Willamette Action Team for Ecosystem Restoration (WATER)
Research, Monitoring and Evaluation (RM&E) Team Meeting
September 22, 2016

Facilitator's Summary

The following summary is intended to capture basic discussion, decisions and actions, as well as point out actions or issues that may need further discussion at upcoming meetings. This summary is not intended to be the "record" of the meeting, only a reminder for RM&E members.

ACTION	RESPONSIBLE PARTY	BY WHEN
Incorporate edits to the August 25th RM&E summary.	DSC	ASAP
Coordinate next steps and responsible parties for editing MF RME Plan Summary.	DSC	ASAP
Send out Doodle Poll for Middle Fork Pre-spawning mortality meeting for week of 10/10.	DSC	9/28
Draft one-page issue papers on elevation concepts (see page 6) and post on Google Docs.	Rich, Stephanie, Mike	9/30
Set up RM&E call on 10/2 to discuss elevation memos.	DSC	10/4
Provide edits to elevation issue papers.	RME Team	10/7
Add the RM&E teams edits to the elevation process and provide back to the Steering Team	DSC	9/14 ST mtg.
Provide paired-release concept paper to the team	Tom	Before 10/27
Draft concept paper on Chinook fry study at Dexter	Rich	Before 10/27
Provide field summary on Foster Adult Fish Trap Performance.	Fenton	Before 10/27
Help with next steps in clarifying the RPA requirements.	DSC & Corps	Ongoing
Provide RM&E team with study proposal on surrogate production.	Fenton	TBD

***RM&E Members present for all or part of the meeting*:** Stephanie Burchfield (NMFS), Tom Friesen (ODFW), Mike Hudson (USFWS), Fenton Kahn (Corps), Christine Petersen (BPA), Rich Piaskowski (Corps), Lawrence Schwabe (Grand Ronde);

***RM&E Members on the phone for all or part of the meeting*:** Dave Leonhardt (Corps), Dan Spear (BPA), Ricardo Walker (Corps);

Facilitator: Emily Plummer; ***Support***: Tory Hines, DS Consulting.

Review Meeting Summary and Action Items
Facilitator, Emily Plummer, welcomed the group, noting that the purpose of the day's session was to review the Steering Team's recommendations for the elevation process, review and discuss fiscal year (FY) 2017 projects, revisit the prioritization process and finalize the group monitoring definitions.

The group approved the August 25th summary pending the following changes:

- Remove language "this fiscal year" and "funding required in upcoming fiscal years" on page 3 in the high/medium prioritization chart.

- Language added to page 5 that states, "Bernadette voiced concern that this process only requires the Corps to be transparent after the decisions, rather than attempting to resolve differences prior to a decision being made."
- Remove "they agreed to:" from 2nd paragraph on page 5.
- The following bullet was added under brainstorming on page 5, "Rank concepts by agency from highest to lowest (e.g. 1-25)."

The team reviewed action items from the August meeting. All of the action items were complete, with the exception of the following ongoing actions that the group will continue to track:

→ **ACTION:** DS Consulting will schedule a meeting to address the next steps in clarifying the RPA requirements.

Additionally, Rich noted that he and Stephanie are waiting for feedback from the Steering Team before distributing the Middle Fork RM&E Plan to the RM&E team. Stephanie and Rich were unsure if they had action items from the Steering Team or if others were tasked with incorporating the Steering Team's edits into the summary, Emily agreed to help clarify the next steps and responsible parties.

→ **ACTION:** Emily will follow up with Ian Chane, Stephanie Burchfield and Marc Liverman to check in on progress and action items needed on the 2nd draft of the summary.

Review of Steering Team's Suggestions for the Elevation Process

As a team, the group reviewed the Steering Team's suggestions on when and how to elevate issues that arise at the RM&E level (see edited version attached). The group felt that the suggestions were consistent with the sentiment of the RM&E team. In regards to the **criteria for elevation**, they noted:

- It is important that the Steering Team provide clear and timely decisions on issues elevated. The RM&E Team should signal the urgency and associated timeframe for decisions.
- There will be some technical disputes that the Steering Team may not be able to resolve from a technical perspective. However, they can:
    - Clarify the level of risk that the Steering Team is willing to take when making a decision.
    - Determine how important the information is to inform management decisions.
    - Provide guidance on the 'grey' issues that mix policy with technical decisions.
    - Provide guidance on 'grey' technical issues that do not have a clear scientific resolution.
- As part of the elevation process, the RM&E Team should:
    - Try to work through technical disagreements as a team, however, develop triggers to signal when an issue needs to be elevated.
    - Elevate policy issues to the Steering Team.
    - Clarify the nature of the conflict up front in RM&E discussions and in the elevation, i.e. technical, policy, budget, etc.
    - Have RM&E members present during the elevation to answer questions that arise from the Steering Team.
- The Corps has asked the RM&E team to tie projects to management needs, the challenge is that each agency has a different understanding of management needs – this poses an issue for the RM&E team and the Steering Team could provide guidance. Additionally, there needs to be common understanding of the RPA requirements.

The RM& E Team suggested the following additions and clarifications for the Elevation criteria:

- The first bullet should be revised to read: "*when there is a clear technical or policy dispute that cannot be resolved at the technical level*."
- The following bullet should be added: "*If any technical team member thinks the process is not being followed*."
- The third bullet: "if the process is creating difficulties for the technical team and/or individual agency", is vague. What is meant by "difficulties"?
    - The group agreed to leave this bullet vague, allowing it to act as a catchall for the elevation process, however, could use clarification on the Steering Team's intention.
- Scientific peer review is recognized as a best practice by the RM&E Team, they would like to make sure that there is flexibility for review as a tool to use to improve the RM&E effort.
- There needs to be clarity on who the RM&E Team is to elevate to. There are some RM&E team members that do not have Steering Team representatives.

The group then reviewed and commented on the Steering Team's suggestions for "**how to elevate**", they noted:

- It would be helpful to have more guidance on what the Steering Team would like to see in elevation presentations.
- Elevation can occur if any member of the RM&E team has a serious issue; it does not need to be a majority or group issue.

The RM&E Team developed internal Technical Team process for how to elevate:

1. If a disagreement among two or more parties arises, the team will work together during the meeting at which the issues arise to clarify and define the concerns.
2. If the group feels that with more conversation they can make progress on the issue, they will revisit the issue again within a specific timeframe, either at the next meeting, or a separately scheduled meeting if necessary.
3. If the issue cannot be resolved at the Technical Team level, the team will work through the elevation steps together. There will always be a discussion at the technical level before the issue is elevated.
4. The Technical team will draft a one-page issue paper that:
    a. describes the concept/issue;
    b. identifies any policy or technical issues;
    c. lists the pros and cons for the concept;
    d. states a deadline or time to respond; and,
    e. provides a conclusion noting the requested management direction. The issue paper should be unbiased in tone.
5. The team will discuss who from the team will present the issue paper to the Steering Team.

The group discussed the elevation criteria on when and how to elevate and agreed to try the process for issues that they currently need to elevate (see below: *Concepts to elevate to the Steering Team*). They also suggested using 'technical team' instead of 'RM&E team' in the elevation process description in case there are other teams that would like to use the same process.

→ **ACTION:** DS Consulting will add the RM&E Team's edits to the elevation process and provide it back to the Steering Team at their October meeting.

Status Update on FY17

Review of FY17 Summary Table

The team then reviewed and discussed the RM&E FY 2017 Status Summary table. The table lists all of the RM&E projects and points to the projects that the Corps is pursuing for funding in 2017. Per the

group's August 25th discussion on transparency, the Corps provided additional information in the table, including a column to note the type of RM&E (using the group's definitions), the projects the Corps plans to fund, notes/rationale for ranking and funding decisions, and the amount of CRFM funding available for FY2017. The Corps noted that "na' denotes "not intending to fund at this time". The group reviewed the projects that the Corps has initially flagged for funding. The projects are listed below.

- ***Surrogate Program*** The Corps intends to fund additional surrogate production, however, does not include this for RM&E prioritization. Stephanie noted that in the past they have reviewed the surrogate proposals and that it is good for the team to know what is happening with that program. Rich agreed to provide the surrogate project proposal with the other study proposals for team members to review.

  → **ACTION**: Fenton will send the RM&E team the proposal on surrogate production. He will also highlight the elements of research within the proposal before it is e-mailed to the team.

- ***Chinook salmon reintroduction strategies above Foster Dam (APH-09-01-FOS Chinook)*** Rich noted that a study objective needs to be added to the concept paper to further investigate fallback rates and origin of those fish and further document the thermal benefits of reservoir releases. Genetic information suggests that the majority of fish falling back were from below the dam, implying that the fallback rate is low for those fish originating above Foster Dam.

- ***Steelhead reintroduction strategies above Foster Dam – genetic pedigree (APH-09-01-FOS Steelhead)*** The University of Idaho began this research study in 2016; the Corps anticipates funding in 2017. The research findings will evaluate the effectiveness of the trap and haul of UWR winter steelhead above Foster Dam, and to help determine which trap and transport practices maximize spawner success and production. Dave asked why the project was characterized as genetic pedigree. Rich noted that the genetic approach examines the health of steelhead above Foster Dam, and is anticipated to inform reintroduction of winter steelhead above Detroit Dam.

- ***Steelhead reintroduction strategies above Foster Dam – spawning distribution (APH-09-01-FOS Steelhead)*** This project focuses on spawning surveys of steelhead above and below Foster Dam. The research findings will evaluate the effectiveness of the trap and haul of UWR winter steelhead above Foster Dam, and to help determine which trap and transport practices maximize spawner success. The Corps noted that additional surveys are needed, as one year of data is not enough.

- ***Evaluation of Foster Adult Fish Trap Performance (APH-15-05-FOS)*** University of Idaho will provide a summary detailing their findings that fish were piling up at the ladder entrance. It was observed that as temperatures warmed, fish began to stall at the ladder. University of Idaho (or Fenton) will present available information at the October RM&E Team meeting to help determine any additional study needs for 2017. Once University of Idaho releases data, the Corps will provide the results to the RM&E team. Stephanie asked if the trap has been operating every day. Fenton stated that the trap operates two to three times a week and moving it to service every day is not expected to impact the fish below the dam. The ladder is always running, and fish can enter the ladder and move into the pre-sort pool where they are trapped and held. There remain questions about whether a chemical cue from fish holding in the pre-sort pool for multiple days is signaling other fish not to enter the pool.

→ **ACTION:** Fenton will provide the field summary data on the Foster Adult Fish Trap before the next RM&E meeting on October 27th.

- ***Pre-spawning Mortality of Middle Fork (APH-17-01 MF)*** The Corps plans to fund this study pending discussion with agencies about the study design, and potential impacts to the hatchery program. A separate meeting discussing this study will be arranged. The Corps' rationale for funding this study is to determine a systematic approach to evaluate trap and transport protocols that reduce pre-spawning mortality, as a part of evaluating the feasibility of providing effective fish passage in the Middle Fork Willamette (MFW) as part of the draft MFW RM&E Plan.

- ***Behavior, Distribution, and Passage Metrics of Juvenile Salmonids for Lookout Point Dam (JPL-15-04-LOP)*** This study will be used to inform downstream fish passage alternatives and designs at Lookout Point and Dexter dams by providing data on reservoir survival, forebay distribution and behavior and passage rates at these dams. This study was recently funded for fall of 2016 and spring of 2017. A proposal has been requested for continuing the study in fall 2017 and spring of 2017. This study is primarily collecting data on reservoir distribution and how juveniles are moving around the reservoir, as well as, how and when they pass. It was noted that there may be some overlap with the fry survival study being planned (JPL-17-04-LOP) regarding sampling dates; however, batteries of JSATS tagged fish are expected to expire just after netting and trapping begins for the fry study. Spill in 2018 would be useful to assess fish behavioral and passage response as a part of this study, however will need to be considered after results from the first year of the fry survival study are available to assess impacts to the fry study in 2018.

- ***Estimating survival of juvenile Chinook salmon fry in Lookout Point reservoir (JPL-17-04-LOP)***This study addresses the critical question of survival of young spring Chinook within LOP Reservoir. Estimates will be used to assess the feasibility of providing effective fish passage in the MFW as part of the draft MFW RM&E Plan. The USGS implementation plan for 2016 will be provided to the RM&E team once it becomes available. The sampling efforts will intensify in the upcoming studies, shifting toward gill netting, with up to forty nets at a time. It is likely a study will be needed in 2017 and 2018.

- ***Rearing and migration patterns of juvenile winter steelhead in the North Santiam River above Detroit Dam (JPL-17-06-DET)*** This study will assess rearing and migration patterns of winter steelhead to help with planning their reintroduction above Detroit Dam. This project is being pursued as a sole-source contract to ODFW. The Corps will provide the RM&E team with the work statement for review, since ODFW's proposal will be part of the contract process and cannot be released until awarded. Stephanie asked for clarification on the previously discussed issue of releasing natural origin adults above Detroit Dam; Rich noted that the Corps feels that while releasing natural origin fish is preferred , using hatchery releases is the best path forward at this time.

Potential Study to evaluate adult return rates of fry Chinook released below Dexter Dam (TBD)
The group discussed the potential need for a head of reservoir trap and haul program to assess the adult return rates of fry Chinook marked with parental-based tags and released below Dexter Dam. Information on fry survival and return rates can help inform management decisions regarding this downstream fish passage strategy in comparison to at-dam passage. The group discussed the potential study, discussing pros and cons of different methods to address the study objective. These included using screwtraps to collect naturally produced fry and monitoring their return rates compared to release of early stage hatchery fry marked with parental-based tags.

It was noted that survival rates can vary based on where the fry are reared. Stephanie shared that there are studies which examine fry reared in hatcheries and released; she recommended this study examine fry that are reared in the gravel and were subsequently collected and transported. She continued that fry emerging from the gravel that lived in upper tributaries are better suited for release below the dam compared to fry that have always lived in an artificial setting. Rich recommended releasing smaller hatchery fish and tracking those returns to study the impact of transport on fry. Tom suggested re-examining the paired release approach; it could be better managed and tracked compared to prior years.

The Corps asked if other RM&E members wished to pursue this study. The Corps believes this is an appropriate study to fund, if the data can be feasibly collected and in sufficient amounts to determine effects. Mike noted concerns over capturing fish at the head of the reservoir and transporting them downstream. There are many unanswered questions about how successful that transport would be, yet this may not be a high priority study for RM&E. **There was general support for pursuing this study and sooner rather than later, as it could take up to five years to see results.** Mike expressed concern that this study could be one step away from barging; he noted that USFWS prefers to support a natural lifecycle for these fish. He asked to see a proposal with more details. Rich recommended reviewing ODFW's paired-released study and review returning numbers.

→ **ACTION:** Tom will share the previous paired release proposal that incorporates trap efficiencies with the RM&E team. Rich Piaskowski will draft a concept paper to be shared with the RM&E team.

Following the group discussion on FY17 Corps funded projects; the group discussed the FY17 CRFM funding allocation of $7.2 million dollars. Rich noted that this was included in the summary as a transparency piece; however, the RM&E Team previously noted that they do not want to muddy their conversations and prioritization with discussion on how the money will be spent. **RM&E members reiterated their agreement to maintain the prioritized project list to signal where the extra money should be allocated.**

Concepts to elevate to the Steering Team

The group discussed concepts where there is disagreement, policy issues, and a need to elevate to the Steering Team. They reviewed the following concepts, noted whether the concept was a high, medium, low, or 'do not fund' priority for their agency and then agreed to elevate the highlighted concepts to the Steering Team for their October meeting.

Project	Corps	FWS	NMFS	Grand Ronde	ODFW	BPA
APH-09-01	L	M	H	M	H	L/M
APH-15-01 SYS	L	M	H	M	H	M
APH 17-02-GPeter	DNF	M	M	H	M	DNF
APH 15-05 FOS	M	L	L	M	M	M/H
APH 17-01 MF	H	L	L+	M	M-	H
JPL 10-02 SYS	L	H	H	M	H	M
JPL 11-02 DET/MF	L	H	H	H	H	L

JPL 14-01 SYS	L	M	H	H	H	L
JPL 17-01 SYS	L	H	M	M	H	H
WQFM 15-03 SYS	L	M	M	M	M	L

In preparation to elevate, the group agreed to draft one-page issue papers that describe the concept/issue, identifies any policy, technical or other issues, lists the pros and cons for the concept, states a deadline or time to respond and provides a conclusion noting the requested management direction. The issue papers should be unbiased in tone and made available for the group to provide edits.

→ **ACTION:** Rich will draft an issue paper that incorporates APH-09-01, APH-15-01-SYS, and JPL-10-02-SYS; Stephanie will draft an issue paper for APH-17-02-GPeter; and Mike will draft and issue paper for JPL-11-02 DET/MF. The first draft will be uploaded to Google Docs on September 30th. There will be a conference call on October 4th to discuss the papers. Group edits will be due by October 7th in time for the October 14th Steering Team meeting.

Finalize Monitoring Definitions
The team reviewed their draft monitoring definitions.

- **AGREEMENT: The RM&E Team agreed with consensus (all 1, 2, and 3's) on the following definitions for types of monitoring:**

The WATER RM&E team identified the need to develop explicit definitions of the types of research, monitoring, and evaluation (RM&E) associated with the implementation of the Willamette BiOP RPA. RM&E needs are dynamic and evolve over time; these definitions document their relationship as RM&E implementation under WATER proceeds. While it is recognized that there are similar definition sets that have been established (e.g. PNAMP), RM&E conducted within the framework of WATER may be unique from other programs. The following definitions capture the needs of the WATER RM&E team for purposes of implementing the Willamette RPA.

Uncertainty Research: Evaluations focused on informing and answering specific data gaps, questions or testable hypotheses about RPA actions to be implemented. Critical for gaining understanding of factors or relationships that have not been well studied, and/or to provide knowledge directly applicable to identifying or designing alternatives to address the RPA.

- **Example**: Determine the distribution and behavior of juvenile Chinook in Cougar Dam forebay.

Post- action Effectiveness Evaluations: Conducted to determine whether a given action or suite of actions achieved the desired effect or goal. Data collection is preferably tied to pre-defined metrics and performance criteria to evaluate whether certain RPA actions are addressing the RPA as intended and inform decision makers on any necessary modifications. [Note: this type is similar to the Project Scale Effectiveness Monitoring described by PNAMP.]

- **Example:** Estimate the fish collection efficiency and survival of juvenile spring Chinook collected by a floating surface collector at Cougar Dam, following the guidelines of the "Performance Criteria for Cougar Dam Floating Screen Structure (FSS)"

Broader scale Action Effectiveness Evaluations: Conducted to evaluate if an RPA action or suites of actions are addressing the RPA as intended. This type of evaluation is intended to look at a broader

biological, spatial and/or temporal scale than "post-effectiveness evaluations", including evaluating response at the fish population or ESU scale.

- **Example:** Evaluate adult spring Chinook returns at Cougar trap to assess the long-term success of Cougar downstream passage.
- **Example**: Evaluate adult spring Chinook returns to the McKenzie to assess the long-term effects of RPA actions at the population scale.

Long-term Monitoring: Data collection designed to assess the status and trends of fish populations or other environmental conditions. Scale may be focused on specific resource attributes (i.e. total dissolved gas levels below a dam) or at broader biological, spatial and/or temporal scales (i.e. abundance of winter steelhead spawning in the North Santiam River sub-basin). This type of monitoring may be used to inform NMFS jeopardy analysis and recovery management decisions; or the effectiveness of actions regardless of entity taking the action; capturing variability between years or longer-term trends. [Note: this type is similar to the Status and Trends Monitoring described by PNAMP].

- **Example**: Assess the annual production (abundance, immigration timing and size) of juvenile spring Chinook from the South Fork McKenzie River.

Middle Fork Pre-Spawn Mortality Study Meeting

It was noted that there is a need to bring the technical team and researchers together for a conversation aimed at clarifying the technical objectives and potential impacts to the hatchery program from a pre-spawn mortality study in the Middle Fork. This topic was signaled as an important topic to help inform the Steering Team policy and management discussions regarding the Middle Fork sub-basin RM&E plan.

→ **ACTION:** DS Consulting will send a Doodle poll to schedule the sub-group for the week of October 10th.

Action Items and Next Steps

DS Consulting will incorporate the RM&E Team's input on the elevation process and criteria and provide it to the Steering Team. Designated RM&E Team members will draft elevation issue papers and provide them to the rest of the team for review. These papers will be presented by RM&E Team members at the October Steering Team meeting. DS Consulting will also send out a Doodle poll to schedule a sub-group meeting to discuss pre-spawning mortality in the Middle Fork, they will aim for the week of October 10th.

Emily thanked the group for their hard work and dedication and with that the meeting was adjourned.

The next RM&E meeting will be on October 27th from 9:00-12:00 at the DS Consulting Office.

*****Additions in bold were added by the RM&E team at their 9/22/16 meeting*****

WATER elevation process – When to Elevate?

To assist the elevation process, the group clarified and agreed on the following to help teams determine when an issue is worthy of elevation:

- When there is a clear technical and/or policy dispute **that cannot be resolved at the technical level**.
- When clarifying guidance is needed from the Managers.
- If the process is creating difficulties for the technical team and/or individual agency.
- If an individual agency decides to seek out others (e.g. ISAB) for a decision and/or formal review or advice. (A decision document for managers should stay within the WATER process rather than be escalated to an outside process.)
    - Example, if a technical member expressly says they intend to escalate an issue elsewhere, it should be first addressed at the Steering Team level.
- **If any technical team member thinks the process is not being followed.**

WATER elevation process – How to elevate?

Steering Team members then discussed how an issue should be elevated. The following recommended steps were discussed:

(1) Briefly and clearly frame the issue for advice/resolution in writing.
(2) Provide initial ideas discussed at the technical level (pros/cons).
(3) Clarify the type of issue: budget, policy, technical, project, legal, etc.
(4) Prepare information for a presentation, including who needs to be present.

Internal Technical Team process for elevation:

6. **If a disagreement among two or more parties arises, the team will work together during the meeting at which the issues arise to clarify and define the concerns.**
7. **If the group feels that with more conversation they can make progress on the issue, they will revisit the issue again within a specific timeframe, either at the next meeting, or a separately scheduled meeting if necessary.**
8. **If the issue cannot be resolved at the Technical Team level, the team will work through the elevation steps together. There will always be a discussion at the technical level before the issue is elevated.**
9. **The Technical team will draft a one-page issue paper that:**
    a. **describes the concept/issue;**
    b. **identifies any policy or technical issues;**
    c. **lists the pros and cons for the concept;**
    d. **states a deadline or time to respond; and,**
    e. **provides a conclusion noting the requested management direction. The issue paper should be unbiased in tone.**
10. **The team will discuss who from the team will present the issue paper to the Steering Team.**