



BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group

October 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, Minutes, Schedule	8:30 – 9:00
2. Fish Passage Technical Working Group Report	9:00 – 9:15
3. Study Updates: <ul style="list-style-type: none">• A9a: Middle Skagit Habitat Models• A9b: Salmonid Redd Selection & Maintenance• A9c: Distribution, Timing & Depth Salmonid Redds• A9d: Distribution, Timing of Salmonid Fry <i>Break at 10:00</i>	9:15 – 12:00
<i>Lunch (meeting snacks or bring your own)</i>	12:00 – 12:20
4. Review of Study Report: <ul style="list-style-type: none">• A01a: Reservoir Tributary Habitat Surveys (includes A26b)• A01b: Reservoir Tributary Biological Surveys	12:20 – 1:30
5. Other Studies? Review study schedule for additional updates (ARWG 7-10-03.doc)	1:30 – 2:15
6. Action Items	2:15 - 2:25
7. Additional Issues	2:25 - 2:30
8. Set Agenda for November 13 th 2003 (8:30-3 USFS Mountlake Terrace)	2:30 - 2:40
9. Evaluate Meeting: What's Hot and Studies Summary for Solution Team	2:40 – 3:00



October 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

October 9, 2003

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), Bill Reinhard (Wildcat Steelhead Club), Phil Hilgert and Sue Madsen (R2), Chuck Ebel (USACE), Ruth Mathews (Nature Conservancy), Scott Lentz (USFS) by phone, Lorna Ellestad (Skagit County Public Works), Stan Walsh (Sauk-Suiattle Indian Tribe/Swinomish Tribal Community), Marc Daily (Meridian Environmental, Inc.), Derek Marks (Upper Skagit Tribe), Lyn Wiltse and Mary Jean Bullock, note taker (PDSA Consulting, Inc.).

FUTURE WORKING GROUP DATES AND LOCATIONS (2nd Thursday of each month):
2003: November 13, December 11, 2003 from 8:30-3:00 at USFS Office in Mountlake Terrace.

2004 Baker Aquatic Meetings (tentative schedule): January 8, February 12, March 11, April 8, May 13, June 10, July 8, August 12, September 9, October 14, November 11, December 9.

Tentative October 9, 2003 Agenda **USFS Office, Mountlake Terrace, WA**

8:30 – 3:00 p.m.

8:45 – 9:00 Review Agenda, Minutes, Schedule

9:00 – 9:15 Fish Passage Technical Working Group Report

9:15 – 12:00 Study Updates:

- A9a: Middle Skagit River Habitat Models

- A9b: Salmonid Redd Selection and Maintenance in Middle Skagit River in Response to River Fluctuation from Hydro Power Peaking
- A9c: Distribution, Timing and Depth of Salmonid Redds
- A9d: Distribution, Timing of Salmonid Fry

12:00 – 12:20 LUNCH

12:20 – 1:30 Review of Study Report

- A01a: Reservoir Tributary Habitat Surveys (includes A26)
- A01b: Reservoir Tributary Biological Surveys
 - Apply to A37: Without Project Alternative?

1:30 – 2:15 Other Studies?

2:15 – 2:25 Action Items

2:25 – 2:30 Additional Issues?

2:30 – 2:40 Set agenda for November 13, 2003 Meeting (from 8:30 to 3:00 at USFS Building in Mountlake Terrace)

2:40 – 3:00 Evaluate meeting: What's Hot and Studies Summary for Solution Team

NEW ACTION ITEMS

- Phil: Come up with a set of questions for folks to consider to prime the discussion of varial zones and ramping at the next Instream Flows Meeting.
- ALL: Review Phil's questions to consider what appropriate statistics might be to measure ramping and varial zones and give Phil your suggestions prior to the next meeting.
- Lorna: See that Phil gets a copy of the recently issued "Limiting Factors Report".
- ALL: Get questions re: Tributary Habitat and Production Report to Arnie by the end of the month.
- Sue: Copy all on our response to Greta's request for the Aquatic Resource erosion concerns.
- ALL: Let Sue know if you have any other erosion concerns from an aquatic resource perspective.
- Scott: Let PSE know if A17 is a priority to pursue.
- Phil: Update Study Plan Report Schedule referencing document file names
- ALL: Let Lorna know if you have questions re: Skagit County position on using Lake Shannon for flood control.
- Stan: Email two new PME's to Arnie to distribute to working group members.
- Sue: Present results of progress on Phase 2 of A16 at the November meeting.
- Arnie: Get peer feedback on Asit's limnology report (on hold till report is finalized).

QUOTES OF THE DAY

"The power of computers and Stuart Beck's mind have set us back." - Phil Hilgert (in reference to having too many options for habitat analyses)

"We are awash in data. It's time to make decisions." – Cary Feldmann

FISH PASSAGE TECHNICAL WORKING GROUP REPORT

They have not met since our last meeting. They will be meeting October 14 and 15. We will get a report at our next meeting on November 13.

STUDY REQUEST SUBMITTALS/STUDY PLAN DEVELOPMENT

Study #	Title	Notes/Next Steps
A01a	Reservoir Tributary Habitat Surveys	The Tributary Habitat and Production Potential Executive Summary was distributed at our September meeting. Phil distributed the CD along with colored maps for the entire draft report. We will discuss this report at our next meeting. In the meantime, please get your questions to Arnie by the end of the month. (The report is out.)
A01b	Reservoir Tributary Biological Surveys	See A01a. ACTIVE (The report is out.)
A01c	Reservoir Tributary Delta Surveys	See A01a. ACTIVE (The report is out.)
A02	LB River Habitat Mapping	(The draft report is close to being out.)
A03	Reservoir Fish Population Characteristics	Not discussed. Existing information was reviewed for the PDEA.
A04	LB/Skagit River Flow, Gaging	Not discussed. <i>These data were</i> incorporated into A09a hourly flow routing model. ACTIVE
A05	Water Quality Sampling	Nothing new to report.
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	<p>The Instream Flows Teamlet met September 25. They are still in the model development phase. Phil is looking for input on hourly habitat models. R2 has made adjustments to the analyses based on feedback received at that meeting. Critical drivers for these tools are down ramping rates and varial zones. We need to agree on statistics, (a comparison tool), to use across all scenarios that will best represent these issues.</p> <p>Phil explained that there is a question of time step in operationally defining varial zones. The rate of insect re-colonization is most rapid during the first 28 days. He illustrated that whether we use 7, 14, or 28 days, while the <i>quantity</i> changes the relative comparison remains unchanged.</p> <p>The hourly model allows us to define the upper extent of the varial zone, the lower extent, which transects we look at, how we weight the transects, monthly, seasonally, etc. The aim of the next Instream Flows Meeting will be to decide how we</p>

	<p>will analyze varial zones and ramping for comparative purposes across many scenarios. Phil also reported that since the September 25 discussion on ramping, we have now included critical downramp flow (hourly). Stuart is working on incorporating State downramp guidelines. Critical downramp flow drops out the effects of flood events. At the next Instream Flow Meeting, we will confirm what we will use to define critical flow.</p> <p>Once we finish with the hourly models, we will turn our attention to the daily models. (The executable program for the model was transmitted by July 18. Initial results were out September. PHABSIM and side channel results should be out by November 2, along with backwater slough)</p>
A09B Salmonid Redd Selection and Maintenance in the Middle Skagit in Response to River Fluctuation from Hydropower Peaking	Nothing new to report.
A09C Distribution, Timing and Depth of Salmonid Redds	<i>Draft Report was distributed</i> ; Phil explained that this is an interim report that looks at dewatering of redds. It will become “draft final” in January after we have incorporated results from the fall spawning surveys. The report now includes Steelhead. He pointed out a table (on p.45) that shows where various species spawn. Timing of these is illustrated on p.44 of the report. Please let Phil know if you would like to see the data in this report illustrated differently. (Report is out.)
A09D Distribution, Timing of Salmonid Fry	Nothing new to report. (Draft report and proposed juvenile periodicity will be out by November ARWG meeting.)
A10 Baker River Delta Habitat Assessment-Char	Complete.
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.
A13b Water Quality Impacts on Aquatic Habitat	Removed from list of studies we will address.
A14a Reservoir Shoreline Erosion	Sue has identified some potential marginal spawning sites where AESI has identified an

	<p>erosion concern. She walked us through each of the eight sites, describing conditions at each. We prioritized the sites that should be added to the list of sites where there is an erosion-related concern from an aquatics resources perspective. The site at the abandoned road between Channel Creek and the Delta was a fairly high concern. The site at Shannon Creek was of moderate concern. Sue will copy us on her <i>response</i> to Greta.</p> <p>Sue and Doug will ground truth these sites in the next week or so. All were asked to consider any other erosion concerns related to aquatic resources. (Final draft report will be out by November ARWG meeting.)</p>
A15 UB Delta Scour	<p>Sue explained that this survey covers sockeye spawning distribution as well as scour. We are continuing to monitor scour at the transects, to confirm observations from 2001 and 2002. Volunteers are welcome to help with the spawning surveys. Chuck, Derek and Ruth expressed interest in assisting.</p> <p>Reservoir margin spawning is the final component of this survey. R2 has mapped potential, sites as good (spring, upwelling) fair (at least 50% cobble/gravel), and poor. (This is underway- we are collecting data.)</p>
A16 Lower Baker River Alluvial Fan Assessment	(We are proceeding with Phase 2. We will get a status report at the November ARWG meeting.)
A17 Tributaries Surveys Upstream of Barriers	Scott will look into this to see if there is energy to pursue it.
A18 Baker River Survey Upstream of 1 km.	Merged into A01a and A01b.
A19 Review Limnological Information	This study has been combined with A26a.
A20 Large Woody Debris Management	The final draft report was distributed in August.
A21 Skagit Wild & Scenic River Values	This is being addressed by A9 and A24.
A22 Baker Lake Trout Impacts Evaluation	Cancelled when non-native trout stocking in the reservoirs was discontinued.
A23 Baker River Wild & Scenic River Values	This is being addressed through A15.
A24 Hydrologic and Geomorphic Analysis	(A Final Draft Part 1 will be submitted by our November meeting. At the TST, we distributed a sample Level 4 Output with the new period of record and corrected values based on the NAVD '88 datum change.)
A25 Unnatural Predation	(Sample effort is over. The draft report should be out by our November ARWG meeting.)

A26A Reservoir Limnology-Production Potential	(Arnie reported that they have received some new scale analysis information from WDFW and new scale data from the 2003 sampling. They will talk with Asit about how to incorporate these data into the report. We will find out how this new information affects schedule for final report and discuss plans for peer review at our November ARWG meeting.)
A26B Tributary Production Potential	See A01 above.
A27 Middle Skagit Incubation Flows	Addressed in A9.
A28 Fish Passage-Reservoir Management	Now addressed in Fish Passage subcommittee.
A29 Estimate Sockeye Production from Different Incubation Sources	On hold for 2003. (We will discuss future plans at our November ARWG meeting.)
R-A30 Near-Field Smolt Behavior	Completed.
R-A31 Fish Passage-Far Field Smolt Migration	Completed.
R-A32 Fish Passage-Kelt Radio telemetry	Completed.
R-A33 Fish Passage-PIT Tag Migration	Completed.
R-A34 Fish Passage-Downstream Run-Timing Correlation	Completed.
R-A35 Fish Passage-Upstream Run-Timing	Completed.
R-A36 Native & Wild Inland Fish Population Assessments	Revised study request pending from Mark Downen-WDFW.
R-A37 Without Project Alternative (evaluation of Aquatic & Riparian Habitat)	Sue distributed additional A37 charts in response to Arn's request at the last meeting.
R-A38 Bull Trout Population Assessment & Risk Analysis	(We will get an update on the draft report progress at our November ARWG meeting.)
R-39 Native Non Salmonid	(Scott reported that he and Ruth are working on blending this into the connectivity PME.

RESERVOIR REFILL

Phil reported that currently, we *cannot* start re-filling *until March 1 due to flood control requirements and try to achieve* a near-full reservoir by Memorial Day. Phil reviewed with us some charts showing changes in the euphotic zone depths which we'll use to calculate euphotic zone volume. We can use euphotic zone volume to compare alternate re-fill scenarios. This will give us a measure of reservoir productivity. We also reviewed tables of inflow volume calculations and tables of updated tables of energy values.

OTHER STUDIES

We reviewed the study schedule and updated it to reflect present circumstances. These updates are in parentheses at the end of comments in each study in the table above.

REPORT ON OLD ACTION ITEMS

- Arnie: At Team Leader Meeting brought up need for coordination for fragmented meeting content.
- Arnie: Sent reminder email re: 9/25 Instream Flows Meeting to all participants.

- Sue: For A37, reproduced the data in graphical format (to supplement tables) and distributed to team members.
- Phil: Told Emily we liked the gray tones she used in her graphs in the executive summary.

HANDOUTS

- 10-08-03 agenda and minutes from 9-11-03 Aquatics Resources Working Group Meeting
- Updated Participant Contact List
- Long term Aquatics Schedule October 1, 2003
- ARWG Study Schedule July 10-03.doc
- Middle Skagit River Salmonid Spawning Surveys, Aquatic Study Report A09c
- 1995 Hourly Summary 100903.doc
- Baker River Aquatics Habitat Types – A37-Future Potential Aquatic Habitats –A37
- Charts for Reservoir Refill Discussion: Euphotic Zones, tables of inflow volume calculations and updated tables of energy values.
- Baker River Basin, Tributary Habitat and Salmonid Production Potentials –Maps with DRAFT, CD, October 2003 (R2)
- Reservoir information from the three most recent flood events provided by Skagit County.

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
- PSE agreed to take over the Little Park Creek smolt trapping effort this year. Implementation is underway.

OTHER ISSUES

FLOOD CONTROL BACKGROUND INFORMATION

Lorna distributed packets of flood-control information related to the last three flood events. She welcomes questions/comments re Skagit County’s position on providing flood control at Lake Shannon.

TWO NEW PMEs SUBMITTED

Stan will email a description of these two new PMEs he is introducing to Arnie to distribute to the working group members:

- Enhance Sockeye Salmon in the Baker Basin for Maximum Production
- Skagit Basin Habitat Restoration and Acquisition Fund

EVALUATION OF MEETING

Well-Dones

- Happy to have Derek with us!

- Always great food- Thanks Arnie!

To Do Differently Next Time:

- Ran over.
- Missed the Olympia contingent.

What's Hot?

- Hourly habitat models

Studies Update for Solution Team

- Studies are underway.
- Just starting to get the use of hourly habitat models. We don't yet have the daily habitat models. This limits the information available to assist in instream flow discussions.

Tentative November 13, 2003 Agenda

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- A25: Unnatural Predation
- A26a: Reservoir Limnology-Production Potential
 - Peer review?
- A38: Bull Trout Population Assessment
- A29: Estimate Sockeye Production Potential

2:20 – 2:25 Other Studies?

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