

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: January 7, 2002

Location: WestCoast SeaTac Hotel, Seattle

Attendees:

Arnie Aspelund, PSE	Wayne Porter, PSE
Cary Feldmann, PSE	Dawn Schink, PSE
Steve Fransen, NMFS	Gary Sprague, WDFW
Kim Lane, PSE	Jim Stowe, USFWS
Mort McMillen, MWH	Nick Verretto, PSE
Ed Meyer, NMFS	Stan Walsh, SSC
	Lynn Wiltse, PDSA

Purpose: Meeting purpose 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:

February 4, Monday 9 a.m. - 3 p.m. - upstream design and downstream studies design review at Sea-Tac (note that this date was changed from 02/06 due to several new scheduling conflicts, and the studies discussion was added to expedite their development; the normal order of back-to-back meetings will be for downstream first, followed by upstream the next day)

February 5, Tuesday 9 a.m. - 3 p.m. - downstream design at Sea-Tac

March 5, Tuesday 9 a.m. - 3 p.m. - downstream design at Sea-Tac

March 6, Wednesday 9 a.m. - 3 p.m. - upstream design at Sea-Tac

April 2, Tuesday 9 a.m. - 3 p.m. - downstream design at Sea-Tac

April 3, Wednesday 9 a.m. - 3 p.m. - upstream design at Sea-Tac

New Action Items:

- It would be useful to video operation of the existing trap, such as truck loading and hopper operations. Action: Kim.
- Refinement of the data used for the adult trap operation is required to finalize the study. Action: Kim
- Collect and compare historical data of water temperatures at release sites compared to fish traps to determine if there is any temperature stress to transported fish. Action: Kim
- Revise list to include “suggested flows” Mort
- Adult fish study on Skagit and Baker Rivers: Kim
- Define size and number of containers - Stan

Report on completed Action Items:

- Historical daily counts collected at the Baker adult trap over the last 10 years were examined to determine the highest run (amount of fish per day). A highest count of 2950 fish occurred in 1994. Doug Bruland was contacted to get an idea of the length of time required for the various work activities related to trap and haul. He warned us that the numbers were very rough.
- Initial calculations show a peak transportation rate of approximate 180 fish per hour. Assuming 3 trucks at the existing truck capacity. However at present there are only two trucks of 1200-gallon capacity. With plans for a new third truck of 2000 gallons
- There was a discussion concerning the new truck. This truck is subject to agency review at a later date and may replace an older truck.
- The average capacity of holding pond #1 is 900 - of #2 is 825, which may be a major issue. Water flow is adequate.
- Brail pond capacity is roughly 200. This may also be an issue.
- Current truck capacity is 120 fish per truck.
- Kim is working on setting up a model that we would design that would ensure PSE could handle peak runs (daily fish count) with some sort of buffer yet to be defined.
- We might want to include closing the fish ladder as a design consideration.
- Kim's current calculations show that at 180 fish per hour, it would take roughly 11 hours to handle the run of 1950. (Your mileage may vary)
- Kim will continue to work with Doug to further refine these numbers.
- Gary recommended that there are fish left in pond everyday during peak, so there is possibility that more hours may be required to transport these fish every day.
- Wayne - unknown if fish has been in a day or more. This assumes all fish processed in same day
- Providing redundant capacity to move fish to alleviate stress. Probably no predictable sequence
- Kim's study assumes they are in waiting room to be processed and getting processed in order as if in queue.
- Ed - assumes no fish would get crowded out of haul for more than a day or two.

A Study on the arrival and transportation of fish with the current trap and haul was presented by Kim. The following comments were made regarding this study:

- A. Arrival Rates
 - 1. Need to consider size of future runs in assessment of trap and haul system
- B. Transportation Rates
 - 1. Need to better define activities involved and amount of time taken to do activities
 - 2. Truck is now filled to overflowing in the 30 minutes
 - 3. With 2 hours roundtrip for truck, number fish per trip is 120 per hour.
- C. Facility Capacity
 - 1. Examine size of holding facility and time fish need to held until they are processed
 - 2. Gary – study will need to consider how runs vary with species, when they peak and how far they have be transported.
 - 3. Ed – perhaps trailers should be considered instead of trucks, which can be hauled by a pick-up Gary mentioned trailers are more difficult in bad weather.
- D. Holding Ponds & Braille Pond
 - 1. Gary – capacity of the Braille pond is about 100 to 200 fish
 - 2. When fish enter the second holding pond, it is possible for fish can get behind crowder and the door needs to close completely so doesn't happen. This should be considered in a new design. If pond is over capacity then perhaps the river is safer for them.
 - 3. Ed asked how fish are counted. Doug said fish can be seen and are counted by eyesight.

Review of Filter Process

Mort presented Upstream Passage Alternatives and briefly reviewed the filter process used to evaluate alternative designs for upstream passage.

- Mort distributed packet handout and reviewed briefly the 8 original options presented previously.
- Alternatives U1, U1.2, U1.3, U3.3. have previously been determined to contain fatal flaws in their biological performance. These were reviewed again (see below) and identified problems of these designs will be documented with technical memorandums.
- The next filter will include management objectives and a risk of transport methods as well as biological performance issues.

U1.1 Lower /Upper Baker Fluctuating Pool Ladder

- Comments
 - Be as specific as possible with problems, documentation

- Can a volitional system cannot also used with a trap and haul? Volitional system can be monitored.
- Mort brought up security problems with length and remoteness of such a facility.
- maintenance problem with added security
- Steve still sees this alternative as fatally flawed, even with the ability to sort.
- Jim, Gary & Steve believe it is flawed, primarily due to water temperature, geological risks, lack of resting areas.
- Jim wants it noted that traps and sorting could be added, but the real flaws are #1 (on handout).
- Ort - remove trapping & sorting as an issue for elimination of alternative.
- Wayne noted that in reality the conceptual locations of three ladders are not feasible.

Consensus: Fatally Flawed

U1.2 Lower /Upper Baker Fixed Pool Ladder

Comments

- Requires that operations be released from reservoir flood storage requirements
- Same as U1.1

Consensus: Fatally Flawed

U1.3 Barrier Dam / Upper Baker Fish Ladder and Channel

Comments

See U1.1 and U1.2

Consensus: Fatally Flawed

U2.1 Trap and Haul at Barrier Dam

Comments

- This alternative should be retitled, “Modifications to the existing trap/holding facility”
- Can be considered non- volitional alternative, however fish may not use a purely volitional facility, see previous alternatives.

Consensus: Biologically Feasible

U2.2 Trap and Haul at Barrier Dam and Lake Shannon

- There is a high potential to lose fish since fish must swim through Lake Shannon.
- Providing access for bull trout is really only reason for this alternative.
Consensus is that it is not necessary to release adult salmon into Lake Shannon at all
- With existing trap and haul bull trout can be separated and transferred to Lake Shannon
- Suggested group talks to Dana at Cowlitz Project.
- Also consider not constructing two full-scale trapping facilities since only bull Trout would be trapped in Lake Shannon.
- Coho maybe should be put in Lake Shannon, but Jim sees later problem with separation as adult fish return.

Consensus: Keep as alternative, but know it will be modified.

U3.1 Combination Alternative (Trap and Fish Locks at Each Dam)

- Suggested this alternative will get more comments at the next filter
- This alternative can present serious transportation problems for migrating fish.
- There should be a documentation of the pro & cons for fish locks
- Consider a holding area to accumulate the fish to water temperature before releasing them.
- It is unclear if there is an advantage for use of a tram over Lower Baker as compared to use of trucks.
- If one only considers bull trout, then trap and haul is preferable since they can be separated from other species with this type of facility.
- In next level of filtering, the three alternatives considered (trucks, tram or locks) need to be compared for pros and cons
- As a sidebar, there used to be a hopper and tram at Lower Baker at one time and it was removed, most likely due to landslide damage.
- Mort - need more information on where fish are going, transport mechanisms and fish management requirements?

Consensus: Retain for review in Filter #2

U3.2 Combination Alternative (Trap and Tram at Each Dam)

- This alternative is flawed for same reasons as ladder: lack of security, oxygen will need to be added, construction issues, and biological issues.
- Need to provide documentation of issues with this alternative.

Consensus: Fatally Flawed

SUMMARY OF FIRST FILTER PASS:

- Four Alternatives will move on to the next level of evaluation: U2.1, U2.2, U3.1 and U3.2

OTHER ISSUES:

Upstream Studies:

- Nick - Will arrange to perform studies as need arises
- Currently plan to perform a paper study to look at historical information to determine if there is a relationship between adult fish behavior and generation.

Update Sorting Match

- Sorting Needs Spreadsheet - We review spreadsheets we created at our last meeting. Consider seasonally and find the maximum locations fish can be taken to. Look at all potential locations.
- Need to document total number of fish, destinations and priority of those destinations and determine number of containers.
- The trap and haul site needs to be flexible and be able to adjust as new sites are added

- Wayne recommends that holding ponds be multi-purpose, to use for various or combined species.

Action Items

- Transmit to Fred and Steve hard copies of all technical memos
- Integrate outage plan with fish studies- Kim
- See that notes get emailed out within 10 days - Kim
- Get schedule from Mary Lou regarding decision timeline - Nick
- Convene conference call to discuss 1st near field study after Jan 15th - Nick
- Work with Mort and Wayne to add schedule to Downstream Fish Passage Alternatives - Kim
- Arnie - Review old trap records of Chinook smolt size vs time by February meeting - Suggest size determination protocol
- Send out meeting schedule - Nick
- Check status of Phil Hilgert Baffle study - Nick
- Document of fatally flaws - Mort

Agenda for next Upstream Meeting:

- Review notes
- Action Items
- Review list of Filter # 1 alternatives
- Review list of Filter #2 alternatives
- Narrow list to present to aquatics working group
- Project schedule
- Set agenda next meeting