MEETING MINUTES
Upstream Fish Passage Technical Working Group

Mission Statement: To develop an efficient fish passage design for the Baker River Project.

Project: Baker River Project
FERC No. 2150

Written By: Dawn Schink

Meeting Date: December 12, 2001

Location: WestCoast SeaTac Hotel, Seattle

Attendees:

Arnie Aspelund, PSE	Wayne Porter, PSE
Cary Feldmann, PSE	Dawn Schink, PSE
Steve Fransen, NMFS	Gary Sprague, WDFW
Phil Hilgert, R2	Dan Turner, MWH
Kim Lane, PSE	Nick Verretto, PSE
Mort McMillen, MWH	Stan Walsh, SSC
Ed Meyer, NMFS	Lynn Wiltse, PDSA

Purpose: The purpose of the meeting was to continue development of conceptual design alternatives for replacement of upstream fish passage facilities at the Baker River Hydroelectric Project, to revisit study needs required for evaluation of upstream fish passage options and to develop a course of action.

Future meeting dates:
January 7, 2002 (downstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
January 8, 2002 (upstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
February 5, 2002 (upstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel;
February 6, 2002 (downstream passage), 9:00 to 3:00, at the WestCoast SeaTac Hotel.

December 12th Agenda:
Objective: Review preliminary design concepts and evaluation matrix and develop direction for studies and design.

Review minutes & agenda (Wiltse)
Review action items list (Wiltse)
Present Upstream Passage Alternatives (Turner)
Review Filter Process (McMillen)
Apply Filter to Upstream Alternatives (McMillen)
Project Schedule (Lane)
Evaluate Meeting (Wiltse)

Review assignments (Wiltse)
Schedule Next Meeting & Agenda (Wiltse)

Review Minutes:
The minutes were accepted as written.

New Action Items:
- Nick/Kim will email and put the schedule out on the website
- Kim gathering statistics regarding current trap and haul travel times, during peak periods
  - Turnaround time to operate trap
  - Max number operations in one day
  - Maxed out, or capable of handling more?
  - Where is the constraint, need for more trucks? If more trucks, does the trap became the constraint?

Report on Completed Action Items:
- Dan – develop upstream passage conceptual designs and costs, as well as biological cost-benefit template for discussion purposes at next meeting, complete by December 12th. **Result** – Technical Handout No. 2.0
- Nick – coordinate fish passage studies consultant identification and studies development subgroup meeting (Tuesday, November 13). **Result** – Studies are being developed in two meetings held on 11/15/01 and 12/3/01.
- Cary – review communication protocol and present to the group December 11. **Result** – draft under review

Present Upstream Passage Alternatives:
Dan presented . . .
- See handout, Technical Memorandum No. 2.0 – summarized the topographical challenges
- Mort – unstable slopes are a big thing for building on LB, and rock slopes are an issue for building on Upper Baker
- TM2-1 – Fish Ladder would be 8,000 feet long. A ladder on each dam with channel in between would be 22 miles long.
- TM2-2 – Channel on east side is only 9.9 miles long , instead of the 22 mile in TM2-1. There are landslide hazards on this side.
  - Gary thought the channel could be built around the west pass, instead of up the hill of the dike.
  - Cary – said this would be more risky than the Thundercreek project
- TM2-3 – the alignment would try to follow the eastside, along a flatter surface.
- Comparison of existing long fish ladders was revisited: (page 9 on memo tech 2)
  1. Cary wanted to know why Pelton ladder failed. Dan said there are many theories, such as changes in water temp during long length of ladder, water too warm at entrance to ladder. They tried shading the ladder, without effect. Mort said they have step in certain places, but no resting places for fish, and concrete is unnatural surface.
  2. Faraday trap is used at times, along with trap and haul.
     - Ed mentioned this is also an area of heavy landslides.

- Kim and Cary want to know why trap and haul is not used at Faraday. Ed said they are more expensive with large runs, and the roads get icy. Unless an management need, they operate the ladder.
- Ed talked about redundant systems, such as 2 ladders or trap and hauls, so you always have a stand by. On Snake River Project, if one of the runs is blocked, the whole run backs up.

3. Lower Baker Option - Gary wanted to know if time of transfer was derived from a topographical routing base. Dan said time is based on a direct route..
   - Gary asked about the height, being higher than LB and UB. Dan said this was due to no pool fluctuations.
4. The two prices on combined ladder, $187 for west route, $109 for east route.
5. Steve asked if someone was set on the combined option. Cary said Don was, because of Bull Trout in Lake Shannon.
6. Pelton Dam has no trap in front of the fish ladder. Gary wanted to know if anyone had done a study on how many fish wander around without finding the ladder. Steve said there are many who do not find the ladder. Ed was saying the velocity is not that strong at this ladder.
7. Gary mentioned that the history of the stability of the eastside, such as the loss of the powerhouse in the 1960's, has to be taken into consideration. Wayne pointed out that the slide was over a 15 acre area.
8. Dan showed slides of the dams and area where the ladders would have to be built.

Review Filter Process:
Mort presented . . .

- See Flowchart (12/4/01) in Memo
- He went over the same info on the flow chart as in 12/11/01 meeting
- **U1.1 & U1.2 – considering as a Fatally Flawed**
  - Geotechnical Stability, in construction should be looked at closely as a fatal flaw, due to history of landslides. The water coming down from broken sections of the fish channel could do great damage.
  - Ed is more concerned with exit control structures than geo stability. How they work, how operation restrictions work in the reservoir. He thinks the best way is 3 or 4 exits, which complicates the process.
  - Arnie wondered about getting permits to build in the area
- Steve brought up uncertainties to consider for fatal flaws,
  - like how large the resting pool needs to be for the resting pools, considering the short time Sockeye migrate. Would they all be able to fit in?
  - Would number plug up the passageway?
  - Temperature
  - Exit Control study
  - Fluctuation of Upper Baker and Shannon, bring on Ed's desire for several exits.
- Land ownership an issue
- Conventional ladders that fluctuate within a 15 or 20 feet range are workable a fixed ladders.
- Potential conflict with downstream passage.
- By making a new agreement with the core, the flux would be able to be divided between both dams, instead of just the one now.
- **U1.3 - considering as a Fatally Flawed**

- Serious environmental impacts
- Poaching is a big issue
- Length
- Wildlife issues, with small animals, elk. Projects have had to build squirrel bridges

- **U2.1 – not Fatally Flawed**
- **U2.2 - not Fatally Flawed -** is there a reason to introduce the fish to Lake Shannon, necessitating 2 trap and hauls
  - Benefit – Need study to find out which fish would be expected to stay in Lake Shannon
  - Downside – costly and double stress for fish.
  - Steve sees this as habitat connectivity for Bull Trout.
  - Gary thinks you can have one trap, and put some in Lake Shannon and some in Baker.
  - Construction issues
  - May not need it as management tool
- **U3.1, U3.2 & U3.3 – not Fatally Flawed -** same comments as for **U2.2**.
  - Ed sees a lock or tram. Which is easier, faster?
  - Gary sees a truck as a better option than a ladder.
  - Cary doesn't think it is Fatally Flawed.
  - Ed does see a lot of pluses with trucks. The locks have to deal with a lot of fluctuation.
  - Gary sees sorting problems with the trap and tram. Probably would end up trucking them in the end.
  - Ed - trams are susceptible to landslides, and the need for trucks.
  - Cary mentioned there are less concerns, as far as the trucks, regarding ice. Instead, there are load restrictions in winter.
  - Locks are time consuming to run, and takes too much time to cycle the fish through
  - Dan - potential problems for different species of fish killing other species inside the ladder. Gary thought this would be more of a juvenile issue, than adult. Ed says that controlling the density of the fish in the trap should control this.
  - Kim sees these 3 options as one. Ed and Cary see doing a combination of them at LB & UP.

Other Factors to Consider In Filter:

- Sorting the fish
- Disease Treatment
- Stress relief Pond
- Management needs, such as numeration
- Size of holding facilities
- Public Education/Public Relations
- Travel haul time/Operational Protocols
  - Stan would like a study on the Travel & Haul time has been under current system. And if Sockeye run gets huge, how many trucks will be needed. **KIM TO DO:** Study peak times, and constraint on travel times. Include turn around time, max number operations in one day, was that at the limit, or were there more fish that could have been hauled. What is constraint, time, trucks, the trap, consideration they may be going to different places?
  - Cary thinks time & cycling is a real concern. How long can a fish sit in the trap, and how long till the trap fills.

- Nick asks the value of doing this study, since there are so many variables.

Sorting Needs by Species –

- A Spread Sheet was Developed in December Meeting
- **Sorting by species and transport locations**
- **Discussion spreadsheet**:
  1. Before destination, Steve wants to know if a second sort will need to be done, if it is marked or unmarked.
  2. Stan added the Marked Sample column

Project Schedule:

Kim presented . . .

- Was presented at 12/11/01 meeting
- We are behind in the schedule in downstream. Need to look at the schedule, to see where time can be tightened. On time for upstream decision process.

Old Action Items:

- Fred - bring Skagit Chinook length-frequency data.
- Fred - look at statistical variation from year to year in the gulper mark and recovery data.
- Kevin Brink - analyze how fluctuation limits affect spill (# events, amounts, seasons, duration, flow-days by month), to facilitate discussions regarding limits to drawdown range and effects on screening designs. Kevin will report at a future meeting. (The Charles Howard has the capability to address specific operational issues. These will have to be individually addressed once the model is complete)

Parking Lot:

- Hydroacoustic data - Arnie
- Fish species run timing, emergence timing, length-frequency data, meteorological data – Doug, Nick
- Design strategy process
- Conceptual designs as they relate to costs
- Sediment studies

Proposed Agenda for January 7 Upstream Passage Meeting, 9 a.m. - 3 p.m., WestCoast SeaTac Hotel:

Objective: Review preliminary design concepts and evaluation matrix and develop direction for studies and design.

1. 9:00-9:10 Review Minutes & Agenda
2. 9:10-9:20 Review Action Items
3. 9:20-10:20 Review Analysis of Potentially Fatally Flawed Alternatives
4. 10:20-11:00 Upstream Studies
5. 11:00-11:30 Look & update sorting match

   Lunch
6. 12:00-2:30 Continue to refine alternatives
7. 2:35-2:45 Project Schedule - PSE
8. 2:24 – 3:00 Review Assignments & Schedule Next Meeting & Agenda

Future Meetings:
Jan 7 - Upstream
Jan 8 - Downstream
Feb 5 - Downstream
Feb 6 - Upstream
March 5 – Downstream
March 6 – Upstream
April 2 – Downstream
April 3 – Upstream

Kim will email out schedule, and rational for having downstream meeting always before upstream. Also, Kim will have schedule put on web page.

Attachments