year 2000.

The purpose of this study is to figure out how to deal with low flow years in the future to minimize redd de-watering. Stan has submitted this Study Request to the Economic/Operations Working Group as well as this. They will be the official owners of this as analysis for this will be facilitated by the HYDROPS model. All were asked to get comments to Stan by January 31.

ADAPTIVE MANAGEMENT

Bruce shared a general overview of the approach adopted by the Solution team for adaptive management. The Solution Team defined it as:

A Method for examining alternative strategies for meeting measurable goals and objectives, and then, if necessary, adjusting future management actions according to what is learned.

The goal of whatever we do here is to eliminate the need to go back to FERC after the fact and ask for a re-opener. We need to take great care in setting the sideboards to the process, so that it is clear when and if FERC needs to become involved vs. making decisions locally (as we prefer to do).

Bruce asked for examples of adaptive management. Stan suggested Seattle City Light could provide a good example. Ruth offered that the Nature Conservancy is doing some successful things in North Carolina. She will share this information with Bruce.

Steve suggested that any approach to adaptive management needs to address conflict management (over monitoring, analysis, etc.).

This will be discussed at the Solution Team meeting this month. We will get an update at our February meeting.

STUDY REQUEST SUBMITTALS/STUDY PLAN DEVELOPMENT

Study #	Title	Notes/Next Steps
A01.A	Reservoir Tributary Habitat Surveys	Phil shared with us an outline of the “Habitat Conditions and Salmonid Use of Tributaries” report that Emily plans to have completed by January. The report will include summaries for each stream. Phil will distribute the report for our review prior to our meeting February 13 (in time for PDEA). ACTIVE
A01.B	Reservoir Tributary Biological Surveys	See report for 101.A. ACTIVE
A01.C	Reservoir Tributary Delta Surveys	See report for 101.A. ACTIVE
A02	LB River Habitat Mapping	Sue is working up with results on the physical habitat. This will tie in with A16. The Corps will be invited to a meeting on this topic January 17.
A03	Reservoir Fish Population Characteristics	No action yet. PSE will review existing information for the PDEA. Will get update in January.
A04	LB/Skagit River Flow, Gaging	Phil reported that they downloaded pressure sensors last week and are in the process of collecting data. Links to A9. ACTIVE
A05	Water Quality Sampling	Data collection underway as per Study Plan. This study will be ongoing through Spring, 2004. Hoping to have all requirements fulfilled for Water Quality Certification.
A06	UB Passage Design Baffle Modification	Complete.
A07	Lower Baker Forebay Bathymetry	Complete.
A08	UB Passage System Evaluation	Complete.
A09A	Skagit River Flow and Habitat Assessment	Phil reported that they have collected all low and medium flow data. They are still waiting for an opportunity to collect high flow measurements. (waiting on the weather). If we don’t get these measurements by year-end, we may have to wait until May. In the meantime, R-2 will be working out the technical details of the Study Plan (criteria curve, etc.)
A09B	Salmonid Redd Selection and Maintenance in the Middle Skagit in Response to River Fluctuation from Hydropower Peaking	Adam is researching what type of spike in flow (over what window of time is required to influence spawning behavior. He observed fish moving over formerly shallow water redds after they had become submerged by a higher flow. It would be interesting to discover if fish will establish a redd in an 18-hour time period because

	<p>that is a typical cycle for Baker Project peaking. Steve observed that as water comes up the fish come in to spawn.</p> <p>R2 will continue to look at this when PSE resumes a regular operating schedule.</p>
A09C Distribution, Timing and Depth of Salmonid Redds	<p>Phil distributed a Field Trip report on chum redds. In an attempt to get clarification on Adam's report at our December meeting, he, Adam, and Doug went out December 26 to get some additional measurements around the percentage of redds that were watered. Using a transect approach, they took redd measurements in eight areas of high spawning activity. Flows were between 5400 and 5900 cfs. As they made their way down river, the water turbidity increase was due to the rains that morning. This hindered redd visibility below Lyman.</p>
A09D Distribution, Timing of Salmonid Fry	<p>Warren waked us through a PowerPoint presentation of the status of this study (as of January 2003). This presentation was a summary of available data collected by WDFW, SSC and others but for other purposes. According to the data, it appears that sub-yearling chinook emergence starts in December, peaks in March, and ends in April. The subyearling chinook appear to be gone by mid-August; growth: 50 mm around July. Re: the integrity of the data, the following were considered: age of data, sampling year, number of years, site-specific (don't have much for the Middle Skagit, but data for Upper and Lower Skagit were fairly consistent, so we are probably okay here), and consistency across studies. We initially focused on subyearling chinook but are obtaining WDFW screw trap data for other species to see if it will meet our needs for other species. R2 has expressed confidence level in the integrity of the chinook data reviewed in this status report. Next steps: R2 started this study with the intent to actually go out and sample fish. They are now questioning the need to do that. After some discussion, we agreed that there does not appear to be a need to start field studies in the late winter/spring time frame...but late spring/summer field studies may be needed if we identify data gaps. The next step is to complete the data analysis process in time for use by the PDEA contractors and before the late spring field season.</p>

	ACTIVE
A10 Baker River Delta Habitat Assessment-Char	Complete. Note: USFW is concerned with impacts to char and indirectly to bald eagles through chum and also to cutthroat.
A11 Nutrient Addition	Tie to A26.
A12 Instream Flows for Bio-diversity	Split between R-A21 & R-A09.
A13A Water Quality Impacts of Human Uses of the Reservoir and Adjacent Shorelines.	Removed from list of studies this group will address, reported by Brady in September. Greta reported the USFS will pursue this in the recreation working group.
A13B Water Quality Impacts on Aquatic Habitat	Removed from list of studies we will address. Tabled for now. Awaiting results of A14a.
A14A Reservoir Shoreline Erosion	Brady distributed notes from Greta who attended the November 12 meeting. The aim of this study is to document existing erosion and deposition features along Baker and Shannon shorelines. They are also working on how to estimate annual bank retreat (acreage lost for high and severe areas). Hoping to complete this work by December. Members were asked to provide input to Jenny on the mapping (i.e., on Draft Report submitted 10/17/02 to the working group). ACTIVE
A15 UB Delta Scour	Field work is complete. Hope to have the report in February 2003.
A16 Lower Baker River Alluvial Fan Assessment	Chuck Ebel reported that the Corps of Army Engineers may be able to contribute to this study. He will be meeting with R-2, Arn, and others the middle of January to discuss this study. We will get an update at our February meeting.
A17 Tributaries Surveys Upstream of Barriers	Brady reported that since our last meeting, he has received helpful comments from several members of this group. He is in the process of re-writing this request to look at fish populations and habitat upstream above the barriers in order to be sure we are looking adequately at PME's for resident fish (in general). Data from A26b (Tributary Production Potential) may also be helpful. He will send out the revised request prior to our February meeting. We will discuss of that request at that meeting.
A18 Baker River Survey Upstream of 1 km.	Merged into A01a and A01b. ACTIVE.
A19 Review Limnological Information	This study has been combined with A26.
A20 Large Woody Debris Management	Mike gave report to Phil to review. We hope to review it in February 2003.

A21 Skagit Wild & Scenic River Values	This is being addressed by A9 and A24.
A22 Baker Lake Trout Impacts Evaluation	No longer necessary due to change in management direction in favor of cancellation of non-native trout stocking in the reservoirs. Removed from list of studies we will consider.
A23 Baker River Wild & Scenic River Values	This is being addressed through A15.
A24 Hydrologic and Geomorphic Analysis	Sue will give Phil the (lengthy) report on this to review on December 16 th .
A25 Unnatural Predation	Work will start in mid-January as outlined in the Study Plan.
A26A Reservoir Limnology-Production Potential	This has been combined with A19. Arnie reported that the contractor has been selected: Asit Mazumder will be out for a project tour next week. He has completed the water quality analysis and is starting to analyze the fish data now. We hope to have his report by the end of February 2003.
A26B Tributary Production Potential	Emily will complete the report by year-end (2002). This report will include findings for A01a and A01b.
A27 Middle Skagit Incubation Flows	Addressed in A9.
A28 Fish Passage-Reservoir Management	Now addressed in Fish Passage Studies A30 to A34. ACTIVE
A29 Estimate Sockeye Production from Different Incubation Sources	Nick will meet with Stan to discuss.
R-A30 Near-Field Smolt Behavior	Coordinated through Fish Passage Tech. Group. 2002 Field effort completed, data analysis underway- results will be reported at the Fish Passage meeting in December.
R-A31 Fish Passage-Far Field Smolt Migration	Coordinated through Fish Passage Tech. Group. 2002 Field effort completed, data analysis underway- results are being reviewed by the group.
R-A32 Fish Passage-Kelt Radio telemetry	Coordinated through Fish Passage Tech. Group. 2002 Field effort completed, data analysis underway.
R-A33 Fish Passage-PIT Tag Migration	Coordinated through Fish Passage Tech. Group. 2002 Field effort completed, data analysis underway- results are being reviewed by the group.
R-A34 Fish Passage-Downstream Run-Timing Correlation	Completed. Coordinated through Fish Passage Tech. Group.
R-A35 Fish Passage-Upstream Run-Timing	Completed. Coordinated through Fish Passage Tech. Group.
R-A36 Native & Wild Inland Fish Population Assessments	Mark reported that his field season wound up just before the holidays. He is in the process of fleshing out (number of samples, location etc.) this Study

	<p>Request</p> <p>Methodology would include WDFW crews taking samples in the river and PSE taking samples from PSE's traps. PSE would cover the costs of lab work for genetic analysis, which would be performed by WDFW.</p> <p>Mark will send the revised Study Request out for our review prior to February meeting. We will discuss of that request at that meeting.</p>
R-A37 Without Project Alternative (evaluation of Aquatic & Riparian Habitat)	ACTIVE; Will proceed in January.
R-A38 Bull Trout Population Assessment & Risk Analysis	Mark is in the process of incorporating comments he received from Gene and others into this Study Request. We will discuss this at our February meeting. Mark will get the revised request out for our review prior to this meeting. A teamlet will be meeting January 29 to discuss how to integrate monitoring from the BA into this study.

NEW STUDY REQUESTS

Ruth reported that she has begun work on a Study Request (A39) for native non-salmonid fish (non game-species). She will get it out for our review prior to our February meeting.

Brady mentioned the Skagit Chinook Working Group is looking at putting together a chinook-related Study Request. He will keep us posted.

REPORT ON OLD ACTION ITEMS

- ALL: All were asked to review the expanded PME outline (structure, content) and give comments to Arnie by January 15. Note: See PME list PME section below.
- ALL: Let Brady know if you are interested in getting a CD of the USFS Watershed Analysis.
- Dee: Got with Arnie to clean up the October 18 brainstorm list by December 31.
- Arnie: Coordinated integration of cleaned-up matrix with the PME list from the Cary/Arnie outline.

SOLUTION TEAM UPDATE

The Solution Team spent much time discussing the issue of flood control and the stress around the timeline of relicensing process in general and the PDEA in particular.

They came to consensus (see above under "Adaptive Management") on a process to use on definition of adaptive meeting. They will be fleshing out the details at the January meeting.

ADDITIONAL ISSUES?

None.

MEETING HANDOUTS (bolded handouts will be posted on website)

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- **Baker River Hydroelectric Project Upstream Passage – Conceptual Design Report, PSE, FERC No. 2150. January 2003**
 - Baker River Project Relicensing Hydrology and Aquatic Resources Working Group – A-09d Middle Skagit River, Juvenile Salmonid Studies, January 2003 Status Report
 - Field Trip Completion Report Prepared by A. Weybright, Trip Date: December 26, 2002
 - Study Request A-17 Distribution of Native and Wild Inland Trout and Habitat Conditions Above Anadromous Fish Barriers in the Baker River Basin
 - DRAFT Proposed PME Measure for the Relicense of the Baker River Hydroelectric Project FERC Project No 2150, Date 23 December, Project Title: Habitat Enhancement, Restoration, and Conservation Fund (HERC) Created – Aquatic Working Group Lead Person: Arnold Aspelund
 - Table provided by Bruce Freet (Environmental Agreements) showing PME Reference Numbers & Titles, PME Proposed Actions, Possible FPA Mandatory Conditions, Working Groups Agreeing/Disagreeing on PMEs; Questions for Other Working Groups during Feb/Mar '03 Workshops
 - Adaptive Management Model (Source: British Columbia Ministry of Forests website: [http://www. For.gov.bc.ca/hfp/amhome/Amdefs.htm](http://www.For.gov.bc.ca/hfp/amhome/Amdefs.htm))

PARKING LOT

- State agency presentations re: mandates (agency direction)
- Create a master list of possible studies across all working groups and share with all
- Access to the Baker River Project hourly operational model (Charles Howard)
- Participate in Lower Skagit Work Group for native char
- Create Overall “Study Plan” for Studies that will drive the Relicensing Process
- Address Trap & Haul – other species
- Do we continue to collect Little Park Creek density info? Funding?

EVALUATION OF MEETING

Well-Dones

- Food!
- Got out early
- Increased clarity around PMEs – made progress!
- Discussion around adaptive management
- A9d PowerPoint Presentation (Distribution, Timing of Salmonid Fry)

Opportunities to Improve

- Significant players missing
- Facilitator’s pens dry
- Expectations/outline of PME process would have been helpful and saved time.

What’s Hot?

- PMEs
- *Adaptive* Adaptive Management

Studies Update for Solution Team

- Fish Passage
- Instream Flows
- We have 40 Studies now!

Tentative February 13, 2003 Agenda

8:30 – 3:00 p.m. at USFS Building in Mountlake Terrace

1. Review Agenda and Minutes
2. Review Relicensing Schedule
3. Settlement Process – PME: Status of PMEs descriptions for March workshop
4. Fish Passage Technical Working Group Report
5. Instream Flows Update (A9)
6. Studies:
 - A9d - Skagit River Flow & Habitat Assessment
 - A14 - Reservoir Shoreline Erosion
 - A16 - Lower Baker Delta/Channelization
 - A17 - Tributaries Surveys Upstream of Barriers
 - A25 – Inventory of Unnatural Predation Opportunity
 - A26 - Reservoir Production Potential
 - A29 - Sockeye Smolt Incubation Origin Otolith
 - A36 - Native & Wild Inland Fish Population Assessments
 - A37 - Evaluation of Aquatic and Riparian Habitat under Without Project Alternative
 - A38 - Bull Trout Population Assessment
 - A39 – Native Non-Salmonid Fish
 - A40(?) – Chinook-related Study
7. Action Items
8. Update from Solution Team Meeting
9. Additional Issues?
10. Set agenda for March 13, 2003 meeting
11. Evaluate meeting