Willamette Action Team for Ecosystem Restoration (WATER)
Research, Monitoring and Evaluation (RM&E)
May 28, 2020
CONFERENCE CALL/WEBEX

http://pweb.crohms.org/tmt/documents/FPOM/2010/Willamette_Coordination/Willamette RME/RME.html

FINAL Facilitator's Summary
[Provided Edits: Corps]

ACTION	BY WHOM?	BY WHEN?
Discuss ODFW request for respond to letter requesting justification for repeating high head bypass studies.	Fenton	6/25/2020
Determine if it's possible to run integrated models to suggest how to optimize for both Chinook and steelhead.	Rich	6/25/2020
Begin work to consolidate the sub-basin concept development; starting with Middle-Fork	Emily, Nancy, Anne, Fenton	6/25/2020
Brainstorm concept ideas and studies for development (including justification of management actions); bring to 6/25 meeting.	RM&E Team	6/25/2020

Present for all or part of the meeting: Leslie Bach (NPCC), Mike Hudson (USFWS), Dave Jepsen (ODFW), Melissa Jundt (NMFS), Fenton Kahn (Corps), Jim Meyers (NMFS), Ann Mullan (NMFS), Christine Peterson (BPA), Rich Piskowski (Corps), Kelly Reis (ODFW), Lawrence Schwabe (CTGR).

Facilitation Team: Emily Stranz and Colby Mills (DS Consulting).

Welcome and Housekeeping
Emily welcomed the group and conducted a round of introductions. The group approved the March 26, 2020 and April 2, 2020 RM&E Team meeting summaries. The April 7, 2020 Joint Steering Team & RM&E meeting summary (approved by the Steering Team on May 5, 2020) was approved.

Update on FY20 Studies
Fenton provided a status update on the following FY20 studies:

1. Fall Creek Study: The Corps is proceeding with funding for the Fall Creek post construction study.
2. Pedigree Studies: The Corps is able to fund pedigree studies for the Middle Fork, McKenzie and South Santiam sub-basins; they are currently working on contracts for those studies.
3. Copepod Study: Two copepod studies are planned for 2020 (see below for 2nd copepod study). The copepod study that entails reservoir sampling this summer will require take. ODFW and NOAA should expect to see take requests in the near future. However, due to COVID restrictions, there may be a delay in the summer field work.
4. High Head Bypass Study: The Corps plans to move forward with a full study this fall (2020) and clarified that the study from last fall (2019) was a pilot study to test feasibility of conducting the study of truck transport (mimicking the Cougar trap and haul stressors) and bypass conveyances. The study was conducted with healthy surrogate fish from OSU. A small sample of partially infected fish were also tested for feasibility of the study.. The study this fall is a full sample size of healthy and infected Chinook salmon and will take place in October 2020. Fenton noted that PNNL will be submitting a request to NMFS and ODFW for take for this study.

The Corps sent out a proposal for review of the HHB study; ODFW provided the only response, and expressed that they do not support the study because they believe there is sufficient information already. The PDT and the Corps generally feels that more, current data is needed to inform design and management decisions and are proceeding with funding.

In response to ODFW's concern about the justification for repeating the high head bypass study, Fenton clarified that the Corps managers feel that more specific data (with healthy and infected fish) is necessary to show whether bypass pipe or trap and haul is safer for fish. Melissa noted that NMFS has been encouraging volitional bypass for some time, and they did not encourage the trap and haul program, however, trap and haul was shaping up to be an easier solution at the time of developing passage criteria. After a request from ODFW, the Corps will work on producing a detailed response to their letter.

→ **Action**: Fenton will take the request from ODFW back to the Corps and discuss providing a response to their letter regarding their concerns over the high head bypass study; specifically reviewing the study's technical merits.

Update on the SWIFT Project

Rich reviewed two documents (SWIFT Technical Team Update 4/22/2020 and SWIFT Meeting Summary 4/21/2020) that capture the current status of the SWIFT efforts. Materials were presented at the Science Review in February, and additional work was presented at the technical group meeting in April. The next step is to have a final workshop targeted for late June or early July. A project lead will send out a doodle poll for scheduling the next workshop.

Rich responded to the following questions and comments posed by the group:

- After establishing a small work group in 2019, the main interest of the SWIFT project was to further investigate effects of flow and help refine the flow targets that are currently managed below dams. Since establishing the SWIFT scientific team, the intent is to have a structured decision-making model to look at outcomes of adult equivalence and the number of redds that can be predicted to be produced. Aspects of that decision framework include physical habitat, temperatures, and survival models (specific to Chinook and steelhead) associated with those elements and the biology. The decision framework is centered on the survival models, for adult equivalents and how many redds are produced. It currently runs as an optimization tool, to allow a comparison of different flow scenarios and what biological response might be expected. Reporting results will include looking at sensitivity to different parameters. To validate the model, fieldwork will focus in the mainstem and will look at further habitat use patterns by juvenile Chinook and steelhead. A full plan isn't yet established for monitoring after changes are implemented.
- Data for modeling for steelhead is limited, thus the model will go through sensitivity analysis to understand what parameters are driving the model. Currently the two models are running separately, and might be able to be brought together to look at the integrated question of how to deal with conflicts in an optimization modeling. Rich suggested bringing this question to the next workshop. He noted that the group may have to look at the results and consider what the model outputs are suggesting for Chinook and what the outputs are suggesting for steelhead, and then consider how best to manage any conflicts.
    - → **Action**: Rich will inquire whether it is possible to run the models in an integrated way to help suggest how to optimize for both Chinook and steelhead.
- The rule curve has not been considered in the framework of the models so far. Rich shared that the SWIFT models will be used to assess effects of the RES-SIM outputs associated with the Willamette EIS, which do account of the rule curves (or any proposed deviations). The Corps will

be using the output of these biological models output to date to bring alternative flow regimes into the Willamette EIS alternatives. Rich noted that these models are focused below the dams and that tools will be needed to evaluate and consider the whole basin. The Corps is working on that framework and will present to the EIS Cooperating Agencies when ready.

- The Corps has not developed an adaptive management plan yet; however, these models will be helpful in doing so. Mike noted that it may be good for the Steering Team to discuss how to move forward in developing a plan sooner than later and to continue to refine the models that are incorporated. Rich suggested that the EIS process is also an opportunity to have conversation on a plan and that is where the Corps will be proposing how to operate and manage long-term.
- The Corps recognizes other important ecological aspects to consider, including other species. The focus is on Chinook and steelhead in part because they are listed species and more data exists for them. The ultimate report write-up on the SWIFT model results from the researchers will feature other aspects but without the depth and qualitative analysis.

Other Updates From RM&E Team Members

- Mike reported that USFWS is working on a project to develop resources on bull trout and pacific lamprey passage recommendations. They were originally looking at a timeline for next spring, however, they now expect the effort to be done sooner. Contact Mike for more information.
- Lawrence noted that the Confederated Tribes of Grand Ronde Tribal Government offices have reopened.
- Christine noted that BPA is reviewing draft BiOps from NOAA and USFWS for the Columbia River System. They are paying attention to conservation recommendations that could be relevant in the Willamette. Also, the EPA TMDL report is currently out for public comment.

Foster Fish Weir

Fenton provided background on the two tests occurring with the Foster fish weir this year. The plan is to put in the fish weir after the bulk of juvenile passage is over at the end of May and operate at 300 cfs flow during June and July in attempt to warm downstream water temperatures and encourage adult salmon return to the fish facility. Also, the Foster Ladder team modeled to test spill to see if they could warm up the Foster ladder with spill from Green Peter. Due to environmental conditions, the Green Peter spill test was held off until yesterday, and the Foster Fish weir spill test has been held off until June 10. The Corps is monitoring temperature data in the reservoir and ladder and fish counts to see if there is a response from fish to the temperature increases, observational data, along with temperature data from the ladder and river, will be collected during the operation. This Green Peter spill test is ideally to validate the USGS modeling results that indicate surface spill at Green Peter could provide warm water to the Foster reservoir down to the fish facility ladder intake (forebay water supply), which will in turn provide warm water to the ladder and increase the ladder temperature. Responses from adult fish in the tailrace entering the ladder will inform the PDT on the permanent design for improving adult fish collection at the facility.

Regarding operations for downstream passage, Fenton clarified that the Foster PDT had planned to create a plunge pool on the spillway and decided against this after reviewing 3D modeling results that were not satisfactory. This was presented during the May WFFDWG meeting. The PDT is exploring ideas for design improvements to the fish weir, however, any design improvements will not be finished within a year and the interim nighttime spill operation for downstream fish passage used thus far is dependent on a number of factors and is not a long-term solution. The Corps will work with internal Water Management, BPA and external stakeholders to vet the continuation of this interim nighttime spill operation during spring and fall months for outmigration until a permanent downstream passage solution is complete.

In regards to upstream adult passage, the group noted that there will soon be capability to collect data further down in the sub-basin at Lebanon Dam, which could help in data collection. Currently, visual counting in the ladder at Foster is difficult. The best information available for this season may be through testing the USGS model, which will inform if the ladder temperature is able to warm and cross-checking that with observations of fish response.

In regards to monitoring and evaluation for juvenile outmigration with the interim nighttime spill operation, the group noted that there needs to be some type of signal on whether outmigration is successful, some kind of monitoring below the dam. There was interest in considering how and whether a screw trap would work (possibly with tagged fish). Fenton noted that if the team wants to consider any kind of monitoring and observation study for the interim nighttime operation, the next opportunity is this fall or next spring. Anne cautioned that although past data has shown fish travelling at night, travel timing changes and they need to be cautious in assuming fish will travel at the same time every year.

Due to timing, funding on this study is unlikely for this fall, and implementation is more feasible for next spring. Mike suggested that the RM&E Team make a recommendation to the Steering Team to develop a concept for monitoring and evaluation associated with interim operations for downstream passage at Foster. The group proposed starting the process to prepare the concept for FY21 and get ready should funding become available this fall.

Next Steps for FY21 Concept Development
Emily asked the group for their input on how to edit the FY21 concept spreadsheet in order to make it a useful tool for decision-making. It was noted:

- The tool is useful as a common ground to reference and consolidation/updating would be helpful as some information is out of date.
- It would be helpful to establish an archival process to preserve out of date data, so as not to lose anything already captured while moving forward.
- The group should identify a time of year to update the document on a regular basis.

Emily and Nancy will start working with one or two RM&E members to consolidate one sub-basin at a time. Anne and Fenton volunteered to start working on this process, starting with the Middle Fork sub-basin.

For FY21 concepts, the group agreed to bring a list of concept ideas that their organization would like to see move forward to the June meeting. The RM&E Team will discuss and clarify the next steps to prepare for a "deep dive" into the concepts in July and prioritization with the Steering Team in August.

→ **Action**: Emily and Nancy will work with Anne and Fenton to consolidate/update the Middle Fork sub-basin planning spreadsheet.
→ **Action**: RM&E Team members will bring a list of concept ideas and studies for development (including justification of management actions) to the June RM&E Team meeting for the group to consider for concept development.

With that, Emily thanked the group and adjourned the meeting.

The next RM&E Team meeting is scheduled for June 25, 2020 from 9:00 AM - 1:00 PM;
Agenda topics include: Concept paper development for FY21; Foster study concept discussion; Middle Fork sub-basin planning table review.

This summary is provided by DS Consulting. Suggested edits are welcome and can be provided to Colby Mills (colby@dsconsult.co).