Driving Directions to Baker Lake Lodge:

5) **From I-5 North or South: Take the Burlington/Anacortes (State Route 20) exit #230.**
6) **Follow State Route 20, the North Cascades Highway heading East towards Sedro Woolley to Milepost 82.**
3) **Go North (left) on Baker Lake Road for approximately 13 miles.**
7) **Go East (right) on the Baker Dam Road for approximately 1 mile.**
8) **Baker Lake Lodge is located on the South (right) side, across from the Kulshan Campground.**

BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group

April 2, 2003

8:00 a.m. – 3:00 p.m.
Baker Lake Lodge
Located near Upper Baker Dam
(425-462-3701)
Concrete, WA

(We received a request to modify the agenda, if possible, to move up discussion of Large Woody Debris on April 2 to the morning slot in place of Fish Propagation. We will discuss this and other modifications to the agenda at the start of the meeting)

AGENDA

Hot Breakfast Provided	7:30 – 8:00
1. Fish Propagation	8:00 – 9:30
Break	9:30 – 9:45
2. Downstream Fish Passage	9:45 – 12:00
Lunch Provided	12:00 – 12:45
3. Habitat, Large Woody Debris, Sediment *(break at 2:00)*	12:45 – 3:00

BAKER RIVER PROJECT RELICENSE

Aquatic Resources Working Group

April 1 and 2, 2003
Baker Lake Lodge
Upper Baker Dam, 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, Cary Feldmann, and Paul Wetherbee, (PSE), Arn Thoreen (Skagit Fisheries Enhancement Group), Sue Madsen (R2), Bill Reinard (Wildcat Steelhead Club), Dick Raisler (Fidalgo Fly Fishers/WA Council- Federation Fly Fishers), Steve Fransen (NMFS), Bob Wright and Rod Sakrison (DOE), Chuck Ebel (USACE), Lorna Ellestad (Skagit County Public Works), Gene Stagner (USFWS), Ruth Mathews (The Nature Conservancy), Stan Walsh (Skagit System Cooperative), Brady Green, Greta Movassaghi, Dean Grover, Margaret Beilharz, and Scott Lentz (USFS), Stan Zyskowski (NPS), Rod Sakrison (DOE), Kevin Malone (for The Louis Berger Group – developing the PDEA), Tung Van Do and Irena Netik (Powel Group), Dee Endelman (Agreements Dynamics), and Lyn Wiltse, (PDSA Consulting, Inc.).

FUTURE REGULAR WORKING GROUP DATES/LOCATIONS (2nd Thurs. each month):
April 10 (WA Ecology, Bellevue-Eastgate), May 8 (WA Ecology, Bellevue-Eastgate), June 12, July 10 (WA Ecology, Bellevue-Eastgate), August 14, September 11 (TBD), October 9, November 13, December 11, 2003 from 8:30-3:00 at USFS Office in Mountlake Terrace.

NEW ACTION ITEMS

- Paul: By April 15, set up Scenario Technical Working Group to include Margaret, Scott, Stan, Ruth, and possible Gary. Initial tasks: come up with definitions around spawning flows (use those called out by Seattle City Light as a starting point?). Consider QC, etc.
- Paul: Outline charter and roles/responsibilities for the Scenario Technical Working Group.
- Paul: See that all possible parameters are listed on HYDROPS request form and show how prioritization works.
- Tung: Make available a list of assumptions used by the HYDROPS model.
- Tung: Make sure new version of HYDROPS model is functional and available by April 15.
- Sue: Get timeline for R-2 habitat Model by April 10 Aquatics Working Group meeting.
- Tung: Talk with PSE re: additional enhancement to model (as per Lorna's suggestion).
- Paul: Get folks results from the 11 runs. Need to verify input data, along with corresponding explanation.
- Cary: Set up meeting of instream flows teamlet to address process for coming up with instream flows schedule (identify plan components).
- All: Let Bob W. know if you want data from the Water Quality teamlet study.
- Arnie: Find out status of new fish passage truck.
- All: Review Study Report for A9c. Be ready to discuss at our April 10 meeting.
- Stan: Set up a meeting of BAG to address goals for fish passage (by late April/early May).
- All: Send Stan your ideas on goals for fish passage by April 15.
- Greta: Draft Shoreline Erosion Management Plan—aim for April 10.
- Scott: Put together language for habitat mitigation for what has been lost—by April 10? (Button up with Sue re A 17).
- Sue: Draft Sediment Plan by April 10. (Bring along with studies).
- Sue: Put together draft study plan for alluvial fan (A16) and draft PME language by May 1 (by April 10?)
- All: Consider supplementation language for Fish Propagation section, especially around aim, to address on April 10.

DRAFT RETREAT AGENDA

April 1, 2003

8:30-9:00 Arrive/Get settled/Continental breakfast
9:00-11:00 Finish walking through draft proposed actions
11:00- 11:15 BREAK
11:15-12:15 HYDROPS runs/output/discussion
Ramping, cycling, amplitude
Identify additional model runs?
Instream Flows – Update on A9a
12:15-1:00 LUNCH
1:00-3:00 Complete HYDROPS discussions
3:00-3:15 BREAK
3:15-4:15 Connectivity (IntraBasin species movement)

4:15-5:15 Water Quality- Stream and Reservoir
5:15-6:15 p.m. DINNER (with PDB)
7:00-8:30 p.m. Continue Water Quality discussions

April 2, 2003
7:30-8:00 Hot Breakfast
8:00-10:30 Downstream Fish Passage
10:30 – noon Habitat- Large Woody Debris/Sediment/Erosion
12-12:45 LUNCH
1:00-3:00 Fish Propagation

SETTLEMENT PROCESS UPDATE
At the cross-resource workshop March 5-7, we learned that FERC is requiring us to submit the Settlement Agreement along with the license application on April 30, 2004. They also want the language in the Settlement Agreement to be in the form of license articles. To that end, Steve Hocking took a couple of the initial draft proposed actions and re-wrote them as he would want them to appear as license articles. This was by way of example only.

INTRODUCTIONS/EXPECTATIONS
We did introductions and participants shared their desired outcomes for the retreat as well as their concerns:

Desired Outcomes:
- Second draft actions for review at Aquatics Working Group Meeting April 10
- Substantive agreement
- Specificity on proposals will emerge (or at least a range) (5 stated this as a desired outcome)
- Help couch additional storage stuff that's come up
- Move forward with enough specificity to say something (2 stated this as a desired outcome)
- Find out what others see as the Corps' impact on fish (Corps mandated flood control)
- Continuation of substantive discussions we started (2 stated this as a desired outcome)
- As we go through this process, keep R2 informed of types of information we need.
- Agree on PMEs that make whole the fishery resources (2 stated this as a desired outcome)
- Be able to make tough decisions with group we have and the information we have.
- Improve alignment with this work group's expectations of the HYDROPS model.
- Opportunity to explain how water quality piece fits into fish efforts.
- Progress being made with some good, honest discussions
- Baker River System and the Lower Skagit end up with a healthy, wild fish system.

Concerns:
- Wordsmithing the draft actions
- Discussions will get off track
- Getting side tracked into minutia (5 stated this as a concern)
- Additional flood storage study might get the group off track

- We are lacking some necessary information – need to be able to make valid decisions (8 stated this as a concern)
- Get to know Scott!
- Study of nutrient content might be compromised
- Meeting tight timeframe in necessary fashions (2 stated this as a concern)
- Will have wasted a day
- Aggressive agenda – lots to cover! (2 stated this as a concern)

RETREAT NORMS

- Balance assessments
- Speak from interests
- Seek common ground
- Focus on substance
- No minutia minding!
- No wordsmithing!

OVERVIEW OF INITIAL DRAFT PROPOSED ACTIONS

We reviewed notes of the initial reactions of participants to the initial draft actions being proposed. At the retreat, we agreed to use this as a base to work from in coming up with a second draft by May 1, 2003. At the retreat we covered 3.1 through 3.3 (which contained water quality aspects outlined in 3.5). We continued the high-level review by listing participants' reactions to 3.4:

3.4 Physical Habitat Management:

- Putting things off to consider "down the road"
- Just moving sediment is insufficient (it is a subset of a larger issue of the Baker Alluvial Fan).
- There is a fine line between minutia and details needed for the Settlement Agreement. We need to know details like the amount of material moving through and what to do with it.
- There are places where unnatural depositions occur because of the reservoir.
- The Plan needs contingencies for making decisions related to the above.
- Need a lot more definition of a good outcome if we are going to pull off the specifics.
- We still have a range of options re: sediment on the table as we develop goals/outcomes for actions.
- Different management plans for alluvial fans and deltas? Or should we keep them both as part of 3.4.1?

HYDROPS OVERVIEW

Tung walked us through the (original version of) the model. He explained the concepts of hard and soft constraints. You can put constraints on the nodes (Upper Baker Dam, Lower Baker Development and the Skagit River gage. At the nodes, you can set releases and ramping constraints. At the reservoirs, you can set levels. At the powerhouses, you can set powerhouse discharge and generation. You can also set downramping at the LB powerhouse. You can set spill from the reservoirs. The model keeps track of all the scenarios that have been run through it.

Something the model can't do is change what the flows coming from the Skagit River are (as we have no management control over those flows). The model does, however, respond to them.

Developmental Stages of Model:
Powel is integrating UFSF suggested modifications to the model. These modifications will be complete April 15. Example of the changes being made: being able to specify constraints by priority; instead of choosing a probability for an entire year, you can set different subsets of probabilities. The model will also be able to calculate the median flow constraint for other months of the year in a single run. There will also be more comprehensive reporting. You can also make a run for 50 years worth of data.

Model Link to Relicensing:
Paul explained what goes into creating a scenario to run through the HYDROPS model. He also explained how this model ties to the R-2 models. The R2 models use simulated hourly streamflow signals at Skagit River and Baker River at Concrete.

It was envisioned that a Scenario Technical Working Group could be created that could track all the scenarios requested for runs. This group would come to represent the collective learning. It might include a representative (or 2) from each of the Working Groups. Part of their function would be QC and QA. They would also be responsible for translating requests such as "run of river" into "knobs to turn in the model" to yield the appropriate output. Everyone thought the idea of setting up this type of technical working group was good. Concern was expressed that members of that group button up with the initiator of the run to see that the way they do the run preserves their intent.

Accessibility:
Paul reported that we are right on schedule in granting the access that has been promised.

Input on Format of the Output of HYDROPS Runs:
The intent is to come up with a standardized format for displaying output from HYDROPS runs. For example: Baker Laker Water Surface Elevation, Lake Shannon Surface Water Elevation, Baker River Streamflow, and Skagit River Streamflow.
Feedback from participants:

- Need a way to quickly capture those results that are biologically important- a statistical analysis of flows.
- It is hard to tell when it's operating at a maximum and where spillage takes place.
- Plot inflow and outflow.
- USFS suggestions
- Need a list spelling out what scenarios are violated is helpful. The graphs are at such a large scale… tabular data might be more helpful. Add the contribution of Baker.
- Start with standard output, maybe a table that showed minimum instream flows violations per month. Show date and duration of each violation.

Possible Prioritization of Parameters:

These will be incorporated into the HYDROPS Scenario Run Request Form.

- Flood control
- Minimum flow (discharge from the Baker River)
- Spawning flows
- Recreation levels
- Release quantity
- Release rate
- Refill

Note: These priorities would change with different scenarios e.g., recreation, fish, economics, etc.

The model can measure these parameters: flow level generation, and rate of change in each of these (flow, level and generation).
How to request a run for a specific scenario:

1. Select study year (from 60 years of historical data).
2. What is starting point (levels) and ending levels for both reservoirs (Oct 1 to Oct. 1).
3. Outline (prioritized) constraints: level, flow, total release from each process as measured at nodes, generation, powerhouse discharge, and spill. Currently, priorities need to be set for the entire period. Powel will consider changing this so priorities can be specified for specific time periods.
4. Specify min and max and a time step.
5. Then specify the ramping location, period, and value of ramping (up or down) for how long, and the occurrence (day or night). An hour is the minimum duration.
6. Define the outage maintenance level and price. We could decide what these would be for this group.

We need some common definitions we can use consistently when discussing spawning flows, etc.

INSTREAM FLOWS UPDATE (A-9)
Sue distributed copies of the A9c report for folks to review prior to our April 10 Working Group Meeting.

MINIMUM FLOW DISCUSSION (3.3.1: FLOW REGIMES)
The group discussed the draft proposed action regarding minimum instream flows. Concern was expressed about instantaneous flows not taking into account water year flows (more suited to run of river), although characterizing water conditions is appropriate. We could also look at something intermediate. A group member suggested that we take away the parameters and just say that a table would be provided. A fish interest is to reduce the possibility of project-induced dewatering of redds. Interests that need to be addressed were documented as follows in the draft: "Project minimum flows proportional to project spawning flows. Need definition of 'spawning flows'/native species." A group member suggested that aspects of the flow regime other than 'minimum' flows need to be addressed such as: cycling; ramping; amplitude; minimum flows; maximum flows (e.g., that can be sustained during incubation); seasonal flow patterns (goal is to relate *daily* inflow to *daily* outflow to *preserve the natural patterns of flow*);

duration, frequency and rate of change of flows. *The purpose of looking at this full range of flows is to ensure that species that we do not have specific information of flow or habitat needs are addressed in the final flow agreement.* We decided that some of these aspects might not ultimately be part of the license agreement but should be run through HYDROPS to see their impact.

The group discussed a shared interest in maximizing ecosystem function to the extent possible in this regulated river basin (i.e., a river basin that is diked and levied). We decided to have the technical in stream flow subgroup meet to discuss the process for putting together a flow schedule. It was also suggested that we replace the word "minimum flows" with "instream flows" since we are looking to optimize the flow regime rather than manage to the minimum, although minimum flows will need to be identified.

WATER QUALITY DISCUSSION

Bob Wright of WDOE gave a presentation on work that the water quality technical working group has been doing. At the beginning of his presentation, it was suggested that all water quality proposed actions be covered in Section 3.5, with Section 3.3.2 ("Implement Flow Release Water Quality Management") to be moved to Section 3.5.

The subgroup has reviewed PSE's data collection for various State water quality standards. They found that, with the following exceptions, the ambient water quality in Baker is at acceptable levels. Temperature may be a problem at some times of year; turbidity between the dam and the weir may occasionally also be a problem (due to low flows for fish and maintenance functions in the reservoir). The technical group is discussing possibly establishing a minimum lake level for Lake Shannon at approximately 370 (minimum operating pool) to address turbidity. PSE is collecting data in accordance with the approved water quality monitoring plan. Some preliminary data is available.

FISH PASSAGE

The fish passage group met last on March 18, 2003. Lyn reported that the group has handled upstream passage with a trap and haul mechanism with sorting features.

3.2.3 Provide Downstream Passage Continuity for Migratory Fish Species

Steve Fransen reviewed the options *for downstream fish passage,* which the group elected not to advance at this time:

1. <u>The Floating MIS</u>: When designed out by the engineers, they realized that, because of its size, it would be difficult to construct and move up and down. The alternative also has to be plumbed in and the engineers don't have an answer regarding how to do this.
2. <u>Fixed MIS/Full Flow</u>: This also has some technological weaknesses. However, whenever the pool is at its operating range, the fish need to sound to enter it but, as the pool gets higher and higher, there would likely be a biological response that would cause the fish not to sound and enter.

The results of the Expert Choice software program used by the participants of the FPTWG (with and without PSE representatives) selected the gulper as the first option and the conventional .4 fps with limited reservoir as the 2nd option. They are continuing to review the remaining options

with an eye towards what will meet NMFS design criteria (which will probably be based on juvenile chinook). If we go down the Gulper path, it will probably involve splitting nets into the dual function of exclusionary guide nets and barrier nets. This group will meet again April 28. Stan shared his view that this group could likely recommend a range of actions and the ultimate decision will be made by policy level folks.

Likes:

- Gulper has merit. Has worked on some level.
- Steps look like will let us know if we can get at good evaluation.
- Gulper offers more options than the screen.
- Deals with the situation we have (no known silver bullet).
- Is roughly comparable to a continuously operating screen system.
- Has a place in it for fish passage.
- Cost conservative without putting all the risk on the resource. Allows us to share the risks and share the benefits. Has incentive built in to try to find an effective solution to fish passage.
- If we agree to this, PSE would start the process now rather than wait until the license is issued. This would save two years and possible a couple of decades if the full screen option were prescribed leading to mitigation.
- Looks like a good plan (it is similar to how the Corps did the locks).
- Seems to address some of the major issues (current nets aren't exclusionary enough), the attraction flow would be ramped up.
- Like the modular approach- it allows for maximum future flexibility. Even if we are testing factors other/in addition to flow.
- Like the process. You've taken a specific design and defined a process to deal with it. We need to commit at some level to one of these ideas. Would use a similar process if we put in conventional screens.
- Is an incremental improvement over the existing system.
- Offers more flexibility than would be provided if we build a conventional screen.

Concerns:

- Assumes that flow is the attractor. We aren't sure that this is the case. We could be confusing coincidence with cause and effect.
- Bull trout. Currently, we get only get a small number of juveniles in the gulper per year. Adults hang around it but don't go in. There is something about what we're offering that they are not accepting.
- Limits you to the confines of a gulper. Limits us to a single technology
- The stages go up in 250 cubic feet-per-second increments. If we think additional flow from the pump would have an advantage we might want to look at increasing those increments.
- This design might lead to double handling.
- There are more unknowns than knowns in this process.
- This process seems almost too adaptable. We might get lost in analysis paralysis.

- Step wises approach starts with facility not much different from status quo. This could delay effective fish passage for up to 10 years.
- Fear of outsiders looking in, disappointed in what we come up with because no matter how good our model is, you just never know what the fish will do.
- Is there anything beyond Stage 4? (Could be embraces as part of Adaptive Management.
- We are trying to resolve a problem adaptively. A critical element to test how much flow should be going through the gulper. The staged approach is focused on a single element (flow) which may not be the most important factor.

How to Address Concerns:

- Want to see performance criteria as part of the testing standards right up front. Adaptive management could kick in as needed.
- Want to see that all native species addressed
- Want to see Stan Walsh's alternative explored.
- Put flow inducers through the reservoir?
- Continue to look at full screen alternative (Stan's combo platter)
- Jump to stage four to start with.

Performance Standards/Goals

Performance Standards are a pass/fail test. A goal is a target that you shoot for.
NMFS Fish passage/guidance objective of 95% (described for Snake/Columbia River type facilities. This is a laudable goal, since performance is generally so far below that. As long as you are below that, you keep taking actions (PDSA) for as long as folks can come up with actions to take. There is also a performance standards floor of 70%, which is seen as the level at which various salmon and steelhead would need to ensure their viability without continued supplementation.

How we measure the performance against the goal is a huge factor where there is currently a lot of contention. We need objectives that are measurable in ways that make sense to all parties.
USFS goal is to have something near to what is there in terms of historical numbers (pre-project) of biodiversity of native species. Since we don't know that, we are considering what production potential would be without the project. Is this possible given the current habitat?
Wildcat Steelhead perspective is that a goal would be to supplement sockeye populations by reducing the number of Chinook.

Goals should include salmon, steelhead, sockeye, coho, chinook, cutthroat, other native species
We agreed that this is something the agencies, the Baker Agency Group (BAG) is going to have to settle on. It might be something like a percentage or a number, whichever is greater. What they come up with would be reviewed by this Working Group and will influence PSE's response.

CONNECTIVITY DISCUSSION

Likes:

- Acknowledges issue
- Bulk of draft action looks pretty good

Concerns:

- Not very definitive
- Need an ongoing study to determine the #'s.
- Lack of genetic info on fish in Basin
- Need to address isolation introduced by reservoir levels
- Need a way to measure success
- Will study: does that mean they'll do anything?

How to Address Concerns:

- PSE will study how to best implement this passage.
- Develop a protocol to do it (like BRCC does for the adult trap at Lower Baker)
- Change to "…will study and implement…"
- Apply to up and downstream passage
- Can build on genetic variability in other ways

HABITAT DISCUSSION

Concerns:

- Habitat mitigation & shoreline erosion is not included in proposal.
- Property acquisition can lead to empire building

How to Address Concerns:

- Erosion plan should be developed and implemented (needs review by all working groups)
- Enhancement plan for restoration and/or mitigation of aquatic habitat

LARGE WOODY DEBRIS DISCUSSION

Margaret reported on suggested changes she made to Large Woody Debris section

Likes:

- Well written
- That wood is transferred *first to ecosystem enhancement opportunities within the Baker River Basin*, then to Skagit

Concerns/How to Address Concerns:

- Integrate into plan the idea that LWD moves in pulses.
- Change goal to ensure continued movement in ecosystem
- Two year timeframe is too long
- Need to include language that deals with unanticipated road blocks/constraints—how to address liability issues, etc.
- Emphasize using wood in Baker River as 1st priority?
- Some wood should be routed to the Skagit
- Big pieces that might float upstream; smaller end stuff left down at lower end—need to look at how to use the wood that will be most useful

SEDIMENT DISCUSSION

Concerns:

- Do we want sediment delivered to the Skagit when it appears likely there may be too much in 20 years
- Will need to see a proposed action for the Baker alluvial fan

How to Address Concerns:

- Need strong coordination with efforts outside of relicensing so that efforts don't create sediment problems
- Identify in plan what monitoring methods would we use to decide when to place sediment (e.g., updated info from WIRA)
- Need monitoring, long term check points

FISH PROPOGATION DISCUSSION

Bill Reinard provided information about a concern he has about Oligotrophication, a decline in nutrients in the water. His concern is that the study currently being done may not take this long-term decline into account.

<u>Sockeye Spawning Beach/Low Impact Enhancement Programs Discussion</u>

Likes:

- Looks good
- Track of incremental improvement is great

Concerns:

- Fish nutrient issue not addressed (oligotrophication)

How to Address Concerns:

- Look at studies coming out on nutrients; see if additional short-term/long-term studies

<u>Restore & Decommission Beaches 2 and 3</u>

Likes:

- Looks good

Concerns:

- Not sure I want beaches 2 and 3 to go away because, when you release fish into reservoir to spawn, there's a fairly high impact to reservoir operations for spawning
- 2 and 3 are under special use permit to have them decommissioned until beach 4 operational

How to Address Concerns:

- Use beaches 2 and 3 as a closed system?
- Address decommissioning concerns through development/acquisition of additional sockeye reproduction site or system
- If decommission, could restore to be good for sockeye spawning
- Could continue operating as we do now for 10 years and then decommission

Supplementation Programs

Likes:

- Has markers/placeholders for issues and topics of interest to NMFS
- Offsite Chinook releases would be great
- Rainbow trout: like rearing and releasing catchable fish for Depression Lake

Concerns:

- Re 20,000 pounds—not sure whether this is the right number for my interests
- Was 20,000 picked because it keeps PSE from having to apply for DOE permit?
- Steelhead:
    - Where will steelhead be released?
    - No natural/native steelhead source—so no steelhead should be raised
- Chinook:
    - Skagit and Baker Chinook are listed species
    - With current placeholder, NMFS will work this through with Skagit Chinook work group
    - Will probably work with experimental recovery program. If it's successful, goes on forever
        - This placeholder number secures a spot
- Coho:
    - Reduction from current program
- Rainbow trout:
    - Need plan to provide recreational fishing opportunities for native trout (Rainbow or Cutthroat) at Baker and Shannon
    - There are some native trout that are not very abundant—so an action that would increase angling pressure on harvest of native trout is of concern

How to Address Concerns:

- How to Explore production potential—have some kind of marker in this section for looking at alternative methods for seeding the sub basin with sockeye (moved into Supplementation section)
- Utilize info from limnology study to develop plan
- Maintain a placeholder for Coho production at the number necessary to fill gap between current population performance and what would be required to be self-sustaining (e.g., short 1000 adults/year, we'd need to make up that difference)
- Use years when we can harvest, not just escapement

INSTREAM FLOWS DISCUSSION

We began by reviewing NMFS' concerns:

- Lower Baker River—functional and migration
- Middle Skagit—functional and key lifecycle issues---spawning, incubation, seasonal migration (for Salmon and Steelhead)—effects of Baker Project in low water years
- Key things NMFS is looking for from studies—being able to hit the target better for Baker contribution to spawning flows & do PME's accordingly.

USFS is also interested in maintaining/restoring ecosystem. This needs to be considered in looking at instream flows.

We then listed suggested HYDROPS scenarios:

1. Run of the river with flood control
2. Monthly minimums
    a. Spawning/rearing flows
    b. IHA—release proportional to inflows to achieve lowest *alteration from inflows*
3. Minimum flow
    a. Spawning/rearing
    b. PSE ramping rates/Skagit flood control
    c. Recreation/economics
4. Flood control: recreation/econ ↑ *(highest priority given to meeting recreation levels in reservoirs and economic benefit after meeting flood control)*
5. Flood control: econ↑ *(highest priority given to maximizing economic benefit after meeting flood control)*

Kevin from Louis Berger group suggested that the group identify which of these model runs they'd like to see addressed in PDEA.

MEETING EVALUATION

Well Dones	Do Differently Next Time
• Good food • Good cooks • Got a lot done • Got within an inch of LWD and sediment settlement • Great accommodations • Good refreshments • Shortage of analogies	• Got out late • Change format to subgroups creating work products and then sharing with large group • Ups and downs • Missed Gary and Mark

HANDOUTS

- Agenda for 4-1, 2-03 retreat
- Final Minutes from 3-13-03 meeting
- Long-term Aquatics Schedule
- Aquatics Action Plan (from March 6th Cross Resource Workshop)
- List of Initial Hydrops Runs (3-26-03)
- Various Schematics: Upper and Lower Baker Dam elevation profiles, Reservoir elevation rule curve, average and range of reservoir elevations (1975-2000), Competing Interests (reservoir elevation preferences)
- Draft Memo-Downstream Fish Passage Alternatives Filtering Process
- Draft Memo-Downstream Fish Passage -Modular Surface Collection Barge
- Aquatics Working Group Comments to "Draft Proposed Actions" (from March 5-6th Cross Resource Workshop)

- Flip Chart Notes of All groups (from March 5-6th Cross Resource Workshop)
- Draft Proposed Actions (2-25-03)
- USFS Comments on Draft Study A-20 Large Woody Debris
- Final Water Quality Study Plan (12-18-01)
- Table 1 Summary of Water Quality Monitoring Program
- Review Draft Report: Study A14a - Reservoir Shoreline Erosion and Deposition
- Draft Report: Middle Skagit River Salmon Spawning Surveys A-09c
- Cultural Oligotrophication (technical article-*Fisheries*)

Tentative April 10, 2003 Agenda
8:30 – 3:00 p.m. at WA Dept. of Ecology, Bellevue - Eastgate

1. Review Agenda and Minutes
2. Review Relicensing Schedule
3. Settlement Process – Status of 2nd draft proposed actions after April 1, 2 retreat
4. Fish Passage Technical Working Group Report
5. Instream Flows Update (A9)
6. Studies:
   - A9c - Distribution, Timing and Depth of Salmonid Redds
   - 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 May 8, 2003 meeting at WA Dept. of Ecology, Bellevue-Eastgate
11. Evaluate meeting