Willamette Action Team for Ecosystem Restoration (WATER)
Research, Monitoring and Evaluation (RM&E)
June 24, 2021

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

Facilitator's Summary
[Edits from ODFW, Corps]

ACTION	BY WHOM?	BY WHEN?
Review concepts with Steering Team representatives in preparation for the Joint Team ranking meeting.	All	Before 7/6 Joint Meeting
Send the screw trap spreadsheet to the RM&E Team members for review; provide input within 1 week.	Fenton, All	By July 1
Add input discussed into the "Options to Reduce Uncertainty" SDM table; send out to the RM&E team to highlight additional gaps or information to fill gaps.	Rachel, All	Before 7/6 Joint Meeting
Draft a 1-pager "strawdog" Middle Fork progress update to be reviewed at the joint meeting (and to aid in discussing how to update the Managers on July 27).	Rachel	7/6 Joint Meeting
Get SWIFT data to UBC Team.	Rachel/UBC	ASAP
Discuss next steps for Managers meeting on July 27	All	7/6 Joint Meeting

Present for all or part of the meeting: Leslie Bach (NPCC), Fenton Kahn (COE), Michael Hudson (USFWS), Dave Jepsen (ODFW), Rachel Laird (COE), Robert Licandeo (UBC), Murdoch McAllister (UBC), Anne Mullan (NMFS), Oliver Murray (UBC), Christine Petersen (BPA), Rich Piaskowski (COE), Tom Porteus (UBC), 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. Team members approved the 5/13 meeting summary. As follow-up to the May session, it was clarified that no steelhead were spawned for surrogates this year due to low run numbers.

FY21 and FY22 Study Updates - Fenton reported that studies are progressing, with contracts already awarded for this year. USGS has accepted the contract for the pedigree analysis for OSU to begin their work. Due to contracting delays, it may be a while before reports or data are released, although OSU has committed to providing an update this fall/winter. Regarding the 6 new concepts sent out by the Corps, Fenton thanked ODFW for their comments (no other comments were received); Fenton noted that the final concepts will be sent to Emily by Monday to prepare for the joint RM&E/Steering Team meeting on July 6.

→ **ACTION: RM&E Team members will brief their Steering Team representatives to prepare for the concept paper ranking at the July 6 Joint RM&E/ST meeting.**

Wild Fish Surrogate Program Update
Fenton reported no wild winter steelhead were spawned for surrogates this year due to low returns. The program will work with ODFW hatcheries to get Chinook, and is rearing fish for the screw trap efficiencies that were agreed upon by the RM&E team. Fenton noted that currently OSU was able to get

juvenile fish from the North Santiam and McKenzie hatcheries for screw trap efficiencies for next year. These juveniles were transferred from ODFW hatcheries to OSU for rearing. The hatchery in the Middle Fork does not have any extra fish as of now, however any extras left over after marking and releasing will be given to the surrogate program. The question remains on how to get fish for screw trap efficiencies for the Middle Fork for next year?

Interim Measures Implementation Update
Fenton updated the group on the implementation of interim measures. He reported that due to the very dry winter and spring, all reservoirs are below/behind their normal summer fill. Interim measures include: spill at Lookout Point, Foster night time spill operations (ended on June 15), Foster fish weir spill operations (started on June 16), spilling at Detroit and screw trapping.

The Foster fish weir is not being used for downstream passage, and instead is passing warm surface water from the reservoir to warm the water downstream in an effort to help returning adults back to the facility. Hot temperatures prompted spill to stop at Lookout Point within the last week; because the river downstream was becoming too warm and the pool elevation reached down to the spillway. Temperatures are being monitored. Fenton noted that although Foster is still spilling, the Corps is looking into a request to stop spill for a few days due to the river getting hot and heating the reservoir. Screw trap operations may pause at Lookout Point because the project is currently not spilling; traps will continue to run for the powerhouse.

The Corps is preparing the screw trap contract for next year (a 3-year contract) and are ready to send out notice. The full performance work statement cannot be shared with the RM&E Team for feedback until the contract has been awarded. However, given the team's interest, Fenton will provide a spreadsheet that includes trap locations, operation timing, and sampling data, so the group can provide input. Comments must be sent to Fenton by July 1.

In regards to a query about data updates on current trapping efforts, Fenton noted that the RM&E Team will be getting weekly or bi-weekly interim data updates (not an official report) from the contractor, although the data is all interim and reflects 1-2 week's prior. There have been issues at Lookout Point with debris ending up in traps in the tailrace and powerhouse, although the traps were able to sample some fish. Fenton can share updates like this with the group moving forward.

→ **<u>ACTION</u>: Fenton will send the screw trap spreadsheet to RM&E Team members for review and to provide input. Comments must be submitted by July 1.**

FY 2022 CRFM Budget
Fenton reported that the federal budget for FY22 looks very small, and RM&E could be affected. The final budget is unknown, although there is only a small amount for the CRFM, which included the Willamette, Columbia, and Snake rivers). The FY22 concept paper reviews and rankings are still moving forward.

FY21 Middle Fork Check-In Planning
University of British Columbia (UBC) researchers have been working on a structured decision analysis to inform decisions for passage in the Middle Fork. Researchers, Dr. Murdoch McAllister (PI), Oliver Murray, and Tom Porteus, presented on dam passage options for the Middle Fork, performance metrics for the evaluation of passage options, a spring Chinook life cycle parameter model, uncertainties hypothesized to be important, sensitivity analyses to identify which uncertainties matter most, and identification of effective approaches to address key data gaps (see presentation materials shared with the group for further details). Emily asked the group to focus on collecting pertinent information to relay to their respective Managers for their meeting on July 27. Murdoch noted that it was critical to get

comments and feedback on the most critical data gaps, how to improve the analysis and initial implementation of the simulation models. The presented results were noted as "in-progress," as the methodologies are still being developed.

UBC researchers polled the group on any important uncertainties/data gaps that might be missing. Comments included:

- Recognize the difficulty of getting a good estimate on pre-spawn mortality. This is a hard area to survey and monitor, and it is important to measure from year to year. Research should focus on the ability to assess and understand causality to help make predictions.
- Consider adding "dam passage survival" uncertainty, which is different than dam passage efficiency and fish collection efficiency.
- In-river survival of fry/juveniles once passed downstream of Middle Fork dams, since passage timing and life stage factor into survival below the dam.

Rich added that as analysis moves further under the EIS of different options, researchers might consider the sensitivity under those models when different passage actions are represented in the model. The Northwest Fishery Science Center lifecycle model, as previously run, was highly sensitive to PSM; Rich will send UBC more information on this. UBC researchers explained that any information that can help address the data uncertainties will help improve the certainty of the model (in some cases up to 50% for a parameter). The SWIFT data set is one that the UBC researchers are eager to utilize to inform the model.

Rachel led the group through a discussion on options to reduce uncertainty, with an eye towards available data that might inform the model (see table in slide deck provided to team).

- ***In-reservoir survival***: copepod data will likely be available soon; Kock, et.al. study could be helpful.
- ***Dam Passage Survival (Autumn drawdown)***: Will need to think on the timing for tagging, as size will matter (fish may be big enough to tag in late summer). Also, need to consider the availability of wild fish surrogates for tagging. Toby Kock may have input on this.
- ***Dam passage Survival (surface collector)***: The "memos" are a good resource; also, workshop bibliography will point to some resources. It might be helpful to look into what has been done at other projects (i.e. Baker Lake in WA State).
- ***Tailwater-Willamette Falls migrant survival:*** Researchers need access to the PTAGIS/SWIFT data. ODFW has raw tag data if needed.
- ***Smolt-adult survival:*** Potentially the coded-wire tag data would be useful. Pinniped predation information from the Willamette Falls viewing window would be good to incorporate (contact Debbie Ames, ODFW).
    - ODFW post-meeting update: Debbie Ames does not collect information about pinniped scars/marks on fish as part of Willamette Falls counts. Some Willamette hatcheries collect anecdotal information about pinniped scars/marks as part of annual fish collection.
- ***PSM***: If possible, basin-specific data would be preferred, including onsite spawning mortality, spawning surveys below dams (rough estimate), and out-planting evaluation studies for above dams.
- ***Bev-Holt***: egg-fry survival estimates (look to the COP appendix).

→ **<u>ACTION</u>: Rachel will add the input discussed today into the "Options to Reduce Uncertainty" table and will send it out to the RM&E team for input.**

Mike asked if reducing uncertainty would change the outcome of the decision-making process. The Steering Team is interested in whether there is sufficient information to inform a decision, noting that this information will need to be conveyed to the Steering Team and then presented to the Managers to keep them aware of the progress. Rachel noted that some data gaps will exist after the EIS and may need to be examined further. Identifying places to improve will better inform the Managers to make a decision. It was noted that the modeling is incomplete, with only results on operational passage options. Uncertainties around operational passage could be improved with more information (the RM&E team was encouraged to review the "uncertainties" table and point to specific studies to refine the inputs). The SWIFT data needs to be incorporated to utilize the best available information in the basin; UBC is working on getting this data.

The group then discussed messages to communicate to the Steering Team for consideration as they prepare to brief Managers:

- The start of reproduction is a base for recovery - we need to know that fish can reproduce upstream. Pre-spawn mortality in the Middle Fork is important to understand: is there a need for better more robust studies, or a need for additional monitoring?
    - There might be a significant information gap that needs to be addressed in order to inform decisions. Must have reproduction above the dams to see a signal for juvenile survival.
    - There is a need for better understanding on PSM for out-planting above DEX.
- The SDM process is still working on the structural passage option at this time.
    - Outcomes for spring spill and autumn drawdown have been modeled; these can be refined by addressing questions around uncertainty. This includes getting more information on in-river survival data; there are some answers but they could be improved.
    - Update on timing for information (i.e. SWIFT/other data incorporated in the operational modelling, structural modeling).
    - Outcomes for spring spill/autumn drawdown modelling can/should be further refined by addressing questions on in-river survival (SWIFT data).
- There is a need for Manager discussion on independent attitudes towards risk - what level of risk are we willing to accept for a decision?
    - The dataset will never be complete: what are the risks around a passage decision? What are the risks of not making a decision?
    - What it will take to reach the level of information that is sufficient for making a decision.
    - What level of risk we are willing to accept?
    - While these discussions are ongoing, there is no downstream passage option and very limited spill.

→ **<u>ACTION</u>: Rachel will draft a 1-page "strawdog" for discussion at the joint ST/RM&E meeting on July 6.**

And with that, Emily thanked the group and adjourned the meeting.

The next meeting is a Joint Meeting on July 6, 2021; following that the next regular meeting of the RM&E Team is TBD (DSC will follow-up with the team).

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