

Memorandum

To: Wells, Rocky Reach, and Rock Island
HCP Hatchery Committees Date: August 21, 2017

From: Tracy Hillman, HCP Hatchery Committees Chairman

cc: Sarah Montgomery, Anchor QEA, LLC

Re: Final Minutes of the July 19, 2017, HCP Hatchery Committees Meeting

The Wells, Rocky Reach, and Rock Island Hydroelectric Projects Habitat Conservation Plan (HCP) Hatchery Committees meeting was via conference call on Wednesday, July 19, 2017, from 9:00 a.m. to 10:30 a.m. Attendees are listed in Attachment A to these meeting minutes.

Action Item Summary

- Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) will write an overview of proposed expanded sampling at the off-ladder fish trap (OLAFT) at Priest Rapids Dam (Item I-A). *(Note: this item is ongoing.)*
- Hatchery Committees representatives will review McLain Johnson's Genetic Monitoring Update (Item I-A). *(Note: Sarah Montgomery distributed the update on April 6, 2017. This item is ongoing, and the update will be discussed at the August 16, 2017, Hatchery Committees meeting.)*
- Sarah Montgomery will clarify the review period for the Chelan PUD Draft 2018 Hatchery Monitoring and Evaluation (M&E) Implementation Plan and provide an update to the Hatchery Committees (Item II-A). *(Note: Montgomery sent a summary email with a clarification for the review period to the Hatchery Committees on July 25, 2017.)*
- Tracy Hillman will revise Appendix 4 of the Draft 2017 Update to the Monitoring and Evaluation Plan for PUD Hatchery Programs to include release number targets, and provide it for Hatchery Committees review (Item III-C). *(Note: Hillman revised the appendix and appended it to the Draft M&E Plan,, which Sarah Montgomery distributed to the Hatchery Committees on July 27, 2017.)*
- Tracy Hillman will revise the Draft 2017 Update to the M&E Plan for PUD Hatchery Programs and provide it for Hatchery Committees review (Item III-C). *(Note: Hillman revised the Draft 2017 Update to the M&E Plan for PUD Hatchery Programs for review, which Sarah Montgomery distributed to the Hatchery Committees on July 27, 2017.)*

Decision Summary

- There were no decisions discussed during today's meeting.

Agreements

- There were no agreements discussed during today's meeting.

Review Items

- Sarah Montgomery sent an email to the Rocky Reach and Rock Island Hatchery Committees on July 18, 2017, notifying them that the Chelan PUD Draft 2018 Hatchery M&E Implementation Plan is available for a 30-day review, with comments due to Catherine Willard by August 17, 2017. Chelan PUD indicated they will request approval of the Plan at the Hatchery Committees August 16, 2017, meeting.

Finalized Documents

- There are no documents that have been recently finalized.

I. Welcome

A. Review Agenda, Review Last Meeting Action Items, and Approve the June 21, 2017, Meeting Minutes (Tracy Hillman)

Tracy Hillman welcomed the Hatchery Committees and asked for any additions or changes to the agenda. Members made no additions or changes to the agenda.

The Hatchery Committees reviewed the revised draft June 21, 2017, meeting minutes.

Sarah Montgomery said there are some outstanding comments to be discussed, which the Hatchery Committees reviewed and revised. Montgomery said she would check with Bill Gale about one paragraph before finalizing the minutes. Hatchery Committees representatives present approved the draft June 21, 2017, meeting minutes, as revised, and Montgomery confirmed the finalization via email on July 25, 2017.

Action items from the Hatchery Committees meeting on June 21, 2017, and follow-up discussions were addressed (*note: italicized text below corresponds to agenda items from the meeting on June 21, 2017*):

- *Andrew Murdoch (Washington Department of Fish and Wildlife [WDFW]) will write an overview of proposed expanded sampling at the off-ladder fish trap (OLAFT) at Priest Rapids Dam (Item I-A).*
This item is ongoing.
- *Hatchery Committees representatives will review McLain Johnson's (WDFW) Genetic Monitoring Update (Item I-A). (Note: Sarah Montgomery distributed the update on April 6, 2017.)*

This item is ongoing, and the update will be discussed at the August 16, 2017, Hatchery Committees meeting.

- *Chelan PUD, Douglas PUD, and Grant PUD representatives will discuss internally HCP requirements and coverage options for the unlisted programs in the upper Columbia River basin (Item III-B).*

This item is complete.

- *Charlene Hurst will distribute the draft proposed action for Methow steelhead programs to the Hatchery Committees for a 2-week review (Item IV-A). (Note: Hurst sent the draft to Sarah Montgomery, which she distributed to the Hatchery Committees on June 22, 2017).*

This item is complete.

- *Tracy Hillman will make the following revisions to the Monitoring and Evaluation (M&E) Plan for PUD Hatchery Programs (2013 Update): 1) draft footnotes for Table 1 regarding run timing, redd distribution, and spawn timing, and 2) revise Objective 6 (Items I-A and III-C).*

Hillman made these updates and Sarah Montgomery distributed a revised version before the meeting.

- *Tracy Hillman will revise fish-per-pound (FPP) targets in Appendix 5 of the Hatchery M&E Plan according to the 2017 Broodstock Collection Protocols (Item III-C). (Note: Hillman made this revision and Sarah Montgomery distributed a revised Appendix 5 and compilation of Appendices 2-5 on June 23, 2017.)*

This item is complete.

- *Tracy Hillman will invite Jeff Jorgensen (National Oceanic and Atmospheric Administration) to an upcoming Hatchery Committees meeting to present and discuss Wenatchee River spring-run Chinook salmon life-cycle modeling (Item V-A).*

Hillman said this item is complete and Jorgensen plans to attend the Hatchery Committees August 16, 2017, meeting.

- *Tracy Hillman will distribute Jorgensen et al.'s draft chapter, "Wenatchee River spring-run Chinook salmon life-cycle model: hatchery effects, calibration, and sensitivity analyses" to the Hatchery Committees (Item V-A). (Note: Hillman sent the chapter to Sarah Montgomery, which she distributed to the Hatchery Committees on June 22, 2017.)*

This item is complete.

II. Chelan PUD

A. Draft 2018 Hatchery M&E Implementation Plan (Catherine Willard)

Catherine Willard said the Chelan PUD Draft 2018 Hatchery M&E Implementation Plan is currently available for a 30-day review (Attachment B) and any comments or questions should be directed to her. She said the changes between the 2017 and 2018 plans are minor and include only date and

authorship changes. Willard said Chelan PUD will request that the Rocky Reach and Rock Island Hatchery Committees approve this plan at the August 16, 2017, Hatchery Committees meeting. Sarah Montgomery said she will clarify the review dates for this document and provide an update to the Hatchery Committees.

III. Joint HCP-HC/PRCC HSC

A. USFWS Bull Trout Consultation Update (Matt Cooper)

Tracy Hillman said Matt Cooper (U.S. Fish and Wildlife Service [USFWS]) sent him an email update for this topic because USFWS staff are unable to attend today's meeting. Hillman summarized the update as follows:

- Karl Halupka is finishing revisions to the Biological Opinion for the batch of Wenatchee subbasin programs and expects it will be finalized by early August 2017.
- The USFWS reviewed a draft proposed action for mainstem unlisted hatchery programs and provided comments to the National Marine Fisheries Service (NMFS). After NMFS responds to comments, the USFWS will decide on a consultation approach for this batch of hatchery programs. Currently the batch does not include Similkameen summer Chinook salmon programs, which USFWS has asked NMFS about. (Note: Emi Kondo [NMFS] stated that she spoke with Halupka regarding this consultation and said the Similkameen summer Chinook salmon program has been analyzed as part of the Okanogan Tribal Resources Management Plan and therefore does not need further consultation or coverage.)
- The USFWS has begun reviewing the proposed action for the Methow summer steelhead program. The primary objective of the review is to inform the USFWS' selection of a pathway to take for completing consultation on this program. A memo similar to the one USFWS completed for the Methow spring Chinook salmon program is one of several options being considered. One key factor in this decision is the degree to which changes in the program since prior consultation may change the program's effects on bull trout and bull trout critical habitat.

Kondo said Charlene Hurst and Halupka have a coordination call on July 24, 2017, to discuss the upper Columbia River (UCR) unlisted programs consultation.

B. NMFS Consultation Update (Brett Farman/Emi Kondo)

Emi Kondo said she has an update on the UCR unlisted programs consultation. She said she received comments on the draft proposed action and expects a few more comments as well. She said the Hatchery Committees discussed the pathway for Endangered Species Act (ESA) coverage for these

programs during the June 21, 2017, Hatchery Committees meeting. She said the next step for consulting on this bundle of programs is deciding on the ESA pathway (i.e., Section 10 or Section 4(d) coverage). She said Douglas PUD has indicated that they prefer pursuing Section 10 coverage, while Chelan PUD and Grant PUD have indicated they want to have more discussion with NMFS General Counsel before deciding. She said coordination calls are occurring next week and she can also set up additional calls for anyone interested. She said in addition to deciding on the ESA pathway, another important step is formally initiating consultation. She said the applicants will need to send a letter requesting initiation of consultation, to which NMFS can reply with a submissions letter. Kondo said the letter should describe the consultation process, and once the proposed action is finalized it can be submitted with the letter. Greg Mackey asked Kondo for an example of the letter.

Todd Pearsons said when Grant PUD submitted hatchery and genetic management plan (HGMP) documentation, they submitted a letter requesting coverage, and asked if sending a second letter requesting consultation would be duplicative. Kondo said she will check internally to see if the letter submitted with HGMP documentation is sufficient.

C. M&E Plan for PUD Hatchery Programs 2017 Update (All)

Tracy Hillman said he revised the M&E Plan for PUD Hatchery Programs to reflect changes discussed during the June 21, 2017, Hatchery Committees meeting and also made some editorial edits. Sarah Montgomery distributed the draft revised plan to the Hatchery Committees before the meeting on July 19, 2017 (Attachment C).

Hillman said he added footnotes to Table 1 and Table 2, indicating that more detailed information is included in the appendices. He said he revised the objective in Table 1 "Determine if *recipient* stray rate of hatchery fish is acceptable" (italics are new text) and added a clarifying paragraph to Objective 6 describing the different types of stray rates and stray rate metrics. He added clarifying language to Objective 3 (HRRs), and added references for the appropriate appendices throughout the descriptions of objectives.

Hillman asked the Hatchery Committees why length and weight targets are missing from Appendix 4, which includes fish per pound (FPP), coefficient of variation (CV), and condition factor targets. He said in the M&E Plan, there are targets for size, length, weight, and condition factor. He said Appendix 4 also does not include the number of fish targeted for release (currently in Appendix 2). He asked if Appendix 4 should be revised to include number of fish targeted for release and length and weight targets. Greg Mackey said adding those values to Appendix 4 might make the table unwieldy. Mackey said the statistical test for length was used more to compare the length of hatchery fish to wild fish, and was used less as a true target. Hillman recalled in the last

comprehensive report, there were both length and weight targets at release for programs. He said he and Andrew Murdoch (WDFW) performed the analyses for the comprehensive report, and found that size and weight targets often cannot be achieved (i.e., either one can be met, but not both). He said the targets should be revised to better reflect how fish grow, but they have not yet been revised. He suggested adding these targets to Appendix 4. This will place all within-hatchery targets in one appendix. Hearing no objections, Hillman said he would make these revisions for the Hatchery Committees to review.

Hillman said he added clarifications to Objectives 4, 5, and 6 to redirect readers to related appendices. In Objective 5, he said he edited the language about spawn timing to be consistent with Appendix 4 and added an additional hypothesis, "H_{05.2.1.3}: The relationship between elevation and spawn timing of hatchery-origin fish = the relationship between elevation and spawn timing of natural-origin fish." Mackey asked if the term elevation is accurate or if the hypothesis should address river kilometer. Hillman said the analysis uses elevation, at least in the Chiwawa River; however, river kilometer can be used as a surrogate for elevation.

Todd Pearsons asked about Hillman's edits to the possible statistical analyses for Objective 5. Hillman said he changed the use of an analysis of covariance (ANCOVA) to "Graphic and regression analysis to assess relationships between elevation and spawn timing" because ANCOVAs use discrete variables and elevation is not a discrete variable. He said using continuous variables retains the most information in the data and this regression analysis would be similar to analyses for productivity. He said using an ANCOVA would not be wrong, but it is cleaner to perform regressions for spawn timing and elevation for both wild and hatchery fish, then compare the regressions.

Hillman said he added a paragraph to Objective 6 that the Hatchery Committees should review in detail and clarified percent stray rates throughout the section. Mackey said the paragraph is a good synopsis and asked if annual stray rates and brood-year stray rates would converge to approximately the same rate over a long period, for example 25 years. Hillman said that would typically be the case and was true for the Chiwawa River analysis. However, he said in the Twisp River the rates did not converge and depend on the size of the hatchery program and the size of the recipient population. He said all three stray rates should be examined, but brood-year stray rate targets are not included in the Recovery Plan or Technical Recovery Team documents.

Hillman said he also revised the title of section 6.1.1 to be "Brood-Year Stray Rates" instead of "Stray Rates among Populations by Brood Return," to match the statistical analyses being performed. Mackey agreed and said the title now reflects the analyses being performed and originally stray rates analyses may have been intended to be limited to populations.

Hillman said he also made edits to Objective 9. He asked whether length and weight targets (Q9.1.1) should be added to Appendix 5 and if the targets are going to be revised. Pearsons suggested using the broodstock collection protocol targets (FPP and CV), because they directly represent management guidance given to hatchery staff. Hillman agreed and said using FPP targets is easier and should be considered as a target instead of length and weight. Mackey agreed and said FPP can be extrapolated to determine length or weight per fish if those metrics are needed. Hillman said he will make this edit in the next revised version of the plan for review. Hillman said regarding Q9.3.1, that program K (condition factor) targets are listed as "TBD" in Appendix 5. Hillman said regarding Q9.4.1, the release targets currently identified in Appendix 2 could be moved to Appendix 5 for ease of finding information quickly.

Hillman said he is still working on Appendix 1, which discusses carrying capacity, and expects it will be finished in September 2017.

Pearsons asked about the timeline for finalizing the 2016 Hatchery M&E Annual Report. Hillman said he has received comments on the draft and is incorporating comments and revising the document. He said the report is due on September 15, 2017, but will likely be completed before that date. Pearsons said it would be good to provide the annual report and the revised Hatchery M&E Plan for PUD Hatchery Programs (2017 Update) to the Independent Scientific Advisory Board in early fall so they can incorporate the most recent documents in their review and said he has no problems with the current timelines for finalizing these documents.

IV. HCP Administration

A. Next Meetings

The next Hatchery Committees meetings are on August 16, 2017 (Grant PUD), September 20, 2017 (Grant PUD), and October 18, 2017 (Grant PUD).

V. List of Attachments

Attachment A List of Attendees

Attachment B Chelan PUD Draft 2018 Hatchery M&E Implementation Plan

Attachment C Draft Hatchery M&E Plan for PUD Hatchery Programs (2017 Update)

Attachment A
List of Attendees

Name	Organization
Tracy Hillman	BioAnalysts, Inc.
Sarah Montgomery	Anchor QEA, LLC
Catherine Willard*	Chelan PUD
Greg Mackey*	Douglas PUD
Todd Pearsons‡	Grant PUD
Peter Graf‡	Grant PUD
Deanne Pavlik-Kunkel‡	Grant PUD
Brett Farman*	National Marine Fisheries Service
Emi Kondo	National Marine Fisheries Service
Keely Murdoch*	Yakama Nation
Kirk Truscott*	Colville Confederated Tribes

Notes:

* Denotes Hatchery Committees member or alternate

‡ Joined for the joint HCP-HC/PRCC HSC discussion