



SUSITNA-WATANA HYDRO

DRAFT Meeting Notes Fish Passage Technical Team (FPTT) Fish Passage Meeting #5 – Regular Check-in 12/3/2014

LOCATION: 2353 130th Avenue N.E.
Suite 200
520 Corporate Center
Bellevue, WA 98005

TIME: 7:30 am – 3:00 pm (AKST), 8:30 am – 4:00 pm (PST)

SUBJECT: Agenda for the Fish Passage Mtg #5 Regular Check-in (Meeting #5)

MEETING PURPOSE AND OBJECTIVES:

- Regular check-in, working meeting
- This meeting and the January meeting have been moved from the original plan to accommodate the ISR meeting obligations for all parties. No decisions will be made at this meeting and the goal is to prepare for the Workshop #3.
- Work since the Workshop #2 meeting in September has been focused on:
 - Organizing concepts from brainstorm session to prepare for the Workshop #3
 - Development of draft evaluation criteria
 - Preparation of a draft evaluation matrix
 - Development of BPT specific to address all downstream passage alternatives identified to date

PARTICIPANTS: ***Fish Passage Technical Team Attendees:** Betsy McGregor AEA, Doug Ott AEA, Ron Benkert ADF&G, Stormy Haught ADF&G, Chick Sweeney Alden Labs, Al Giorgi BioAnalysts, Inc., Dana Schmidt Golder, George Gilmour Meridian, Dennis Dorratcague MWH, Ed Meyer NMFS, Sue Walker NMFS, Ed Zapel NHC, Graham Hill NHC, Dana Postlewait R2, MaryLouise Keefe R2, Tim Sullivan R2, Dan Turner R2, Betsy McCracken USFWS*

***Other Attendees:** Dan Smith AEA (via phone), Rachel Thompson AEA (via phone), Daniel Summers Alaska Journal (via phone), Dara Glass CIRI (via phone), Fred Winchell Louis Berger (via phone), Laura Arendall R2, Sarah O'Neal Trout Unlimited (via phone), David Kroto Tyonek (via phone)*

A one-day meeting was held December 3, 2014 at MWH's office in Bellevue, WA. These meeting notes are intended to give a brief overview of discussions, review the status of prior action items, and identify new action items. Active action items from this meeting, as well as those not completed from previous meetings, are provided in a table at the end of this document. Completed action items and "parking lot items" are included in separate tables following these meeting notes.

Materials for this workshop were posted on the Susitna-Watana Hydroelectric Project website at: <http://www.susitna-watanahydro.org/meetings/>. Posted materials included:

- Draft Agenda

Information handed out at the meeting included:

- Handout: Meeting #5 Regular Update PowerPoint
- Handout: DRAFT EVALUATION CRITERIA FOR PREFERRED FISH PASSAGE ALTERNATIVES

After introductions, Dana Postlewait began the meeting by presenting the agenda.

Introduction

The purpose of the meeting is to review previous meeting notes and action items, review concept organization relative to Workshop #2 (September 9-11, 2014) brainstorm list, review the process to document deferred concepts, review the level of development of alternatives for Workshop #3 (tentatively scheduled for March 9, 2015 with meeting materials distributed by February 23, 2015), review the draft evaluation process, and review the alternatives developed.

The purpose of Meeting #6 scheduled for January 21, 2015 will be to review the Draft Evaluation Criteria for Preferred Fish Passage Alternatives, review the Evaluation Matrix, roll out the Biological Performance Tool (BPT), and if there's time, discuss weighting of the Evaluation Criteria.

Previous Meeting Notes and Action Item Review

On September 1, 2014, the September 18-19, 2013 meeting notes were distributed via email for attendees' review. Dana Postlewait asked if any attendees had outstanding comments on these notes and asked when review could be completed. Betsy McCracken responded that she could review by Friday, December 6, 2014. After Sue Walker joined the call, she stated that she could review by Friday, December 13, 2014. Sue W mentioned that CIRWG was not on the distribution list for meeting notes review. Betsy McGregor explained the notes are first distributed amongst the Fish Passage Technical Team members for review prior to being distributed to the public. **In the future, the draft meeting notes can be distributed to all who attend the meeting.** Sue W recommended that in the future, if a deadline is not met for notes review, to proceed with posting to the public site. Accordingly, AEA posted the following meeting notes on December 3, 2014:

- September 9 – 11, 2014: 3-Day Fish Passage Feasibility Workshop
- September 18 – 19, 2013: Fish Passage Technical Meeting

Action Items were reviewed. Items with notes are below, and see the end of this document for an updated list of Active Action Items, Parking Lot Items, and Completed Action Items.

04.09.13-06 Distribute report on glacial lakes study, if one was produced: Dana Schmidt prepared an annotated bibliography summarizing information found from contacting Siberia and Scandinavia. The two most relevant papers dealt with Atlantic salmon and their behavior under ice and a review of 34 lakes in Alaska regarding temperature and sockeye. In what was reviewed, ice processes weren't recorded as a problem; there were no studies done on ice blockage and fish.

04.10.13-08 Biological Performance Tool (BPT) to be populated/created as straw man: The BPT live executable file will be distributed two weeks in advance of Meeting #6. It will include a description of the BPT, how it works, response functions, and experiences with the Santa Felicia project. Ed Zapel asked if anything has been published on the BPT tool, and Dana P responded that the BPT it is not public yet, and that it will be rolled out at Meeting #6. George Gilmour asked if the parameters could be changed if the group decides to do this after a review of the BPT. Dana P responded that the parameters would be developed by the group, and conducting a sensitivity analysis is a fundamental basis for the tool. Ed Z asked for a presentation regarding the tool, and **Dana P responded that a presentation tailored to this project will be developed for distribution in advance of Meeting #6. Dana P recommends the reservoir survival function be included in the discussion at the next meeting as well.** Ed Z asked if the BPT could incorporate new considerations and new response functions if it's found to not address unique characteristics, like trophic cascade effects, and Dana P responded absolutely.

9.19.13-10 Provide FPTT with otolith analyses of humpback whitefish: **Ron Benkert will double-check that Stormy Haught submitted this.** There was no anadromy in humpback whitefish in the Upper River. There is evidence of downstream migration for this species.

9.09.14-3 Identify stocking of Rainbow Trout in Upper River: The rainbow found was unquestionably a rainbow, found in Devil Creek just above impediment 3 at PRM 164.8. Stormy H confirmed that ADF&G has not stocked rainbow since the early 1970s and is not aware of other entities doing so. **Ron B will check with Cook Inlet Aqua Culture.** There's a rumor that the lodge may have stocked rainbow trout at some time.

9.10.14-1 Compile available burbot information: The B-12 document will be updated to include information from Boundary, how deep entrained, and a grayling update. **Tim Sullivan will look at Box Canyon, per George G suggestion.**

A couple additional action items came out of this discussion that are ongoing and will not be tracked in the Active Action Item list. **MaryLou K will keep the FPTT aware of meeting information relevant to the FPTT, for example, Ice Processes and Operations. The process for when documents on the FTP site are updated will be that the posted date is included in the file name and an email will be sent to the FPTT noting the addition of an updated document.**

Betsy McGregor reminded the group that the FTP login information should only be distributed by AEA, as users of the site must fill out a non-disclosure agreement. If someone needs access, they need to contact AEA. The site that Fish Passage information is posted on is different than the CIRWG FTP site.

Review Concept Organization Relative to Brainstorm List, Review Process to Document Deferred Concepts, and Review Level of Development of Alternatives for Workshop #3

The 174 brainstorm ideas were grouped into proposed categories of Upstream Collection, Upstream Passage, and Upstream Exit, with subcategories for each. These were included as tables in a PowerPoint presentation for this meeting. The FPTT reviewed each idea to confirm a common definition and understanding while Dana P updated the PowerPoint live. If there was not enough time, re-prioritization was to be discussed at another time. **An updated version of the PowerPoint will be distributed with the meeting notes.** A few schematics were also shown as an example of what will be provided at Workshop #3.

The tallies for each category in Slide 6 contain some overlap, for example with location. Redundant and deferred ideas are not deleted so that they are saved for the record. The supplemental features could be supplemental to other concepts and features. Priority 1 and Priority 2 ideas will be discussed in Workshop #3. R2/MWH will re-prioritize/classify ideas between now and the Workshop #3.

The group decided to change the phrase Upstream Passage to Upstream Conveyance.

Dan Turner will double-check the category total tallies.

Graham Hill will get examples of B.C. natural creek entrance channel to post on the FTP site. MaryLou K mentioned something similar was done for coho on Tualatin River.

Priority ratings in the PowerPoint were from an initial quick review from the group at the end of the Brainstorming Workshop #2. As the group focused on defining ideas rather than re-prioritizing, Ed Z suggested that the re-prioritization happen earlier rather than later as it relates to other matrices. **Ed M suggested distributing a half page email documenting that prioritization by species would be done, focusing time and energy on Chinook and related anadromous fish being top priority while Burbot, lamprey, whitefish, grayling, etc are not the primary focus.** The group agreed that further discussion regarding species priority would be tabled so the appropriate people could provide input.

The PPT that was revised during the meeting will be updated with corrections to the tally and distributed with the meeting notes.

If the idea could be considered during construction phase, this note was added in the comment. Additional review for phasing in addition to revisions to the prioritization will occur later. These tables will be included as an appendix to the final report in addition to an explanation of the process the FPTT went through.

Upstream Passage

Slide 14 (Collector Entrance): will leave “creek” for now and not combine with Tsusena/Fog in Collector Location table.

Slide 17 (Collection Entrance [Barrier Types]): will leave “picket weir” and “another dam” on this list

Slide 20 (Collection Location [Sample Sorting]): Premature to define right now before the options are developed. The final report will consider this with cost impacts, among others.

MaryLou K will update the FPTT on when the WQ temperature model results will be available and what information the team can expect to receive. Attraction flow source development will be a function of when the temperature regime of the Project is better understood. A lot of upstream collection components will need to be considered in combination with downstream collection.

Ed Z would like to end with a set of alternatives that would have phasing opportunities, with sufficient flexibility for retrofitting, to anticipate those options when building the dam. Dana P provided an analogy contrasting bridges and dams – with bridges you design to hold the weight and you can add more lanes but that’s not how it works with fish passage and dams – the goal through this process is to mitigate risks.

Slides 34-41 show pictures, components, and pros and cons for example passage alternatives. The vision of the Study Plan is to provide this level of information at the next Workshop, which may include sketches, for maybe 15 or so alternatives, with the next step involving what may be as simple as a vote for five or six options to further develop. George G commented that as we move farther along in the process, other disciplines involved in how the Project would operate should be brought in to the discussion regarding design scenarios in order to get feedback on how the different designs would interact with different resources. MaryLou K commented that there are representatives that go between this technical team and other teams, for example, John Haapala. George G added that it seems there’s a need for representatives from two levels, a technical level and a policy level, with a more structured and formalized approach towards selecting scenarios that affect both the environment and power generation.

Downstream Passage

Slide 46 The PowerPoint presentation will be updated with the map used during the brainstorming meeting. For the next Workshop, LiDAR and tributary data will be prepared.

Where applicable, component lists will be organized from upstream to downstream.

The group moved to discussing Downstream Collection alternatives.

Slide 47 “Downstream Collection – Priority 1 – Attraction” contains only 1 option (coffer dam remnant use) because it will be specific to the collector type. This list could include both type and location.

The BPT’s baseline will use Turbine Passage.

Before the next meeting, these alternative lists will be repackaged to:

- organize upstream to downstream
- further subcategorize Downstream Collection, into categories including collection facilities vs conveyance facilities, flows, screen types, concepts/strategies vs examples/methods
- screw traps changed to be a supplemental or construction phase item
- will spell out acronyms

The next meeting will start with Downstream Passage, as the previous meetings have started with Upstream Passage which as a result, received more focus.

The FPTT reviewed slides 58-66 showing downstream collector concepts. **Ed Z suggested for the Workshop #3, that a table be included with each concept description noting key operating characteristics and current examples. In addition, indication should be provided for perhaps 4 or 5 key parameters of interest if they apply (yes/no) to the concept for comparison. Dana P added that it could include upstream characteristics that affect the design, including flow parameters. Ed Z commented that the table should be consistent between each alternative, with info including the power that it can accommodate, and a list of supplemental measures that could work with it. If anyone has further input for ideas or organization, please send to Betsy McGregor.**

The result of the discussion is summarized in the following format suggestions for presenting the concept descriptions at Workshop #3:

- table for each concept should note key operating characteristics and should be consistent between each alternative.
- key operating characteristics should include: upstream characteristics that affect design, including flow parameters that power generation can accommodate.
- a list of supplemental measures that could work with it.
- it should include current examples if possible for the components.

If anyone has further input for ideas or organization, please send to Betsy McGregor.

Review Draft Evaluation Process

The FPTT moved to a discussion of the hand out, DRAFT EVALUATION CRITERIA FOR PREFERRED FISH PASSAGE ALTERNATIVES DECEMBER 3, 2014. This handout is a snapshot in time; AEA is looking for comments upon review of its content.

Dana P stepped through this draft document, indicating that it is a description of the proposed process. This is the same process used for the Freeman Dam project. This document will be the primary focus of the next meeting after Downstream Passage is revisited. The evaluation criteria and weighting will be

considered separately for upstream vs downstream. This information will be used to develop complete system alternatives for August 2015 (assuming funded and on schedule). This is a living document – **the FPTT should bring feedback to the next meeting. The document will then be updated and discussed again at Workshop #3.**

George G commented that the score will be influenced by how options are packaged, and that a multidisciplinary team would be beneficial. He is concerned that the package is balanced for stakeholder needs. Dana P stated that the process is intended to address this concern, keeping in mind the need for being realistic. The alternatives will be able to be repackaged after considering sensitivity runs.

Workshop #3 will be a two-day workshop to discuss 12 or so ideas and narrow down to the best five or six. Following the workshop, conceptual engineering drawings will be developed, concepts will be further defined, and concerns will be addressed with opportunity for input. At the August 2015 meeting (tentative date), there will be four to six alternatives to evaluate. During the following couple months the FPTT will discuss, challenge, define, and defer to narrow down to a final list of two to four alternatives.

The team will reassess the downstream categories the week of December 8, 2014 and include the results with this meeting's notes.

The location for the next meeting is TBD. **Workshop #3 will be scheduled at the next meeting.**

Debrief of Day's Activities and Next Steps

The next step will be to further categorize Downstream Passage, update the PPT and distribute with the meeting notes. The FPTT should review the DRAFT EVALUATION CRITERIA FOR PREFERRED FISH PASSAGE ALTERNATIVES DECEMBER 3, 2014 and come prepared to the next meeting with feedback. Downstream Passage and the Draft Evaluation Criteria will be discussed at the next meeting.

Action Items

The following tables show the current status of Active action items, Parking Lot Items, and Completed action items. Note that a year designation was added to all item numbers as of these notes. This version also provided a comprehensive update to the list intended to supersede the 9/18/13 action item list.

ID	Active Action Items	Date Due	Responsibility	Distribution	Notes
04.09.13-06	Distribute report on glacial lakes study, if one was produced.	11/14/2014	D Schmidt; AEA	Email to study leads. Post after review. Potentially available on ARLIS (http://www.arlis.org/resources/susitna-watana/)	12.3.14 – Done, pending distribution to group. Dana P will post the annotated bibliography Dana S put together with the meeting notes. 9.13.14 - Dana Schmidt will reach out to Siberia and Scandinavia. Will confirm if any information exists, and will transmit status or summary and links to R2, for FPTT distribution.
04.10.13-08	Biological Performance Tool to be populated/created as straw man	1/7/2015	Tim Sullivan, Phil Hilgert	For review at FPTT meeting, planned for mid-January, 2015.	12.3.14 –Pending – will be done for next meeting. Will be distributed as a working model. If completed early, early distribution will occur.
9.19.13-10	Provide FPTT with otolith analyses of humpback whitefish	When available	Stormy Haught, Ron Benkert	email	12.3.14 – Done – Ron B thinks Stormy H submitted and will double-check.

ID	Active Action Items	Date Due	Responsibility	Distribution	Notes
9.19.13-15	Provide other studies using same framework as this study	11/14/14	Dana Postlewait	FTP site	<p>12.3.14 – Done, pending posting with notes to FTP site.</p> <p>Options may include the following, depending on public release policy of owners.</p> <ul style="list-style-type: none"> • Cowlitz example, 2008 workshop – Tacoma Power (Dana) • Fall Creek fish trap – USACE (Chick) • Peace River (Site C) – BC Hydro (Ed, Chick) • Freeman Dam, Panel output – United Water Cons Dist, CA (Dana, Dennis) • Baker Trap, FSC’s – PSE (Dennis, Chick, Dana) • USACE Compendium (Chick) • Action Item – all make Others (individuals look)
9.09.14-1	Finalize minutes from September 18-19, 2013 meetings. 9/11/14 update: see notes, ignore action items and review 9/11/14 action items.	Next meeting, planned for mid-January, 2015	All team members	Public site	<p>12.3.14 – Done. Posted to public site 12.3.14.</p> <p>FPTT members to review and provide concurrence ready to finalize. Action items from 9/19/13 notes are superseded with 9/11/14 notes.</p>

<u>ID</u>	<u>Active Action Items</u>	<u>Date Due</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
9.09.14-3	Identify stocking of Rainbow Trout in Upper River	1/7/15	Ron Benkert	Via email to Betsy McGregor	12.3.14 –Done, pending checking with Cook Inlet Aqua Culture.
9.09.14-4	Distinguish distribution above DC/below DC in Middle River in summary table	1/7/15	Tim Sullivan	Post to FPTT FTP site.	12.3.14 –Pending – will be done for next meeting.
9.10.14-1	Compile available burbot information	1/7/15	Tim Sullivan	Post to FPTT FTP site.	12.3.14 –Pending – B-12 document will be updated for next meeting. Tim Sullivan will look at Box Canyon, per George G suggestion.
9.10.14-2	Information need: ID habitat expansion potential due to any changes to existing barriers	1/7/15	Tim Sullivan, MaryLou Keefe	Discuss during review of Action Items at next meeting. Table of Upper River tributaries with barriers is included in Fish Passage Barrier's ISR 9.12.	12.3.14 –Pending – will be done for next meeting.
9.10.14-4	Confirm TDG implications of spill over current design	1/7/15	R2 and AEA review	Post to FPTT FTP Site	12.3.14 – R2 to review, AEA to review, then post. Dennis Dorratcague (MWH) to prepare brief technical memo.
9.10.14-5	Distribute burbot life history reports from USFWS biologist	11/15/14	Tim Sullivan	Post to FPTT FTP Site	12.3.14 – Done, pending Tim Sullivan posting. In time to compile other information per 9.10.14-1

<u>ID</u>	<u>Active Action Items</u>	<u>Date Due</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
9.11.14-1	Share Merwin trap examples	11/15/14	Dana Postlewait	Post to FPTT FTP Site	12.3.14 – Done, pending distribution with 12.3.14 meeting notes C. Sweeney transmitted example to D. Postlewait
9.11.14-2	Review the Ice Processes Technical Memo when it is available.	TBD	FPTT	AEA SuWa Website	12.3.14 - Pending Ongoing, to be discussed at future meetings when significant milestones are completed.
9.11.14-3	Group species under representative passage targets and provide biological information and periodicity for Info Item B12.	1/7/15	Tim Sullivan, MaryLou Keefe	Post to FPTT FTP Site	12.3.14 – Done, will be distributed with next meeting materials.
9.11.14-4	Circulate a draft evaluation matrix, and criteria	1/7/15	Dana Postlewait	Post to FPTT FTP Site	12.3.14 – Done, pending posting to FTP.
12.3.14-1	Distribute the draft meeting notes to all who attend the FPTT meeting.	12/17/14	AEA	Post to FPTT FTP Site	

<u>ID</u>	<u>Active Action Items</u>	<u>Date Due</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
12.3.14-2	An email will be sent to the FPTT for updates posted on the FTP site. The date will be included in the folder name for the posting.	12/17/14	AEA	Post to FPTT FTP Site	
12.3.14-2	The PowerPoint used during today's discussion will be posted today to the FTP site.	12/4/14	R2	Post to FPTT FTP Site	
12.3.14-3	An updated version of the PowerPoint will be distributed with the meeting notes.	12/17/14	R2	Post to FPTT FTP Site	Includes updated reconcile of components
12.3.14-4	Graham Hill will get examples of B.C. natural creek entrance channel to post on the FTP site.	1/7/15	NHC	Post to FPTT FTP Site	2 weeks prior to Meeting #6
12.3.14-5	MaryLou K will update the FPTT on when the WQ temperature model results will be available and what information can expect to receive.	When information is available	Mary Lou Keefe	Email to FPTT members	
12.3.14-6	Workshop #3 will be scheduled at the next meeting.	1/21/14	AEA/R2	At Meeting #6	

<u>ID</u>	<u>Parking Lot Item</u>	<u>Date Noted</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
02.22.13-01	Identify Strategy Statement (e.g., Senate Bill; PAD)	3/31/2013	AEA	Will be in FSP, ISR	
02.22.13-02	Clarify meaning of "retrofit" with space/time components	3/8/2013	R2	Will be in FSP and ISR	
02.22.13-06	Include discrepancies in data to information table	3/8/2013	R2	Will be in final product.	
04.10.13-04	Add a series or component to the Information Needs table that relate to management considerations of the target species (policy information on species management or how to handle nuisance species)	9/3/2013	Dana Postlewait, Stormy Haught	Stormy to go back to ADF&G staff and try and get more information on what might be policy considerations that could be identified. Dana going to draft template for June 24, 2013.	ADF&G finds it is premature to comment. They prefer 1-2 years of field data before considerations are made. - parking lot item 07.09-02 created
07.09.13-02	ADF& G policy information on species management or how to handle nuisance species	7/9/2013	Dana Postlewait, Stormy Haught	ADF&G finds it is premature to comment. They prefer 1-2 years of field data before considerations are made.	ADF&G will comment in year 2015 after field data is available.

<u>ID</u>	<u>Completed Action Items</u>	<u>Date Completed</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
02.22.13-03	Confirm next meeting location	3/8/2013	AEA		Done. Next meeting will be held in Bellevue, WA. Future meetings will be held at most cost-effective locations.
02.22.13-04	Data needs table: Input from TWG on list of items	3/8/2013	All participants		
02.22.13-05	Add changes in spawning and rearing habitat in proposed inundation zone to data needs table	3/8/2013	R2		
02.22.13-07	Produce/distribute communications protocol from PAD (cc: Betsy, Ed, Sue)	3/8/2013	McMillen		Done 3/8/2013.
02.22.13-08	Standing agenda item for agendas – review and approve previous meeting notes and future meeting schedule	NA	NA		
02.22.13-09	Follow-up with others re: future participation in TWG; FERC (AEA), EPA (Catherine Berg), NGOs (AEA), ADF&G (AEA), FWS (Sue Walker), ADNR (Marie Steele), Jan Konigsberg (AEA)	3/20/2013	AEA, Catherine Berg, Marie Steele	Email	
02.22.13-10	Meeting protocol – summarize action items, decisions, parking lot items	NA	NA		
02.22.13-11	Identify other fish passage at high head dam experts	3/20/2013	MWH, R2, Ed Meyer		Done 3/20/2013.

<u>ID</u>	<u>Completed Action Items</u>	<u>Date Completed</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
02.22.13-12	Issue updated meeting and workshop calendar (Gantt chart)	3/20/2013	R2	FPTT email	Done 3/20/2013.
02.22.13-13	Provide a list of all Susitna River species and life stages. Provide rationale of species not considered to travel to dam site	3/26/2013	R2	Website: Meeting Materials for April 9 and 10; Listserve email	
02.22.13-14	Distribute updated data needs table and data synthesis to TWG	3/26/2013	R2	Website: Meeting Materials for April 9 and 10; Listserve email	Done 3/26/2013.
02.22.13-15	Provide a list of all Susitna River species and life stages. Provide rationale of species not considered to travel to dam site	3/26/2013	R2		Done 3/26/2013.
02.22.13-16	Distribute sample biological tool spreadsheet and description of tool	3/26/2013	R2	Website: Meeting Materials for April 9 and 10; Listserve email	Done 3/26/2013.
02.22.13-17	Presentation of videography at first workshop	4/9/2013	AEA	April 9 and 10, 2013 FPTT	
03.20.13-01	Distribute MSWord document of 2/22/13 meeting notes to attendees for edits	3/20/2013	Kathryn Peltier	Email	Done. Betsy McGregor distributed to FPTT 3/22/2013.
03.20.13-	Create an archive list of completed action	3/20/2013	Kathryn	Email	Done. Distributed to FPTT 4/8/2013.

<u>ID</u>	<u>Completed Action Items</u>	<u>Date Completed</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
02	items		Peltier		
03.20.13-03	Update communication protocol and distribute	3/22/2013	Kathryn Peltier	Email	Done. Distributed to FPTT in 3/20/2013 mtg notes on 4/8/2013.
03.20.13-04	Distribute list of all Fish Passage team members	3/22/2013	Kathryn Peltier	Email	Done. Distributed to FPTT on 4/8/2013.
03.20.13-05	Provide Ed Meyer with Dana Schmidt's resume	3/21/2013	MaryLou Keefe	Email	Done. MaryLou Keefe sent to Ed Meyer 3/21/2013.
03.20.13-06	Review Dana Schmidt's and Chick Sweeney's resumes as high head dam fish passage experts	3/22/2013	Ed Meyer	Email	Done.
03.20.13-07	Add to applicable entrainment reference in the data needs table	3/26/2013	MaryLou Keefe	Data Needs Table	Done.
03.20.13-08	Include reservoir effects on migration timing is in the data needs table	3/26/2013	MaryLou Keefe	Data Needs Table	Done.
03.20.13-09	Provide MaryLouise Keefe with a detailed description regarding data needs of trophic cascade information	3/25/2013	Jeff Davis	Email, Data Needs Table	Done 3/26/2013.
03.20.13-10	Distribute draft Agenda for April 9 and 10 Fish Passage Meeting	3/27/2013	AEA	Website: Meeting Materials for April 9 and 10; Listserve email	

<u>ID</u>	<u>Completed Action Items</u>	<u>Date Completed</u>	<u>Responsibility</u>	<u>Distribution</u>	<u>Notes</u>
04.09.13-01	Provide edits to 2/22/2013 FPTT meeting notes to AEA	Complete. Notes posted	FPTT 2/22/2013 meeting attendees	Email for edits. Susitna- watanahydro.org	
04.09.13-02	Provide edits to 3/20/2013 FPTT meeting notes to AEA	Complete. Notes posted	FPTT 3/20/2013 meeting attendees	Email for edits. Susitna- watanahydro.org	
04.09.13-03	AEA to discuss its choice of additional fish passage experts with Ed Meyer/Sue Walker	Complete. Added Dr. Al Giorgi to FPTT	Wayne Dyok	Phone call	
04.09.13-04	Provide FPTT Information Needs Table in MSWord	Complete	Betsy McGregor	Email	Dana Postlewait distributed by email for Betsy McGregor.
04.09.13-05	Include appendix titles in website link description/title	Complete. Posted	Justin Crowther	Susitna- watanahydro.org	
04.09.13-08	Flow duration data in Excel; data presented today plus totals	Posted	John Haapala, Dennis Dorratcague	Susitna- watanahydro.org	Dennis Dorratcague to reprint with pagination corrected for re-posting.
04.09.13-09	Need guidance from Wayne/AEA on how run of river scenario will be handled; and importantly when some scenarios with environmental flows will be available to be	See 05.21-02	W Dyok		Merged with action item 5.21-02

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	modeled and available to the FPTT (in between run of river and maximum load following).				
04.09.13-10	Find out from Stuart when he will be completed with estimating flows in tributaries to reservoirs and just below dam – when that data will be available to the fish passage study team.	Complete.	MaryLou		Stage data to be collected this year, and stage/ discharge relationships to be developed in 2014 with results available after 2014 season.
04.09-12	Distribute synthesis book to hand out before July 8-12 site visit. [now planned for Sept 17-19]	9/3/2013	Dana Postlewait, Dennis Dorratcague, Tim Sullivan	Planned for email and posting Susitna-watanahydro.org	FTP site link emailed by Dana Postlewait on 9/4/13
04.10.13-01	Update biological appendices to account for other target species added to Target Species list (those added into Table 1- No. B1 Biological Data Needs)	9/3/2013	MaryLou Keefe, Tim Sullivan	Nuisance species is another list and to date we have not included periodicity type information on those nuisance species.	Dana Postlewait provided electronically on 9/4/13
04.10.13-02	Fix appendix B2 to note lake trout are native	9/3/2013	Tim Sullivan		Dana Postlewait provided electronically on 9/4/13

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04.10.13-03	Clarify Table B3 headings/categories and if appropriate update periods.	9/3/2013	Tim Sullivan	If needed follow up with smaller group of Stormy Haught, Jeff Davis, MaryLou Keefe.	Dana Postlewait provided electronically on 9/4/13
04.10.13-05	Take out Adult Chinook relative abundance bulleted item in the B7 slide (on relative abundance)	9/3/2013	Tim Sullivan	At request of Jeff Davis and Sue Walker – not really needed	Dana Postlewait provided electronically on 9/4/13
04.10.13-06	Create combined table to address design criteria information for B3-B6 for target species	9/3/2013	Tim Sullivan, MaryLou Keefe		Dana Postlewait provided electronically on 9/4/13
04.10.13-07	Obtain Chick Sweeney's input to Evaluation of Alternatives Matrix	9/3/2013	Chick Sweeney, Tim Sullivan, Dana Postlewait		Chick will provide draft to Dana Postlewait and Tim Sullivan by 8/26/2013. Tim and Dana to add to 9/3/2013 distribution package.
04.10.13-09	Compile available mapping of tributaries with plan/profile information to extent possible prior to the workshop	9/3/2013	Dennis Dorratcague, Dana Postlewait	For review/use at brainstorming meeting.	Dana Postlewait provided electronically on 9/4/13 and at the site visit.
05.21.13-01	Provide remaining edits to April 9-10, 2013 Workshop #1 meeting notes to AEA	5/24/2013	Jeff Davis and Sue Walker	Email	

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05.21.13-02	AEA to follow up off-line with B. Long and S. Walker regarding operational scenarios. Need guidance from Wayne/AEA on how run of river scenario will be handled; and importantly when some scenarios with environmental flows will be available to be modeled and available to the FPTT (in between run of river and maximum load following).	7/9/2013	Wayne Dyok	Phone call	Sue Walker will remind Wayne 7/9/2013 call.
05.21.13-04	Provide edits to Information Needs List and update table	Edits to AEA by 6/18/2013	Workshop #1 participants	Betsy McGregor to email MS-Word version participants for editing. Updated table distributed for 7/9/2013 meeting.	Distributed 6/24/2013
05.21.13-05	Doodle Poll for site reconnaissance	5/31/2013	Dana Postlewait, Betsy McGregor	Email	Completed confirming 9/17-9/20
05.21.13-06	Rework schedule/meeting list including 7/9/13 check-in and March 18-19, 2014 brainstorm session	7/15/2013	Dana Postlewait	Email	Done - Distributed with draft Meeting Notes on 7/23/2013

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05.21.13-07	Draft notes of 5/21/2013 check-in meeting and action items	5/31/2013	Steve Padula, Dana Postlewait, Tim Sullivan	Email	
07.09.13-01	Materials to be distributed 2 weeks prior to site visit - AI 04.09-12 - AI 04.10-04 - AI 04.10-07 - AI 04.10-09 - Information Needs Appendices - Safety/gear requirements for site visit - Workbook	9/3/2013			
07.09.13-03	Review of the Information Needs Table	7/23/2013	FPTT	Email to Dana Postlewait, with cc to Betsy McGregor.	R2 and MWH will consider comments for update to Table, to be distributed on 9/3/2013. (no comments received)
07.09.13-05; 07.09.13-06	Clarify attendance by "other participants and contacts": - Eric Rothwell (NMFS) - CIRI - FERC – Matt Cutlip - NGOs	9/18/2013	Betsy McGregor	Update for next meeting	

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07.09.13-07	Confirm site tour travel is feasible based on latest weather.	9/16/2013, by 17:00 ADT	Dana Postlewait	Email to meeting attendees	Dana Postlewait will confirm feasibility of helicopter travel based on latest weather forecast, and coordinate with Betsy McGregor.
04.09.13-07; 04.09.13-11	Rob Plotnikoff to request John Hamrick provide some background information on simulating reservoirs and fish movements based on past experience; Determine when reservoir ice study will have some results to report to the Fish Passage group, or at least some findings of preliminary observations, particularly effects of ice formation and breakup at tributary mouths in reservoir.	9/13/14	Rob Plotnikoff	Conference call with John Zufelt (Ice study lead)	9/11/14 – R2 (MaryLou K and D Postlewait) will coordinate with Ice Studies to provide any updates at future FPTT meetings. FPTT can follow ice studies independently for other updates through their progress reports. Close action item.
04.09.13-13	Provide updated wind speed data in excel file format to assist in estimating wave heights/loads	9/11/14	Dennis Dorratcague	Posted to SuWa web site	Raw wind data from SuWa public web site.
05.21.13-03	AEA to follow up with Rob Plotnikoff regarding the timing/availability of ice modeling results	9/13/14	Betsy McGregor	Conference call with John Zufelt (Ice study lead) at 9/13/14 meeting.	Combined with 04.09-11. Also follow ongoing ice studies. Also see 9/11/14 meeting note text.
07.09.13-04	Contact CIRI regarding their concern (as expressed by Sue Walker) with AEA hosting meeting outside of Alaska	After 1/1/14	Wayne Dyok	Conducted via meeting coordination and planning calls.	AEA is managing meeting travel needs to minimize FPTT travel costs.

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09.18.13-01	Compile updated mapping of tributaries with plan/profile information, low/high pool, site locations, updated data and locations of documented fish/spawning	9/11/14	Dana Postlewait	With 9/11 meeting notes, and posted to FPTT FTP site	Initial maps are done to confirm what information exists, additional info will be developed by R2 and MWH to meet study needs with alternatives.
09.18.13-02	Provide Dana Postlewait with mapping needs and details identified on the maps.	9/11/14	See notes	n/a	No input received, FPTT has adequate info without further input, close action item.
09.18.13-03	Distribute an agenda for a check in call on 1/16/14 at 10am-12pm (AK time)	n/a	Dana Postlewait	n/a	Not needed due to study delay early 2014. Info presented at 9/11 meeting supersedes this need. Close action item.
09.18.13-04	Coordinate with Wayne and MWH to determine reasonable operation scenarios.	9/11/14	Betsy McGregor, Dennis Dorratcague	9/9-9/11 meeting discussion	See OS-1b, ILF-1, and ROR discussions.
09.18.13-05	Determine turnover time necessary for engineering to refining operation scenario	9/9/14	Dennis Dorratcague	9/9-9/11 meeting discussion	Runs are now done, see 09.18-04.
09.18.13-06	Review of the updated (as of 9.18.13) Information Needs Table	9/11/14	FPTT	n/a	No info received from any FPTT members by deadline. Info needs table Rev 6 is latest so work from that. Note this is still a living document. Close action item.
09.18.13-07	Clarify public status of fish passage meetings	9/18/13	Wayne Dyok	9/18/13 FPTT meeting.	Meetings are open for observation. CEII info restricted to FPTT members.
09.18.13-	Provide feedback on Appx B, Table 1 and				Appx B, Table 1 - split juvenile and adult into separate

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08	Table 2				rows - add caveat explaining that this table's purpose is to provide general information as an input to the document - add upstream juvenile/sub-adult migration
09.18.13-09	Provide a mock-up table with synthesis of fish run timing over hydro project with ice influence	9/24/13	Chick Sweeney	Dana Postlewait via email	Will be considered with other input for future use.
09.19.13-11	Provide a sample evaluation process (dummy Project)	10/2/14	Dana Postlewait, Chick Sweeney	9/11/14 meeting notes.	Close action item. AEA will provide specific criteria and process overview specific to what will be utilized for this project by next meeting
09.19.13-12	Distribute draft agenda for brainstorming meeting - Dates are 3/18/14 – 3/20/14 - At Van Ness Feldman's downtown Seattle office - First half of first day = review updated data - Bracketed third day	9/11/14	Dana Postlewait	Via email and FPTT FTP site.	Close action item. Brainstorm agenda and meeting are complete as of 9/11/14. Was conducted at MWH Bellevue, WA office.
09.19.13-13	Confirm that turbidity response modeling in the reservoir will be available for the March brainstorming meeting	9/11/14	Betsy McGregor	Meeting discussion	Close action item. FPTT to stay apprised of other ongoing studies.

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09.19.13-14	Populate evaluation matrix with straw men and distribute to FPTT for feedback.	9/11/14	Dana P, Dennis D.	Meeting discussion and 9/11/14 notes.	Close action item, see 9.19.13-11. AEA will provide specific criteria and process overview specific to what will be utilized for this project by next meeting in Jan, 2015. Remember, evaluation matrix is intended to challenge alternatives to improve all options, and compare alternatives relative to each other. See 9/11/14 meeting notes.
09.19.13-16	Follow up with point of contact at various fish passage facilities. Determine when fish passage would likely be occurring, which species, and if a tour would be possible at times that correspond with fish passage meeting(s) in the area.	9/11/14	Dana P	Prior to 9/11/14 meeting.	Agencies coordinated their own tours prior to brainstorm meeting. Close action item, not needed.
09.19.13-17	Provide photos of relevant fish passage facilities to post on wall during brainstorm meeting in March, 2014	9/11/14	Dana P	n/a	Sample photos were shown at meeting as needed. Additional photos will be provided as applicable with development of alternatives. Close action item, not needed given current status.
9.09.14-2	Review and update action item list	11/14/14	Dana Postlewait, Dan Turner, and Clint Smith	With 9/11/14 meeting notes	12.3.14 - Done Done, FPTT members to review.

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9.09.14-5	Redistribute ftp information for 9/9-9/11 meeting.	11/14/14	Dana Postlewait	Post to FPTT FTP site.	12.3.14 - Done Much of this is also on the meetings page of AEA's public SuWa web site.
9.09.14-6	The FPTT requested a summary of daily variation in outflow by month for both weekdays and weekends as a data request.	11/14/14, (contingent on AEA approval)	John Haapala, Dennis Dorratcague	Post to FPTT FTP site.	12.3.14 - Done Dennis D. to coordinate.
9.10.14-3	Share primary literature on glacial systems	12/19/14	Dana Schmidt	Post to FPTT FTP Site	12.3.14 - Done See also 04.09.13-06
9.11.14-5	Doodle poll to schedule January meeting	11/15/14	Dana Postlewait, Betsy McGregor	Via email	12.3.14 - Done To set date for mid-January, 2015 meeting