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## BAKER RIVER PROJECT RELICENSE

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### Aquatic Resources Working Group

November 20, 2001

8:30 a.m. – 2:30 p.m.

U.S. 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. Report from Fish Passage Technical Working Group
4. Review Study Requests <ul style="list-style-type: none"><li>• R-A14 Reservoir Shoreline Erosion</li><li>• R-A20 Large Woody Debris Management</li><li>• R-A25 Areas of Unnatural Predation Opportunity</li><li>• R-A26 Reservoir Limnology –Production Potential</li><li>• R-A28 Fish Passage-Reservoir Management</li><li>• R-A29 Sockeye Smolt Incubation Origin-Otolith</li></ul>
5. Additional Issues
6. Set Agenda for December 13 Meeting (USFS-Mountlake Terrace)
7. Evaluate Meeting

*November 20, 2001*

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### Aquatic Resources Working Group

November 20, 2001  
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 (PSE), Cary Feldmann (PSE), Phil Hilgert and Sue Madsen (R2), Stan Walsh (SSC), Steve Fransen (National Marine Fisheries Service), Arn Thoreen (Skagit Fisheries Enhancement Group), Fred Seavey (USFWS), Gary Sprague (WDFW), Doug Bruland, (PSE), Rod Sakrison (WA Dept. of Ecology), Don Schluter (Trout Unlimited, by phone), Jon Vanderheyden (USFS), Lyn Wiltse (facilitator, PDSA Consulting, Inc.)

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

**FUTURE DATES AND LOCATIONS:** The working group decided to take a bye in December. The next meetings will be January 10 and February 14 from 8:30 to 2:30 at USFS Office in Mountlake Terrace.

### AGENDA

November 20, 2001  
8:30 a.m. - 2:30 p.m.  
U. S. Forest Service Office  
Mountlake Terrace, WA

#### 1. Review Agenda and Minutes

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2. Review Action Items
  3. Reports from Fish Passage Technical Working Group
  4. Study Plans/Requests
    - R-A14 – Reservoir Shoreline Erosion
    - R-A20 - Large Woody Debris Management
    - R-A25 – Inventory of Unnatural Predation Opportunity
    - R-A26 – Reservoir Production Potential
    - R-A28 – Fish Passage – Reservoir Management
    - R-A29 – Sockeye Smolt Incubation Origin-Otolith
  5. Additional Issues
  6. Set agenda for December 13, meeting (USFS Office, Mountlake Terrace, WA)
  7. Evaluate Meeting

#### **NEW ACTION ITEMS**

- Arnie: Create draft of 2001 Working Group Accomplishments for 2001 for group to review
- ALL: Give Nick your gaging requirements/input for Upper Baker River. How will it benefit us?
- Bob Barnes: Provide Phil an estimate of the forebay gage accuracy.
- Nick: Give update on new boat purchase progress.
- Don: Provide references on information on cutthroat and char passage through cascades to Arnie
- Brady: Email Adult Trap protocol rationale text to Arnie to distribute.
- Gary: Check with Eric to summarize opportunities for chemical and thermal markings and make recommendation to this group.

#### **REPORT ON OLD ACTION ITEMS**

- ALL: Got additional reference data to Arnie or Phil before November 20 meeting.

#### **REPORT FROM FISH PASSAGE TECHNICAL WORKING GROUP**

They met on November 1 to brainstorm upstream passage options. They will also be looking at process and considering studies that will be helpful in narrowing options. Montgomery-Watson-Harza is developing a conceptual overview of some options such as fish ladders, etc., at both dams. 31 goals were divided into 3 categories:

- Volitional passage
- Trap and haul
- Combination of ladders/traps/locks, etc.

They are still reviewing options to see which makes sense.

They also continued discussions on downstream passage options and study needs required for evaluation. They reviewed 2001 results of fish baffle modification efforts and are focusing on defining the studies that will help narrow the 26 alternatives dealing with downstream passage presented thus far and categorized into these structural types:

- Fixed/Conventional
- Adjustable

- Floating/Gulper

Many biological issues still need to be addressed. They have set up a Technical Working Group to address these issues. They are working on developing the types of studies needed for 2002. They brought on a project manager from Montgomery Watson Harza. MaryLouise Keefe is a biologist and will be serving as a study lead.

The Downstream and Upstream groups will meet separately to address these issues. Downstream Study Develop Team is also meeting December 3. The next Fish Passage Technical Working Group meeting has been split to deal with Downstream and Upstream on December 11 and 12, respectively.

## STUDY REQUEST SUBMITTALS/STUDY PLAN DEVELOPMENT

Study #	Title	Notes/Next Steps
A01.A	Reservoir Tributary Habitat Surveys	Follow up in meeting in January
A01.B	Reservoir Tributary Biological Surveys	Not discussed at this meeting. Status as of October meeting: Since the last meeting, PSE and R2 staff conducted a combo walking/snorkel of the Baker River from Crystal Creek (RM 24.7) to the reservoir (RM 19) on 9/27-28, 10/4 and 10/16, NPS staff conducted a similar survey downstream from Bald Eagle Creek waterfall (RM 1 @ Baker RM 26.9) on 10/17/01. NPS provided a copy of the year 2000 walk/snorkel survey of Baker River from Sulphide Creek (RM 23) to reservoir (RM 19) conducted on 10/31/00, 11/14/00 and 11/28/00.
A01.C	Reservoir Tributary Delta Surveys	Not discussed at this meeting. Status as of October meeting: We've been hitting these when we do delta spawning surveys. Hasn't been a lot to see. Another part of this project is to map potential habitat along the margins. We will begin to do this now that the reservoir pool is dropping. We also also looking for redds.
A02	LB River Habitat Mapping	Not discussed at this meeting. Status as of October meeting: Doug & Sue got out on Sept. 30 to identify habitat areas, pebble counts, and measure cross-sections. Nick and Phil will be going out in next two weeks to assess fish usage.
A03	Reservoir Fish Population Characteristics	Not discussed at this meeting. Status as of October meeting: R2 summarized and distributed a list of data they already have. They are looking for additional data. All were

	asked to give them references for additional data not included in the handout ( <i>Baker Lake and Lake Shannon Fish Information Sources – Draft : October 17, 2001</i> ) before next mtg. PSE is talking to a University of Washington researcher about providing technical support.
A04 LB/Skagit River Flow, Gaging	Not discussed at this meeting. Status as of October meeting: Distributed charts showing stage relationships for each of the temporary stage recorders (“rulers in the river”). Sue also distributed an updated map showing the locations of the various gages. There are 2 new sites at wide locations. The new sites show in green, whereas the old sites show in red.
A05 Water Quality Sampling	Not discussed at this meeting. Status as of October meeting: Bob is working with Bob Barnes to put together a plan to address water quality. Stay tuned.
A06 UB Passage Design Baffle Modification	Complete.
A07 Lower Baker Forebay Bathymetric Survey	Complete.
A08 UB Passage System Evaluation	Not discussed at this meeting. Status as of October meeting: 2001 Study portion complete.
A09 Skagit River Flow and Habitat Assessment (HIGH PRIORITY)	Not discussed at this meeting. Status as of October meeting: DOE needs to be kept in the loop.
A10 Baker River Delta Habitat Assessment-Char	Not discussed at this meeting. Status as of October meeting: There has been a revision made to the data mapped from Chuck’s survey. Fred is following up with Joetta to update the map.
A11 Nutrient Addition	Parking Lot.
A12 Instream Flows for Bio-diversity	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	Sue will be getting together with Greta Movassaghi (USFS) tomorrow to discuss. Will flesh out the study request for us to review at the January meeting. They will be looking at separating out the physical erosion piece from the water quality

	piece and integrating these with A-13, A-5. A01C, A-15
A15 UB Delta Scour	Not discussed at this meeting. Status as of October meeting: Data collection underway
A16 LB Delta/Channelization	Corps of Engineers is sponsoring \$260 K Little Baker Study. Arn reminded us that we should look for opportunities to synergize.
A17 Tributaries Surveys Upstream of Barriers	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	Status as of October meeting: PSE is talking to a University of Washington researcher to review existing data.
A20 Large Woody Debris Management	<p>We reviewed a draft study outline. The goal of this study is to gather information upon which to base recommendations for a Large Woody Debris Management Plan for both reservoirs. We will be looking at how much Large Woody Debris would run through the system over the period of the license (under current operations/management practices) vs. How much large woody debris would likely move through the system without the influence of the dams. <b>NOTE:</b> This study is not an attempt to evaluate the historic impact of the dams. In order to fully evaluate the impacts of the project to create the LWD Management Plan as part of the Settlement Agreement we need to address:</p> <ul style="list-style-type: none"> <li>• What % of role LWD plays in Skagit River is attributable to the Baker River Basin?</li> <li>• Amount and size of large woody debris. Enough large pieces(older trees) to maintain and sustain fish population in reservoirs and tribs? Need to distribute? ;import?</li> <li>• Skagit River and estuary responses to changes in LWD input from Baker Basin</li> <li>• Where is LWD more beneficial? Reservoirs? Skagit River? Estuary? (relative benefit of wood in reservoirs vs. rivers) to address wood recruitment deficit</li> </ul>

	<ul style="list-style-type: none"> <li>• Distinguish wood by size and species</li> <li>• Root wads (complexity)</li> </ul> <p>We agreed to move this draft to Study Request &amp; Study Plan.</p>
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	Not discussed at this meeting. Status as of October meeting: Discussion will be deferred to Baker River Committee
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	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	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 will be further developed in the Fish Passage Technical Working Group.
A29 Estimate Sockeye Production from Different Incubation Sources	Can we differentiate early growth patterns based on otoliths? If yes, can we use this

	<p>information for sockeye management and relicensing 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. Gary will report on chemical and thermal marking methodology/practicality.</p>
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## LIST OF MEETING HANDOUTS

- **AQUATIC RESOURCE STUDY A-20; LARGE WOODY DEBRIS MANAGEMENT**  
DRAFT – For discussion purposes only; version: 20 November 2001
- **A Perspective on Fish Population Management Elements that Must be Addressed in Order to Achieve the Successful Recovery of Naturally Spawning Puget Sound Chinook Salmon** (A Report Prepared for Washington Trout by Sam Wright)

## OTHER ISSUES:

Arn strongly recommended an article on salmon recovery (specifically Skagit Chinook) that he suggested be mandatory reading for all members of this group. See above citation. Arnie will make this available.

## PARKING LOT

- State agency presentations re: mandates (agency direction)
- Create a master list of possible studies across all working groups and share with all



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- Access to the Baker River Project hourly operational model
  - Participate in Lower Skagit Work Group for native char

## **EVALUATION OF MEETING**

### **Well-Dones**

- Got lots done
- Good discussion of issues
- Witty comments from Wiltse
- Consultants are doing a really good job
- Jon Vanderheyden and Steve Fransen's presence
- Arn's article reference!

### **Opportunities to Improve**

- Missing some folks

### **Tentative Agenda for Next Meeting**

**January 10, 2002**

**8:30 p.m. - 2:30 p.m.**

**U. S. Forest Service Office**

**Mountlake Terrace, WA**

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)
  - Then go through all other study requests
5. Review list of 2001 Accomplishments
6. Additional Issues?
7. Set agenda for February 14, 2002
8. Evaluate Meeting