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## **BAKER RIVER PROJECT RELICENSE**

### **Aquatic Resources Working Group**

January 10, 2002

8:30 a.m. – 2:30 p.m.

US Forest Service  
Conference Room A/B (425-775-9702)  
21905 64<sup>th</sup> Avenue West  
Mountlake Terrace, WA

### **AGENDA**

1. Review Agenda and Minutes
2. Review Action Items
3. Reports from Fish Passage Technical Working Group
  - Review Communication Process
4. Study Plans/Requests
  - R-09 (priority)
  - Go through all other study requests
5. Review list of 2001 Accomplishments
6. Additional Issues
7. Set agenda for February 14th meeting
9. Evaluate Meeting



## BAKER RIVER PROJECT RELICENSE

### Aquatic Resources Working Group

January 10, 2002  
8:30 a.m. – 2:30 p.m.  
USFS Office  
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, [aaspel@puget.com](mailto:aaspel@puget.com)

**PRESENT:** Arnie Aspelund, Nick Verretto, and Cary Feldmann (PSE), Phil Hilgert and Sue Madsen (R2), Stan Walsh (SSC), Arn Thoreen (Skagit Fisheries Enhancement Group), Gary Sprague (WDFW), Doug Bruland, (PSE), Bob Wright and Rod Sakrison (WA Dept. of Ecology), Bill Reinard (Wildcat Steelhead Club), Chuck Ebel (U.S. Army Corps), Brady Green (USFS), Dick Raisler (Fidalgo Fly Fishers), Don Schluter (Trout Unlimited, by phone), Ruth Mathews (Nature Conservancy), Thom Hardy and Craig Addley, (Watershed Systems Group for USFS), Lyn Wiltse (facilitator, PDSA Consulting, Inc.)

**Note:** If unable to attend meetings, please notify Team Leader.

### FUTURE DATES AND LOCATIONS:

**February 14, March 14, April 11, May 9 from 8:30 to 2:30 at USFS Office in Mountlake Terrace unless otherwise specified.**

### INTRODUCTIONS:

The group welcomed Ruth Mathews of Nature Conservancy, and Thom Hardy and Craig Addley of a Watershed Systems Group (USFS) and Devin Smith of SSC.

### AGENDA

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8:30 a.m. – 2:30 p.m.  
U. S. Forest Service Office  
Mountlake Terrace, WA**

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**NEW ACTION ITEMS**

- ALL: Review A14 Study Request and get comments to Sue as soon as possible.
- ALL: Get substantial comments on A05 (Water Quality Sampling) to Nick by January 22.
- ALL: Give Stan your feedback on A09B (Salmon Redd Selection) prior to our next meeting.
- ALL: Review list of 2001 Accomplishments for discussion at February meeting.
- Ruth: Draft Interest statements and accompanying issues for the Nature Conservancy
- Sue: See that habitat tributary pictures get put on CD and sent to interested members.
- Bob Barnes: Provide Phil an estimate of the forebay gage accuracy.
- Don: Provide references on information on cutthroat and char passage through cascades to Arnie
- Arnie: Invite Fred and Steve to help discuss A-09 at our next meeting.
- Chuck: Email Biological Assessment supplements to Arnie to distribute.

**REPORT ON OLD ACTION ITEM:**

- Arnie: Created draft of 2001 Working Group Accomplishments for 2001 for group to review
- Nick: Reported that PSE has purchased a new 21 ft. aluminum jet boat.
- Gary: Checked with Eric to summarize opportunities for chemical and thermal markings and make recommendation to this group. Reported that chemical marking does not appear to be a viable option at this time.

**BAKER LAKE HIGHWAY FLOOD DAMAGE**

Baker Lake highway between Sandy and Boulder Creek has flood damage and currently is officially closed to the general public. The old spawning beaches are upstream from this damage – not sure how soon we can get a fish truck up there. No fish are in danger. Brady Green will keep us posted.

**REPORT FROM FISH PASSAGE TECHNICAL WORKING GROUP**

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Met January 7 and 8<sup>th</sup>. For upstream passage, they are starting to narrow options considering eight alternatives. The three ladder options will not be pursued due to some perceived “fatal flaws” in design. (Trout Unlimited doesn’t agree with this decision.)

For downstream passage: They are working on narrowing list for Upper and Lower Baker fish passage options. They will be doing a reservoir passage study (radio tagging) and attraction studies. Forebay releases consist of coho smolts, sockeye smolts and steelhead kelts that are acoustically tagged). They will be doing some pit tagging as well. They will start this spring. For Upstream and Downstream passage, initial considerations are primarily biological in nature. Economics will be part of the second screen (filter).

### **COMMUNICATION PROTOCOL AND PROCESS DOCUMENT UPDATE**

These documents are still under legal review. The rub seems to be inclusion of confidentiality in these documents. FERC feels that these clauses are inconsistent with the open nature of the Alternative Licensing Process. FERC also has some problem with the settlement agreement language. We will be kept informed.

### **STUDY REQUEST SUBMITTALS/STUDY PLAN DEVELOPMENT**

<b>Study #</b>	<b>Title</b>	<b>Notes/Next Steps</b>
A01.A	Reservoir Tributary Habitat Surveys	We will have a draft report by March
A01.B	Reservoir Tributary Biological Surveys	We will have a draft report by March
A01.C	Reservoir Tributary Delta Surveys	The delta portions of tributaries in the drawdown zone will be surveyed in the next few months. This will be a supplemental report.
A02	LB River Habitat Mapping	Nick and Phil snorkeled the reach between Lower Baker Dam and the barrier dam to determine type and level of fish use. Visibility was poor. They saw only a couple of native trout. They will look again this spring when what they see will have been affected by flood waters.
A03	Reservoir Fish Population Characteristics	Will get an update at next meeting. University of Washington researcher is providing technical support.
A04	LB/Skagit River Flow, Gaging	Sue checked the plots against the benchmarks. We now have 15-20 data points for each gage. For most gages survey data matched observational reading, except for two sites with complex banks. Target flows 5,000 to 25,000 cfs; data from 6,000 to 23,000 cfs. Have now had two flows above 70,000 cfs. Most gages have been damaged - would have to be replaced. Stage relations at 5 of 6 original sites very similar to Dalles gage. Some difference

	at wider sites, so we added two additional sites in unconstrained reaches. Recommendation is to just remove the original six gages based on the data collected so far (where we have temporary staff gages at narrow points). We are proposing to take additional measurements at two sites in wider areas. Will consider next steps at our February meeting.
A05 Water Quality Sampling	The aim of this is to support Water Quality certification. At the October meeting, we submitted a schedule to develop the Study Plan. PSE met with Dept. Of Ecology and consultants to draft the plan which was distributed at the meeting. Nick walked us through the major components of this two-year study which includes eight different stations. The primary water quality concerns include: total dissolved gas, temperature, and turbidity. We'll get an update this spring.
A06 UB Passage Design Baffle Modification	Will be completed during the January 24-27 outage at Upper Baker.
A07 Lower Baker Forebay Bathymetric Survey	Complete.
A08 UB Passage System Evaluation	The study report from R-2 is nearly complete. It appears that we are unable to discern different passage rates between the increasing surface flow and the normal surface flow. Nick will distribute that report as soon as he receives it.
A09 Skagit River Flow and Habitat Assessment (HIGH PRIORITY)	R-2 reported that there have been many discussions with USFW, NMFS, FERC, and PSE re: Interim Protection Plan We hope to discuss this at our next meeting (assuming it has been finalized.) The IPP concerns ESA issues for the remainder of the current license period. It may be useful as a reference going forward. After the IPP is complete we will reconsider our study plan and see if there are issues that have been resolved through the IPP and agree on next steps. If spring (April 2002) comes first we'll proceed with our Study Plan. Note: (A-24 came out of A-9.)
A09B Salmonid Redd Selection and Maintenance in the Middle Skagit in Response to River Fluctuation from	The purpose of this biological study is to determine how fish are reacting in selection and maintenance of redds due to fluctuation in

Hydropower Peaking	the river due to project operations. Stan walked us through the Study Request. We will discuss next steps at our February meeting.
A09C Distribution, Timing and Depth of Salmonid Redds	Phil walked us through this new Study Request. There was discussion of including spring, fall, and winter spawners. There was interest expressed in coho spawning in the side channels. We agreed to have Phil take this to the Study Plan Phase.
A09D Distribution, Timing of Salmonid Fry	This would supplement Seattle City Light data from the upper river. Brady suggested the study include the Wild & Scenic Corridor (to Sedro-Woolley) and not to overlook rip-rap. We agreed to move this forward to a study plan and to start the sampling permitting process with NMFS.
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	Not Discussed. Parking Lot.
A12 Instream Flows for Bio-diversity	Not Discussed. Split between R-A21 & R-A09
A13 Water Quality Assessment – Temperature	Not discussed at this meeting. Status as of October meeting: Distinct from R-A05
A14 Reservoir Shoreline Erosion	The Forest Service requested that this be done. Sue distributed the Study Request and reported it has been broken into three parts. The first part (14A): Where within or adjacent to the normal drawdown zone is there bank erosion occurring? This would be a maximum two week field and subsequent two week GIS effort to create a GIS layer and hand it off to other Working Groups. We would determine next steps at that time. Identifying the sites is time critical. We will review the Study Plan in February.
A15 UB Delta Scour	Not discussed at this meeting. Status as of October meeting: Data collection underway
A16 Lower Baker River Alluvial Fan Assessment	Devin Smith of the SCC walked us through this Study Request. This will likely be a modeling exercise. This is not time sensitive. We agreed to wait until the completion of A24 in March before developing a Study Plan. The US Corps of Engineers funded Little Baker Project to be a tie to this Study.

A17	Tributaries Surveys Upstream of Barriers	Not discussed. Request pending; not for 2001
A18	Baker River Survey Upstream of 1 km.	Not discussed at this meeting. Status as of October meeting: Merged into A-01.A habitat surveys conducted Aug & Sept 2001
A19	Review Limnological Information	Not discussed at this meeting. Status as of October meeting: PSE is talking to a University of Washington researcher to review existing data.
A20	Large Woody Debris Management	R-2 reported receiving no comments on this request. We will defer discussion for now.
A21	Skagit Wild & Scenic River Values	Not discussed at this meeting. Status as of October meeting: Study Request is under review.
A22	Baker Lake Trout Impacts Evaluation	WDFW wants the trout release program in Baker Lake to continue into the future. PSE reminded us that this has been a voluntary release program that they are suggesting be curtailed. PSE doesn't feel compelled therefore to discuss this study. NOTE: We need to look at creel information and other recreation options.
A23	Baker River Wild & Scenic River Values	Not discussed at this meeting. Status as of October meeting: Study Request needs clarification.
A24	Hydrologic and Geomorphic Analysis	Not discussed at this meeting. Status as of October meeting: We have the algorithms prepared to compare various hydrologic metrics for regulated and unregulated flows. They are awaiting a record of daily inflows from Bob before running the analyses.
A25	Unnatural Predation	Not discussed at this meeting. Aim is to identify all locations where unnatural predation is occurring. Is the rate of predation higher than would otherwise naturally occur? Methodology is dependent on site locations. Phil will collect anecdotal information re: these locations and suggest data gathering/possible solutions to address predation in each area. He will begin to address this (make a concerted effort) in January.
A26	Reservoir Limnology-Production Potential	Not discussed at this meeting. In October we reviewed the draft Study Request. The focus of this study will be sockeye, but will not

	exclude other species. We will look at utilizing existing data including those collected by PSE and others. Stan will rewrite this request modifying the scope and send it out to members for comment and PSE will send a copy to Dr. David Beauchamp of UW. We will review Beauchamp's proposal by our January meeting.
A27 Middle Skagit Incubation Flows	Not discussed at this meeting. Status as of October meeting: Covered in A9.
A28 Fish Passage-Reservoir Management	This is being further developed in the Fish Passage Technical Working Group.
A29 Estimate Sockeye Production from Different Incubation Sources	<p>Gary reported that chemical marking might not be feasible at this time. We will discuss this more at the February meeting. Previous notes: Can we differentiate early growth patterns based on otoliths? If yes, can we use this information for sockeye management and re-licensing process? If so, we need to know how many fish constitute a sample and how long do we need to collect data. What is the contribution of wild spawning? What is the time frame for results? What productivity do we get from different productivity locations? The fry collection needs to be done in the Spring, 2002. We will probably also have to sample 2-3 year old fish.</p> <p>How could we tell the fish apart?</p> <ul style="list-style-type: none"> <li>• Otolith (artificial/natural) marking</li> <li>• Otolith chemical ratios</li> <li>• Chemical marking. (Gary: check with Eric re: fluoride/iodine)</li> <li>• Physical separation</li> <li>• Thermal marking (Gary: Check with Eric V. re: methodology/practicality)</li> </ul> <p>We need to collect baseline otolith sample. Can we put the otolith mark on all artificially-produced fry? Proposed methodology: Collect fry otolith samples in spring of '02. If can differentiate, collect 1+ in 2003 and 2+ in 2004. If Gary determines we can mark the fry, we would do so.</p>



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## **LIST OF MEETING HANDOUTS:**

- Agenda, November meeting notes, updated mail list, draft interest statements, updated index of study requests, study requests: A16-Lower Baker Alluvial Fan Assessment, A25-Unnatural Predation Opportunity, A29-Sockeye smolt incubation origin otolith, 9B-Salmonid Redd Selection-middle Skagit River, 2001 Licensing Accomplishments
- Baker River Project Relicense – Study A05, Draft Water Quality Monitoring Plan
- Distribution and timing of salmonid fry in the middle Skagit River (Nick Verreto – PSE)
- Distribution, timing and depth of salmonid redds constructed in the middle Skagit River (Nick Verreto – PSE)
- Reservoir Shoreline Erosion – R-A14a Identification of reservoir erosion and depositional locations and processes.(Greta Movassaghi & Jon Vanderheyden – Mt. Baker-Snoqualmie National Forest)
- A-20 – Large Woody Debris Management (Greta Movassaghi & Jon Vanderheyden - Mt. Baker Snoqualmie National Forest)

## **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 Traps & Haul – other species
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## **EVALUATION OF MEETING**

### **Well-Dones**

- Smoked salmon (Thanks Dick Raisler)
- New participants – new ideas
- Good grub
- Aggressive Facilitator

### **Opportunities to Improve**

- Need Fred & Steve
- Time ran over
- R-2 needs to send out study plans/requests earlier
- Some back tracking
- People hadn’t read study requests
- Lots of side conversations

## **Tentative Agenda for Next Meeting**

**February 14, 2002**

**8:30 p.m. – 2:30 p.m.**

**U. S. Forest Service Office**

**Mountlake Terrace, WA**

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1. Review Agenda and Minutes
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  4. Review Communication Protocol and Process Documents
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  8. Set agenda for March 14, 2002
  9. Evaluate Meeting