Willamette Action Team for Ecosystem Restoration (WATER)
Research, Monitoring and Evaluation (RM&E)
August 24, 2017

http://www.nwdwc.usace.army.mil/tmt/documents/FPOM/2010/Willamette_Coordination/Willamette%20RME/RME.html

Facilitator's Summary

ACTION	BY WHOM?	BY WHEN?
Provide suggested language to Rich for FMWQ-18-03.	Diana	8/25/17
Revise concept papers to address the issues raised by the team for review.	Rich	8/30/17
Send revised concept papers to Steering Team and request ranking on 9/5/17 Steering Team Agenda.	Emily	9/5/17
Prep Steering Team representatives on FMWQ-18-04-SYS and FMWQ-18-03 for prioritization.	RM&E members	9/5/17
Follow-up with Ian Chane regarding running RESsim and HYDsim analysis that considered the RM&E's proposed alternative.	Emily	8/24/17
Develop process steps and a timeline for sub-basin plan development and RM&E team review.	Emily and Rich	9/5/17
Provide sub-basin plan outline to Steering Team for input and approval.	Emily	9/5/17
Check with Marc regarding changing the language for the "spread the spill" request at Big Cliff.	Diana	ASAP

Participants in the room: Leslie Bach (NPCC), Stephanie Burchfield (NMFS), Rob Diffley (BPA), Diana Dishman (NMFS), Max Pangborn (BPA), Rich Piaskowski (USACE), Mary Karen Scullion (USACE), Chris Walker (USACE); Ricardo Walker (USACE);

Participants on the phone: Lawrence Schwabe (CTGR);

Facilitation Team: Emily Stranz and Nancy Pionk (DS Consulting).

Welcome and Housekeeping
Emily Stranz, DS Consulting Facilitator, welcomed the group with a round of introductions. The group discussed the 7/20/17 meeting summary. It was proposed that Page 3, Paragraph 2, Sentence 1 be changed from "*It was noted that two weeks in the power pool was likely permissible based off previous operations*" to "*It was noted that two weeks in the power pool has happened in the past with BPA coordination*." This change would clarify that the reference to the power pool is related to past operations as permitted by BPA. The team approved the 7/20/17 meeting summary with this edit. The team approved the 7/27/17 meeting summary.

Review and Discussion of Draft Concept Paper for TDG Study Below Big Cliff – FMWQ-18-04-SYS
The group reviewed the draft concept paper prepared by Fenton Khan to assess the effects of TDG exposure on Upper Willamette River Chinook salmon and steelhead below Big Cliff Dam (**FMWQ-18-04-SYS**). This paper was requested by the Steering Team and was updated from a previous concept paper.

Rich explained that the two objectives of the concept paper were to 1) consider TDG effects on spawning ground and 2) evaluate the effects of TDG to all life stages. It was noted that that the biggest concern at Big Cliff is related to spawning and incubation and that the proposal would need to evaluate TDG in the gravel where the redds are located.

Rich explained that Objective 1 would collect data on TDG in the gravel as field data is needed during the period of incubation. It was suggested that Objective 1 also consider the spawning distribution of Chinook in this reach. Under Objective 2, the research would be conducted in two phases. Under Phase 1, the researchers would consolidate the data on TGD and evaluate the effects of TDG at all life stages using existing data. Under Phase 2, the researchers would consider what, if any, additional data is needed.

The group made suggestions regarding the background information provided. It was suggested that the results of the Foster study be included; however, the study will not be complete until Fall 2017. It was also suggested that the reference to the reach as a "sanctuary" be changed to indicate that the reach is managed only for natural origin fish and clipped fin fish are released upstream of the project. It was noted that, although they are considering juvenile bypass, however, this study could be used to inform volitional passage for DET as well.

The group discussed whether the concept paper should identify boundaries for measuring TDG. It was noted that the highest level of TDG that has been produced is 135%, and thus should be evaluated. It was also suggested that TDG could be evaluated under a range of spill operations that captures the expected TDG range. Additionally, they discussed geographical boundaries for the study. It was proposed that researchers evaluate TDG downstream of the project to where TDG levels have dissipated back down to background levels.

There was concern regarding the exposure to fish during spill testing and it was suggested that tests be timed to avoid exposing fish to high TDG during peak fry emergence, (for example, times of lower impact to sac fry would be during November or before winter steelhead are spawning in February). It was also suggested that studies regarding exposure could be done on a more controlled basis in the lab.

Rich will check in with Cam Sharpe to get input from ODFW's past study on spawning in this reach and determine if a third objective should be added to evaluate spawning distribution in the reach.

→ **Action:** Rich will revise the concept paper to address the issues raised by the team and provide a revised draft by August 30.

Review and Discussion of Draft Concept Paper for "SWIFT" Flow – FMWQ-18-03

Rich reviewed the draft concept paper with the group (**FMWQ-18-03)**. He noted that previous efforts have considered instream flow needs to meet the BiOp and focused on the mainstem. This concept is a Phase 2 effort that includes refining mainstem objectives, and reviewing and refining tributary objectives to help establish a more formal adaptive management framework and approach. Rich noted that the concept paper was written to reflect a proposal prepared in summer 2017 already reviewed by the RM&E Team, and that Jim Peterson and his team have presented the idea of an adaptive management framework where decision-making is framed by identified objectives. The adaptive management approach can help identify additional data needs that can improve the ability to make decisions and can help determine what kind of data should be collected over time and considered on an annual basis. The SWIFT team will eventually consider whether to approve this approach, and if approved, the flow management team will continue to be involved with the framework/tool and in identifying whether additional data is needed. Rich stressed that the intent of Phase 2 is to formally recognize the type of data that needs to be gathered annually in order to adaptively manage flow. This could or could not result in a model (qualitative and/or

quantitative), however, at this point is open for the researchers to provide suggestion for SWIFT's consideration.

Team members discussed that it was important to have good data to inform in-season management and that the final product is able to incorporate and consider future changes such as downstream passage. It was suggested that the concept paper include expected products such as future areas of study and expected approach based on best available data. The concept could also require that recommendations be provided that consider existing data and summarize additional data needs to support adaptive management.

→ **Action:** Diana will send Rich suggested language for the "expected products" piece by August 25.

It was suggested that the concept more clearly identify that winter steelhead are included as part of this concept paper.

Next Steps for FMWQ-18-04-SYS and FMWQ-18-03

The group discussed that both concept papers need to be ranked by the Steering Team as soon as possible to be included in the FY18 list; Emily will request that this is added to the 9/5/17 Steering Team meeting agenda.

→ **Action:** Rich will incorporate the group's suggestions/comments and provide a revised draft by August 30. Emily will send the revised concept papers to Steering Team and ask the Steering Team to rank the concepts at their 9/5/17 meeting. RM&E team members will prep their Steering Team representative on the concepts before the 9/5/17 meeting.

Review and Discussion of Lookout Point Deep Drawdown HYDsim Analysis

Rob Diffley and Max Pangborn provided a PowerPoint presentation (a separate document) on the HYDsim analysis that was conducted regarding the original Lookout Point Drawdown operation. Max explained that the HYDsim replicated the data used in the RESsim to assess flood control and power generation; it is a deterministic model that in this case, considered flow data for 14 periods per year over 73 years. He identified the data provided from the RESsim analysis and described how he converted it for use in the HYDsim model. He noted that the outcomes from both analyses were similar, indicating HYDsim was well calibrated to analyze flows predicted by ResSim.

Rob explained that Lookout Point is one of three power peaking projects in the Willamette, which means that these three projects have to be available as needed to provide demand during peak loads. At average elevations, it provides 138 megawatts (MW) of peak power in October and 106 MW in November. With deep drawdown scenario, Lookout Point would have only been available to provide peaking in 29 out of 73 years in October (40% of the time) and 8 out of 73 years in November (11% of the time). Rob also noted that there is no power generation or peak power at elevations below 819 feet.

He explained that the loss analysis takes the whole year into consideration and analyzes both the loss of energy and capacity (not having a machine available to meet peak loads). Regarding capacity loss, he explained that if Lookout Point is not available, there is a replacement cost to ensure that a machine is available to meet peak loads. He explained that the total loss of $4.5 million includes the loss of energy ($1.9 million) plus the loss of capacity ($2.6 million).

It was noted that this analysis was based on the original operation plan, as outlined in the Draft EIS, in which the deep drawdown was to begin on August 1. In the proposed alternative, the deep drawdown would begin on October 1. The group was interested in having the RESsim and HYDsim analysis

performed for the proposed alternative. Rob and Max indicated it would only take a day or so to produce updated HYDsim results once they had updated ResSim outputs in hand.

→ **ACTION:** Emily will follow-up with Ian Chane regarding running the RESsim and HYDsim analyses on the RM&E's revised alternative.

Review and Discussion of draft RM&E Sub-basin Plan Outlines
Rich reviewed a draft general outline for the sub-basin RM&E plans. He suggested that the team follow the logic of the Middle Fork Sub-basin Plan, focusing on major actions and status. Rich explained that "implementation status" refers to what is already being done to address the RPA and "improvement plans" refers to what is being done to address known issues (i.e. issues with the new ladder at South Santiam).

It was suggested that the outline include the topics considered by the team in the previous planning charts for the sub-basins (i.e. flow, hatchery management, water quality and habitat). It was also requested that the teams who draft the plans review the charts for guidance as the charts already identify numerous RM&E needs. It was suggested by NMFS that HGMPs also have monitoring identified and that hatchery management should be considered as a placeholder for research identified in the HGMP and future reintroduction plans in the sub-basin plan.

It was suggested that in order to have Steering Team buy-in, the plans should consider what decisions must be made to meet the RPA; more input may be needed from the Steering Team on what information they need.

At the joint RM&E and Steering Team meeting, it was decided that the ideal approach would be to develop all the plans at the same time, depending on Corps capacity. At the August 10th Steering Team meeting, Ian reported that the Corps has agreed that they will draft the plans concurrently. Rich will coordinate development of the sub-basin plans with team members; however he noted that Brad Eppard directs the work priorities of Corps staff members working on these plans. The assignments for development of the plans are: McKenzie: Scott Fielding; South Santiam: Fenton Kahn; and North Santiam: Jonathan Rerecich. The Corps has also requested that re-introduction plans be developed concurrently with sub-basin plans.

The group discussed the timeline for development of the plans and review by the RM&E team. Ideally, the plans would be complete by January, 2018. The group discussed that check-ins with the RM&E team could occur when the Table of Contents for specific plans are complete or when the plans are 10% complete (including the big RPA elements/topic areas that will need to be addressed for the sub-basin), and when specific plans are 50% and 80% complete.

→ **ACTION:** Emily will work with Rich to develop process steps and a timeline for sub-basin plan development and RM&E team review. DS Consulting will share the outline with the Steering Team at their 9/5/17 meeting.

NOAA Change Form Request Regarding Spill At Big Cliff
The group discussed the change form request submitted by NMFS and requesting a "spread the spill" operation at Big Cliff. Mary Karen suggested that instead of using the table submitted, the group agree on how to describe the intention of the operation and the operators can use rating tables, which would be added to the WFOP, to develop the operation. She suggested that the language should describe the minimum gate openings and refer to rating tables for when to open additional gates or increase the openings.

Chris indicated that there is a Fish Passage Operations Task Group meeting on September 13, 2017 where the language could be refined. Diana stated that this approach sounded good to her and that she would follow-up with Marc Liverman to make sure that the Task Force language could supersede the change form language. She noted that it was her understanding that the Steering Team wanted to see this "spread the spill" operation as default at Big Cliff come this fall.

→ **Action:** Diana will check with Marc regarding changing the language, however, not the intent of the operation. The WFPOM TDG Task Force will draft language to describe the operation at their September 13th meeting.

Discussion of FY17 Baseline Study at Lookout Point under Standard Operation
The team discussed the Corps' proposal to do an active tagging study at Lookout Point if the deep draw down alternative does not occur. Rich shared that there are valid reasons from the Corps' perspective to do the study under standard operation. He explained that most fish observed leaving Detroit and Cougar during the fall when reservoirs are lowered are leaving through the turbines. The Corps anticipates the same behavior will occur at Lookout Point under deep draw down or standard operation and this study will help evaluate if that is occurring. He indicated that the study could help understand turbine entrainment and evaluate the potential for a longer-term operation alternatives. Rich indicated that the study is currently scheduled, funding has been sent to the researcher and a permit has been requested. NMFS' perspective was that an analysis at partial drawdown was unnecessary and that the pilot study could be reviewed for information about fish passage. NMFS and the Corps agreed that they need to go back to the "pilot" JSATS study completed by PNNL to see what it tells them about fish passage.

It was noted that the Steering Team has not completed the discussion regarding this study and will provide recommendations regarding whether to move forward with the study.

Steering Team Updates
The RM&E team requested clarification of the timeline for the FY18 Proposals. Emily noted that Ian Chane will be identifying the potential funding mechanisms for the proposals as a next step. He is tasked with bringing this information to the 9/5/17 Steering Team meeting.

Emily also noted that the Steering Team has agreed to work through the elevation process for Issues 2 and 3. DS Consulting has created draft Issue Evaluation Forms for Issues 2 and 3 and the Steering Team will review and provide edits at their 9/5/17 meeting.

Emily thanked the group and adjourned the meeting.

The next RM&E team meeting is scheduled for 9:00-1:00 on September 28, 2017.

This summary is respectfully submitted by DS Consulting. Suggested edits are welcome and can be sent to nancy@dsconsult.co.